**Reference List**

(1) Abadie P, Labanere C, Reboul G. Arthroscopic treatment of femoro-acetabular impigment. [French]. Journal de Traumatologie du Sport 30 (1) ()(pp 17-23), 2013 Date of Publication: March 2013 2013;(1):17-23. Ref ID: 316 Abstract: Femoro-acetabular impingment was " the" diagnosis to seek to a mechanical groin pain in a young population involved in athletic activities. It was based on a combination of clinical and paraclinical exams, researching mechanical elements (femoral cam and acetabular pincer). Impingment test was performed by provoking pain with flexion, adduction and internal rotation, but its specificity was low. A radiographic assessment of the pelvis and femoral neck profile (Dunn or Ducroquet) was essential. Injected imaging (arthro-CT or arthro-MRI) complemented this assessment by evaluating labrum and cartilage. This diagnosis could be sensitized by an anesthesic test because adductor tendinopathy or parietal failure can coexist. Hip arthroscopy was a reliable technique. It was effective on pain and improve function of athletes who returned to their activities. Morbidity of this surgery was very low even though risk of pudendal neurapraxia (2%). Recent dismemberment of this disease and its treatment modalities needed to be evaluated by appropriate clinical tools (iHOT score). The prognosis was dominated by the risk of osteoarthritic degradation, which required a long-term follow-up. Â© 2013 Notes: DB - Embase UI - 2013204462 IN - (Abadie, Labanere, Reboul) Clinique du sport de Bordeaux-Merignac, 2 rue Negrevergne, 33700 Merignac, France CP - France OT - Traitement arthroscopique du conflit femoro-acetabulaire LG - French PT - Journal: Short Survey EM - 201316 DD - 20130415

(2) Abdulkareem IH. Radiation-induced femoral head necrosis. Niger J Clin Pract 2013; 16(1):123-126. Ref ID: 616 Abstract: There are very few cases of radiation-induced femoral head necrosis described in the literature, therefore, this case will add new knowledge and highlights important aspects in the diagnosis and management of this uncommon condition. Our patient was 74 years old and presented with left hip and groin pain for 8 months, with no previous history of trauma or osteoarthritis. However, he had been treated for metastatic prostate cancer, to the pelvis and roof of the left acetabulum, with androgen ablation, and radiotherapy 5 years before presentation. Examination of the left hip revealed painful movements, but no restriction in the range of motion. Initial X-rays did not show any abnormalities, but MRI scan revealed a suspicious lesion in the roof of the left acetabulum, with no indication of secondary weakening of the femoral neck. The patient was therefore referred to the oncologists to consider radiotherapy, but they were not convinced it was metastatic, because he had no new urinary symptoms, and the PSA remained normal throughout this period. He was subsequently referred for a bone scan to look for possible secondary lesions (from the prostate gland), but this did not reveal any abnormal increased uptake. Three months later, he was reviewed in the clinic with a repeat X-ray of the pelvis which revealed complete destruction of the left femoral head and the acetabular roof, but CT-guided biopsy revealed no evidence of malignancy in the left hip. However, in view of the persistent pain and radiological evidence of left hip destruction, the patient had left Total Hip Replacement (THR), and excellent post-operative recovery. He mobilised fully, and was discharged on day five. Histology of the femoral head and hip capsule, revealed no evidence of metastasis from the prostate cancer, but confirmed osteonecrosis of the femoral head, presumably caused by the previous radiotherapy. MRI of the spine was clear and he was discharged to the oncologists and urologists for follow up Notes: DA - 20130204 IS - 1119-3077 (Print) LA - eng PT - Journal Article SB - IM

(3) Abolghasemian M, Gharanizadeh K, Kuzyk P, Masdari Z, Fakharian M, Safir O. Hips with synovial chondromatosis may display the features of femoroacetabular impingement. J Bone Joint Surg Am 2014; 96(2):e11. Ref ID: 588 Abstract: BACKGROUND: Both synovial chondromatosis and femoroacetabular impingement present with hip pain and may lead to hip osteoarthritis. We present a small case series and describe the clinical presentation, investigation, and treatment of patients with synovial chondromatosis who also had cam-type femoroacetabular impingement involving the same hip. METHODS: Five patients (four men and one woman with a mean age of thirty-four years [range, thirty to thirty-seven years]) with unilateral synovial chondromatosis of the hip presented with clinical and radiographic features of ipsilateral cam-type femoroacetabular impingement. The diagnosis of associated synovial chondromatosis was made on the basis of preoperative imaging in four of the cases. All patients were treated with surgical hip dislocation, excision of the synovial chondromatosis loose bodies, and reshaping of the femoral head-neck junction. RESULTS: These hips exhibited radiographic features that are not typically seen with idiopathic cam-type femoroacetabular impingement, including femoral head hypertrophy, lateralization of the femoral head, and haziness in the acetabular fossa. None of the hips showed signs of advanced osteoarthritis intraoperatively. The alpha angle improved from a mean of 72.4 degrees preoperatively to 42.6 degrees postoperatively. At a mean of twenty-two months of follow-up, the patients had a mean Harris hip score of 80.6, substantially improved from the preoperative value of 39. CONCLUSIONS: Hips with synovial chondromatosis may present with clinical and radiographic features resembling those of cam-type femoroacetabular impingement. As simultaneous treatment of both conditions is best accomplished with surgical hip dislocation rather than other, less-extensive surgical approaches, we recommend preoperative consideration of synovial chondromatosis in patients presenting with unilateral cam-type femoroacetabular impingement Notes: DA - 20140116 IS - 1535-1386 (Electronic) LA - eng PT - Journal Article SB - AIM SB - IM

(4) Agricola R, Heijboer M, Ginai A, Van Der HR, Verhaar J, Weinans H et al. The occurrence of cam impingement in young male soccer players. Osteoarthritis and Cartilage Conference: 2011 Osteoarthritis Research Society International World Congress, OARSI San Diego, CA United States Conference Start: 20110915 Conference End: 20110918 Conference Publication: (var pagings) 19 ()(pp S168-S169) 2011;(var.pagings):S168-S169. Ref ID: 415 Abstract: Purpose: Femoroacetabular Impingement (FAI) is a cause of hip pain and might cause osteoarthritis (OA) of the hip due to abnormal contact between the femoral neck and acetabulum. Cam impingement is a subtype of FAI, in which the abnormal contact is caused by a camtype deformity in the femoral head-neck junction. Cam impingement is mostly seen in young active males. However, no studies have focused on the presence of cam-type deformities during skeletal development. This study aimed to determine the age of onset and prevalence of cam-type deformities in young male soccer players versus non-athletic controls. Methods: 89 elite pre-professional soccer players and 90 controls aged 12-19 years were included in this study. In the soccer players group, both an anteroposterior (AP) and a Lauenstein radiograph of the hip were obtained according to a standardized protocol. Controls with both an AP and a Lauenstein radiograph with no signs of hip pathology were obtained from radiology databases. The alpha angle was calculated in all radiographs using semi-automatized software. An alpha angle larger than 60degree was considered to define a cam-type deformity. All radiographs were scored by an orthopedic surgeon and a radiologist, using a three-point scoring system. The anterosuperior head-neck junction was classified as normal (1), flattened (2) or having a prominence (3). The soccer players completed a questionnaire, and range of motion (ROM) and impingement tests were performed. Differences in prevalence were tested using logistic regression, corrected for age. Differences between the mean alpha angle in soccer players and the control group, and differences in the ROM between cam-type deformity cases and normal soccer players were tested using Generalized Estimating Equations, corrected for age. Results: The mean age was 14.8 years for the soccer players and 13.7 years for the controls. An alpha angle >60degree was first found at the age of 12 in some soccer players and controls. A cam-type deformity defined by alpha angle was more prevalent in soccer players (26%) than in controls (18%), though not significantly when corrected for age (Figure 1). (Figure presented) The mean alpha angle in the soccer players was larger than in controls in both the Lauenstein view (50.8 vs 46.8, p = 0.002), and the AP view (50.9degree vs 48.0degree p = 0.079). A prominence in the anterosuperior head-neck junction was first found at the age of 13 years and the prevalence was 13.5% in the soccer players. No prominences were found in the controls. A flattening of the head-neck junction was also more frequently found in the soccer players (53% vs 19%, p = 0.0001) (Figure 2). (Figure presented) Internal rotation was significantly reduced in soccer players with a camtype deformity defined by alpha angle (19.7 vs 26.2, p = 0.002), whereas a positive impingement test did not associate with the presence of a cam-type deformity. Conclusions: A cam-type deformity can be present and recognizable from the age of 13 years. Cam-type deformities are more prevalent, and more pronounced in young soccer players than in their non-athletic peers. This suggests that mechanical loads especially during the closure of the proximal femoral growth plate could be an important factor in the development of a cam-type deformity Notes: DB - Embase UI - 70571816 IN - (Agricola, Heijboer, Ginai, Van Der Heijden, Verhaar, Weinans, Waarsing) Erasmus Med. Ctr., Rotterdam, Netherlands (Weinans) Delft Univ. of Technology, Delft, Netherlands LG - English PT - Journal: Conference Abstract EM - 201100 DD - 20111105

(5) Agricola R, Bessems JHJM, Ginai AZ, Heijboer MP, van der Heijden RA, Verhaar JAN et al. The Development of Cam-Type Deformity in Adolescent and Young Male Soccer Players. American Journal of Sports Medicine 2012; 40(5):1099-1107. Ref ID: 70 Notes: IS - 5

(6) Agricola R, Heijboer M, Bierma-Zeinstra S, Verhaar J, Weinans H, Waarsing E. Cam impingement causes end-stage osteoarthritis of the hip: A nationwide prospective study (CHECK). HIP International Conference: 10th Congress of the European Hip Society, EHS 2012 Milan Italy Conference Start: 20120920 Conference End: 20120922 Conference Publication: (var pagings) 22 (4) ()(pp 443), 2012 Date of Publication: July-August 2012 2012;(var.pagings):443-August. Ref ID: 159 Abstract: Introduction: Cam impingement, due to hip incongruity by a non-spherical femoral head, is a common condition causing clinical complaints. This might be an important cause for hip osteoarthritis (OA), but no prospective studies on this topic exist. Objective: To determine the association between cam impingement and development of end-stage OA. Methods: CHECK is a nationwide prospective cohort study of 1002 early symptomatic OA patients (45-65 years) who were recruited by their general practitioner when they presented with first onset of pain complaints in hip or knee. Standardised anteroposterior (AP) pelvic radiographs were obtained at baseline, and at 2 and 5 years follow-up. Asphericity of the femoral head was measured by the alpha angle. Clinically, impingement was defined as decreased internal hip rotation (< 20degree). The strength of association between cam impingement parameters at baseline and the development of end-stage OA (total hip replacement within 5 years) was expressed in odds ratios (ORs) using Generalised Estimating Equations. Results: At baseline, 76% of the included hips had no radiographic signs of OA (K&L = 0) and 24% doubtful OA (K&L = 1). Within five years 2.48% developed end-stage OA. A moderate (alpha angle >60degree) and severe (alpha angle >83degree) cam-type deformity resulted in adjusted ORs of 3.91 (95% CI 1.71-8.94) and 10.88 (95% CI 5.21-22.69), respectively, for end-stage OA. The combination of severe cam-type deformity and decreased internal rotation at baseline resulted in adjusted ORs of 27.45 (95% CI 7.64-98.55), and in a positive predictive value of 47.4% for end-stage OA. Conclusion: When presenting with first onset of pain complaints, individuals with both severe cam-type deformity and reduced internal rotation are strongly predisposed to a fast progression to end-stage OA. Because a cam-type deformity can be diagnosed before OA is present, this might allow to initiate novel treatment protocols to prevent hip OA in these patients. Cam impingement might be the primary reason for development of hip OA Notes: DB - Embase UI - 71960167 IN - (Agricola, Heijboer, Verhaar, Weinans, Waarsing) Department of Orthopaedics, Erasmus University Medical Center, Rotterdam, Netherlands (Bierma-Zeinstra) Department of General Practice, Erasmus University Medical Center, Rotterdam, Netherlands LG - English PT - Journal: Conference Abstract EM - 201532 DD - 20150728

(7) Agricola R, Heijboer MP, Bierma-Zeinstra SMA, Verhaar JAN, Weinans H, Waarsing JH. Cam impingement causes osteoarthritis of the hip: A nationwide prospective cohort study (CHECK). Annals of the Rheumatic Diseases 72 (6) ()(pp 918-923), 2013 Date of Publication: June 2013 2013;(6):918-923. Ref ID: 312 Abstract: Objective: To determine the association between cam impingement, which is hip incongruity by a non-spherical femoral head and development of osteoarthritis. Methods: A nationwide prospective cohort study of 1002 early symptomatic osteoarthritis patients (CHECK), of which standardised anteroposterior pelvic radiographs were obtained at baseline and at 2 and 5 years follow-up. Asphericity of the femoral head was measured by the alpha angle. Clinically, decreased internal hip rotation (<20degree) is suggestive of cam impingement. The strength of association between those parameters at baseline and development of incident osteoarthritis (K&L grade 2) or end-stage osteoarthritis (K&L grades 3, 4, or total hip replacement) within 5 years was expressed in OR using generalised estimating equations. Results: At baseline, 76% of the included hips had no radiographic signs of osteoarthritis and 24% doubtful osteoarthritis. Within 5 years, 2.76% developed endstage osteoarthritis. A moderate (alpha angle >60degree) and severe (alpha angle >83degree) cam-type deformity resulted in adjusted OR of 3.67 (95% CI 1.68 to 8.01) and 9.66 (95% CI 4.72 to 19.78), respectively, for end-stage osteoarthritis. The combination of severe cam-type deformity and decreased internal rotation at baseline resulted in an even more pronounced adjusted OR, and in a positive predictive value of 52.6% for end-stage osteoarthritis. For incident osteoarthritis, only a moderate cam-type deformity was predictive OR=2.42 (95% CI 1.15 to 5.06). Conclusions: Individuals with both severe cam-type deformity and reduced internal rotation are strongly predisposed to fast progression to end-stage osteoarthritis. As cam impingement might be a modifiable risk factor, early recognition of this condition is important Notes: DB - Embase UI - 2013300592 IN - (Agricola, Heijboer, Bierma-Zeinstra, Verhaar, Weinans, Waarsing) Department of Orthopaedics, Erasmus MC University Medical Centre, Rotterdam, Netherlands (Bierma-Zeinstra) Department of General Practice, Erasmus MC University Medical Centre, Rotterdam, Netherlands (Weinans) Department of Biomechanical Engineering, Delft University of Technology, Delft, Netherlands CP - United Kingdom LG - English PT - Journal: Article EM - 201322 DD - 20130527

(8) Agricola R, Heijboer MP, Roze RH, Reijman M, Bierma-Zeinstra SM, Verhaar JA et al. Pincer deformity does not lead to osteoarthritis of the hip whereas acetabular dysplasia does: acetabular coverage and development of osteoarthritis in a nationwide prospective cohort study (CHECK). Osteoarthritis Cartilage 2013; 21(10):1514-1521. Ref ID: 603 Abstract: OBJECTIVE: Determining the relation between acetabular coverage, especially overcoverage which may lead to pincer impingement, and development of osteoarthritis (OA) of the hip. DESIGN: From a prospective cohort study of 1,002 individuals with symptoms of early OA (Cohort Hip and Cohort Knee, CHECK), 720 participants were included. Standardized anteroposterior pelvic radiographs and false profile lateral radiographs were obtained at baseline and 5 years follow-up. Acetabular undercoverage (mild dysplasia) and overcoverage (pincer deformity) were measured by a centre edge angle of <25 degrees and >40 degrees respectively in both radiographic views. The strength of association between those parameters at baseline and development of incident OA (Kellgren and Lawrence (K&L) grade >2 or total hip replacement), or joint space narrowing within 5 years was expressed in odds ratio (OR) adjusted for K&L grade, age, body mass index (BMI), and sex using generalized estimating equations. RESULTS: At baseline, 76% of the included hips had no signs of radiographic OA (K&L = 0) whereas 24% had doubtful OA (K&L = 1). Within 5 years, 7.0% developed incident OA. Acetabular dysplasia was significantly associated with development of incident OA with ORs between 2.62 (95% confidence interval (CI) 1.44-4.77) and 5.45 (95% CI 2.40-12.34), dependent on the radiographic view. A pincer deformity was not associated with any outcome measure, except for a significantly protective effect on incident OA when a pincer deformity was present in both radiographic views OR 0.34 (95% CI 0.13-0.87). CONCLUSION: Acetabular dysplasia was significantly associated with development of OA. However, a pincer deformity was not associated with OA, and might even have a protective effect on its development, which questions the supposed detrimental effect of pincer impingement Notes: DA - 20130920 IS - 1522-9653 (Electronic) IS - 1063-4584 (Linking) LA - eng PT - Journal Article PT - Multicenter Study PT - Research Support, Non-U.S. Gov't SB - IM

(9) Aguirre J, Del Moral A, Cobo I, Borgeat A, Blumenthal S. The role of continuous peripheral nerve blocks. Anesthesiology Research and Practice 2012 , 2012 Article Number: 560879 Date of Publication: 2012 2012. Ref ID: 366 Abstract: A continuous peripheral nerve block (cPNB) is provided in the hospital and ambulatory setting. The most common use of CPNBs is in the peri- and postoperative period but different indications have been described like the treatment of chronic pain such as cancer-induced pain, complex regional pain syndrome or phantom limb pain. The documented benefits strongly depend on the analgesia quality and include decreasing baseline/dynamic pain, reducing additional analgesic requirements, decrease of postoperative joint inflammation and inflammatory markers, sleep disturbances and opioid-related side effects, increase of patient satisfaction and ambulation/functioning improvement, an accelerated resumption of passive joint range-of-motion, reducing time until discharge readiness, decrease in blood loss/blood transfusions, potential reduction of the incidence of postsurgical chronic pain and reduction of costs. Evidence deriving from randomized controlled trials suggests that in some situations there are also prolonged benefits of regional anesthesia after catheter removal in addition to the immediate postoperative effects. Unfortunately, there are only few data demonstrating benefits after catheter removal and the evidence of medium- or long-term improvements in health-related quality of life measures is still lacking. This review will give an overview of the advantages and adverse effects of cPNBs. Copyright Â© 2012 Jose Aguirre et al Notes: DB - Embase UI - 2012400153 IN - (Aguirre, Borgeat) Division of Anesthesiology, Balgrist University Hospital, 8008 Zurich, Switzerland (Del Moral, Cobo) Department of Anesthesiology, General University Hospital of Valencia, 46014 Valencia, Spain (Blumenthal) Department of Anesthesiology, Triemli Hospital, 8063 Zurich, Switzerland CP - United States LG - English PT - Journal: Review EM - 201230 DD - 20120724

(10) Akiyama M, Nakashima Y, Kitano T, Nakamura T, Takamura K, Kohno Y et al. Remodelling of femoral head-neck junction in slipped capital femoral epiphysis: a multicentre study. Int Orthop 2013; 37(12):2331-2336. Ref ID: 598 Abstract: PURPOSE: We examined the remodelling of the femoral head-neck junction in patients with slipped capital femoral epiphysis (SCFE) and the frequency of residual cam deformities. METHODS: We reviewed 69 hips in 56 patients with stable SCFE who had undergone in situ pinning. Mean age at slip was 11.7 years and the follow-up period 63.4 months. Cam deformity was evaluated using the anterior offset alpha (alpha) angle and head-neck offset ratio (HNOR). RESULTS: The average alpha angle and HNOR significantly improved from 76.2 degrees to 51.3 degrees and 0.086 to 0.135, respectively; 25 hips (36.2%) still had an alpha angle greater than 50 degrees , and 32 hips (46.4%) had an HNOR of under 0.145. A multivariate analysis selected age at onset and slip angle as risk factors for cam deformity, with cutoff values 11.1 years and 21.0 degrees , respectively. CONCLUSIONS: Although most hips had remodelling of the head-neck junction, 29.4 % had residual cam deformities that may be susceptible to femoroacetabular impingement Notes: DA - 20140114 IS - 1432-5195 (Electronic) IS - 0341-2695 (Linking) LA - eng PT - Journal Article PT - Multicenter Study SB - IM

(11) Akkaya T, Unlu E, Alptekin A, Gumus HI, Umay E, Cakci A. Neurolytic phenol blockade of the obturator nerve for severe adductor spasticity. Acta Anaesthesiol Scand 2010; 54(1):79-85. Ref ID: 699 Abstract: BACKGROUND: In this study, we present the 3-month follow-up results of a retrospective analysis of obturator nerve (ON) phenol neurolysis performed between 2000 and 2007 in patients with adductor spasticity. METHODS: The study was performed by retrospective investigation of the clinical follow-up results of 80 ON phenol treatments in 62 patients. Neurolysis using 5-10 ml 6% phenol was applied with the guidance of fluoroscopy and a peripheral nerve stimulator. Pain, spasticity and hygiene were evaluated and the hip abduction range of motion (ROM) was measured at the end of the first week and in the first, second and third months following the intervention. RESULTS: The visual analogue scale scores decreased significantly in the first week, first month and the second month, but reached their initial values in the third month. A drastic increase in the ROM values was shown in hip abduction in the first week, first month and second month. An increase in the Ashworth Scale values was observed in the second and third months, but they did not reach their initial values. The hygiene score decreased drastically in the first week and the first and second months, but worsened in the third month. The success rate in nerve localization during ON neurolysis was 100%. CONCLUSION: ON phenol blockade with fluoroscopy and peripheral nerve stimulator guidance in patients with adductor spasticity led to a decrease in spasticity and pain with an increase in the ROM of the hip and better hygiene with an efficacy lasting for about 3 months Notes: DA - 20091207 IS - 1399-6576 (Electronic) IS - 0001-5172 (Linking) LA - eng PT - Journal Article RN - 0 (Sclerosing Solutions) RN - 339NCG44TV (Phenol) SB - IM

(12) Albers CE, Steppacher SD, Ganz R, Tannast M, Siebenrock KA. Impingement adversely affects 10-year survivorship after periacetabular osteotomy for DDH hip. Clinical Orthopaedics and Related Research 471 (5) ()(pp 1602-1614), 2013 Date of Publication: May 2013 2013;(5):1602-1614. Ref ID: 313 Abstract: Background: Although periacetabular osteotomy (PAO) for developmental dysplasia of the hip (DDH) provides conceptual advantages compared with other osteotomies and reportedly is associated with joint survivorship of 60% at 20 years, the beneficial effect of proper acetabular reorientation with concomitant arthrotomy and creation of femoral head-neck offset on 10-year hip survivorship remains unclear. Questions/purposes: We asked the following questions: (1) Does the 10-year survivorship of the hip after PAO improve with proper acetabular reorientation and a spherical femoral head; (2) does the Merle d'Aubigne-Postel score improve; (3) can the progression of osteoarthritis (OA) be slowed; and (4) what factors predict conversion to THA, progression of OA, or a Merle d'Aubigne-Postel score less than 15 points? Methods: We retrospectively reviewed 147 patients who underwent 165 PAOs for DDH with two matched groups: Group I (proper reorientation and spherical femoral head) and Group II (improper reorientation and aspherical femoral head). We compared the Kaplan-Meier survivorship, Merle d'Aubigne-Postel scores, and progression of OA in both groups. A Cox regression analysis (end points: THA, OA progression, or Merle d'Aubigne-Postel score less than 15) was performed to detect factors predicting failure. The minimum followup was 10 years (median, 11 years; range, 10-14 years). Results: An increased survivorship was found in Group I. The Merle d'Aubigne-Postel score did not differ. Progression of OA in Group I was slower than in Group II. Factors predicting failure included greater age, lower preoperative Merle d'Aubigne-Postel score, and the presence of a Trendelenburg sign, aspherical head, OA, subluxation, postoperative acetabular retroversion, excessive acetabular anteversion, and undercoverage. Conclusions: Proper acetabular reorientation and the creation of a spherical femoral head improve long-term survivorship and decelerate OA progression in patients with DDH. Level of Evidence: Level III, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2013 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2013258787 IN - (Albers, Steppacher, Tannast, Siebenrock) Department of Orthopedic Surgery, Inselspital, University of Bern, Freiburgstrasse, 3010 Bern, Switzerland (Ganz) Emeritus, Faculty of Medicine, University of Bern, Freiburgstrasse, 3010 Bern, Switzerland CP - United States LG - English PT - Journal: Article EM - 201320 DD - 20130510

(13) Albers CE, Steppacher S, Tannast M, Siebenrock K. Relative neck lengthening in complex proximal femoral deformities: Technique, complications, and 5-year results. Swiss Medical Weekly Conference: Annual Meeting of the Swiss Society of Orthopaedics and Traumatology 2014 St Gallen Switzerland Conference Start: 20140625 Conference End: 20140627 Conference Publication: (var pagings) 144 ()(pp 20S), 2014 Date of P 2014;(var.pagings):20S. Ref ID: 206 Abstract: Surgical hip dislocation and extended soft-tissue retinacular flap are techniques that allow a tailored treatment of complex proximal femoral deformities. Specifically, relative femoral neck lengthening (RFNL) is a new technique to address intra- and extraarticular femoroacetabular impingement. We evaluated clinical and radiographic outcome, complications, and conversion rate to total hip arthroplasty after RFNL with combined head-neck offset osteochondroplasty and advancement of the greater trochanter in hips with complex proximal femoral deformities. We retrospectively reviewed 42 patients (43 hips, mean age 23 years) that underwent RFNL. Underlying conditions included sequelae of Legg-Calve-Perthes disease (40 hips, 93%), slipped capital femoral epiphysis (2 hips, 5%), and septic hip arthritis (1 hip, 2%). We obtained abductor muscle strength, Merle d'Aubigne-Postel score, limp, range of motion, and anterior and posterior impingement test. Radiographic parameters included osteoarthritis (OA), alpha angle, sagging rope sign and trochanteric height. Complications were assessed using the Clavien Dindo classification modified by Sink et al. Mean follow-up was 7.8 (range, 5.1-11.1) years. Abductor muscle strength, Merle d'Aubigne-Postel score, range of motion (internal and external rotation, and abduction) improved. Limp and the anterior and posterior impingement test were less prevalent. The alpha angle improved. Trochanteric height was normalized. The center collum diaphyseal angle was unchanged. Progression to OA was not prevented. There were 7 complications (16%) requiring surgical intervention without long-term morbidity. Four hips (9%) converted to THA. RFNL allows correction of combined intra- and extraarticular impingement in hips with complex proximal femoral deformities. Specifically, clinical symptoms in this young patient population suffering daily pain and restricted joint function compromising daily life and physical activity improved after surgery. The rate of complications was low. The benefits of this procedure in delaying severe progression of OA still have to be shown Notes: DB - Embase UI - 71754958 IN - (Albers, Steppacher, Tannast, Siebenrock) Inselspital Bern, Switzerland LG - English PT - Journal: Conference Abstract EM - 201506 DD - 20150117

(14) Alosh H, Kamath AF, Baldwin KD, Keenan M, Lee GC. Outcomes of total hip arthroplasty in spastic patients. J Arthroplasty 2014; 29(8):1566-1570. Ref ID: 582 Abstract: Patients with spasticity and hip arthritis can present challenges to treatment. This investigation evaluated the effectiveness and safety of THA in patients with upper motor neuron disease. Twenty-seven consecutive patients with history of cerebral palsy (CP) or acquired spasticity (AS) underwent 30 THAs for treatment of hip arthritis. They were followed for an average 2.5 years (range 2.1-12.1). Patients with CP were more likely to require hip adductor release and hip flexor lengthening at the time of THA. Statistically significant improvements were made in Harris Hip Scores, pain scores, range of motion, ambulatory status, and the use ambulatory-assistive devices. There were no dislocations in this group. Patients with spasticity can benefit from THA in terms of pain relief and improved mobility with relatively low complications Notes: DA - 20140802 IS - 1532-8406 (Electronic) IS - 0883-5403 (Linking) LA - eng PT - Journal Article SB - IM

(15) Aly TA, Amin OA. Arthrodiatasis for the treatment of Perthes' disease. Orthopedics 2009; 32(11):817. Ref ID: 697 Abstract: It is hypothesized that the interruption of the blood supply is an important factor causing femoral head osteonecrosis in the early stages of Legg-Calve-Perthes disease. Currently, treatment by containment is recommended to direct and guide remodeling of the softened femoral head as it evolves from fragmentation through ossification. The goal of this study was to show the results of arthrodiatasis to induce height recovery of the femoral head and to achieve true ambulatory nonweight-bearing containment. Forty-two patients younger than 8 years with a diagnosis of Perthes' disease were studied. Twenty-three patients (9 class B and 14 class C according to Herring's classification) were treated with an articulated distraction technique and 19 patients (11 class B and 8 class C) were treated conservatively as a control group. Arthrodiatasis or articulated distraction of the hip combines off-loading of muscles and body forces with distraction of the joint space by means of an external fixator that crosses the hip joint. Radiologically, 21 patients (91%) had satisfactory results and 2 (9%) had unsatisfactory results. Clinically, the results were good in 21 patients (92%), fair in 1 (4%), and poor in 1 (4%). In patients treated conservatively, 14 patients (72%) had satisfactory results and 5 (28%) had unsatisfactory results. Clinically, 71% had good results, 17% had fair, and 12% had poor. We conclude that hip joint containment by articulated arthrodiatasis (plus adductors and psoas minimal tenotomy surgery) is an effective method in the management of Perthes' disease in patients younger than 8 years, classified B and C, and associated with a highly reduced range of abduction. Restoration of clinical abnormalities and satisfactory radiological parameters are achieved in high percentages Notes: DA - 20091111 IS - 1938-2367 (Electronic) IS - 0147-7447 (Linking) LA - eng PT - Clinical Trial PT - Journal Article SB - IM

(16) Amanatullah DF, Antkowiak T, Pillay K, Patel J, Refaat M, Toupadakis CA et al. Femoroacetabular impingement: Current concepts in diagnosis and treatment. Orthopedics 38 (3) ()(pp 185-199), 2015 Date of Publication: 01 Mar 2015 2015;(3):185-199. Ref ID: 191 Abstract: Femoroacetabular impingement (FAI) is a recently proposed concept describing abnormal anatomic relationships within the hip joint that may lead to articular damage. Impingement is caused by bony deformities or spatial malorientation of the femoral head-neck junction and/or the acetabulum. These abnormalities lead to pathologic contact and shearing forces at the acetabular labrum and cartilage during physiological hip motion. There is an increasing body of evidence that these forces lead to cartilage wear and eventual osteoarthritis. Treatment options for FAI are evolving rapidly. Although the gold standard remains open hip dislocation, arthroscopic techniques have shown significant promise. It is possible that early recognition and treatment of subtle deformity about the hip may reduce the rate of hip osteoarthritis in the future Notes: DB - Embase UI - 2015822650 IN - (Amanatullah, Antkowiak, Refaat) Department of Orthopaedic Surgery, University of California, Davis, Sacramento, CA, United States (Pillay, Jamali) Joint Preservation Institute, 2825 J St, Ste 440, Sacramento, CA 95816, United States (Patel) Orthopaedic Specialty Institute Medical Group of Orange County, Orange, CA, United States (Toupadakis) Department of Anatomy, Physiology, and Cell Biology, University of California, Davis, CA, United States CP - United States LG - English PT - Journal: Review EM - 201513 DD - 20150320

(17) Anderson LA, Kapron AL, Aoki SK, Peters CL. Coxa profunda: is the deep acetabulum overcovered? Clin Orthop Relat Res 2012; 470(12):3375-3382. Ref ID: 630 Abstract: BACKGROUND: Coxa profunda, or a deep acetabular socket, is often used to diagnose pincer femoroacetabular impingement (FAI). Radiographically, coxa profunda is the finding of an acetabular fossa medial to the ilioischial line. However, the relative position of the acetabular fossa to the pelvis may not be indicative of acetabular coverage. QUESTIONS/PURPOSES: We therefore determined the incidence of coxa profunda and evaluated associations between coxa profunda and other radiographic parameters of acetabular coverage commonly used to diagnose pincer FAI and acetabular dysplasia. METHODS: We evaluated the radiographs of three cohorts for coxa profunda, lateral center edge (LCE) angle, acetabular index, posterior wall sign, and crossover sign. Data from 67 collegiate football players were collected prospectively (Cohort 1). We identified two patient cohorts through retrospective review of all 179 hips undergoing hip preservation surgery from 2002 to 2008 (83 periacetabular osteotomies [Cohort 2] and 96 surgical dislocation and osteochondroplasties [Cohort 3]). RESULTS: In all three cohorts, we detected no difference in the LCE angle or acetabular index between hips with and without coxa profunda. Coxa profunda existed in hips representing the spectrum of acetabular coverage measured by LCE angle (-18 degrees to 60 degrees ) and acetabular orientation determined by the crossover sign. CONCLUSIONS: Coxa profunda was a common radiographic finding in both symptomatic patients and asymptomatic football players. Coxa profunda existed in hips representing the spectrum of acetabular coverage and was not associated with an overcovered acetabulum. We conclude coxa profunda is unrelated to overcoverage and suggest its use in diagnosis of pincer FAI be abandoned in favor of other determinants of focal or general overcoverage. LEVEL OF EVIDENCE: Level III, diagnostic study. See Instructions for Authors for a complete description of levels of evidence Notes: DA - 20121108 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, N.I.H., Extramural PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(18) Andjelkovic Z, Mladenovic D. Measuring the osteochondral connection of the femoral head and neck in patients with impingement femoroacetabular by determining the angle of 2alpha in lateral and anteroposterior hip radiographic images. Vojnosanitetski Pregled 70 (3) ()(pp 259-266), 2013 Date of Publication: March 2013 2013;(3):259-266. Ref ID: 319 Abstract: Background/Aim. Femoroacetabular impingement, a pathophysiological mechanism of small morphological changes of the hip leads to early arthritic changes. The aim of this study was to present a simple method for the quantification of femoral head and neck junction in patients with cam form of femoroacetabular impingement, in standardized anteroposterior and profile DUNN 90 radiograms of the hips. Methods. In standardized anteroposterior and profile DUNN 90 images of the hips we determined the angle of 2 alpha, defined by our own original method. We tested 141 hips in 81 patients without clinical signs of femoroacetabular impingement, and 153 hips in 76 patients with clinically clear signs of femoroacetabular impingement. Results. The value of the angle 2 alpha in anteroposterior hip radiograms was on average 113.7degree for the patients with clinical symptoms of impingement, and 84.2degree for the control group of patients (p < 0.0001), and in DUNN 90 profile radiography of the hip, the value of 2 alpha angle in the patients group was 97.2degree, and 74.6degree in the control group (p < 0.0001). The proposed method of determining the angle 2 alpha showed a high level sensitivity (97.8%) and specificity (98.7) and positive predictive value (98.6%). It was false positive in only 1.3%, and false negative in 2.12% of patients. Conclusion. Using standardized anteroposterior and profile radiographs of the hips, and without determination of femoral neck axis in patients with femoroacetabular impingement with the cam effect at the junction of the femoral head and neck, we proposed the method of measuring joint abnormalities of femoral head and neck junction, very capable to predict the disease development in an asymptomatic risk group of patients and high sensitive in the diagnosis of the disease in the group of patients Notes: DB - Embase UI - 2013144960 IN - (Andjelkovic) Department of Orthopedic Surgery and Traumatology, General Hospital Leskovac, Leskovac, Serbia (Mladenovic) Orthopedic Clinic, Clinical Center Nis, Nis, Serbia CP - Serbia OT - Merenje osteohondralnog spoja glave i vrata femura kod bolesnika sa femoroacetabularnim impingement-om odredivanjem ugla 2alpha na lateralnim i anteroposteriornim radiografskim snimcima kuka LG - English, Croatian PT - Journal: Article EM - 201312 DD - 20130318

(19) Andjelkovic Z, Mladenovic D, Vukasinovic Z, Arsic S, Mitkovic M, Micic I et al. Contribution to the method for determining femoral neck axis. Srp Arh Celok Lek 2014; 142(3-4):178-183. Ref ID: 578 Abstract: INTRODUCTION: Femoral neck axis plotting is of great significance in measuring parameters that define femoral head-neck junction sphericity in the group of patients with the femoroacetabular impingement. Literature methods of femoral neck axis determination have weaknesses associated with the risk of obtaining inaccurate values of certain parameters. OBJECTIVE: Method of plotting of the femoral neck axis by two parallel lines that belong to the medial quarter of the femoral neck is proposed. Method was tested on the anatomic specimens and the respec tive radiograms. METHODS: A total of 31 anatomic specimens of the proximal femur and respective radiographs were used, on which three axes of the femoral neck were plotted; accordingly, alpha angle value was determined and tested with corresponding parametric tests, with the measurement error of less than 5% and the strength of the applied tests of 80%. RESULTS: Alpha angle values obtained by plotting femoral neck axis using the literature and methods we have proposed were not significantly different in our series, and, in more than a half of the specimens, the two axes overlapped each other. CONCLUSION: The advantage of the proposed method does not depend on the position of the femoral head rotation center in relation to the femoral neck, which favors proposed method for measuring the angles of femoral head sphericity in patients with the femoral head translation. Disadvantage of the study is a small sample size for valid conclusions about the applicability of this method in clinical practice Notes: DA - 20140520 IS - 0370-8179 (Print) IS - 0370-8179 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(20) Armfield DR, Kim DH, Towers JD, Bradley JP, Robertson DD. Sports-related muscle injury in the lower extremity. Clinics in Sports Medicine 2006; 25(4):803-842. Ref ID: 141 Abstract: Lower extremity muscle injuries are common in sprinting, running, jumping, and kicking activities. For competitive athletes these injuries may result in missed practice and competition. Some predisposing risk factors include asymmetric and decreased muscle strength, decreased flexibility, age, and level of competition. Many mild injuries are diagnosed clinically and treated with rest and rehabilitation. There is however a spectrum of overlap between the different clinical grades of muscle injury, and diagnostic imaging becomes a useful tool to confirm clinical suspicions and assess extent of injury, particularly for high-level athletes. This information may prognosticate convalescent time and influence the rehabilitation process. This article provides an overview of lower extremity muscle injuries and imaging techniques and appearances of common problems. Copyright Â© 2006 by Elsevier Inc Notes: ID - 106364250 IS - 4 CY - Philadelphia, Pennsylvania

(21) Armstrong K, Eickstaedt J, Reeves R. Care for the rehospitalized patient with chronic spinal cord injury. Hospital Medicine Clinics 3 (2) ()(pp e270-e292), 2014 Date of Publication: April 2014 2014;(2):e270-e292. Ref ID: 250 Abstract: A myriad of physiologic changes occur following spinal cord injury (SCI), and survivors of SCI are at risk for numerous complications. Considerable progress in SCI care has been achieved in the last 50years and life expectancy and causes of death after SCI are approaching those of the general population. As additional progress is made in restoring function after SCI, the impact of SCI is expected to continue to decrease over time. However, a partnership between the hospitalist and a SCI specialist optimizes the care of the rehospitalized patient with chronic SCI. Â© 2014 Elsevier Inc Notes: DB - Embase UI - 2014213844 IN - (Armstrong, Reeves) Department of Physical Medicine and Rehabilitation, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905, United States (Eickstaedt) Division of Hospital Medicine, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905, United States CP - United States LG - English PT - Journal: Review EM - 201415 DD - 20140408

(22) Arnason A, Sigurdsson SB, Gudmundsson A, Holme I, Engebretsen L, Bahr R. Risk factors for injuries in football. Am J Sports Med 2004; 32(1 Suppl):5S-16S. Ref ID: 765 Abstract: BACKGROUND: The injury risk in football is high, but little is known about causes of injury. PURPOSE: To identify risk factors for football injuries using a multivariate model. STUDY DESIGN: Prospective cohort study. METHODS: Participants were 306 male football players from the two highest divisions in Iceland. Before the 1999 football season started, the following factors were examined: height, weight, body composition, flexibility, leg extension power, jump height, peak O(2) uptake, joint stability, and history of previous injury. Injuries and player exposure were recorded throughout the competitive season. RESULTS: Older players were at higher risk of injury in general (odds ratio [OR] = 1.1 per year, P = 0.05). For hamstring strains, the significant risk factors were age (OR = 1.4 [1 year], P < 0.001) and previous hamstring strains (OR = 11.6, P <0.001). For groin strains, the predictor risk factors were previous groin strains (OR = 7.3, P = 0.001) and decreased range of motion in hip abduction (OR = 0.9 [1 degrees ], P = 0.05). Previous injury was also identified as a risk factor for knee (OR = 4.6) and ankle sprains (OR = 5.3). CONCLUSIONS: Age and previous injury were identified as the main risk factors for injury among elite football players from Iceland Notes: DA - 20040202 IS - 0363-5465 (Print) IS - 0363-5465 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(23) Arnold DR, Keene JS, Blankenbaker DG, Desmet AA. Hip pain referral patterns in patients with labral tears: analysis based on intra-articular anesthetic injections, hip arthroscopy, and a new pain "circle" diagram. Phys Sportsmed 2011; 39(1):29-35. Ref ID: 670 Abstract: BACKGROUND: Fluoroscopically guided intra-articular (FGIA) anesthetic hip joint injections have been used to determine whether the hip joint is the source of a patient's hip pain. However, there have been no reports documenting the efficacy of their use for defining the pain referral patterns (PRPs) of patients with labral tears. The aim of this study was to determine the PRPs of patients with labral tears and evaluate a new pain "circle" diagram (PCD) developed for this analysis. METHODS: Fifty-two patients were evaluated at our institution who had: 1) a preoperative FGIA anesthetic hip joint injection; 2) completed our PCD and a visual analog pain scale pre- and postinjection; 3) significant (>/= 80%) pain reduction after their FGIA injection; and 4) a labral tear and minimal (</= grade II) degenerative joint disease, as documented by hip arthroscopy. The PCD had circles in which patients put an "X" in to indicate pain in the following locations: anterior superior spine, lateral peritrochanteric area, central groin, symphysis pubis, proximal inner thigh, anterior thigh, posterior iliac crest, sacroiliac joint, sciatic notch, and ischial tuberosity. RESULTS: Based on the percentage of patients with significant (>/= 80%) pain reduction after administration of FGIA, 2 areas demonstrated substantially more and consistent presence of pain, which improved after injection. These were the central groin (P < 0.001) and the lateral peritrochanteric area (P = 0.02). CONCLUSION: The most common locations of pain were the central groin and the lateral peritrochanteric area. The least common were the ischial tuberosity and the anterior thigh, which are 2 areas often associated with osteoarthritis of the hip. The use of the PCD combined with an FGIA anesthetic injection may help physicians reconcile the expectations of those patients with labral tears who believe that hip arthroscopy will treat their multiple areas of "hip" pain Notes: DA - 20110307 IS - 0091-3847 (Print) IS - 0091-3847 (Linking) LA - eng PT - Comparative Study PT - Journal Article RN - 0 (Anesthetics) SB - IM

(24) Askling CM, Tengvar M, Saartok T, Thorstensson A. Acute first-time hamstring strains during slow-speed stretching: Clinical, magnetic resonance imaging, and recovery characteristics. American Journal of Sports Medicine 35 (10) ()(pp 1716-1724), 2007 Date of Publication: October 2007 2007;(10):1716-1724. Ref ID: 487 Abstract: Background: Hamstring strains can be of 2 types with different injury mechanisms, 1 occurring during high-speed running and the other during stretching exercises. Hypothesis: A stretching type of injury to the proximal rear thigh may involve specific muscle-tendon structures that could affect recovery time. Study Design: Case series (prognosis); Level of evidence, 2. Methods: Fifteen professional dancers with acute first-time hamstring strains were prospectively included in the study. All subjects were examined, clinically and with magnetic resonance imaging, on 4 occasions after injury: at day 2 to 4, 10, 21, and 42. The clinical follow-up period was 2 years. Results: All dancers were injured during slow hip-flexion movements with extended knee and experienced relatively mild acute symptoms. All injuries were located proximally in the posterior thigh close to the ischial tuberosity. The injury involved the semimembranosus (87%), quadratus femoris (87%), and adductor magnus (33%). All injuries to the semimembranosus involved its proximal free tendon. There were no significant correlations between clinical or magnetic resonance imaging parameters and the time to return to preinjury level (median, 50 weeks; range, 30-76 weeks). Conclusion: Stretching exercises can give rise to a specific type of strain injury to the posterior thigh. A precise history and careful palpation provide the clinician enough information to predict a prolonged time until return to preinjury level. One factor underlying prolonged recovery time could be the involvement of the free tendon of the semimembranosus muscle. Â© 2007 American Orthopaedic Society for Sports Medicine Notes: DB - Embase UI - 2007470891 IN - (Askling, Thorstensson) Swedish School of Sport and Health Sciences, Stockholm, Sweden (Askling, Saartok) Department of Molecular Medicine and Surgery, Stockholm Sports Trauma Research Center, Karolinska Institutet, Stockholm, Sweden (Tengvar) Department of Radiology, Sophiahemmet Hospital, Stockholm, Sweden (Askling) Box 5626, 114 86 Stockholm, Sweden CP - United States LG - English PT - Journal: Article EM - 200700 DD - 20071003

(25) Ast MP, John TK, Labbisiere A, Robador N, Valle AGD. Fractures of a single design of highly cross-linked polyethylene acetabular liners: An analysis of voluntary reports to the united states food and drug administration. Journal of Arthroplasty 29 (6) ()(pp 1231-1235), 2014 Date of Publication: June 2014 2014;(6):1231-1235. Ref ID: 242 Abstract: Polyethylene liner fracture is a risk associated with the use of highly cross-linked UHMWPE. We performed a review of the voluntary reports of fractured liners to the US Food and Drug Administration to determine if any risk factors could be identified. There have been 74 reports of fractured Trilogy, Longevity liners to the US Food and Drug Administration since 1999. Most cases utilized small acetabular shells (< 54. mm) combined with large diameter heads (> 36. mm). Liners less than 7. mm thick at the weight bearing or 4.8. mm thick at the rim should be used with caution. At revision surgery, malpositioned shells should be revised and the use of a thin liner should be avoided. Â© 2014 Elsevier Inc Notes: DB - Embase UI - 2014343179 IN - (Ast, John, Labbisiere, Robador, Valle) Department of Orthopaedic Surgery, Division of Adult Reconstruction and Joint Replacement Surgery, Hospital for Special Surgery, New York, NY, United States CP - United States LG - English PT - Journal: Article EM - 201423 DD - 20140604

(26) Astarita E, Bellotti V, Moya GE, Cardenas NC, Ribas FM. Short-term results of surgical treatment of adhesions capsular-labral and capsular-bone in the young adults hip. Journal of Orthopaedics and Traumatology Conference: 99th National Congress of the Italian Society of Orthopaedics and Traumatology Rome Italy Conference Start: 20141122 Conference End: 20141125 Conference Publication: (var pagings) 15 ()(pp S72), 201 2014;(var.pagings):S72. Ref ID: 225 Abstract: Introduction Femoro-acetabular impingement (FAI) has established in the last years as a cause of osteoarthritis in youth people. With the development of various techniques also complications are raised. The capsular-labral adhesions are one of the most frequent complications that can generate dolour, discomfort and decreased mobility in patients. Methods From July 2003 to December 2012 were treated 814 patients with diagnosis of FAI. Among these, 33 patients were diagnosed of capsular-labral adhesions. From these group, 20 were operated with arthroscopic technique and 13 with mini-open technique. On average, the second-look surgery has been realized at 7.3 months post-operatively. The results are evaluated with the clinical examination, range of motion, NASH and Dexeus Combined Score (DCS). Results The mean follow-up was 3.2 years (range 1-8 years). The value of NASH has gone from a 51.5 (R 29-61) to 83.2 points (R 6-93.1) at last follow-up. The DCS showed a satisfactory results in 84.8 % of patients (28). Capsular-labral adhesions has been found in 28 patients (84.8 %) and in particular in the area corresponding to the anchors and in the region of the head neck junction in all patients with CAM hypocorrection (30.3 %). Discussion Adhesions are a problem still not fully described in the literature. It seems that they can depend on several factors: endogenous, exogenous as well as an incorrect program of postoperative rehabilitation, hypocorrections, hypersensitivity to the suture material and autoimmune factors. The incidence may be higher than that reported in our study. Conclusions Diagnosis and early treatment of adhesions in the young adults' hip appears to be effective with satisfactory short-term results in the majority of patients Notes: DB - Embase UI - 71659969 IN - (Astarita, Bellotti, Moya Gomez, Cardenas Nylander, Ribas Fernandez) ICATME Institut Catala de Traumatologia i Medicina de l'Esport, Hospital Universitario Quiron Dexeus Barcelona, Barcellona, Spain LG - English PT - Journal: Conference Abstract EM - 201445 DD - 20141027

(27) Audenaert E, Vigneron L, Pattyn C. A method for three-dimensional evaluation and computer aided treatment of femoroacetabular impingement. Comput Aided Surg 2011; 16(3):143-148. Ref ID: 668 Abstract: Several theoretical models have shown that the range of motion of the hip joint is impaired in patients with femoroacetabular impingement, and that the acetabular cartilage is at risk of being damaged as a result of abnormal shear stresses, even during normal everyday activities. Computer aided technologies might add to the early diagnosis and adequate treatment of such lesions. This paper describes the technique, theories and algorithms we have developed for patient-specific detection, analysis and computer aided surgery of femoroacetabular impingement. Currently available models applicable to femoroacetabular impingement offer modeling based on collision analysis of a constrained hip joint. Such an approach implies that neither the femur nor the acetabulum can be analyzed completely separately for the presence of structural lesions responsible for the impingement problem. Moreover, a constrained model does not allow for comprehensive prediction of the possible locations and extent of secondary cartilage lesions (so-called contre-coup lesions) of the posterior acetabulum opposite the anterior impingement site. We report a new technique for the subject-specific morphological analysis of the proximal femur, acetabulum and hip joint. The technique offers a number of advantages compared to currently used techniques for the diagnosis and evaluation of hip impingement, and has direct orthopaedic applications as it allows computer aided planning and minimally invasive surgery for patients with femoroacetabular impingement Notes: DA - 20110411 IS - 1097-0150 (Electronic) IS - 1092-9088 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(28) Audenaert EA, Vigneron L, Van Hoof T, D'Herde K, van Maele G, Oosterlinck D et al. In vitro validation and reliability study of electromagnetic skin sensors for evaluation of end range of motion positions of the hip. Medical & biological engineering & computing 49 (12) ()(pp 1405-1412), 2011 Date of Publication: Dec 2011 2011;(12):1405-1412. Ref ID: 291 Abstract: There is growing evidence that femoroacetabular impingement (FAI) is a probable risk factor for the development of early osteoarthritis in the nondysplastic hip. As FAI arises with end range of motion activities, measurement errors related to skin movement might be higher than anticipated when using previously reported methods for kinematic evaluation of the hip. We performed an in vitro validation and reliability study of a noninvasive method to define pelvic and femur positions in end range of motion activities of the hip using an electromagnetic tracking device. Motion data, collected from sensors attached to the bone and skin of 11 cadaver hips, were simultaneously obtained and compared in a global reference frame. Motion data were then transposed in the hip joint local coordinate systems. Observer-related variability in locating the anatomical landmarks required to define the local coordinate system and variability of determining the hip joint center was evaluated. Angular root mean square (RMS) differences between the bony and skin sensors averaged 3.2degree (SD 3.5degree) and 1.8degree (SD 2.3degree) in the global reference frame for the femur and pelvic sensors, respectively. Angular RMS differences between the bony and skin sensors in the hip joint local coordinate systems ranged at end range of motion and dependent on the motion under investigation from 1.91 to 5.81degree. The presented protocol for evaluation of hip motion seems to be suited for the 3-D description of motion relevant to the experimental and clinical evaluation of femoroacetabular impingement Notes: DB - Embase UI - 21751065 IN - (Audenaert) Department of Orthopaedic Surgery and Traumatology, Ghent University Hospital, De Pintelaan 185, 9000 Ghent, Belgium CP - United States LG - English PT - Journal: Article EM - 201331 DD - 20120308

(29) Audenaert EA, Mahieu P, Pattyn C. Three-dimensional assessment of cam engagement in femoroacetabular impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (2) ()(pp 167-171), 2011 Date of Publication: February 2011 2011;(2):167-171. Ref ID: 412 Abstract: Purpose: The purpose of our study was to 3-dimensionally assess cam engagement in male patients with symptomatic femoroacetabular impingement during motion. Methods: A total of 13 hips with cam-type impingement were investigated. Patient anatomy and clinical range of motion were determined. After 3-dimensional segmentation and reconstruction, the dynamic behavior of the cam lesion was investigated for the previously analyzed motions. Results: Important differences in the pattern of cam engagement were noticed. Abutment of the cam lesion and the acetabular cartilage was observed in flexion in 7 hips (54%) and in abduction in 11 hips (84%). Internal rotation with the hip in 90degree of flexion caused intrusion of the cam lesion into the joint in 10 of the investigated cases (77%). Neutral rotation did not cause any conflict between the cam lesion and acetabulum for the measured range of motion. A similar area in the anterosuperior quadrant of the acetabulum appeared to be involved in the different motions that were analyzed. Conclusions: Typically, during internal rotation in 90degree of flexion, the centromedial portion of the cam lesion was found to abut against the anterosuperior quadrant of the acetabular cartilage. During abduction and flexion, this appeared to be the lateral and medial portions of the cam lesion, respectively. All motions causing cam intrusion appeared to focus on the same cartilage area of the acetabulum in its anterosuperior quadrant. Level of Evidence Level II, diagnostic study. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011054333 IN - (Audenaert, Mahieu, Pattyn) Department of Orthopaedic Surgery and Traumatology, Ghent University Hospital, De Pintelaan 185, 9000 Ghent, Belgium CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110214

(30) Audenaert EA, Vigneron L, Van Hoof T, D'Herde K, van Maele G, Oosterlinck D et al. In vitro validation and reliability study of electromagnetic skin sensors for evaluation of end range of motion positions of the hip. Med Biol Eng Comput 2011; 49(12):1405-1412. Ref ID: 662 Abstract: There is growing evidence that femoroacetabular impingement (FAI) is a probable risk factor for the development of early osteoarthritis in the nondysplastic hip. As FAI arises with end range of motion activities, measurement errors related to skin movement might be higher than anticipated when using previously reported methods for kinematic evaluation of the hip. We performed an in vitro validation and reliability study of a noninvasive method to define pelvic and femur positions in end range of motion activities of the hip using an electromagnetic tracking device. Motion data, collected from sensors attached to the bone and skin of 11 cadaver hips, were simultaneously obtained and compared in a global reference frame. Motion data were then transposed in the hip joint local coordinate systems. Observer-related variability in locating the anatomical landmarks required to define the local coordinate system and variability of determining the hip joint center was evaluated. Angular root mean square (RMS) differences between the bony and skin sensors averaged 3.2 degrees (SD 3.5 degrees ) and 1.8 degrees (SD 2.3 degrees ) in the global reference frame for the femur and pelvic sensors, respectively. Angular RMS differences between the bony and skin sensors in the hip joint local coordinate systems ranged at end range of motion and dependent on the motion under investigation from 1.91 to 5.81 degrees . The presented protocol for evaluation of hip motion seems to be suited for the 3-D description of motion relevant to the experimental and clinical evaluation of femoroacetabular impingement Notes: DA - 20111125 IS - 1741-0444 (Electronic) IS - 0140-0118 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Validation Studies SB - IM

(31) Audenaert EA, Houcke JV, Maes B, Victor J, Pattyn C, Bosschel LV. Range of motion in femoroacetabular impingement. Acta Orthopaedica Belgica 78 (3) ()(pp 327-332), 2012 Date of Publication: 2012 2012;(3):327-332. Ref ID: 361 Abstract: Recent epidemiological studies have demonstrated that radiographic features specific to femoroacetabular impingement appear far more frequently in healthy and asymptomatic cohorts than previously anticipated. It remains unclear how incidental findings should be interpreted clinically. In addition, several authors have suggested that a decreased range of motion is part of the clinical presentation of femoroacetabular impingement. The purpose of the present study was to describe and analyze differences in range of motion between femoroacetabular impingement patients, asymptomatic individuals with incidental radiographic findings and healthy controls, using a validated electromagnetic tracking system. Furthermore, it was evaluated which motions were clinically relevant and could be used to differentiate between these three groups. We found all evaluated motions to differ significantly between patients and controls. The anterior impingement test showed a significant difference between patients and asymptomatic cases. In conclusion, functional evaluation of the range of motion appeared in this study as a useful tool in the diagnostic work-up of femoracetabular impingement. Â© 2012, Acta Orthopedica Belgica Notes: DB - Embase UI - 22822572 IN - (Audenaert, Houcke, Maes, Victor, Pattyn) Department of Orthopaedic Surgery and Traumatology, Ghent University Hospital, De Pintelaan 185, 9000 Ghent, Belgium (Bosschel) Department of Physical and Rehabilitation Medicine, Ghent University Hospital, Belgium CP - Belgium LG - English PT - Journal: Article EM - 201234 DD - 20120822

(32) Audenaert EA, Peeters I, Vigneron L, Baelde N, Pattyn C. Hip morphological characteristics and range of internal rotation in femoroacetabular impingement. Am J Sports Med 2012; 40(6):1329-1336. Ref ID: 644 Abstract: BACKGROUND: Radiographic features specifically related to the occurrence of femoroacetabular impingement (FAI) appear to be highly prevalent in the asymptomatic population. It remains unclear, however, how these incidental findings should be interpreted clinically and which other variables might differentiate between true incidental findings and preclinical patients. PURPOSE: To study the association between cam and overall hip morphological characteristics and range of motion in impingement patients, asymptomatic patients (healthy patients with radiographic features specific to FAI), and healthy controls. STUDY DESIGN: Cross-sectional study; Level of evidence, 3. METHODS: Morphological parameters describing cam and overall hip anatomy were obtained from 30 patients (10 per subgroup) with use of 3-dimensional computational methods. In addition, the range of internal rotation in high flexion activities was evaluated, and its relation to hip morphological variables was analyzed in a multivariate regression model. RESULTS: Size of the cam lesion and range of motion significantly differed between groups (P < .05). The range of internal rotation on impingement testing was found to average 27.9 degrees in the healthy control group compared with 21.1 degrees in the asymptomatic control group with radiographic features specific to FAI (P < .001) and 12.3 degrees in the patient group (P < .001). Cam size, acetabular coverage, and femoral version appeared to be predictive variables for the range of internal rotation. Seventy-five percent of variance between patients could be attributed to the combined effect of these 3 variables (R = .86). The range of motion was decreased in cam patients and asymptomatic patients, and early femoroacetabular conflict was not restricted to the area of the cam lesion but involved the entire anterior femoral head-neck junction. CONCLUSION: Decreased range of motion, as found in FAI, is not solely dependent on the size or even the occurrence of a cam lesion but should be interpreted by taking into account the overall hip anatomy, specifically femoral version and acetabular coverage. Decreased femoral anteversion and increased acetabular coverage add to the risk of early femoroacetabular collision during sports and activities of daily living and therefore appear to be additional predictive variables, besides the finding of a cam lesion, for the risk of clinical hip impingement development. In addition, the findings suggest that surgical osteochondroplasty to restore a normal range of motion may necessitate more excessive bone resection than what simply appears to be a bump on imaging Notes: DA - 20120604 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(33) Augereau B, Travers V, Le Balch T, Witvoet J. [Total hip and knee arthroplasties in hemophilia. Apropos of 27 cases]. Rev Chir Orthop Reparatrice Appar Mot 1987; 73(5):381-394. Ref ID: 793 Abstract: Thirteen total hip and 14 total knee prostheses were performed in 21 haemophilic patients. Nineteen had severe factor deficiency. Their average age was 43 years. Pain was the only indication for hip prostheses. All the hip arthropathies were of Arnold stage IV or V. For the knees, the indication was permanent pain with patello-femoral involvement in nine cases. In other cases, stiffness and instability was the indication. Seven knees, one out of two, had a flexion deformity of more than 30 degrees and only in four knees, one in three, was the range of flexion greater than 90 degrees. The quadriceps was extremely atrophied in eight knees and was always fibrotic. The arthropathies were of stage IV in three cases and stage V in eleven cases. There was pre-operative valgus deformity, greater than 20 degrees in three cases. At the hip, all 13 total prostheses were cemented. The 11 patients had factor replacement for an average of 21 days. No inhibitor was present pre-operatively or developed after operation. Early complications were rare: two moderate hematomata of the hip and one haematoma of the homolateral psoas. The late complications were not unusual: two aseptic bipolar loosenings after eight and nine years. At long-term follow-up, with a mean of four years and one month, 77 per cent of the hips were painless and stable with a good range of movement. Eight per cent were painless and stable but had some limitation of flexion. Fifteen per cent were failures. At the knee, a Guepar I knee was inserted in four cases, a Total Condylar knee in eight cases and a Kali knee in two cases. All the patients had factor replacement for 24 days. No post-operative inhibitor developed. The early complications were three superficial skin necroses, four deep hematomata and one transient common peroneal nerve palsy. The late complications were one permanent dislocation of the patella and one bipolar septic loosening with septic pyaemia which needed an arthrodesis and required 79,290 International Units of factor VIII, 72 units of packed cells and 28 bottles of fresh plasma. After a mean follow-up of two years and five months, five knee prostheses had a very good results, four a fair result and five a bad result Notes: DA - 19871112 IS - 0035-1040 (Print) IS - 0035-1040 (Linking) LA - fre PT - English Abstract PT - Journal Article RN - 0 (Immunoglobulins) RN - 0 (circulating anticoagulants) SB - IM

(34) Avrahami D, Potvin JR. The clinical and biomechanical effects of fascial-muscular lengthening therapy on tight hip flexor patients with and without low back pain. Journal of the Canadian Chiropractic Association 2014; 58(4):444-456. Ref ID: 68 Notes: IS - 4

(35) Ayeni O, Naudie D, Crouch S, Adili A, Pindiprolu B, Chien T et al. Surgical indications for treatment for femoroacetabular impingement with surgical hip dislocation. Knee Surgery, Sports Traumatology, Arthroscopy 2013; 21(7):1676-1684. Ref ID: 62 Notes: IS - 7

(36) Ayeni OR, Banga K, Bhandari M, Maizlin Z, de Sa D, Golev D et al. Femoroacetabular impingement in elite ice hockey players. Knee Surg Sports Traumatol Arthrosc 2014; 22(4):920-925. Ref ID: 604 Abstract: PURPOSE: The purpose of this study is to evaluate the presence of clinical and radiological femoroacetabular impingement (FAI) in elite ice hockey players and compare it to a control group of non-athletes. METHODS: Forty participants (20 non-athletes and 20 elite ice hockey athletes) underwent an evaluation of their hip joint, including assessment of range of motion and special provocative impingement tests. Two musculoskeletal radiologists assessed MRIs completed on each participant for radiological findings associated with FAI, including alpha angle, acetabular version angle, acetabular depth, and/or a lateral centre edge angle, and findings of labral and cartilage degeneration. A comparative analysis of the clinical and radiological findings was subsequently completed. RESULTS: There was a significant difference in the radiological CAM impingement measured by mean alpha angle between both groups (non-athletes: 43.2 degrees, SD 9.7; and athletes: 54.2 degrees, SD 12 (p = 0.003)). There were no statistically significant differences between the groups upon evaluating PINCER impingement. There were no statistically significant differences in clinical examination findings between both groups. CONCLUSION: MRI evidence suggests that CAM impingement is more common in the elite ice hockey athlete in comparison with non-athletes. However, as this is a pilot study examining findings in asymptomatic individuals, there is a need for a longitudinal prospective cohort study. In keeping with this, sufficient, long-term follow-up is required to assess at what point, if any, these subjects with radiological findings become symptomatic Notes: DA - 20140318 IS - 1433-7347 (Electronic) IS - 0942-2056 (Linking) LA - eng PT - Journal Article SB - IM

(37) Bach DK, Green DS, Jensen GM, Savinar E. A comparison of muscular tightness in runners and nonrunners and the relation of muscular tightness to low back pain in runners. Journal of Orthopaedic and Sports Physical Therapy 6 (6) ()(pp 315-323), 1985 Date of Publication: 1985 1985;(6):315-323. Ref ID: 534 Abstract: The focus of this experimental study was to compare muscular tightness at the hip between runners and nonrunners, and to determine if there is a relation between muscular tightness and low back pain in runners. Goniometric range of motion measurements of three hip movements, abduction, flexion with the knee extended, and extension, were taken on two subject populations, runners (N = 45), and nonrunners (n = 43), in order to determine tightness of the hip adductor, extensor, and flexor muscles, respectively. The mean score values obtained for each of the three measurements of both the right and left sides were compared for differences between the running and nonrunning populations and between male and female subjects. Runners were found to be significantly limited in the movement of hip flexion with the knee extended. The mean score values obtained for all male subjects for this movement were lower than those for all female subjects. The incidence of low back pain in runners was examined; however, no correlation could be drawn between muscular tightness in these subjects and low back pain Notes: DB - Embase UI - 1985169477 IN - (Bach, Green, Jensen, Savinar) Division of Physical Therapy, Stanford University, Palo Alto, CA 94305 United States CP - United States LG - English PT - Journal EM - 198500 DD - 19850911

(38) Bali K, Railton P, Kiefer GN, Powell JN. Subcapital osteotomy of the femoral neck for patients with healed slipped capital femoral epiphysis. Bone Joint J 2014; 96-B(11):1441-1448. Ref ID: 554 Abstract: We report the clinical and radiological outcome of subcapital osteotomy of the femoral neck in the management of symptomatic femoroacetabular impingement (FAI) resulting from a healed slipped capital femoral epiphysis (SCFE). We believe this is only the second such study in the literature. We studied eight patients (eight hips) with symptomatic FAI after a moderate to severe healed SCFE. There were six male and two female patients, with a mean age of 17.8 years (13 to 29). All patients underwent a subcapital intracapsular osteotomy of the femoral neck after surgical hip dislocation and creation of an extended retinacular soft-tissue flap. The mean follow-up was 41 months (20 to 84). Clinical assessment included measurement of range of movement, Harris Hip Score (HHS) and Western Ontario and McMaster Universities Osteoarthritis score (WOMAC). Radiological assessment included pre- and post-operative calculation of the anterior slip angle (ASA) and lateral slip angle (LSA), the anterior offset angle (AOA) and centre head-trochanteric distance (CTD). The mean HHS at final follow-up was 92.5 (85 to 100), and the mean WOMAC scores for pain, stiffness and function were 1.3 (0 to 4), 1.4 (0 to 6) and 3.6 (0 to 19) respectively. There was a statistically significant improvement in all the radiological measurements post-operatively. The mean ASA improved from 36.6 degrees (29 degrees to 44 degrees ) to 10.3 degrees (5 degrees to 17 degrees ) (p < 0.01). The mean LSA improved from 36.6 degrees (31 degrees to 43 degrees ) to 15.4 degrees (8 degrees to 21 degrees ) (p < 0.01). The mean AOA decreased from 64.4 degrees (50 degrees to 78 degrees ) 32.0 degrees (25 degrees to 39 degrees ) post-operatively (p < 0.01). The mean CTD improved from -8.2 mm (-13.8 to +3.1) to +2.8 mm (-7.6 to +11.0) (p < 0.01). Two patients underwent further surgery for nonunion. No patient suffered avascular necrosis of the femoral head. Subcapital osteotomy for patients with a healed SCFE is more challenging than subcapital re-orientation in those with an acute or sub-acute SCFE and an open physis. An effective correction of the deformity, however, can be achieved with relief of symptoms related to impingement Notes: DA - 20141105 IS - 2049-4408 (Electronic) LA - eng PT - Journal Article SB - AIM SB - IM

(39) Ball ST, Schmalzried TP. Posterior femoroacetabular impingement (PFAI) - after hip resurfacing arthroplasty. Bull NYU Hosp Jt Dis 2009; 67(2):173-176. Ref ID: 705 Abstract: INTRODUCTION: The recent, encouraging outcome literature on hip resurfacing arthroplasty (HRA) has not sufficiently examined the potential occurrence of postoperative femoroacetabular impingement (PFAI) and sequelae. The current study asks the questions, "Does femoroacetabular impingement occur after hip resurfacing arthroplasty (HRA) and, if so, what are the clinical outcomes?" METHODS: Sixty-nine consecutive hips in 57 patients with a minimum of 2 years clinical and radiographic follow-up were evaluated. Both acetabular and femoral component positions and postsurgical changes in the femoral neck and acetabulum were recorded. RESULTS: Fourteen hips in 13 patients (20%) developed a small scalloped, corticated erosion in the posterior neck, just distal to the femoral component and adjacent to the acetabular component rim. These erosions were between 5 and 10 mm in depth and became apparent at an average of 15 months (range, 6 to 24 months) following surgery. After 2 years, they showed no further progression. The location and shape of the erosions indicate PFAI as the etiology. One hip also demonstrated similar changes in the anterior neck. The Harris Hip Score and UCLA (University of California at Los Angeles) Activity Scores were higher in patients with such erosions (97.5 and 9.2, respectively), compared to those patients without (93.5 and 8.4, respectively). Additionally, patients with erosions reported slightly better pain relief on average than patients with no radiographic evidence of impingement. No significant differences in range of motion or component position were found between the two groups. CONCLUSIONS: Small, corticated, non-progressive erosions can occur from femoroacetabular impingement following HRA. The erosions were more commonly posterior in this series, and they tended to occur in active patients. There is no adverse effect on clinical outcomes, and more specifically, there is no association of PFAI with pain Notes: DA - 20090708 IS - 1936-9719 (Print) IS - 1936-9719 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(40) Banerjee P, McLean CR. Femoroacetabular impingement: A review of diagnosis and management. Current Reviews in Musculoskeletal Medicine 4 (1) ()(pp 23-32), 2011 Date of Publication: March 2011 2011;(1):23-32. Ref ID: 398 Abstract: Hip pain in adults has traditionally been associated with osteoarthritis in the joint. However, many young patients with hip pain do get referred to orthopaedic surgeons without arthritis. Subtle bony and soft tissues abnormalities can present with hip pain in the active young adult. These abnormalities can lead to premature arthritis. With the improvements in clinical examination for hip impingement, radiological imaging using magnetic resonance arthrography (MRA) and or computed tomograms (CT) Scans, these lesions are being detected early. Though the cause of primary osteoarthritis is unknown, it is suggested that femoro-acetabular impingement (FAI) may be responsible for the progression of the disease in these patients. FAI is a pathological condition leading to abutment between the proximal femur and the acetabular rim. Two different mechanisms are described, although a combination of both is seen in clinical practice. Cam impingement is a result of reduced anterior femoral head neck offset. Pincer lesion is caused by abnormalities on the acetabular side. FAI due to either mechanism can lead to chondral lesions and labral pathology. Patients present with groin pain and investigated with radiographs, CT and MRA. Surgery is the treatment of choice. Open or arthroscopic exploration of the hip is undertaken with bony resection to improve the femoral head neck junction with resection or repair of the damaged labrum. This may involve femoral osteochondroplasty for the cam lesion and acetabular rim resection for pincer lesion. There is no difference in outcome between open and arthroscopic surgery for FAI. Â© 2011 Springer Science+Business Media, LLC Notes: DB - Embase UI - 2011284680 IN - (Banerjee, McLean) South West London Elective Orthopaedic Centre, Research and Education Unit, Epsom General Hospital, Dorking Road, London, Surrey KT18 7EG, United Kingdom CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110628

(41) Bartelt RB, Yuan BJ, Trousdale RT, Sierra RJ. The prevalence of groin pain after metal-on-metal total hip arthroplasty and total hip resurfacing. Clinical Orthopaedics and Related Research 468 (9) ()(pp 2346-2356), 2010 Date of Publication: September 2010 2010;(9):2346-2356. Ref ID: 426 Abstract: Background: Groin pain after total hip arthroplasty (THA) or total hip resurfacing arthroplasty can be troubling for patients and surgeons. Potential sources of pain include infection, loosening, metal hypersensitivity, or impingement of bony structures or the iliopsoas tendon. Questions/purposes: We compared the rate of groin pain after THA or hip resurfacing using metal-on-metal to those of other bearing surfaces. Methods: We identified 347 (334 patients) primary total hip (n = 301) or resurfacing (n = 46) arthroplasties. Complete preoperative, operative, and postoperative data were available for 282 hips. We retrospectively reviewed the charts for the presence or absence of groin pain at a minimum of 1 year after surgery with a specific focus on etiologic factors. The minimum followup was 12 months (mean, 14 months; range 12 to 24 months). Results: The rate of groin pain was 7% (15 of 217 patients) after THA with conventional bearing surfaces, 15% (4 of 26 patients) with metal-on-metal THA and 18% (7 of 39 patients) with total hip resurfacing. Younger patients were more likely to report groin pain postoperatively and more likely to have metal-on-metal bearing surfaces. Conclusions: Our data at short-term followup suggest increased rates of groin pain after metal-on-metal THA or resurfacing arthroplasty versus THA using polyethylene or ceramic bearing surfaces. The reasons are not clear but they appear to be associated with younger age. Potential factors include impingement, activity level and possibly higher expectations for patients receiving metal-on-metal bearing surfaces that may make those patients more likely to report postoperative pain. Level of Evidence: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2010 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2010439478 IN - (Bartelt, Yuan, Trousdale, Sierra) Mayo Clinic, 200 First Street SW, Rochester, MN 55905, United States CP - United States LG - English PT - Journal: Conference Paper EM - 201000 DD - 20100901

(42) Batra YK, Rajeev S, Panda NB, Lokesh VC, Rao KLN. Intrathecal neostigmine with bupivacaine for infants undergoing lower abdominal and urogenital procedures: Dose response. Acta Anaesthesiologica Scandinavica 53 (4) ()(pp 470-475), 2009 Date of Publication: April 2009 2009;(4):470-475. Ref ID: 466 Abstract: Background: Intrathecal (IT) neostigmine produces dose-dependent analgesia in adults. However, the dose of spinal neostigmine has not been investigated in infants. The purpose of this study was to assess spinal anesthesia (SA) duration provided by four doses of spinal neostigmine added to bupivacaine for lower abdominal and urogenital procedures in infants. Methods: Seventy-five infants were randomized into five groups. The control group B received IT plain 0.5% hyperbaric bupivacaine. Groups BN.25, BN.50, BN.75, and BN1.0 received bupivacaine with 0.25, 0.5, 0.75, and 1 mug/kg of neostigmine, respectively. The primary variable was the duration of anesthesia assessed by recovery of hip flexion. Postoperative pain with facial expression, leg activity, arm activity, crying and consolability scale score,and rescue analgesic requirements were the secondary variables measured, and the side effects were noted. Results: Seventy-three infants completed the study. There was a significant linear increase in SA duration with IT neostigmine to 65.2 (4.3) min with 0.5 mug/kg (P<0.01), 88.2 (5.1) with 0.75 mug/kg (P<0.001) and 92 (4.3) with 1 mug/kg (P<0.001) from 52.4 (4.3) min with bupivacaine alone. SA duration showed no significant difference between plain bupivacaine and BN.25 (P=0.100) or between groups BN.75 and BN1.0 (P=0.451). Groups BN.75 and BN1.0 had significantly reduced pain scores, and the median duration before the first dose rescue analgesic was requested prolonged significantly (P<0.001) compared with the other three groups. Conclusions: IT neostigmine at a dose of 0.75 mug/kg added to bupivacaine significantly prolonged SA duration with reduced postoperative pain scores and rescue analgesic requirements in infants undergoing lower abdominal and urogenital procedures. No additional benefits were provided on increasing it to 1 mug/kg. Â© 2009 The Authors. Journal compilation Â© 2009 The Acta Anaesthesiologica Scandinavica Foundation Notes: DB - Embase UI - 2009148316 IN - (Batra) Department of Anaesthesia and Intensive Care, Post-graduate Institute of Medical Education and Research, Chandigarh-160012 (Batra, Rajeev, Panda, Lokesh) Department of Anaesthesia and Intensive Care, Postgraduate Institute of Medical Education and Research, Chandigarh-160012, India (Rao) Department of Pediatric Surgery, Postgraduate Institute of Medical Education and Research, Chandigarh-160012, India CP - Denmark LG - English PT - Journal: Article EM - 200900 DD - 20091110

(43) Beall DP, Sweet CF, Martin HD, Lastine CL, Grayson DE, Ly JQ et al. Imaging findings of femoroacetabular impingement syndrome. Skeletal Radiol 2005; 34(11):691-701. Ref ID: 749 Abstract: Femoroacetabular impingement syndrome (FAI) is a pathologic entity which can lead to chronic symptoms of pain, reduced range of motion in flexion and internal rotation, and has been shown to correlate with degenerative arthritis of the hip. History, physical examination, and supportive radiographic findings such as evidence of articular cartilage damage, acetabular labral tearing, and early-onset degenerative changes can help physicians diagnose this entity. Several pathologic changes of the femur and acetabulum are known to predispose patients to develop FAI and recognition of these findings can ultimately lead to therapeutic interventions. The two basic mechanisms of impingement-cam impingement and pincer impingement-are based on the type of anatomic anomaly contributing to the impingement process. These changes can be found on conventional radiography, MR imaging, and CT examinations. However, the radiographic findings of this entity are not widely discussed and recognized by physicians. In this paper, we will introduce these risk factors, the proposed supportive imaging criteria, and the ultimate interventions that can help alleviate patients' symptoms Notes: DA - 20051017 IS - 0364-2348 (Print) IS - 0364-2348 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(44) Beaule PE, Harvey N, Zaragoza E, Le Duff MJ, Dorey FJ. The femoral head/neck offset and hip resurfacing. J Bone Joint Surg Br 2007; 89(1):9-15. Ref ID: 741 Abstract: Because the femoral head/neck junction is preserved in hip resurfacing, patients may be at greater risk of impingement, leading to abnormal wear patterns and pain. We assessed femoral head/neck offset in 63 hips undergoing metal-on-metal hip resurfacing and in 56 hips presenting with non-arthritic pain secondary to femoroacetabular impingement. Most hips undergoing resurfacing (57%; 36) had an offset ratio <or= 0.15 pre-operatively and required greater correction of offset at operation than the rest of the group. In the non-arthritic hips the mean offset ratio was 0.137 (0.04 to 0.23), with the offset ratio correlating negatively to an increasing alpha angle. An offset ratio <or= 0.15 had a 9.5-fold increased relative risk of having an alpha angle >or= 50.5 degrees. Most hips undergoing resurfacing have an abnormal femoral head/neck offset, which is best assessed in the sagittal plane Notes: DA - 20070129 IS - 0301-620X (Print) IS - 0301-620X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(45) Beaulieu ML, Oh YK, Bedi A, Ashton-Miller JA, Wojtys EM. Does limited internal femoral rotation increase peak anterior cruciate ligament strain during a simulated pivot landing? Am J Sports Med 2014; 42(12):2955-2963. Ref ID: 560 Abstract: BACKGROUND: Many factors contributing to anterior cruciate ligament (ACL) injury risk have been investigated. Recently, some ACL-injured individuals have presented with a decreased range of hip internal rotation compared with controls. The pathomechanics of why decreased hip range of motion increases risk of ACL injury have not yet been studied. HYPOTHESIS: Peak relative strain of the anteromedial bundle of the ACL (AM-ACL) during a simulated single-leg pivot landing is inversely related to the available range of internal femoral rotation. STUDY DESIGN: Controlled laboratory study. METHODS: A series of pivot landings were simulated in 10 female and 10 male human knee specimens with a testing apparatus that applied a 2-bodyweight impulsive load, inducing knee compression, flexion moment, and internal tibial torque. The range of internal femoral rotation was (1) locked at ~0 degrees , (2) limited with a hard stop to ~7 degrees , (3) limited with a hard stop to ~11 degrees , or (4) free, with rotation resisted by 2 springs to simulate the resistance of the active hip rotator muscles to stretch. The AM-ACL strain was quantified with a differential variable reluctance transducer. A linear mixed model was used to determine whether a significant linear relation existed between peak AM-ACL relative strain and range of internal femoral rotation. RESULTS: Peak AM-ACL relative strain was inversely related to the available range of internal femoral rotation (R (2) = 0.91; P < .001), with strain increasing 1.3% for every 10 degrees decrease in rotation; this represented a 20% increase in peak relative strain, given an average range of femoral rotation of 15 degrees upon landing in healthy athletes. CONCLUSION: Peak AM-ACL relative strain was inversely proportional to the available range of internal femoral rotation during simulated single-leg pivot landings. CLINICAL RELEVANCE: Decreased range of internal femoral rotation results in greater ACL strain and may therefore increase the susceptibility to ACL rupture with athletic cutting and pivoting activities. Screening for a limited range of hip internal rotation should therefore become a component of not only ACL injury prevention programs but also evaluation protocols for those with ACL injuries and/or reconstructions Notes: DA - 20141127 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article PT - Research Support, N.I.H., Extramural PT - Research Support, Non-U.S. Gov't SB - IM

(46) Beck M. Groin pain after open FAI surgery: the role of intraarticular adhesions. Clin Orthop Relat Res 2009; 467(3):769-774. Ref ID: 719 Abstract: Femoroacetabular impingement (FAI) is an established cause of osteoarthrosis of the hip. Surgery is intended to remove the cause of impingement with hip dislocation and resection of osseous prominences of the acetabular rim and of the femoral head-neck junction. Using the Merle d'Aubigne score and qualitative categories, recent studies suggest good to excellent outcomes in 75% to 80% of patients after open surgery with dislocation of the femoral head. Unsatisfactory outcome is mainly related to pain, located either in the area of the greater trochanter or in the groin. There are several reasons for persisting groin pain. Joint degeneration with joint space narrowing and/or osteophyte formation, insufficient correction of the acetabula, and femoral pathology are known factors for unsatisfactory outcome. Recently, intraarticular adhesions between the femoral neck and joint capsule have been identified as an additional cause of postoperative groin pain. The adhesions form between the joint capsule and the resected area on the femoral neck and may lead to soft tissue impingement. MR-arthrography is used for diagnosis and the adhesions can be treated successfully by arthroscopy. While arthroscopic resection improves outcome it is technically demanding. Avoiding the formation of adhesions is important and is perhaps best accomplished by passive motion exercises after the initial surgery Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Review SB - AIM SB - IM

(47) Beckett M, Hannon M, Ropiak C, Gerona C, Mohr K, Limpisvasti O. Clinical Assessment of Scapula and Hip Joint Function in Preadolescent and Adolescent Baseball Players. American Journal of Sports Medicine 2014; 42(10):2502-2510. Ref ID: 15 Notes: IS - 10

(48) Bedi A, Dolan M, Leunig M, Kelly BT. Static and dynamic mechanical causes of hip pain. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (2) ()(pp 235-251), 2011 Date of Publication: February 2011 2011;(2):235-251. Ref ID: 411 Abstract: Mechanical hip pain typically has been associated either with dynamic factors resulting in abnormal stress and contact between the femoral head and acetabular rim when the hip is in motion or with static overload stresses related to insufficient congruency between the head and acetabular socket in the axially loaded (standing) position. Compensatory motion may adversely affect the dynamic muscle forces in the pelvic region, leading to further strain and pain. Hip pain related to static overload stresses may also be localized to the anteromedial groin, but compensatory dysfunction of the periarticular musculature may lead to muscular fatigue and associated pain throughout the hip. As our understanding of hip joint mechanics has advanced, it has become increasingly apparent that hip pain in the absence of osteoarthritis may be due to a complex combination of mechanical stresses, both dynamic and static. With an emphasis on findings in the recent literature, this review will describe the dynamic and static factors associated with mechanical hip pain, the combinations of dynamic and static stresses that are commonly identified in hip pain, and common patterns of compensatory injury in patients with femoroacetabular impingement. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011054341 IN - (Bedi) MedSport, Sports Medicine and Shoulder Surgery, University of Michigan, 24 Frank Lloyd Wright Dr, Lobby A, Ann Arbor, MI 48106, United States (Bedi, Dolan, Kelly) Hospital for Special Surgery, New York, NY, United States (Leunig) Department of Orthopaedic Surgery, University of Bern, Bern, Switzerland (Leunig) Hip Service, Schulthess Clinic, Zurich, Switzerland CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110214

(49) Bedi A, Zaltz I, De La TK, Kelly BT. Radiographic comparison of surgical hip dislocation and hip arthroscopy for treatment of cam deformity in femoroacetabular impingement. Am J Sports Med 2011; 39 Suppl:20S-28S. Ref ID: 664 Abstract: BACKGROUND: Whether open or arthroscopic techniques are employed, the goal of femoroacetabular impingement (FAI) surgery is to achieve impingement-free range of motion. While arthroscopic approaches have improved and gained popularity, an objective evaluation of the surgical correction achieved with this approach compared with open surgery remains to be defined in the literature. PURPOSE: This study was undertaken to compare the efficacy of arthroscopic osteoplasty and open surgical dislocation in treating FAI dysmorphology in a consecutive series of patients. STUDY DESIGN: Cohort study; Level of evidence, 3. METHODS: Surgical treatment was performed in 60 male patients under 40 years of age for symptomatic FAI refractory to nonoperative management. Patients were matched (not randomized) to treatment groups: 30 patients (15 left and 15 right hips) underwent arthroscopic cam and/or rim osteoplasty with labral debridement and/or refixation by an arthroscopic surgeon; and 30 (14 left and 16 right hips) underwent open surgical dislocation, cam and/or rim osteoplasty, and labral debridement or refixation by a hip preservation surgeon. Anteroposterior (AP) pelvis and extended-neck (Dunn) lateral radiographs were obtained and the depth of resection and arc of resection were measured by assessment of anterior femoral head-neck offset, AP and lateral alpha angle, and beta angle on preoperative and postoperative radiographs. RESULTS: In the arthroscopic group, the extended-neck lateral alpha angle was reduced by a mean of 17.2 degrees (28.3%, P < .05), AP alpha angle was reduced by a mean of 12.6 degrees (16.8%), anterior head-neck offset improved 5.0 mm (111%, P < .05), and beta angle increased by a mean of 23.1 degrees . In the open dislocation group, the extended-neck lateral alpha angle was reduced by a mean of 21.2 degrees (30.7%, P < .05), AP alpha angle was reduced by a mean of 20.1 degrees (25.7%), anterior head-neck offset improved 6.56 mm (108%, P < .05), and beta angle increased by a mean of 18.35 degrees . CONCLUSION: Arthroscopic osteoplasty can restore head-neck offset and achieve similar depth, arc, and proximal-distal resection with comparable efficacy to open surgical dislocation for anterior and anterosuperior cam and focal rim impingement deformity. The open technique, however, may allow greater correction of posterosuperior loss of femoral offset and may be favorable for FAI patterns that demonstrate considerable proximal femoral deformity on AP radiographs Notes: DA - 20110628 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(50) Bedi A, Dolan M, Magennis E, Lipman J, Buly R, Kelly BT. Computer-assisted modeling of osseous impingement and resection in femoroacetabular impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 28 (2) ()(pp 204-210), 2012 Date of Publication: February 2012 2012;(2):204-210. Ref ID: 381 Abstract: Purpose: The purpose of this study was to evaluate the utility of computer-assisted 3-dimensional modeling in diagnosing and treating symptomatic hip impingement. Methods: Eight patients with symptomatic, focal cam and/or pincer impingement lesions underwent high-resolution computed tomography scans and computer-assisted, 3-dimensional modeling of the involved hip. Cam location, alpha angle, neck-shaft angle, femoral version, and acetabular version at the 12-o'clock through 3-o'clock positions were measured. The model was subsequently dynamized to define the preoperative range of motion and location of impingement with hip flexion, internal rotation, and internal rotation at 90degree of hip flexion. Virtual cam and pincer osteoplasty was performed to establish normal head-neck offset and head sphericity and to eliminate focal rim impingement lesions. Range of motion and location of impingement were reassessed after resection in the defined area of impingement. Results: The cam lesion was located between the 12-o'clock and 4-o'clock positions in all cases. The mean alpha angle was 66.4degree (range, 53degree to 80degree). Mean femoral version was 14.6degree (range, 5degree to 23degree). Mean preoperative hip flexion was 109.7degree (range, 87.5degree to 125.5degree), and mean internal rotation at 90degree of hip flexion was 16.2degree (range, 1.7degree to 25.5degree). The location of impingement was unique in each case and not predictable based on radiographic measures alone. Virtual osteoplasty in the defined regions of impingement resulted in significant improvements in both hip flexion and internal rotation (P <.05). Conclusions: Computed tomographybased computer modeling can localize regions of anticipated mechanical impingement in symptomatic patients with hip pain. Computer-assisted navigation may be a valuable surgical tool to more accurately and reliably eliminate offending impingement lesions. Level of Evidence: Level IV, diagnostic study. Â© 2012 Arthroscopy Association of North America Notes: DB - Embase UI - 2012032503 IN - (Bedi) MedSport, Section of Sports Medicine and Shoulder Surgery, University of Michigan, 24 Frank Lloyd Wright Dr, Ann Arbor, MI 48106, United States (Dolan) Northwestern Orthopaedic Institute, Chicago, IL, United States (Magennis, Lipman, Buly, Kelly) Center for Hip Pain and Preservation, Hospital for Special Surgery, New York, NY, United States CP - United States LG - English PT - Journal: Article EM - 201204 DD - 20120123

(51) Bedi A, Thompson M, Uliana C, Magennis E, Kelly BT. Assessment of range of motion and contact zones with commonly performed physical exam manoeuvers for femoroacetabular impingement (FAI): what do these tests mean? Hip Int 2013; 23 Suppl 9:S27-S34. Ref ID: 605 Abstract: Recognition of the magnitude and location of mechanical conflicts is critical to reliably and reproducibly improve functional range of motion and outcomes after surgical treatment of femoroacetabular impingement (FAI). The purpose of this study was to assess the ROM and location of intra-articular and extra-articular mechanical conflict with seven commonly performed physical exam manoeuvers in a cohort of hips with symptomatic FAI. Internal rotation in flexion results in mechanical contact between the anterolateral and anterior femoral head-neck junction with the acetabulum, most commonly at a 1:15 o'clock position. Associated adduction, however, significantly reduces the available internal rotation secondary to contact in the same locations. Straight abduction results in mechanical conflict between the superior femoral head-neck junction and the 12:00 o'clock position of the acetabulum. With external rotation of the hip in various degrees of hip flexion, the potential mechanical impingement is extra-articular between the greater trochanter and ischium or pubic ramus. The zones of proximal femoral and acetabular contact are not intuitive, and may extend significantly more laterally and distally on the femoral head-neck junction than previously appreciated Notes: DA - 20131224 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Journal Article RN - J280872D1O (Desonide) SB - IM

(52) Bedi A, Warren RF, Wojtys EM, Oh YK, Ashton-Miller JA, Oltean H et al. Restriction in hip internal rotation is associated with an increased risk of ACL injury. Knee Surg Sports Traumatol Arthrosc 2014. Ref ID: 563 Abstract: PURPOSE: Evidence suggests that femoroacetabular impingement (FAI) in athletes may increase the risk of anterior cruciate ligament (ACL) injury. This study correlates ACL injury with hip range of motion in a consecutive series of elite, contact athletes and tests the hypothesis that a restriction in the available hip axial rotation in a dynamic in silico model of a simulated pivot landing would increase ACL strain and the risk of ACL rupture. METHODS: Three hundred and twenty-four football athletes attending the 2012 NFL National Invitational Camp were examined. Hip range of internal rotation was measured and correlated with a history of ACL injury and surgical repair. An in silico biomechanical model was used to study the effect of FAI on the peak relative ACL strain developed during a simulated pivot landing. RESULTS: The in vivo results demonstrated that a reduction in internal rotation of the left hip was associated with a statistically significant increased odds of ACL injury in the ipsilateral or contralateral knee (OR 0.95, p = 0.0001 and p < 0.0001, respectively). A post-estimation calculation of odds ratio for ACL injury based on deficiency in hip internal rotation demonstrated that a 30-degree reduction in left hip internal rotation was associated with 4.06 and 5.29 times greater odds of ACL injury in the ipsilateral and contralateral limbs, respectively. The in silico model demonstrated that FAI systematically increased the peak ACL strain predicted during the pivot landing. CONCLUSION: FAI may be associated with ACL injury because of the increased resistance to femoral internal axial rotation during a dynamic maneuver such as a pivot landing. This insight may lead to better interventions to prevent ACL injury and improved understanding of ACL reconstruction failure. LEVEL OF EVIDENCE: Cohort study, Level IV Notes: DA - 20140911 IS - 1433-7347 (Electronic) IS - 0942-2056 (Linking) LA - ENG PT - JOURNAL ARTICLE

(53) Bellabarba C, Sheinkop MB, Kuo KN. Idiopathic hip instability. An unrecognized cause of coxa saltans in the adult. Clin Orthop Relat Res 1998;(355):261-271. Ref ID: 783 Abstract: The painful, snapping hip often presents a diagnostic dilemma having many potential etiologies. An understanding of the precise cause increases the potential for successful treatment. Five patients with no prior history of significant trauma were evaluated, all of whom had longstanding painful snapping in the groin and consistent symptoms of gait disturbance and increased pain in the provocative position of hip flexion, adduction, and internal rotation. Multiple prior tests and procedures had been nondiagnostic. Simple manual longitudinal traction under fluoroscopy showed subluxation with appearance of a vacuum sign in the symptomatic hip, whereas no such finding was observed on the asymptomatic side. This strongly suggests atraumatic hip instability as a previously unrecognized cause of the painful, snapping hip. The easily obtainable diagnostic traction radiograph is described Notes: DA - 19990210 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Case Reports PT - Journal Article SB - AIM SB - IM

(54) Bennell KL, Hunt MA, Wrigley TV, Hunter DJ, McManus FJ, Hodges PW et al. Hip strengthening reduces symptoms but not knee load in people with medial knee osteoarthritis and varus malalignment: A randomised controlled trial. Osteoarthritis and Cartilage 18 (5) ()(pp 621-628), 2010 Date of Publication: May 2010 2010;(5):621-628. Ref ID: 440 Abstract: Objective: To determine whether hip abductor and adductor muscle strengthening reduces medial compartment knee load and improves symptoms in people with medial tibiofemoral OA and varus malalignment. Methods: In a randomised controlled trial, 89 participants were randomly allocated to a hip strengthening group or to a control group with no intervention. The strengthening group performed a physiotherapist-supervised home exercise program targeting the hip abductor and adductor muscles for 12 weeks. The primary outcome was the peak external knee adduction moment measured using three-dimensional gait analysis by a blinded assessor. Secondary outcomes included a pain numeric rating scale, Western Ontario and McMaster Universities Osteoarthritis Index, step test, stair climb test, maximum isometric strength of hip and quadriceps muscles and participant-perceived rating of overall change. Intention-to-treat analyses were performed using linear regression modelling adjusting for baseline outcomes and other characteristics. Results: The trial was completed by 76/89 participants (85%). There was no significant between-group difference in change in the knee adduction moment [mean difference (95% confidence interval (CI)) 0.134 (-0.069 to 0.337) Nm/BW x HT%]. All pain, physical function and muscle strength measures showed significantly greater improvement in the strengthening group (all P<0.05). The relative risk (95% CI) of participant-perceived overall improvement in the strengthening group compared to the control group was 20.02 (6.21-64.47). Conclusions: Although strengthening the hip muscles improved symptoms and function in this patient group, it did not affect medial knee load as measured by the knee adduction moment. Thus it is unlikely that hip muscle strengthening influences structural disease progression. Trial registration: ACTR12607000001493. Â© 2010 Osteoarthritis Research Society International Notes: DB - Embase UI - 2010285601 IN - (Bennell, Hunt, Wrigley, McManus, Hinman) Centre for Health, Exercise and Sports Medicine, School of Physiotherapy, University of Melbourne, Australia (Hunter, Li) New England Baptist Hospital, Boston, United States (Hodges) Division of Health and Rehabilitation Sciences, University of Queensland, Australia CP - United Kingdom LG - English PT - Journal: Article EM - 201000 DD - 20100603

(55) Bernarde A. Juvenile pubic symphysiodesis and juvenile pubic symphysiodesis associated with pectineus myotomy: short-term outcome in 56 dysplastic puppies. Vet Surg 2010; 39(2):158-164. Ref ID: 691 Abstract: OBJECTIVES: (1) To compare short-term outcome of juvenile pubic symphysiodesis (JPS) in puppies aged 12-17 weeks with lax hips (group JPS1), in puppies aged 18-22 weeks (group JPS2), and control (group C) puppies; and (2) to document outcome of bilateral pectineus myotomy (PM) associated with JPS in 18-22-week-old puppies (group JPS-PM). STUDY DESIGN: Prospective study. METHODS: Puppies (12-22 weeks) from large and giant breed dogs with a combination of a positive Ortolani sign, poor acetabular coverage (Norberg angle [NA]<or=100 degrees ), and a subluxation index (SI) >0.5 for one or both hips were selected. Puppies aged <18 weeks were randomly assigned to group JPS1 or C. Puppies aged 18-22 weeks were randomly assigned to group JPS2, JPS-PM, or C. Three to 4 months later, surgery was considered successful in pain-free dogs with negative Ortolani sign, normalized acetabular coverage (NA>or=105 degrees ), and SI>0.5. Success rates were compared using Fisher's exact tests: JPS1 versus JPS2 versus C; JPS2 versus JPS-PM. Significance was set at P<.05. RESULTS: All dysplastic hips from nonoperated (C) groups were dysplastic at follow-up, meaning that our criteria for case selection were accurate. JPS1 had significantly better success rate than JPS2 (85 versus 17.8%, respectively). JPS-PM dysplastic hips failed to demonstrate a better outcome than JPS2 hips. CLINICAL RELEVANCE: This study confirms, on a large series of dysplastic hips, the age-dependent effects of JPS, with better results if performed before 18 weeks of age. There is no benefit of adding PM to the procedure in candidates >18 weeks at surgery Notes: DA - 20100309 IS - 1532-950X (Electronic) IS - 0161-3499 (Linking) LA - eng PT - Journal Article PT - Randomized Controlled Trial SB - IM

(56) Bernstein J. The myths of femoroacetabular impingement. Clin Orthop Relat Res 2014; 472(12):3623-3624. Ref ID: 557 Notes: DA - 20141104 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(57) Berton C, Girard J, Krantz N, Migaud H. The Durom large diameter head acetabular component: early results with a large-diameter metal-on-metal bearing. J Bone Joint Surg Br 2010; 92(2):202-208. Ref ID: 693 Abstract: Implantation of a large-diameter femoral head prosthesis with a metal-on-metal bearing surface reduces the risk of dislocation, increases the range of movement, minimises the risk of impingement and, in theory, results in little wear. Between February 2004 and March 2007 we implanted 100 consecutive total hip replacements with a metal-on-metal bearing and a large femoral head into 92 patients. There were 51 men and 41 women with a mean age of 50 years (18 to 70) at the time of surgery. Outcome was assessed using the Western Ontario McMaster University osteoarthritis index and the Harris hip score as well as the Devane activity score. These all improved significantly (p < 0.0001). At the last follow-up there were no cases of dislocation, no impingement, a good range of movement and no osteolysis, but seven revisions, two for infection and five for aseptic loosening. The probability of groin pain increased if the other acetabular component inclination exceeded 50 degrees (p = 0.0007). At 4.8 years of follow-up, the projected survival of the Durom acetabular component, with revision for any reason, was 92.4% (sd 2.8) (95% confidence interval 89.6 to 95.2). The design of the component made it difficult both to orientate and seat, which when combined with a poor porous coating, produced unpredictable fixation and a low survival at five years Notes: DA - 20100204 IS - 0301-620X (Print) IS - 0301-620X (Linking) LA - eng PT - Evaluation Studies PT - Journal Article RN - 0 (Metals) SB - AIM SB - IM

(58) Bertrand SL, Lincoln ED, Prohaska MG. Primary pyomyositis of the pelvis in children: a retrospective review of 8 cases. Orthopedics 2011; 34(12):e832-e840. Ref ID: 647 Abstract: Primary pyomyositis of the pelvic musculature is a condition rarely seen in temperate climates, although its frequency has been increasing in the United States. The condition should be considered in the initial differential diagnosis of an adolescent presenting with fever, difficulty ambulating, and hip pain. This is a retrospective review of 8 cases of primary pelvic pyomyositis in patients aged 18 years or younger who were treated at the Children's Medical Center in Augusta, Georgia. The site of infection was the obturator internus in the majority of the cases (5). The site was the gluteus, iliopsoas, and iliacus in 1 case each. Four patients who were diagnosed early responded to intravenous antibiotics with no need for further intervention. Two patients required incision and drainage of an abscess combined with antibiotics. Two patients had prolonged hospital courses requiring intensive unit care and mechanical ventilation. Blood cultures were positive in 87.5% of patients, and all patients presented with elevated acute phase reactants. One of the most difficult diagnostic aspects of presentation is an inconclusive symptom profile. It is noteworthy that patients with pelvic pyomyositis may present with limited range of motion in a specific plane (the motion placing the infected muscle on stretch) vs global limited range of motion of the joint as is commonly seen in septic arthritis. Early diagnosis is essential to prevent systemic illness and complications associated with this condition. Magnetic resonance imaging with gadolinium is helpful to diagnose and guide treatment Notes: DA - 20111207 IS - 1938-2367 (Electronic) IS - 0147-7447 (Linking) LA - eng PT - Journal Article RN - 0 (Anti-Bacterial Agents) SB - IM

(59) Bertschy B, Luder G, Deschner G, Radlinger L. A new standardized and goal-oriented rehabilitation program for patients after surgical hip dislocation. Physiotherapy (United Kingdom) Conference: World Physical Therapy 2011 Amsterdam Netherlands Conference Start: 20110620 Conference End: 20110623 Conference Publication: (var pagings) 97 ()(pp eS1434), 2011 Date of Publication: June 2011 2011;(United Kingdom):eS1434. Ref ID: 175 Abstract: Purpose: Implementation of a therapy program focusing on the five main goals of rehabilitation: pain reduction, reduction of swelling, increase in flexibility, improvement of strength and endurance after surgical hip dislocation (SHD). Relevance: Femoroacetabular impingement is a pathology, which results from an abnormal morphological relationship between the proximal femur and the acetabulum. The technique of SHD with a trochanter osteotomy is a widely used approach to optimize joint mechanics and to eliminate the impingement. After SHD patients have to walk with reduced weight-bearing (15 kg) for six weeks due to trochanter refixation. It is important to restrict the activity of hip abductors to minimize the risk of instability or translation of the trochanter. Investigations with patients 3 and 12 months after SHD, compared to healthy, showed that patients had substantial deficits in maximum voluntary isometric contraction (MVIC) and rate of force development (RFD) of hip abductors and knee extensors. Further, aerobic endurance was considerably reduced. These deficits may lead to problems in joint stability and restrictions in mobility and daily-living activities. Description: Based on a comprehensive literature search evident and clinical relevant therapy methods were sampled in a therapy program. This acts as a guideline for the rehabilitation and is supplemented by general information about SHD. The rehabilitation program includes four time periods: preoperatively, hospitalization phase, reduced weight bearing phase (till 6 weeks post surgery), and phase of full weight bearing. For each period a set of rehabilitation topics was identified and specific therapy goals were defined. Therapy methods for each of the main topics (pain, swelling, flexibility, strength and endurance) were described in detail. Due to the measured substantial deficits in MVIC and RFD in hip abductors and knee extensors and the reduced aerobic endurance in patient after SHD the rehabilitation concept focuses on the two topics strength training and endurance. Patients receive the program as a booklet, when the surgery is planned. It contains information about the surgery and the rehabilitation, including training methods, exercises, physical therapy applications and recommendations for daily-living activities. Evaluation: The therapy concept is based on literature and own research, thus combining scientific evidence and clinical experience. Currently, the applicability of the program is evaluated at the Bern University Hospital by a questionnaire filled out by the patients and with individual feedback of patients. Further evaluation is planned with a prospective randomized controlled intervention study. Conclusions: Although the exercises and techniques are described in detail, the compliance of the patient and the precise instructions by the therapist remain important in order to reach a satisfactory rehabilitation result. Implications: The rehabilitation program is extensive and time-consuming but nevertheless good applicable in practice. So far it is available only in German language. For some therapists the program may need some adaptations because the exercises are partially performed on training devices and sports equipment. The program contains aspects of physical therapy, education as well as sensorimotor and strength training. Therefore it could easily be modified for other postoperative treatments of the lower extremities such as fractures or total joint replacements Notes: DB - Embase UI - 71884082 IN - (Bertschy, Luder, Deschner) Inselspital, Bern University Hospital, Physiotherapy Institute, Bern, Switzerland (Radlinger) University of Applied Sciences, Health, Bern, Switzerland LG - English PT - Journal: Conference Abstract EM - 201522 DD - 20150519

(60) Beverland D. The transverse acetabular ligament: optimizing version. Orthopedics 2010; 33(9):631. Ref ID: 682 Abstract: In total hip arthroplasty (THA), excessive retroversion is associated with posterior instability, anterior impingement, and resultant groin pain. Excessive anteversion can lead to anterior instability and posterior impingement. The transverse acetabular ligament straddles the inferior limit of the bony acetabulum. It is a strong load-bearing structure and, in the normal hip, in association with the labrum, provides part of the load-bearing surface for the femoral head. It is our hypothesis that the transverse acetabular ligament defines normal version for the acetabulum. In Belfast, we found that using the transverse acetabular ligament helped reduce our primary dislocation rate from 3.7% to 1%. The key is good intraoperative exposure. A grading of 1 to 4 was based on 1000 consecutive cases: (1) normal transverse acetabular ligament easily visible on exposure of the acetabulum, 49%; (2) covered by soft tissue, 35.1%--cleared by blunt dissection; (3) covered by osteophytes, 15.6%--cleared using an acetabular reamer; (4) no transverse acetabular ligament identified, 0.3%. As can be seen, the transverse acetabular ligament is only immediately visible in 49% of cases. In the other 51%, soft tissue or bone must be cleared to define the ligament. The advantages of the transverse acetabular ligament are many. It is independent of patient positioning. The cup version can be individualized by the patient. The surgeon can avoid estimating version angle of 15 degrees to 20 degrees intraoperatively. It is easy to teach and consistently present. It is valuable in minimally invasive surgery. Using the transverse acetabular ligament provides an acceptable dislocation rate with the posterior approach. If the cup is cradled by the transverse acetabular ligament, it helps restore acetabular joint center. However, the transverse acetabular ligament does not help with inclination. We recommend 35 degrees of operative inclination when using the posterior approach Notes: DA - 20100915 IS - 1938-2367 (Electronic) IS - 0147-7447 (Linking) LA - eng PT - Journal Article SB - IM

(61) Bhan S, Malhotra R. Bipolar hip arthroplasty in ankylosing spondylitis. Arch Orthop Trauma Surg 1996; 115(2):94-99. Ref ID: 787 Abstract: Nineteen severely affected hips in 12 young patients with ankylosing spondylitis were treated with bipolar hip arthroplasty followed by a comprehensive postoperative rehabilitation programme. Additional operative procedures of adductor tenotomy, knee flexion release, supracondylar femoral osteotomy for genu valgum and tendo Achillis lengthening for equinus contracture were required in 13 limbs. After a mean follow-up of 45.8 months, results were good in all cases with respect to relief from pain, and there was significant improvement in posture and function. All the patients resumed employment. The average gain in sum total range of hip movements was 194 deg, and the mean preoperative Harris hip score of 27.8 improved to 82.6 after bipolar arthroplasty. Ectopic ossification did not develop in any case. Bipolar hip arthroplasty appears to be ideally suited for young patients with ankylosing spondylitis Notes: DA - 19970320 IS - 0936-8051 (Print) IS - 0936-8051 (Linking) LA - eng PT - Journal Article SB - IM

(62) Biboulet P, Morau D, Aubas P, Bringuier-Branch, Capdevila X. Postoperative analgesia after total-hip arthroplasty: Comparison of intravenous patient-controlled analgesia with morphine and single injection of femoral nerve or psoas compartment block. a prospective, randomized, double-blind study. Reg Anesth Pain Med 2004; 29(2):102-109. Ref ID: 763 Abstract: BACKGROUND: The authors compared the analgesic effects and quality of rehabilitation of three analgesic techniques after total-hip arthroplasty in a double-blind, randomized trial. METHODS: Forty-five patients were assigned to 1 of 3 groups, patient-controlled analgesia with morphine (PCA), femoral nerve block (FNB), or psoas compartment block (PCB). At the end of the procedure performed under general anesthesia, nerve blocks using 2 mg/kg of 0.375% bupivacaine and 2 microg/kg of clonidine were performed in the FNB (n = 16) and PCB (n = 15) groups. In the recovery room, all 3 groups received initial intravenous morphine titration if their pain score was higher than 30 on a 100-mm visual analog scale (VAS), and then a PCA device was initiated. Morphine consumption was the primary end point to assess postoperative analgesia. RESULTS: After extubation (H0), morphine titration was higher in the PCA group (P <.05). During the first 4 postoperative hours (H0 to H4), morphine consumption per hour and VAS pain score were lower in the PCB group (P <.05). After H4, there was no difference in morphine consumption and VAS among groups, either at rest or during mobilization. After H4, morphine consumption remained lower than 0.5 mg/h, and VAS remained lower than 30 mm in the 3 groups. In 4 patients of the PCB group, an epidural diffusion was noted. Hip mobility and length of stay in the rehabilitation center were not different among the groups. CONCLUSIONS: PCA is an efficient and safe analgesia technique. FNB and PCB should not be used routinely after total-hip arthroplasty Notes: DA - 20040318 IS - 1098-7339 (Print) IS - 1098-7339 (Linking) LA - eng PT - Clinical Trial PT - Comparative Study PT - Journal Article PT - Randomized Controlled Trial RN - 0 (Analgesics) RN - 0 (Analgesics, Opioid) RN - 0 (Anesthetics, Local) RN - 76I7G6D29C (Morphine) RN - MN3L5RMN02 (Clonidine) RN - Y8335394RO (Bupivacaine) SB - IM

(63) Bishay SN. Short-term results of musculotendinous release for paralytic hip subluxation in children with spastic cerebral palsy. Ann R Coll Surg Engl 2008; 90(2):127-132. Ref ID: 727 Abstract: INTRODUCTION: Children with paralytic hip subluxation secondary to spastic cerebral palsy were treated with a standard protocol that depended on early detection of the subluxation using clinical examination detecting limited range of hip abduction of <or= 30 degrees and anteroposterior pelvis radiographs detecting subluxation >or= 33% migration as indications. PATIENTS AND METHODS: Patients underwent open adductor longus, proximal gracilis and proximal rectus femoris myotomy, and iliopsoas lengthening with immediate postoperative immobilisation in abduction bar for 3 weeks followed by physiotherapy. The protocol was applied to 50 children with a mean age of 3.6 years with 100 hips surgically corrected. Of these hips initially, 52% were mildly subluxated with <or= 33% migration, 42% were moderately subluxated with > 33-66% migration, and 6% were severely subluxated with > 66% migration. RESULTS: At a final postoperative follow-up of at least 24 months, 22% of these hips were classified as excellent with full containment and no migration, 54% were good with < 20% migration, and 24% were fair with 20-25% migration. No poor result with > 25% migration was obtained. No child developed an abduction contracture or wide-based gait that required treatment. CONCLUSIONS: Early detection and application of this treatment algorithm for children with spastic hip disease should have satisfactory outcomes. Longer follow-up will be required to determine how many children will need bony reconstruction to maintain stable containment of hips at maturity Notes: DA - 20080307 IS - 1478-7083 (Electronic) IS - 0035-8843 (Linking) LA - eng PT - Journal Article SB - IM

(64) Bitersohl B, Hosalkar HS, Zilkens C, Krauspe R. Current concepts in management of slipped capital femoral epiphysis. HIP International 25 (2) ()(pp 104-114), 2015 Date of Publication: 2015 2015;(2):104-114. Ref ID: 171 Abstract: Slipped capital femoral epiphysis (SCFE) is a common hip conditon that can be disabling. In this review, we provide an orientaton on current trends in the clinical management of SCFE including conventonal procedures and specialised surgical developments. Diferent methods of fxaton of the epiphysis, risks of complicatons, and the ratonale of addressing deformity, primarily or secondarily, are presented. Although improved understanding of the anatomy, vascularity and implicatons of residual deformity have changed management strategies, the best modality of treatment that would restore complete vascularity to the femoral head and prevent any residual deformity, impingement and early osteoarthrits remains elusive Notes: DB - Embase UI - 2015083253 IN - (Bitersohl, Zilkens, Krauspe) University of Dusseldorf, Department of Orthopedic Surgery, Dusseldorf, Germany (Hosalkar) Center of Hip Preservaton and Children's Orthopaedics, San Diego, CA, United States CP - Italy LG - English PT - Journal: Review EM - 201524 DD - 20150606

(65) Bizzini M, Notzli HP, Maffiuletti NA. Femoroacetabular impingement in professional ice hockey players: a case series of 5 athletes after open surgical decompression of the hip. Am J Sports Med 2007; 35(11):1955-1959. Ref ID: 736 Abstract: BACKGROUND: Femoroacetabular impingement of the hip joint has been identified as a major cause for hip pain in athletes. Surgical open decompression of the hip has historically been proposed as the first treatment of choice. Functional outcomes in athletes after this procedure are unknown. PURPOSE: To describe the functional and sport-related outcome 2 years after open surgical hip decompression in a group of young professional ice hockey players suffering from cam femoroacetabular impingement. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: Five young professional ice hockey players (mean age, 21.4 y at follow-up) who suffered from cam femoroacetabular impingement were treated with open surgical decompression of the hip. The operation was performed by the same surgeon, and all athletes followed the same rehabilitation guidelines. Mean follow-up time was 2.7 years. Outcome measures were recorded as time to regain symmetrical hip rotation, regain preoperative core/hip muscle strength, return to team practice, and play at competitive level. RESULTS: Hip rotation range of motion was regained by a mean 10.3 weeks. Core and hip strength values reached preoperative levels by a mean 7.8 months. Return to unrestricted team practice with the ice hockey team was achieved by a mean 6.7 months, and athletes were able to play their first competitive game after a mean 9.6 months. Three athletes were able to perform again at the highest level and in international competitions. Two athletes had to return to minor league ice hockey. CONCLUSION: Return to high-level ice hockey after open surgical decompression of the hip was possible in this series of 5 consecutive cases Notes: DA - 20071023 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(66) Bizzini M. The groin area: the Bermuda triangle of sports medicine? British Journal of Sports Medicine 2011; 45(1):1-2. Ref ID: 72 Notes: IS - 1

(67) Bohannon MJ. Acetabular labral tears in the athlete. Clinics in Sports Medicine 20 (4) ()(pp 779-790), 2001 Date of Publication: 2001 2001;(4):779-790. Ref ID: 522 Abstract: Pathologic involvement of the acetabular labrum is an increasingly recognized phenomenon. Athletes involved in sports that require repetitive twisting or who suffer trauma to the hip are at risk of injury to the acetabular labrum. Injury mechanisms that include hyperextension, hyperflexion, or extremes of abduction place the labrum at particular risk. Symptoms may be acute in onset or, more commonly, insidious onset with persistence or escalation of symptoms. The orthopaedic surgeon evaluating patients with sports-related hip injuries needs to remain cognizant of intraarticular injuries within the hip and, in particular, injuries to the acetabular labrum. Further investigation is needed to fully define the functional importance of the acetabular labrum. Arthroscopic management has been successful in evaluation and management of acetabular labral tears Notes: DB - Embase UI - 2001361087 IN - (Bohannon Mason) Charlotte Hip and Knee Center, Division of Charlotte Orthopaedic Specialists, Charlotte, NC, United States CP - United States LG - English PT - Journal: Review EM - 200100 DD - 20011029

(68) Bohler M, Salzer M. Girdlestone's modified resection arthroplasty. Orthopedics 1991; 14(6):661-666. Ref ID: 789 Abstract: Thirty-three patients were operated for septic (n = 20) and aseptic (n = 13) loosening of their hip prostheses using Girdlestone's operation over 10 years. An average of 46.6 months later, 22 of these patients were given a follow-up examination. Clinical evaluation according to Harris showed an improvement in mean values from 25 to 53 points, which can be attributed mainly to a marked reduction in pain, as function remained poor and the patients still depended on walking aids. The infection ceased in 92% of the patients with septic prosthesis loosening Notes: DA - 19910912 IS - 0147-7447 (Print) IS - 0147-7447 (Linking) LA - eng PT - Journal Article SB - IM

(69) Bonnaire FA, Weber AT. The influence of haemarthrosis on the development of femoral head necrosis following intracapsular femoral neck fractures. Injury 33 (SUPPL 3) ()(pp SC33-SC40), 2002 Date of Publication: December 2002 2002;(SUPPL. 3):SC33-SC40. Ref ID: 517 Abstract: The influence of haemarthrosis on the generation of femoral head necrosis following femoral neck fracture is still under debate. In this study, literature suggestions, our own studies of cadaveric hip joints, and intraoperative measurements of 55 patients will be compared and treatment advice given. A significant dependence on the pressure values could be demonstrated for hip joint position. The highest values were found in extension and internal rotation of the hip joint. Our results also show a dependence of pressure development in the hip joint on the interval between time of trauma and pressure measurement. The pressure values rose within the first 48 hours following trauma and decreased after that. A dependence on the fracture type, age or gender of the patients could not be verified. Pressure values of 20 mmHg or more led to a sonographically confirmed capsule distension. In summary, intraarticular pressure is not predictable for a single case and ultrasound examination of the hip joint is a sensitive screening method. As a therapeutic recommendation we suggest puncture of the joint in the case of a capsule tamponade confirmed by ultrasound with no chance of operation within the next six hours. During all operations a release of pressure of the capsule should be carried out. A preoperative extension in an extended position is not advised Notes: DB - Embase UI - 2002416374 IN - (Bonnaire, Weber) Department of Trauma Surgery, Dresden-Friedrichstadt Hospital, Friedrichstrasse 41, D-01067 Dresden, Germany CP - United Kingdom LG - English PT - Journal: Article EM - 200200 DD - 20021126

(70) Borrelli J, Jr., Goldfarb C, Ricci W, Wagner JM, Engsberg JR. Functional outcome after isolated acetabular fractures. J Orthop Trauma 2002; 16(2):73-81. Ref ID: 773 Abstract: OBJECTIVE: To evaluate objectively the effectiveness of current surgical management of displaced acetabular fractures. To provide insight into how these evaluation methods can be used to identify areas in which improvements in surgery and rehabilitation can be pursued to improve patient outcomes. DESIGN: Consecutive case series. SETTING: University medical center. PATIENTS: Fifteen patients were studied, each with an isolated, displaced acetabular fracture treated with a Kocher-Langenbeck approach. MAIN OUTCOME MEASURES: Primary outcome measures included hip muscle strength, including work (Joules/minute) and maximum torque (30 degrees/second) for abductors/adductors and flexors/extensors. Gait analysis of patients and able-bodied cohorts, including stride length, speed, and cadence, were also assessed. Motion analysis during gait was also studied for each body segment, including the trunk, pelvis, hip, knee, and ankle, in the sagittal, frontal, and axial planes. Motion data for the affected side was compared with motion data for the unaffected side, and linear gait findings for the study patients were compared to able-bodied cohorts. An assessment of clinical outcome was performed by completion of a validated Musculoskeletal Function Assessment (MFA) questionnaire and the were results correlated with muscle strength and gait analysis. Secondary outcome measures included adequacy of fracture reduction, radiographic grade, the presence and severity of heterotopic ossification at the time of the most recent follow-up, and passive range of motion of the affected and unaffected hips. RESULTS: No statistical differences in muscle strength for each of the major muscle groups were found when the affected limb was compared with the unaffected limb. No statistical differences were found between the study patients and the able-bodied cohorts with regards to stride length, gait speed, and cadence. The only significant difference found in body segment position was trunk inclination. When the study patients were compared with able-bodied cohorts, the patients tended to walk with greater forward inclination of their trunks; this was true for all phases of gait. Total MFA scores averaged 22 (range, 0-57). Patients could be separated into two separate groups based on their total MFA score. One group (n = 6) had an average MFA score of 7 (range, 0-10), while a second group (n = 9) had an average MFA score of 32 (range, 12-57). The scores of study patients as a whole, and those of each individual group of patients, were compared with known MFA scores for nonpatients and patients in the Orthopaedic Trauma Association/Association for the Study of Internal Fixation (OTA/AO) injury group (hip and thigh). When the muscle strengths of these two groups of patients were compared, all hip flexion and extension variables were significantly weaker in the group with an average MFA score of 32, whereas none of the gait variables were different between the two groups. At an average follow-up of 24 months, seven patients had an excellent radiographic grade, four patients had a good grade, two patients had a fair grade, and two patients had a poor grade. These radiographic grades were in contrast to achieving an anatomic reduction in eleven patients, a satisfactory reduction in three patients, and an unsatisfactory reduction in one patient. Heterotopic ossification was found in eight patients, four patients had Grade 1, and four patients, had Grade 2. No statistically significant differences were observed when each MFA group was compared with each of these radiographic variables. Passive hip range of motion was not statistically different when the affected hip was compared with the unaffected hip. CONCLUSIONS: Standardized muscle strength determination, gait, and motion analysis, and completion of an MFA questionnaire provided a thorough and revealing evaluation of patients who have undergone open reduction and internal fixation (ORIF) of a displaced acetabular fracture. Minimal alterations in body posture and affected limb motion were present in patients displaying relatively normal gait parameters, including stride length, speed, and cadence. Despite dissection of the hip musculature during surgery, normal muscle strength recovery was possible after operative repair of these acetabular fractures. However, functional outcome, as determined by MFA scores, was considerably poorer in those patients with significantly weaker hip flexion and extension strength, compared with those of patients with more desirable MFA scores. Based on the current data, it appears that the use of these and similar evaluation instruments can allow determination of factors that negatively affect outcome (hip flexion and extension strength), which otherwise may remain unknown. It is possible that identification and treatment of these factors will improve the quality of life for patients after this type of injury Notes: DA - 20020130 IS - 0890-5339 (Print) IS - 0890-5339 (Linking) LA - eng PT - Journal Article SB - IM

(71) Botser IB, Martin DE, Stout CE, Domb BG. Tears of the ligamentum teres: prevalence in hip arthroscopy using 2 classification systems. Am J Sports Med 2011; 39 Suppl:117S-125S. Ref ID: 663 Abstract: BACKGROUND: The ligamentum teres (LT) anatomy has been known for many years. While its functionality remains debatable, it is well recognized that the LT can be a source of pain in the hip joint. In 1997, a landmark publication by Gray and Villar established a classification for LT tears and increased the awareness of LT disorders. However, the incidence of LT tears and the various tear types is unknown. PURPOSE: The authors report the prevalence of LT tears in a population of patients who underwent hip arthroscopy, using both the Gray and Villar classification and a new descriptive classification. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: Between February 2008 and January 2011, 616 hip arthroscopies were performed by the senior author. After excluding revision surgeries, a total of 558 surgeries (502 patients) were included in the study. Data were collected regarding patients' demographics, mechanism of injury, range of motion, magnetic resonance results, and intraoperative findings. Preoperative hip-specific questionnaire scores and pain level were recorded as well. Ligamentum teres tears were classified according to Gray and Villar's classification, and were also categorized using a descriptive grading system as follows: 0, no tear; 1, <50% tear; 2, >50% tear; or 3, 100% tear. RESULTS: A total of 284 (51%) of the 558 surgeries in this cohort revealed LT tears. According to the descriptive grading system, 22% were grade 1, 24% were grade 2, and 5% were grade 3. According to the Gray and Villar classification 3.7% had full rupture, 43% had a partial tear, and 4.5% had a degenerative tear. Patients with LT tears were significantly older and had worse preoperative functional scores; they did, however, have a greater range of motion. Intraoperatively, an association with larger labral tear size and acetabular chondral damage was found. Magnetic resonance arthrography was found to have low accuracy and sensitivity in detection of LT tears. No correlation to the pain level was found. CONCLUSION: Ligamentum teres tears had a higher prevalence in this study than was published in the past, most probably attributable to a lower threshold used in defining a tear. The incidence is defined both using the Gray and Villar classification, as well as a new descriptive classification system that categorizes the LT according to amount of tearing Notes: DA - 20110628 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(72) Bouvard M, Lippa A, Reboul G. Therapeutic strategy of athletic pubalgia. [French]. Kinesitherapie 12 (125) ()(pp 23-28), 2012 Date of Publication: May 2012 2012;(125):23-28. Ref ID: 364 Abstract: Athletic pubalgia is a disease affecting all the locomotor structures of the anterior part of the pelvic girdle. Distribution is worldwide, and almost exclusively male. There is at present no consensus as to nosology or treatment. Evolution is generally toward gradual chronicity, although acute traumatic forms are also found. Four clinical forms are regularly found together: involvement of the pubic symphysis and its appendages; lower rectus abdominis lesions, near the insertions; tendinopathy of the adductor body and insertion, which may be complicated by obturator nerve canal syndrome; and inguinal canal involvement due to wall defect and ilio-inguinal and ilio-hypogastric nerve damage. Initial treatment is generally medical, lasting 3 months, beginning with pain management followed by individualized rehabilitation to compensate the weak points of pelvic girdle and hip force/flexibility. In the second phase, neurophysiological work is followed by general physical and then specific training. Unfavorable evolution at 3 months despite treatment casts doubt on the diagnosis. Surgery is indicated if the inguinal canal is affected, whether or not any tendon sectors are involved. In difficult cases, anesthetic block contributes usefully to diagnosis. Twelve weeks on average are necessary for return to competitive sport after surgery. Primary and secondary prevention influence long-term prognosis. Level of evidence: Not adapted. Â© 2012 Elsevier Masson SAS. All rights reserved Notes: DB - Embase UI - 2012408648 IN - (Bouvard) Centre de Biologie et Medecine du Sport de Pau, 4 boulevard Hauterive, 64046 Pau cedex, France (Lippa) Imagerie Medicale, Hopital de Pau, 64046 Pau cedex, France (Reboul) Unite de Chirurgie Parietoabdominale, Clinique du Sport, 33700 Merignac, France CP - France OT - Strategie therapeutique de la pubalgie du sportif LG - French PT - Journal: Review EM - 201232 DD - 20120802

(73) Brisson N, Lamontagne M, Kennedy MJ, Beaule PE. The effects of cam femoroacetabular impingement corrective surgery on lower-extremity gait biomechanics. Gait Posture 2013; 37(2):258-263. Ref ID: 628 Abstract: Surgery to correct cam femoroacetabular impingement (FAI) is increasingly popular. Nevertheless, no known study has analyzed both the three-dimensional lower-extremity joint kinematics and kinetics to quantify FAI surgical outcomes. The purpose of this study was to determine the effects of FAI surgery on the affected lower-extremity joint mechanics during gait by comparing the three-dimensional hip, knee, ankle and pelvic angular displacements, as well as the hip, knee and ankle moments and powers of preoperative and postoperative FAI groups, and a healthy control group. Ten patients with unilateral symptomatic cam FAI, who underwent corrective surgery using an open or combined technique, participated in the biomechanical analysis of level walking preoperatively and postoperatively. Thirteen healthy control subjects provided normative data. Results showed that gait biomechanics of FAI patients did not return to normal after surgery. Postoperatively, patients had reduced hip frontal and sagittal plane ROM, smaller peak hip abduction and internal rotation moments, and decreased peak hip power generation compared to the control group. Despite reductions in hip pain, hip impairments and trends detected preoperatively, perhaps due to modified gait patterns, persisted postoperatively. Additional discrepancies in lower-extremity joint mechanics were observed postoperatively, which are believed to have resulted from partial muscle impairment caused by the surgical approaches. Further research is required to confirm the reasons for which lower-extremity gait mechanics of FAI patients do not return to normal following surgery. Clarifying these causes could help improve surgical techniques and rehabilitation programs for the treatment of FAI, and thus improve surgical outcomes Notes: DA - 20130125 IS - 1879-2219 (Electronic) IS - 0966-6362 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(74) Broadbent S, Coutts R, Coetzee S. Physical and injury profiles of Australian female dragon boat paddlers: a pilot study. Journal of Fitness Research 2014; 3(2):3-13. Ref ID: 47 Notes: IS - 2

(75) Brooks P, Bershadsky B. Femoroacetabular impingement: a resurfacing solution. J Bone Joint Surg Br 2012; 94(11 Suppl A):32-35. Ref ID: 623 Abstract: Femoroacetabular impingement (FAI) is commonly associated with early hip arthritis. We reviewed our series of 1300 hip resurfacing procedures. More than 90% of our male patients, with an average age of 53 years, had cam impingement lesions. In this condition, there are anterior femoral neck osteophytes, and a retroverted femoral head on a normally anteverted neck. It is postulated that FAI results in collision of the anterior neck of the femur against the rim of the acetabulum, causing damage to the acetabular labrum and articular cartilage, resulting in osteoarthritis. Early treatment of FAI involves arthroscopic or open removal of bone from the anterior femoral neck, as well as repair or removal of labral tears. However, once osteoarthritis has developed, hip replacement or hip resurfacing is indicated. Hip resurfacing can re-orient the head and re-shape the neck. This helps to restore normal biomechanics to the hip, eliminate FAI, and improve range of motion. Since many younger men with hip arthritis have FAI, and are also considered the best candidates for hip resurfacing, it is evident that resurfacing has a role in these patients Notes: DA - 20121102 IS - 0301-620X (Print) IS - 0301-620X (Linking) LA - eng PT - Evaluation Studies PT - Journal Article SB - AIM SB - IM

(76) Brophy RH, Chiaia TA, Maschi R, Dodson CC, Oh LS, Lyman S et al. The core and hip in soccer athletes compared by gender. International Journal of Sports Medicine 30 (9) ()(pp 663-667), 2009 Date of Publication: 2009 2009;(9):663-667. Ref ID: 458 Abstract: Gender differences in hip and core strength and range of motion may contribute to the gender based variance in injury risk. This study was designed to test the primary hypothesis that hip and core strength, flexibility and lower extremity dynamic alignment differ in male and female soccer athletes. Ninety-eight collegiate soccer players (54 male, 44 female) participated in this study. Athletes were evaluated for hip range of motion, and hip and abdominal strength. Both male and female soccer players demonstrated limited hip rotation, with less hip internal rotation in males (p<0.0001), and poor abdominal core control, although the males are stronger (p=0.02). Overall hip ROM is shifted towards internal rotation in females compared to males. Female soccer players also have a significant side-to-side disparity in hip abductor strength (p<0.0001), not present in males. The shift in hip ROM towards internal rotation combined with the hip abductor imbalance may be associated with a position of ACL risk with internally rotated hips and valgus knees in female soccer players. Limitations in hip and core strength and range of motion may play a role in the disparity between the male and female rate of ACL injury Notes: DB - Embase UI - 2009563095 IN - (Brophy) Washington University School of Medicine, Department of Orthopedics, St. Louis, United States (Chiaia, Maschi) Hospital for Special Surgery, Rehabilitation, New York, United States (Dodson, Allen, Williams) Hospital for Special Surgery, Sports Medicine, New York, United States (Oh) Massachusetts General Hospital, Department of Orthopaedic Surgery, Boston, United States (Lyman) Hospital for Special Surgery, Research, New York, United States CP - Germany LG - English PT - Journal: Article EM - 200900 DD - 20091210

(77) Brown MD, Gomez-Marin O, Brookfield KF, Li PS. Differential diagnosis of hip disease versus spine disease. Clin Orthop Relat Res 2004;(419):280-284. Ref ID: 764 Abstract: Many clinicians find it difficult to differentiate between symptoms caused by a spine disorder or a hip disorder. If surgery is indicated, the order in which these operations take place is an important factor in the patient's long-term outcome. A prospective evaluation and retrospective chart review of patients with lower extremity pain was performed at the principal investigator's clinic to determine which signs and symptoms best predict the primary source of pain in patients with hip and spine disorders. Medical histories, physical examinations, and diagnostic tests were done on 97 patients with lower extremity pain to determine which signs and symptoms were the best predictors of a primary source of the pain (a hip or a spine disorder). The presence of a limp, groin pain, or limited internal rotation of the hip significantly predicted the diagnosis of a disorder as originating primarily from the hip, as opposed to originating from the spine. Patients with a limp were seven times more likely to have a hip disorder only or a hip and spine disorder than a spine only disorder. Similarly, patients with groin pain or limited internal rotation of the hips were seven and 14 times, respectively, more likely to have a hip disorder only or a hip and spine disorder than a spine only disorder. These variables are of primary importance to the clinician when making a differential diagnosis between hip disease and spine disease Notes: DA - 20040315 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(78) Brumitt J. Exercise to Reduce the Risk of a Groin Strain Injury. Performance Training Journal 2009; 8(5):15-17. Ref ID: 23 Notes: IS - 5

(79) Brumitt J. Stretching Exercises to Improve the Flexibility of the Inner Thigh. Performance Training Journal 2010; 9(4):15-17. Ref ID: 61 Notes: IS - 4

(80) Brunner A, Horisberger M, Herzog RF. Sports and recreation activity of patients with femoroacetabular impingement before and after arthroscopic osteoplasty. American Journal of Sports Medicine 2009; 37(5):917-922. Ref ID: 132 Abstract: BACKGROUND: Hip arthroscopy represents a new and minimally invasive method of treating patients with femoroacetabular impingement (FAI). However, participation in popular sports after this procedure has not yet been analyzed. HYPOTHESES: Arthroscopic treatment of FAI increases the level of popular sports activities, and this level of activity correlates with the clinical outcome in terms of pain and function. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: Fifty-three patients (41 male, 12 female) were evaluated preoperatively and after a mean follow-up of 2.4 years (range, 2-3.2 years) after arthroscopic osteoplasty for cam and mixed FAI. Evaluation included the type and level of sports activities (sports frequency score [SFS]) as well as clinical outcome in terms of pain (VAS) and function (nonarthritic hip score [NAHS]). RESULTS: Forty-five of the 53 patients had regularly participated in popular sports until the first occurrence of FAI symptoms. Preoperatively, only 4 of these 45 patients had maintained their accustomed level of activity. At the final follow-up, 31 patients had returned to their full accustomed level of activity. None of the patients who had not been active in sports before the first occurrence of symptoms of FAI (n = 8) had begun participation in sports after arthroscopic osteoplasty. The SFS significantly increased from 0.78 to 1.84 (P < .001), and the mean VAS pain score significantly improved from 5.7 (range, 1-9) to 1.5 (range, 0-6) points (P < .001). The NAHS improved from 54.4 (range, 28.75-92.5) to 85.7 (range, 47.5-100) (P < .001). There was no significant correlation between SFS and NAHS (r = .051, P = .35), as well as between SFS and VAS pain score (r = .159, P = .140) preoperatively, but a significant correlation was seen at the time of the last postoperative follow-up (SFS/NAHS: r = .392, P = .003; SFS/VAS: r = .242, P = .049). The 3 most frequent sports activities postoperatively were biking, hiking, and fitness. CONCLUSION: Arthroscopic osteoplasty can significantly improve the rate and level of popular sports activities in patients with FAI. The level of postoperative sports activity directly correlates with the clinical outcome in terms of pain and function Notes: ID - 105525427 IS - 5 CY - Thousand Oaks, California

(81) Brunner A, Horisberger M, Herzog RF. Evaluation of a computed tomography-based navigation system prototype for hip arthroscopy in the treatment of femoroacetabular cam impingement. Arthroscopy 2009; 25(4):382-391. Ref ID: 709 Abstract: PURPOSE: The purpose of this study was to investigate the impact of a new computed tomography-based computer navigation system on the accuracy of arthroscopic offset correction in patients with cam type femoroacetabular impingement (FAI), and to evaluate if the accuracy of offset restoration compromises the early clinical outcome. METHODS: We prospectively treated 50 patients (25 navigated and 25 non-navigated) by hip arthroscopy and arthroscopic offset restoration for cam FAI. The patients were a mean age 42.9 years, and the average follow-up was 26.7 months, with no patients lost to follow-up. Magnetic resonance imaging scans were performed preoperatively and 6 weeks postoperatively. A postoperative alpha angle of less than 50 degrees or a reduction of the alpha angle of more than 20 degrees was considered to be successful offset restoration. Outcomes were measured with a visual analogue scale for pain, range of motion, and the nonarthritic hip score. RESULTS: The mean alpha angle improved from 76.5 degrees (range, 57 degrees to 110 degrees) to 54.2 degrees (range, 40 degrees to 84 degrees). In both the navigated and the non-navigated groups, 6 patients (24%) showed insufficient offset correction. Range of motion, visual analogue scale for pain scores, and nonarthritic hip scores significantly improved in all subgroups. Statistical analysis showed no significant difference regarding the clinical outcome between patients with sufficient and insufficient correction of the alpha angle. CONCLUSIONS: In this series, a significant percentage of patients (24%) showed an insufficient correction of the alpha angle after hip arthroscopy for cam FAI. This study shows that the presented navigation system could not improve this rate and that the insufficient accuracy of reduction of the alpha angle does not appear to compromise the early clinical outcome. LEVEL OF EVIDENCE: Level II, prospective comparative study Notes: DA - 20090403 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Evaluation Studies PT - Journal Article SB - IM

(82) Bulut O, Ozturk H, Tezeren G, Bulut S. Arthroscopic-assisted surgical treatment for developmental dislocation of the hip. Arthroscopy 2005; 21(5):574-579. Ref ID: 752 Abstract: PURPOSE: Treatment of developmental dislocation of the hip (DDH) includes surgical management in older children or in those who cannot be treated conservatively. However, complication rates of surgical treatment are quite high. The purpose of this report is to introduce our new surgical technique that can eliminate existing pathologic changes in DDH. TYPE OF STUDY: A small case series. METHODS: We performed arthroscopic-assisted surgical treatment in 4 hips of 4 female children who had DDH and no previous treatment. Their ages ranged from 11 to 14 months. Closed reduction under general anesthesia was tried just before the surgical intervention, but it failed in all of them. Tightness of the iliopsoas tendon was released followed by dissection of capsular adhesions using an anterolateral mini-incision. Excision of the hypertrophic ligamentum teres, transverse acetabular ligament, and pulvinar tissue was carried out using a double-portal arthroscopic procedure. We performed percutaneus adductor tenotomies in 2 cases. A spica cast and abduction splint were used for 12 to 17 weeks postoperatively. The follow-up of the patients was a minimum of 1 year. Although a 1-year follow-up period is adequate to evaluate the short-term results, it has been considered that there is a need for further studies that include long-term follow-up. We used the acetabular index and Shenton's line for preoperative and postoperative radiologic evaluation. Also, the cases were evaluated postoperatively in respect to range of motion restriction and the leg length discrepancy. RESULTS: The mean follow-up was 13.7 months (range, 12 to 16 months). Acetabular index measurements of the cases in the preoperative/postoperative periods were as follows: in the first case, 34 degrees/27 degrees; in the second case, 35 degrees/22 degrees; in the third case, 52 degrees/39 degrees; and in the fourth case, 40 degrees/28 degrees. Hip joint restriction and leg length discrepancy were not observed postoperatively. CONCLUSIONS: All the intra-articular structures (hypertrophic ligamentum teres, transverse acetabular ligament, and pulvinar tissue) in the acetabulum that impede the reduction of the femoral head have been eliminated by using the arthroscopic technique. The arthroscopic-assisted surgical treatment of DDH is successful in the short-term follow-up period. LEVEL OF EVIDENCE: Level IV, Case Series Notes: DA - 20050513 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article SB - IM

(83) Bussey MD, Milosavljevic S. Asymmetric pelvic bracing and altered kinematics in patients with posterior pelvic pain who present with postural muscle delay. Clinical Biomechanics 2015; 30(1):71-77. Ref ID: 96 Abstract: Background The purpose of the study was to examine the muscle activity and hip-spine kinematics in a group of individuals diagnosed with posterior pelvic girdle pain and confirmed postural muscle delay during a repeated fast hip flexion task. Methods Twenty-four (12 pain and 12 control) age and sex matched participants performed a repeated fast hip flexion task to auditory signal. Surface EMG activity in the external and internal oblique, the multifidus, the gluteus maximus and biceps femoris in the stance-limb was examined for onset timing and EMG integral. Sagittal plane hip (swing limb) and spine kinematics were examined for group and side differences over the repeated trials. Findings While the pain group lacked significant feedforward muscle activity they displayed higher muscle activity at movement onset in the biceps femoris bilaterally (p < 0.05) as well as the external oblique (p < 0.05) during motion of the symptomatic side. Furthermore, the pain group experienced asymmetrical spinal range of motion with increased motion on the contralateral side (p < 0.001) and reduced flexion velocity on the symptomatic side (p < 0.001). Interpretation The findings support previous hypotheses regarding the effect of increased biceps activity on pelvic control during lumbo-pelvic rotation. Further, there appears to be a symptom led strategy for bracing the innominate through opposing tension in the biceps and external oblique during movement of the painful side. Such asymmetrical pelvic girdle bracing may be a strategy to increase the stability of the pelvis in light of the failed load transfer mechanism. Putatively, this strategy may increase the mechanical stress on the sacroiliac joint exacerbating pain complaints Notes: ID - 103880300 IS - 1 CY - New York, New York

(84) Byrd JW, Jones KS. Arthroscopic management of femoroacetabular impingement. Instr Course Lect 2009; 58:231-239. Ref ID: 706 Abstract: Femoroacetabular impingement is a well-recognized cause of intra-articular pathology and secondary osteoarthritis among young adults. It has been proposed that femoroacetabular impingement that does not require periacetabular osteotomy sometimes can be managed by arthroscopic methods. Clinically relevant impingement is suspected based on the patient history, examination findings, and radiographic features. Pathologic impingement is then substantiated based on the arthroscopic parameters of characteristic intra-articular pathology. Early experience has shown that hip arthroscopy can achieve results that compare favorably to open methods in patients with femoroacetabular impingement Notes: DA - 20090423 IS - 0065-6895 (Print) IS - 0065-6895 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(85) Byrd JW, Jones KS. Arthroscopic femoroplasty in the management of cam-type femoroacetabular impingement. Clin Orthop Relat Res 2009; 467(3):739-746. Ref ID: 715 Abstract: Cam-type femoroacetabular impingement is a recognized cause of intraarticular pathology and secondary osteoarthritis in young adults. Arthroscopy is reportedly useful to treat selected hip abnormalities and has been proposed as a method of correcting underlying impingement. We report the outcomes of arthroscopic management of cam-type femoroacetabular impingement. We prospectively assessed all 200 patients (207 hips) who underwent arthroscopic correction of cam impingement from December 2003 to October 2007, using a modified Harris hip score. The minimum followup was 12 months (mean, 16 months; range, 12-24 months); no patients were lost to followup. The average age was 33 years with 138 men and 62 women. One hundred and fifty-eight patients (163 hips) underwent correction of cam impingement (femoroplasty) alone while 42 patients (44 hips) underwent concomitant correction of pincer impingement. The average increase in Harris hip score was 20 points; 0.5% converted to THA. We had a 1.5% complication rate. The short-term outcomes of arthroscopic treatment of cam-type femoroacetabular impingement are comparable to published reports for open methods with the advantage of a less invasive approach Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(86) Cadossi M, Tedesco G, Savarino L, Baldini N, Mazzotti A, Greco M et al. Effect of acetabular cup design on metal ion release in two designs of metal-on-metal hip resurfacing. J Biomed Mater Res B Appl Biomater 2014; 102(7):1595-1601. Ref ID: 574 Abstract: The purpose of this observational prospective cohort study was to evaluate the serum concentrations of cobalt (Co), chromium (Cr), and nickel (Ni) at a 2-year follow-up in patients operated on with a novel design of hip resurfacing: Romax resurfacing system (RRS). RRS is characterized by the presence of an acetabular notch which theoretically provides a wider range of motion and a reduced incidence of groin pain. The presence of radiolucencies and functional outcome, assessed using the Harris hip score (HHS) and the University of California Activity scale (UCLA), were secondary endpoints. Moreover, these results were compared with those obtained in our previous study from a similar cohort of patients implanted using the Birmingham Hip Resurfacing (BHR) system. At a 2-year follow-up, the serum levels of Co in patients operated on using the RRS were five times higher (p = 0.0002) than those found before surgery (Co, means: 1.04 and 0.20 ng/mL, respectively); similarly, Cr levels were 13 times higher (p < 0.0001) at a 2-year follow-up than before surgery (Cr, means: 1.69 and 0.13 ng/mL, respectively). Ni concentrations (0.42 and 0.78 ng/mL) were not significantly different (p = 0.16), even if they increased 86% after surgery. In the RRS patients, an inverse correlation was found between Co and Cr concentrations and length of follow-up (Co: r = -0.64, p = 0.0096; Cr: r= -0.45, p = 0.08). The serum levels of Co and Cr were not significantly different between RRS (Co: 1.04 ng/mL and Cr: 1.69 ng/mL) and BHR (Co: 1.39 ng/mL and Cr: 2.30 ng/mL) patients at 2 years (p = 0.95 and 0.26 for Co and Cr, respectively). Our results showed that RRS patients achieved an excellent clinical outcome with limited metal ion release Notes: DA - 20140908 IS - 1552-4981 (Electronic) IS - 1552-4973 (Linking) LA - eng PT - Clinical Trial PT - Journal Article PT - Observational Study RN - 0 (Metals, Heavy) SB - IM

(87) Cakic J, Patricios J. Femoroacetabular impingement: prevention or intervention? The sports physician's quandary. British Journal of Sports Medicine 2014; 48(4):1073-1075. Ref ID: 28 Notes: IS - 14

(88) Carsen S, Moroz PJ, Rakhra K, Ward LM, Dunlap H, Hay JA et al. The Otto Aufranc Award. On the etiology of the cam deformity: a cross-sectional pediatric MRI study. Clin Orthop Relat Res 2014; 472(2):430-436. Ref ID: 610 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) has been recognized as a common cause of hip pain as well as a cause of hip arthritis, yet despite this, little is known about the etiology of the cam morphology or possible risk factors associated with its development. QUESTIONS/PURPOSES: The purposes of our study were to determine when the cam morphology associated with FAI developed in a cross-sectional cohort study of pediatric patients pre- and postphyseal closure using MRI and whether increased activity level during the period of physeal closure is associated with an increased likelihood that the cam deformity will develop. METHODS: Alpha angles were measured at the 3 o'clock (anterior head-neck junction) and 1:30 (anterosuperior head-neck junction) positions in both hips with a cam deformity defined as an alpha angle >/= 50.5 degrees at the 3 o'clock position. Forty-four volunteers (88 hips) were studied: 23 with open physes (12 females, mean age 9.7 years; 11 males, age 11.7 years) and 21 with closed physes (five females, age 15.2 years; 16 males, age 16.2 years). Daily activity level using the validated Habitual Activity Estimation Scale was compared for patients in whom cam morphology did and did not develop. RESULTS: None of the 23 (0%) patients prephyseal closure had cam morphology, whereas three of 21 (14%, p = 0.02; all males) postclosure had at least one hip with cam morphology. Daily activity level was higher (p = 0.02) for patients with the cam morphology (7.1 hours versus 2.9 hours). Mean alpha angles at the 3 o'clock head-neck position were 38 degrees (95% confidence interval [CI], 37.2 degrees -39.1 degrees ) in the open physes group and 42 degrees (95% CI, 40.16 degrees -43.90 degrees ) in the closed physes group; at the 1:30 head-neck position, they were 45 degrees (95% CI, 44.0 degrees -46.4 degrees ) in the open physes group and 50 degrees (47.9 degrees -52.3 degrees ) in the closed physes group. CONCLUSIONS: The fact that cam morphology was present exclusively in the closed physeal group strongly supports its development during the period of physeal closure with increased activity level as a possible risk factor Notes: DA - 20140113 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(89) Casartelli NC, Leunig M, Item-Glatthorn JF, Lepers R, Maffiuletti NA. Hip flexor muscle fatigue in patients with symptomatic femoroacetabular impingement. Int Orthop 2012; 36(5):967-973. Ref ID: 651 Abstract: PURPOSE: Patients with symptomatic femoroacetabular impingement (FAI) have considerable hip muscle weakness, in particular, hip flexion and hip adduction. In addition, they experience disabilities while performing prolonged dynamic tasks. It was therefore postulated that, besides hip flexor muscle weakness, patients with symptomatic FAI would show greater hip flexor fatigue compared with healthy controls. METHODS: Hip flexor fatigue was evaluated in two different experiments. Fifteen patients with symptomatic FAI and 15 age-matched healthy controls were tested in each experiment. In the first one, changes in hip flexor torque fluctuations and electromyographic (EMG) activity were measured during a sustained submaximal isometric contraction. In the second experiment, hip flexor torque decline was measured during a series of 20 maximal dynamic contractions. RESULTS: Patients with FAI exhibited hip flexor weakness under both isometric (P = 0.02) and isokinetic conditions (P = 0.03). Fatigue-induced changes in isometric hip flexor torque fluctuations, EMG root mean square and median frequency did not differ significantly between patients and controls (P > 0.05). Similarly, isokinetic hip flexor torque decline was comparable in patients with FAI and controls (P > 0.05). CONCLUSIONS: None of the hip flexor fatigue outcomes considered here differed between patients with symptomatic FAI and controls. Therefore, the disabilities that patients experience while performing prolonged dynamic tasks do not seem to be caused by exaggerated hip flexor muscle fatigue Notes: DA - 20120424 IS - 1432-5195 (Electronic) IS - 0341-2695 (Linking) LA - eng PT - Journal Article SB - IM

(90) Casartelli NC, Maffiuletti NA, Item-Glatthorn JF, Impellizzeri FM, Leunig M. Hip muscle strength recovery after hip arthroscopy in a series of patients with symptomatic femoroacetabular impingement. Hip Int 2014; 24(4):387-393. Ref ID: 579 Abstract: PURPOSE: The aim of the study was to prospectively evaluate hip muscle strength in a series of patients with symptomatic FAI after hip arthroscopy. METHODS: Hip muscle strength of eight patients (age: 29 +/- 10 years) was evaluated preoperatively and 2.5 years after hip arthroscopy, and was compared to eight matched controls. Maximal voluntary contraction (MVC) strength was measured for all hip muscle groups. At follow-up, we used the symptom-specific well-being outcome to assess the acceptability of the health state related to the hip. RESULTS: Patients showed MVC strength increases for all hip muscles (9-59%, P<.05). At follow-up, only hip flexor MVC strength was lower for patients than controls (-18%, P<.05). At follow-up, four patients (out of eight) were "neither satisfied nor dissatisfied" with the health state of their operated hip. CONCLUSIONS: Patients with symptomatic FAI recovered their hip muscle strength to normal levels 2.5 years after hip arthroscopy, except for hip flexors. Although all patients showed good hip muscle strength at follow-up, half of them were not completely satisfied with their health state related to the hip Notes: DA - 20140729 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Journal Article SB - IM

(91) Casta A, Walusz H. Hip injuries in division I soccer players-a rehabilitation protocol for return to play. Clinical Journal of Sport Medicine Conference: 24th Annual Meeting of the American Medical Society for Sports Medicine, AMSSM 2015 Hollywood, FL United States Conference Start: 20150414 Conference End: 20150417 Conference Publication: (var pagings) 25 2015;(var.pagings):204. Ref ID: 168 Abstract: Purpose: To determine if the rehabilitation and return to play protocol for hip injuries in athletes who play soccer, used at Boston University reduced number of days missed from playing the sport. Methods and Study Design: Retrospective cohort study. Using data from athletic training medical records data bank we searched for hip pain visits in soccer athletes from fall season of 2013 and 2014. Inclusion criteria included diagnosis of acute or recurrent hip pain, groin pain, hip tightness, and thigh strain in female and male soccer athletes. Search consisted of 2500 collegiate athletes, 92 had hip pain. Data was de- identified, reviewed for rehabilitation techniques used, return to play protocol, and time missed playing soccer. A statistical analysis (ANOVA) was performed and compared to recent data of multiple articles which stated the return to play time in soccer players with hip injuries of 6 to 8 weeks. Results: Of 92 athletes at BU 41 were females and 52 males, all reported hip injury as defined above. All athletes return to soccer by 4 weeks or less after rehabilitation, with a mean of 3.5 weeks of missed sport days. Conclusions: Athletic trainers working with BU soccer players with hip pain focused the rehabilitation program on gluteal strengthening, functional stability exercises, proprioceptive control and general core strengthening in addition to the standard focus of improving deficits in range of motion, hip mobility and soft tissue mobilization. This protocol reduced time spent not playing soccer in BU athletes when compared to conventional rehabilitation. Significance of Findings: A holistic approach in the rehabilitation of hip injuries in collegiate division I soccer athletes reduces time spent not playing by 2-3 weeks. The return to play protocol and rehabilitation techniques currently being performed at Boston University for hip injuries in soccer players should be used a model protocol for other institutions with similar injuries Notes: DB - Embase UI - 71915175 IN - (Casta, Walusz) Boston University, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201526 DD - 20150618

(92) Chandrasekaran S, Vemula SP, Martin TJ, Suarez-Ahedo C, Lodhia P, Domb BG. Arthroscopic Technique of Capsular Plication for the Treatment of Hip Instability. Arthroscopy Techniques 4 (2) ()(pp e163-e167), 2015 Date of Publication: 01 Apr 2015 2015;(2):e163-e167. Ref ID: 172 Abstract: Atraumatic instability or microinstability of the hip is a recognized cause of groin pain and hip instability. Risk factors include female sex, ligamentous laxity, and borderline dysplasia. Arthroscopically, the joint may distract easily, and there may be associated ligamentum teres tears and laxity of the capsule on manual probing. The use of arthroscopic capsular plication in this cohort of patients has shown good to excellent results. Biomechanically, a capsular plication aims to create an imbrication and inferior shift of the capsule to augment the screw-home mechanism of the capsuloligamentous structures and thereby improve stability in extension and external rotation. The purpose of this article is to detail the step-by-step surgical technique of arthroscopic capsular plication, in addition to the indications, pearls, and pitfalls of the technique Notes: DB - Embase UI - 2015915517 IN - (Chandrasekaran, Vemula, Martin, Suarez-Ahedo, Lodhia, Domb) American Hip Institute, Westmont, IL, United States (Domb) Hinsdale Orthopaedics, Westmont, IL, United States CP - Netherlands LG - English PT - Journal: Article EM - 201524 DD - 20150604

(93) Charbonnier C, Magnenat-Thalmann N, Becker CD, Hoffmeyer P, Menetrey J. An integrated platform for hip joint osteoarthritis analysis: design, implementation and results. Int J Comput Assist Radiol Surg 2010; 5(4):351-358. Ref ID: 690 Abstract: PURPOSE: We present a software designed to improve hip joint osteoarthritis (OA) understanding using 3D anatomical models, magnetic resonance imaging (MRI) and motion capture. METHODS: In addition to a standard static clinical evaluation (anamnesis, medical images examination), the software provides a dynamic assessment of the hip joint. The operator can compute automatically and in real-time the hip joint kinematics from optical motion capture data. From the estimated motion, the software allows for the calculation of the active range of motion, the congruency and the center of rotation of the hip joint and the detection and localization of the femoroacetabular impingement region. All these measurements cannot be performed clinically. Moreover, to improve the subjective reading of medical images, the software provides a set of 3D measurement tools based on MRI and 3D anatomical models to assist and improve the analysis of hip morphological abnormalities. Finally, the software is driven by a medical ontology to support data storage, processing and analysis. RESULTS: We performed an in vivo assessment of the software in a clinical study conducted with 30 professional ballet dancers, a population who are at high risk of developing OA. We studied the causes of OA in this selected population. Our results show that extreme motion exposes the morphologically "normal" dancer's hip to recurrent superior or posterosuperior FAI and to joint subluxation. CONCLUSION: Our new hip software includes all the required materials and knowledge (images data, 3D models, motion, morphological measurements, etc.) to improve orthopedists' performances in hip joint OA analysis Notes: DA - 20100610 IS - 1861-6429 (Electronic) IS - 1861-6410 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(94) Chen A, Youderian A, Watkins S, Gourineni P. Arthroscopic femoral neck osteoplasty in slipped capital femoral epiphysis. Arthroscopy - Journal of Arthroscopic and Related Surgery 30 (10) ()(pp 1229-1234), 2014 Date of Publication: 2014 2014;(10):1229-1234. Ref ID: 194 Abstract: Purpose: To investigate the outcomes of arthroscopic femoral neck osteoplasty in patients with slipped capital femoral epiphysis (SCFE)erelated impingement. Methods: We retrospectively reviewed 37 consecutive patients (40 hips; 19 male and 18 female patients; age range, 10 to 19 years) with SCFE who underwent hip arthroscopy for femoral neck osteoplasty over a 4-year period. Six hips were excluded because of the severity of the slip or conversion to an open procedure. The preoperative and postoperative slip angle, alpha angle, and internal rotation in flexion were compared. Patients were evaluated for pain, functional limitations, and obligatory external rotation deformity (OERD) at each followup visit. The mean follow-up period was 22 months (range, 12 to 56 months). Results: We analyzed the results of 34 hips. Adequate distraction could not be obtained initially in 7 hips. The labral and acetabular cartilage damage appeared to be from crushing and abrasion from the bony prominence of the neck. The goals of complete pain relief and correction of OERD were achieved in 88% of the hips. OERD and pain persisted in 2 hips, and 2 patients had residual pain despite good motion. There was a statistically significant improvement in alpha angle (from 88.22degree and 56.91degree, P < .0001) and internal rotation in flexion (from -21.53degree to 10.28degree, P < .0001) with intervention. Conclusions: Arthroscopic femoral neck osteoplasty is effective in decreasing pain, the alpha angle, and OERD in mild to moderate SCFE. Morbid obesity, scarring from previous surgery, and the presence of screws in the anterior neck presented challenges to the arthroscopic technique. Level of Evidence: Level IV, therapeutic case series Notes: DB - Embase UI - 2014727817 IN - (Chen) Department of Orthopaedic Surgery, University of Illinois Medical Center, Chicago, United States (Youderian) Illinois Bone and Joint Institute, Morton Grove, United States (Watkins, Gourineni) Division of Pediatric Orthopaedics, Advocate Children's Hospital, 3420 Adams Road, Oak Brook, IL 60523m, United States CP - United States LG - English PT - Journal: Article EM - 201511 DD - 20150311

(95) Chen M-C, Yang S-H, Yao T-K, Chong P-N, Chen S-H. Bilateral hip pain caused by adductor pyomyositis as the initial presentation of chronic myeloid leukemia in a 17-year-old child. Pediatrics and Neonatology 52 (6) ()(pp 353-357), 2011 Date of Publication: December 2011 2011;(6):353-357. Ref ID: 384 Abstract: Pyomyositis is a pyogenic muscular tissue infection mainly occurring in immunocompromised patients. Chronic myeloid leukemia (CML) accounts for only 2-3% of cases of childhood leukemia. Herein, we report on a 17-year-old male with bilateral hip pain caused by adductor pyomyositis before beginning the treatment course of CML. CML was diagnosed by bone marrow chromosome study and was treated initially with imatinib but switched to hydroxyurea 5 days later because of poor cytoreduction response. Subsequently, white blood cell counts decreased gradually; however, the hyperleukocytosis condition resolved very slowly again until we switched back to imatinib use on the 40<sup>th</sup> day of hospitalization. Pyomyositis was diagnosed by magnetic resonance imaging. Oxacillin was administered to cover Staphylococcus aureus, the most common pathogen of pyomyositis. Bilateral hip pain improved within 72 hours after antibiotic usage, but follow-up magnetic resonance imaging after 15 days of treatment revealed well-defined abscess and osteomyelitis of both femoral heads. Abscess incision and drainage were performed, and cultures of the drained pus grew no microorganisms. The patient completed 5 weeks of oxacillin treatment after the operation and recovered with a full range of motion of both hips. There was no residual disability. This is the first report of bilateral hip pain caused by pyomyositis as the initial presentation of CML. Pyomyositis needs to be considered in the differential diagnosis of hip pain in pediatric patients. Â© 2011, Taiwan Pediatric Association. Published by Elsevier Taiwan LLC. All rights reserved Notes: DB - Embase UI - 2011706044 IN - (Chen, Yang, Chen) Department of Pediatrics, Buddhist Tzu Chi General Hospital, No. 707, Chung Yang Road, Hualien 970, Taiwan (Republic of China) (Yao) Department of Orthopedic Surgery, Buddhist Tzu Chi General Hospital, Hualien, Taiwan (Republic of China) (Chong) Department of Medical Imaging, Buddhist Tzu Chi General Hospital, Hualien, Taiwan (Republic of China) (Chen) Department of Medicine, College of Medicine, Tzu-Chi University, Hualien, Taiwan (Republic of China) CP - Singapore LG - English PT - Journal: Article EM - 201201 DD - 20120102

(96) Chiron P, Espie A, Reina N, Cavaignac E, Molinier F, Laffosse JM. Surgery for femoroacetabular impingement using a minimally invasive anterolateral approach: analysis of 118 cases at 2.2-year follow-up. Orthop Traumatol Surg Res 2012; 98(1):30-38. Ref ID: 646 Abstract: INTRODUCTION: Treatment of femoroacetabular impingement (FAI) has progressed over time from using long incisions and dislocation to using arthroscopic surgery. Minimally invasive treatment has rarely been evaluated and a minimally invasive, anterolateral approach has not been used up to now for this indication. A prospective, on-going study was performed to evaluate surgical treatment of FAI with a minimally invasive, anterolateral approach. HYPOTHESIS: Femoral neck, acetabulum and labrum abnormalities can be corrected without significant morbidity using a minimally invasive, anterolateral approach without dislocation. PATIENTS AND METHODS: Treatment of 120 FAI cases (108 patients, 16 women, 92 men, 12 bilateral cases during one surgical session), average age: 34 years (18.9-63.5 years), was done prospectively and in an uninterrupted series. Two cases were lost to follow-up; 106 patients (118 FAI cases) were evaluated with a follow-up of at least 1 year. Assessments consisted of the Non-Arthritic Hip Score (NAHS), WOMAC, measurement of internal rotation with 90 degrees flexion and the Notzli alpha angle on an A/P radiograph in 45 degrees of flexion, 45 degrees abduction and 30 degrees external rotation. RESULTS: Blood loss averaged 1.2g/dl (range 0.5 to 2.7g/dl) and the average operative time was 44.9 minutes (range 30 to 65). With an average follow-up of 2.2 years (range 12 to 54 months), the NAHS changed by 32.5 points (P<0.0001), internal rotation by 19.0 degrees (P<0.0001) and the alpha angle by -24.9 degrees (P<0.0001). Eight surgical revisions were required (6.8%) (four haematomas, two capsular debridement, two additional procedures on the acetabulum) and these had a good outcome; there were no nerve-related or infection-related complications. Four failures (3.5%) were revised by arthroplasty (two patients experienced residual pain and two patients rapidly progressed to osteoarthritis). Eighteen cases progressed by only one Tonnis stage. Brooker stage II and III ossification were observed in 12 cases (10.2%) but these did not affect the functional score and range of motion improvement. DISCUSSION: This approach, which can be learned and performed quickly, does not require any specific materials and yields a reliable surgical procedure without major complications. This short-term study, where the central cartilaginous compartment was not explored and the labrum was not sutured, comprised a consecutive, non-selected series of patients (independent of age, weight, osteoarthritis stage) and had encouraging results. LEVEL OF EVIDENCE: Level III, prospective study, no control group Notes: DA - 20120210 IS - 1877-0568 (Electronic) IS - 1877-0568 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(97) Chomiak J, Dungl P, Ostadal M, Burian M. Results of treatment of severe grade of scfe. HIP International Conference: 10th Congress of the European Hip Society, EHS 2012 Milan Italy Conference Start: 20120920 Conference End: 20120922 Conference Publication: (var pagings) 22 (4) ()(pp 425-426), 2012 Date of Publication: July-August 2012 2012;(var.pagings):425-426. Ref ID: 160 Abstract: Purpose: To evaluate the results of treatment of acute and chronic grade III slips of slipped capital femoral epiphysis. Material and Methods: In period 1996-2011, 27 patients (19 boys, 8 girls, age 10-16) were treated in our institution for severe slips (over 60 degrees according to Southwick measurement). Three patients were treated for acute slip; two patients for acute on chronic slip and chronic stable slips prevailed (19 patients). One patient was treated for severe bilateral slip. The surgical procedures were: modified Dunn procedure in 14 patients, intertrochanteric osteotomy in 8 patients (9 hips), closed reduction and transphyseal fixation in 3 patients for acute slips, epiphyseodesis in situ in one patient. Contralateral epiphyseodesis was used in majority of immature patients. Results: The average correction of angle were calculated and clinical results were evaluated according to reduction of ROM, shortening of extremity and limitations of activities as follows: excellent, very good, satisfactory, unsatisfactory. In subgroup of subcapital osteotomy, the average reductions of slips in anteroposterior/lateral views were 20/59 degrees, and clinical results were excellent in 11 hips, satisfactory in 2 patients due to the segmental AVN and unsatisfactory in one patient due to the complete AVN. In group of intertrochaneric osteotomies (9 hips), the average reductions of slips in anteroposterior/lateral views were 30/40 degrees, and clinical results were excellent: 1 hip, very good: 5 hips, satisfactory in 3 hips due to the segmental necrosis of the femoral head. In subgroup of acute slips, the average reductions of slips in anteroposterior/ lateral views were 40/30 degrees, and clinical results were excellent: 2 hips, unsatisfactory in 1 hip due to the AVN. In one patient with in situ fixation, the clinical result was satisfactory. Discussion and Conclusion: Severe slips in SCFE represent a serious therapeutic problem. In acute severe slips, great risk of AVN exists due to the slip, therefore urgent reduction and decompression (joint aspiration) are necessary. In chronic slips, subcapital osteotomy and realignment of epiphysis offer the most reliable results. However it represents demanding surgery with some risk of AVN and should be indicated before closing of proximal femoral physis. Surgical dislocation is not necessary in this procedure according to our experience. Intertrochanteric osteotomy is safe and efficient solution for slips till 70 degrees in immature hips, where some remodelling of neck-head junction is expected in order to avoid femoroacetabular impingement and early osteoarthritis. In situ fixation of epiphysis can be used only exceptionally in unsatisfactory health condition of patients from same reasons Notes: DB - Embase UI - 71960103 IN - (Chomiak, Dungl, Ostadal, Burian) Department of Orthopaedics, 1st Medical Faculty Charles University, Prague, Czech Republic LG - English PT - Journal: Conference Abstract EM - 201532 DD - 20150728

(98) Chongkrairatanakul N, Bauman J, Hesse K. We can fix the hip but nothing else. Journal of the American Geriatrics Society Conference: 2011 Annual Scientific Meeting of the American Geriatrics Society National Harbor, MD United States Conference Start: 20110511 Conference End: 20110514 Conference Publication: (var pagings) 59 ()( 2011;(var.pagings):S20. Ref ID: 321 Abstract: Introduction: No professional guidelines exist to declare a clinical situation "futile". When an aggressive surgery cannot realistically meet patient's therapeutic goals or quality of life, it is often helpful to listen to a second opinion from medical peers. We demonstrated a poor clinical outcome and avoidable suffering in a frail older patient after a hip arthroplasty. Case: A 79 y/o home-bound, mobility-impaired man was admitted for a fall and hip fracture. Past history was significant for CAD, AAA, stroke and failure to thrive with 50 lbs weight loss in the past 2 years. He was socially isolated and had limited medical care despite multiple co-morbidities. He had developed resting angina requiring daily TNG for relief weeks prior to admission. On exam, he was emaciated but alert and oriented with unremarkable vitals. His exam revealed multiple ecchymosis, apical systolic murmur, tenderness at the left hip with limited ROM and a 5 cm pulsatile abdominal mass with bruit. Laboratory results were remarkable for anemia (Hct 19.8%), thrombocytopenia (platelet 60 K), coagulopathy (PT 21.8) EKG with inferior Q wave and elevated cardiac biomarkers (troponin I 0.24, CK 41). Abdominal CT revealed an enlarged AAA 5.6 x 6.5 cm with extensive intramural thrombus. He was evaluated by multiple consultation services including Hematology, Pain, Medicine, Cardiology, Palliative Care and Geriatrics. He was deemed very high risk for a surgical procedure. Nonetheless, a hip replacement was performed. After 18 days of hospitalization, he was sent to SNF and did poorly. Five days later, he was readmitted for severe anemia and failure to thrive. It was less than a month after the operation when he decided to be in hospice care and spent the rest of his time at nursing home. Discussion: Physicians are programmed to "fix things" when possible. This philosophy is common not only in surgical situations but also in medicine. However, an effective multidisciplinary discussion with involved specialists should be considered with the goal to improve patient's quality of life. While patient survival may be considered a measure for success, enhanced quality of life is the real desirable outcome for some elderly patients. It is imperative to shift the traditional paradigm for successful outcome from quantitative to qualitative measures. In the process of surgical decision making, the question to ask should always be, "Is this appropriate care for the patient?'' Notes: DB - Embase UI - 70989684 IN - (Chongkrairatanakul, Bauman, Hesse) Geriatrics Medicine Unit, Department of Medicine, Massachusetts General Hospital, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201309 DD - 20130219

(99) Chopra V, Rohde J. Saved by the hip. Journal of Hospital Medicine Conference: 2010 Annual Meeting of the Society of Hospital Medicine, SHM 2010 Washington, DC United States Conference Start: 20100408 Conference End: 20100411 Conference Publication: (var pagings) 5 ()(pp 125-126), 2010 D 2010;(var.pagings):125-126. Ref ID: 209 Abstract: Case Presentation: A 78-year-old white male with well-controlled hypertension, type 2 diabetes. osteoarthritis, and gout presented to our preoperative clinic in anticipation of undergoing left hip arthroplasty. The patient had experienced left hip and back pain for 2 years that had become refractory to medical therapy. On clinical exam, the left hip was irritable to flexion, extension and internal rotation. There was mild tenderness over the greater trochanter. No abnormal chest, cardiac, neurological, or abdominal findings were noted. The patient's exam and Revised Cardiac Risk Index indicated a low risk for cardiac events (RCRI Zero, absolute risk = 0.6%). However, our perioperative consultant decided to review all imaging findings prior to proceeding. Routine x-ray (Fig. 1, top) of the left hip performed earlier (read pending) confirmed osteoarthritis but also showed what appeared to be a large vascular calcification in the tower abdomen. An urgent CAT scan was ordered, (Fig. 1, A-D, inset) confirming a large infrarenal abdominal aortic aneurysm measuring 9 cm in maximal diameter. The patient's hip surgery was cancelled and he was immediately started on statin and beta-blocker therapy. Given the size of his aneurysm, he was urgently referred to vascular surgery for a same-day evaluation. Discussion: Perioperative evaluation frequently involves a template, a "cookbook" approach usually inclusive of the estimation and amelioration of cardiac risk (via RCRI), evaluation of functional and physical status, medical reconciliation, and recommendations on stress dose steroids or DVT prophylaxis. Our patient presented with what appeared to be a straightforward story without clinical findings of concern. It was only when "routine" x-rays of the hip were reviewed that the imminent danger of a large aortic aneurysm was discovered. Our case thus highlights the often unspoken, yet crucial role of the perioperative consultant in reviewing evaluating and detecting abnormal disease via clinical, laboratory or imaging modalities that directly impacts operative risk. A through physical examination and a review of all testing is the foundation of perioperative risk evaluation. A simple "templated" algorithm may have led to our patient undergoing operative intervention with the hemodynamic stress of surgery (sans beta-blockers or statin treatment) potentially leading to a catastrophic outcome. Conclusions: Our patient underwent emergent endovascular repair of his large abdominal aortic aneurysm. His postoperative course was uncomplicated. He continues on lifelong statin and beta-blocker therapy. He hopes to undergo hip replacement in the near future but vows to return to our clinic for perioperative evaluation prior to doing so! Notes: DB - Embase UI - 71753319 IN - (Chopra, Rohde) University of Michigan Health System, Ann Arbor, MI, United States LG - English PT - Journal: Conference Abstract EM - 201506 DD - 20150115

(100) Choy WS, Kim KJ, Lee SK, Bae KW, Hwang YS, Park CK. Ceramic-on-ceramic total hip arthroplasty: minimum of six-year follow-up study. Clin Orthop Surg 2013; 5(3):174-179. Ref ID: 600 Abstract: BACKGROUND: This study examines the clinical and radiologic results of ceramic-on-ceramic total hip arthroplasties with regard to wear, osteolysis, and fracture of the ceramic after a minimum follow-up of six years. METHODS: We evaluated the results of a consecutive series of 148 primary ceramic-on-ceramic total hip arthroplasties that had been performed between May 2001 and October 2005 in 142 patients. The mean age was 57.2 years (range, 23 to 81 years). The mean follow-up period was 7.8 years (range, 6.1 to 10.1 years). Preoperative diagnosis was avascular necrosis in 77 hips (52%), degenerative arthritis in 36 hips (24.3%), femur neck fracture in 18 hips (12.2%), rheumatoid arthritis in 15 hips (10.1%), and septic hip sequelae in 2 hips (1.4%). Clinical results were evaluated with the Harris hip score, and the presence of postoperative groin or thigh pain. Radiologic analysis was done with special attention in terms of wear, periprosthetic osteolysis, and ceramic failures. RESULTS: The mean Harris hip score improved from 58.3 (range, 10 to 73) to 92.5 (range, 79 to 100) on the latest follow-up evaluation. At final follow-up, groin pain was found in 4 hips (2.7%), and thigh pain was found in 6 hips (4.1%). Radiologically, all femoral stems demonstrated stable fixations without loosening. Radiolucent lines were observed around the stem in 25 hips (16.9%), and around the cup in 4 hips (2.7%). Endosteal new bone formation was observed around the stem in 95 hips (64.2%) and around the cup in 88 hips (59.5%). No osteolysis was observed around the stem and cup. There were 2 hips (1.4%) of inclination changes of acetabular cup, 2 hips (1.4%) of hip dislocation, 1 hip (0.7%) of ceramic head fracture, and 1 hip (0.7%) of squeaking. The Kaplan-Meier survival rate of the prostheses was 98.1% at postoperative 7.8 years. CONCLUSIONS: The ceramic-on-ceramic total hip arthroplasty produced excellent clinical results and implant survival rates with no detectable osteolysis on a minimum six-year follow-up study. The ceramic-on-ceramic couplings could be a reasonable option of primary total hip arthroplasty for variable indications Notes: DA - 20130906 IS - 2005-4408 (Electronic) IS - 2005-291X (Linking) LA - eng PT - Journal Article RN - 0 (Ceramics) SB - IM

(101) Cibulka MT, Woehrle J. Conservative treatment options for osteoarthritis of the hip. Topics in Geriatric Rehabilitation 29 (4) ()(pp 227-238), 2013 Date of Publication: October-December 2013 2013;(4):227-238. Ref ID: 272 Abstract: Osteoarthritis (OA) of the hip is a common musculoskeletal problem. Often, hip pain begins as femoroacetabular impingement (FAI) that later develops into hip OA. Early symptoms of FAI include groin or greater trochanter pain, asymmetrical hip rotation, limited hip flexion, weakness of the hip flexors and abductor muscles, and the presence of pelvic obliquity. Later, symptoms and signs of clinical hip OA appear including stiffness in the hip lasting less than 1 hour, greater limitation of hip motions in all 3 body planes, increased weakness of most of the surrounding hip muscles, and eventually gait deviations. The purpose of this article was to describe the clinical diagnosis of both FAI and moderate hip OA in an attempt to start early conservative management in a patient who if not treated will likely develop hip OA. We emphasize that only by early recognition of FAI or of moderate hip OA will a conservative treatment program have potential for success. The conservative treatment of late hip OA is often ineffective, especially once the hip joint develops significant joint narrowing and other radiologic changes occur. Copyright Â© 2013 Lippincott Williams & Wilkins Notes: DB - Embase UI - 2013706422 IN - (Cibulka) Physical Therapy Program, Maryville University, 650 Maryville University Dr, St Louis, MO 63141, United States (Woehrle) Physical Therapy Program, Midwestern University, Glendale, AZ, United States CP - United States LG - English PT - Journal: Article EM - 201347 DD - 20131119

(102) Cinotti G, Lucioli N, Malagoli A, Calderoli C, Cassese F. Do large femoral heads reduce the risks of impingement in total hip arthroplasty with optimal and non-optimal cup positioning? International Orthopaedics 35 (3) ()(pp 317-323), 2011 Date of Publication: March 2011 2011;(3):317-323. Ref ID: 404 Abstract: The purpose of this study was to assess whether large femoral heads (36-38 mm) improve the range of motion in total hip arthroplasty compared to standard (28-32 mm) femoral heads in the presence of optimal and non-optimal cup positioning. A mathematical model of the hip joint was generated by using a laser scan of a dried cadaveric hip. The range of motion was assessed with a cup inclination and anteversion of reference and with non-optimal cup positions. Large femoral heads increased the range of motion, compared to the 28-mm femoral head, in the presence of a hip prosthesis correctly implanted and even more so in the presence of non-optimal cup positioning. However, with respect to the 32-mm femoral head, large femoral heads showed limited benefits both in the presence of optimal and non-optimal cup positioning. Â© Springer-Verlag 2010 Notes: DB - Embase UI - 2011266998 IN - (Cinotti, Lucioli) Orthopaedic Department, University la Sapienza, Rome, Italy (Malagoli, Calderoli, Cassese) DTM Technologies, Modena, Italy CP - Germany LG - English PT - Journal: Article EM - 201100 DD - 20110615

(103) Clarke IC, Lazennec J-Y, Brusson A, Savisaar C, Bowsher JG, Burgett M et al. Risk of impingement and third-body abrasion with 28-mm metal-on-metal bearings. Clinical Orthopaedics and Related Research 472 (2) ()(pp 497-508), 2014 Date of Publication: February 2014 2014;(2):497-508. Ref ID: 260 Abstract: Background: Concerns have been raised about the sequelae of metal-on-metal (MoM) bearings in total hip arthroplasty (THA). However, retrieval studies, which offer the best insight into the clinically relevant mechanisms of MoM wear, have followed predictable trends to date such as indicting cobalt-chromium (CoCr) metallurgy, cup design, high conformity between the head and cup, "steep cups," "microseparation," and "edge wear." Questions/purposes: We wished to evaluate a set of retrieved 28-mm MoM THA for signs of (1) cup-to-stem impingement; (2) normal wear pattern and concomitant stripe damage on femoral heads that would signify adverse wear mechanics; and (3) well-defined evidence of third-body scratches on bearings that would indicate large abrasive particles had circulated the joint space. Methods: Ten 28-mm MOM retrievals were selected on the basis that femoral stems were included. Revision surgeries at 3 to 8 years were for pain, osteolysis, and cup loosening. CoCr stems and the MoM bearings were produced by one vendor and Ti6Al4V stems by a second vendor. All but two cases had been fixed with bone cement. We looked for patterns of normal wear and impingement signs on femoral necks and cup rims. We looked for adverse wear defined as stripe damage that was visually apparent on each bearing. Wear patterns were examined microscopically to determine the nature of abrasions and signs of metal transfer. Graphical models recreated femoral neck and cup designs to precisely correlate impingement sites on femoral necks to cup positions and head stripe patterns. Results: The evidence revealed that all CoCr cup liners had impinged on either anterior or posterior facets of femoral necks. Liner impingement at the most proximal neck notch occurred with the head well located and impingement at the distal notch occurred with the head rotated 5 mm out of the cup. The hip gained 20 motion by such a subluxation maneuver with this THA design. All heads had stripe wear, the basal and polar stripes coinciding with cup impingement sites. Analysis of stripe damage revealed 40 to 100-mum wide scratches created by large particles ploughing across bearing surfaces. The association of stripe wear with evidence of neck notching implicated impingement as the root cause, the outcome being the aggressive third-body wear. Conclusions: We found consistent evidence of impingement, abnormal stripe damage, and evidence of third-body abrasive wear in a small sample of one type of 28-mm MoM design. Impingement models demonstrated that 28-mm heads could lever 20 out of the liners. Although other studies continue to show good success with 28-mm MoM bearings, their use has been discontinued at La Pitie Hospital. Level of Evidence: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2013 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2014078589 IN - (Clarke) Department of Orthopaedics, Loma Linda University, Loma Linda, CA, United States (Clarke, Burgett) DARF Center, 900E Washington Street #200, Colton, CA 92324, United States (Lazennec, Brusson) Department of Orthopaedics, La Pitie Hospital, UPMC University, Paris, France (Savisaar, Bowsher) FDA, Silver Spring, MD, United States (Donaldson) Empire Orthopedics, Colton, CA, United States CP - United States LG - English PT - Journal: Conference Paper EM - 201407 DD - 20140212

(104) Clohisy JC, Knaus ER, Hunt DM, Lesher JM, Harris-Hayes M, Prather H. Clinical presentation of patients with symptomatic anterior hip impingement. Clin Orthop Relat Res 2009; 467(3):638-644. Ref ID: 713 Abstract: Femoroacetabular impingement (FAI) is considered a cause of labrochondral disease and secondary osteoarthritis. Nevertheless, the clinical syndrome associated with FAI is not fully characterized. We determined the clinical history, functional status, activity status, and physical examination findings that characterize FAI. We prospectively evaluated 51 patients (52 hips) with symptomatic FAI. Evaluation of the clinical history, physical exam, and previous treatments was performed. Patients completed demographic and validated hip questionnaires (Baecke et al., SF-12, Modified Harris hip, and UCLA activity score). The average patient age was 35 years and 57% were male. Symptom onset was commonly insidious (65%) and activity-related. Pain occurred predominantly in the groin (83%). The mean time from symptom onset to definitive diagnosis was 3.1 years. Patients were evaluated by an average 4.2 healthcare providers prior to diagnosis and inaccurate diagnoses were common. Thirteen percent had unsuccessful surgery at another anatomic site. On exam, 88% of the hips were painful with the anterior impingement test. Hip flexion and internal rotation in flexion were limited to an average 97 degrees and 9 degrees, respectively. The patients were relatively active, yet demonstrated restrictions of function and overall health. These data may facilitate diagnosis of this disorder Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, N.I.H., Extramural SB - AIM SB - IM

(105) Clohisy JC, Carlisle JC, Trousdale R, Kim YJ, Beaule PE, Morgan P et al. Radiographic evaluation of the hip has limited reliability. Clin Orthop Relat Res 2009; 467(3):666-675. Ref ID: 720 Abstract: Radiographic evaluation provides essential information regarding the diagnosis and treatment of musculoskeletal disorders. We evaluated the ability of hip specialists to reliably identify important radiographic features and to make a diagnosis based on plain radiographs alone. Five hip specialists and one fellow performed a blinded radiographic review of 25 control hips, 25 hips with developmental dysplasia (DDH), and 27 with femoroacetabular impingement (FAI). On two separate occasions, readers assessed acetabular version, inclination and depth, position of the femoral head center, head sphericity, head-neck offset, Tonnis grade, and joint congruency. Observers made a diagnosis categorizing each hip as normal, dysplastic, FAI, or combined DDH and FAI (features of both). Reliability was determined using Cohen's kappa coefficient. Intraobserver values were highest for acetabular inclination (kappa = 0.72) and determination of femoral head center position (kappa = 0.77). Interobserver reliability values were highest for acetabular inclination (kappa = 0.61) and Tonnis osteoarthritis grade (kappa = 0.59). All other measurements, including diagnosis, had kappa values less than 0.55. We concluded many of the standard radiographic parameters used to diagnose DDH and/or FAI are not reproducible. Accordingly, a more clear set of definitions and measurements must be developed to allow for more reliable diagnosis of early hip disease Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Evaluation Studies PT - Journal Article PT - Research Support, N.I.H., Extramural SB - AIM SB - IM

(106) Clohisy JC, Nepple JJ, Ross JR, Pashos G, Schoenecker PL. Does Surgical Hip Dislocation and Periacetabular Osteotomy Improve Pain in Patients With Perthes-like Deformities and Acetabular Dysplasia? Clinical Orthopaedics and Related Research 473 (4) ()(pp 1370-1377), 2015 Date of Publication: 2015 2015;(4):1370-1377. Ref ID: 165 Abstract: Background: Patients with symptomatic residual Perthes-like deformities may present with a combination of structural abnormalities including a large aspheric femoral head, short and wide femoral neck, high greater trochanter, and acetabular dysplasia. Sometimes, the hip is further compromised by concurrent symptomatic femoroacetabular impingement (FAI) (proximal femoral deformities) and structural instability (acetabular dysplasia). Questions/purposes: We therefore sought to characterize (1) the intraoperative findings; (2) radiographic correction; and (3) early patient-reported outcomes, complications, and failures of treating complex Perthes-like hip deformities with combined surgical dislocation and periacetabular osteotomy (PAO). Methods: We performed 694 hip preservation procedures between November 2006 and August 2010. Of these, 46 had residual Perthes-like hip deformities, defined as proximal deformity consistent with residual Perthes and a history of Perthes disease or treatment of pediatric hip dysplasia. Of these, we report on 16 patients (16 hips) with residual Perthes-like hip deformities and associated acetabular dysplasia (structural instability, defined as radiographic evidence of acetabular dysplasia with intraoperative confirmation of instability). These 16 patients were treated with a combined surgical hip dislocation to comprehensively address intraarticular and extraarticular sources of FAI and PAO to address structural instability and were analyzed at a minimum 24-month followup (median, 40 months; range, 24-78 months). No patients in this series were lost to followup. Ten patients' hips had previous surgical treatment, including six with previous osteotomy. Operative findings were extracted from standardized prospectively collected intraoperative data collection forms. Radiographic correction was evaluated with established methods (lateral center-edge angle, anterior center-edge angle, acetabular inclination, center-to-trochanter distance) and clinical outcomes were measured with the modified Harris hip score (mHHS) as well as by prospectively recorded data on patient complications and followup. Results: Acetabular labrochondral abnormalities included labral hypertrophy in all hips and labral and/or articular cartilage lesions requiring treatment in 13 hips. Radiographic analysis demonstrated consistent radiographic correction. The median preoperative mHHS improved from 64 to 92 at a median followup of 40 months (p < 0.001). Fourteen patients (14 hips) had a good or excellent clinical result. Two patients (two hips) were classified as failures based on mHHS less than 70 (n = 1) or conversion to total hip arthroplasty (n = 1). Conclusions: Combined surgical hip dislocation and PAO provides major deformity correction in Perthes-like hip deformities with associated acetabular dysplasia. Early clinical results suggest this technique is safe and effective. Long-term studies are needed to determine if improved long-term outcomes are associated with comprehensive deformity correction. Level of Evidence: Level IV, therapeutic study Notes: DB - Embase UI - 2015665257 IN - (Clohisy, Nepple, Pashos, Schoenecker) Department of Orthopaedic Surgery, Washington University School of Medicine, 660 South Euclid Avenue, Campus Box 8233, St Louis, MO 63110, United States (Ross) University of Michigan, Ann Arbor, MI, United States CP - United States LG - English PT - Journal: Article EM - 201527 DD - 20150627

(107) Cohen SB, Huang R, Ciccotti MG, Dodson CC, Parvizi J. Treatment of femoroacetabular impingement in athletes using a mini-direct anterior approach. Am J Sports Med 2012; 40(7):1620-1627. Ref ID: 637 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) is an increasingly common diagnosis in active patients with hip pain. Surgical options for FAI include arthroscopy, open surgical dislocation, or mini-direct anterior approaches. Arthroscopic and open treatments of FAI have been commonly performed and have had promising results in athletes. Hypothesis/ PURPOSE: We hypothesized that the mini-direct anterior approach would provide the advantages of a minimally invasive procedure and still allow adequate exposure of the hip joint to successfully treat FAI in an athletic population. The purpose of this study was to determine if a mini-open approach for the treatment of FAI in athletic patients would allow a return to preoperative activity. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: A total of 234 patients (257 hips) with FAI were treated by a mini-open approach; 59 were athletic patients (66 hips) with a preoperative University of California, Los Angeles (UCLA) activity score of 7 or higher or Super Simple Hip (SUSHI) activity score of 70 or greater. Forty-four of the 59 athletic patients (47 hips) have reached 1-year minimum follow-up. No patients were lost to follow-up. The mini-open approach was performed through a 4-cm incision and modified Smith-Peterson approach with no muscle detachment. All patients were prospectively evaluated using the following outcome measures: preoperative and postoperative UCLA activity, Short-Form 36 Health Survey (SF-36), Western Ontario and McMaster Osteoarthritis Index (WOMAC), modified Harris Hip Score (HHS), and SUSHI scores. RESULTS: The average age at the time of surgery was 32 years (range, 17-60 years), with an average follow-up of 22 months. Labral changes-whether tear, detachment, or ossification-were present in all patients, and 84% had chondral lesions. The mean HHS improved from 55 preoperatively to 79 postoperatively (P < .001). The WOMAC scores also improved from 47.9 to 8.3 (P < .001). Mean SF-36 scores improved from 65 to 85 postoperatively (P < .001). The mean preoperative SUSHI general score was 31.1, pain score was 26.6, and limitation score was 28.9. The mean postoperative SUSHI general score was 53.6, pain score was 47.5, and limitation score was 51.6 (P < .001). There was minimal change from preinjury to postoperative UCLA (8.0 to 8.7, respectively; P = .07) or SUSHI activity scores (76.3 to 67.7, respectively; P = .048), indicating a reliable return to preinjury activity levels. Twenty-four of 44 patients (55%) reported a return to their specific preoperative sports. Nine patients (20%) developed meralgia paresthetica postoperatively, which resolved within 1 year. CONCLUSION: The mini-open approach for the treatment of FAI is a safe and effective procedure that allows surgical treatment of FAI in athletic patients and a successful return to high activity levels. The outcome of the mini-open approach for athletes may be comparable with open and arthroscopic treatment of FAI Notes: DA - 20120703 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(108) Colbenson KM, Fitch RW. Back pain and its "red flags". Clinical Journal of Sport Medicine Conference: 23rd Annual Meeting of the American Medical Society for Sports Medicine New Orleans, LA United States Conference Start: 20140405 Conference End: 20140409 Conference Publication: (var pagings) 24 (2) ()(pp 2014;(var.pagings):e1-e2. Ref ID: 222 Abstract: History: A 33-year-old, healthy male presents with persistent and progressive lumbar back pain of 8 months duration. An avid runner, the patient first noted lumbar back pain, which was worse with exertion approximately 8 months ago. He saw 3 physicians to address this lumbar back pain. His workup included x-rays, an MRI, and a bone scan with no etiology determined. He underwent months of physical therapy, epidural steroid injections to L4-S1, and dry needling of his hip flexors with progression of his pain. On presentation, the patient described his pain as a dull ache to the lumbar spine. It was worse with exertion and associated with a sensation of muscle cramps that radiated into both hip flexors. His pain was not reproducible, but was present at rest. He denied parasthesias, weakness, or further radicular symptoms. He did describe some weight loss. No past medical history. Physical Examination: General: Well appearing. Abdominal: Non-tender, non-distended, no masses. Back: No tenderness to palpation of the spine or paraspinal muscles. Hip: Normal ROM without intra-articular pain. Lymph: Inguinal lymphadenopathy bilaterally. Lower extremities: 1+ edema extending to the groin. Neuro: 5/5 strength bilateral lower extremities. Normal sensation. Differential Diagnosis: Vascular: Deep vein thrombosis; Retroperitoneal vascular process; Portal vein thrombosis; Lymphdedema. Musculoskeletal: Spinal stenosis; Epidural, intradural, or vertebral metastases; Intervertebral disc herniation. Rheumatologic: Polymyalgia rheumatic; Ankylosing spondylitis; DISH. Infection: Potts Disease. Metabolic: Nephrotic syndrome; Myxedema; NSAID-induced edema. Tests & Results: Laboratory: Creatinine: 1.03; Electrolytes: Normal; LFT's: Normal; SedRate: 52; CRP: 82.7; CPK: 132. Imaging: CT abdomen/pelvis: Extensive expansile thrombus filling the entire inferior vena cava and distal venous system; Lower extremity ultrasound: Occlusive thrombus bilaterally extending from the femoral veins to the deep calf veins. Final/Working Diagnosis: Initial differential included: intravascular IVC neoplasm versus occlusive thrombus. Treatment: The patient was sent to the emergency department from clinic, and a vascular surgery and oncology consultation was placed. He was immediately started on a heparin drip and admitted to the hospital. A PET scan was performed with uptake noted in the IVC mass only. An operative excision and exploration showed significant retroperitoneal lymphadenopathy and a mural neoplasm of the IVC extending from the renal veins to the iliac bifurcation. An IVC resection and reconstruction was performed. Outcome: Pathology revealed the final diagnosis: high-grade spindle cell leiomyosarcoma. The patient had a successful post-operative course. He chose against adjuvant chemotherapy despite the high risk of metastasis or reoccurrence. Oncology and vascular surgery continue to follow the patient every 3 months for CT monitoring. The patient remains recurrence free and has even returned to running. He continues to experience cramping in his lower extremities with exertion that should resolve when appropriate collaterals develop. Return to Activity and Follow-Up: This case is a humbling reminder to never overlook the "red flags" of back pain. Physicians need to be able to recognize components to clinical exam and history that are inconsistent with routine mechanical back pain. This case highlights these specific criteria. 1. Progressive: Progressive pain despite adequate treatment; Progressive neurologic deficit. 2. Pain at rest: Non-mechanical back pain by clinical exam or clinical history. 3. Comorbidities: History of cancer, fever, weight loss, immunosuppression or IV drug use; Age >50; 4. Pain and a positive finding on clinical exam: Lymphadenopathy; Saddle anesthesia; Lower extremity swelling; Neurologic deficit; Cauda Equina; 5. Image the "entire back": Back pain can be referred pain from the abdomen, pelvis, or retroperitoneum Notes: DB - Embase UI - 71702959 IN - (Colbenson, Fitch) Vanderbilt University Medical Center, United States LG - English PT - Journal: Conference Abstract EM - 201450 DD - 20141204

(109) Compain C, Michou L, Orcel P, Hannouche D, Richette P. Septic arthritis of the hip with psoas abscess caused by Non-typhi Salmonella infection in an immunocompetent patient. Joint Bone Spine 2008; 75(1):67-69. Ref ID: 732 Abstract: Osteoarticular infections caused by Non-typhi Salmonella are exceptionally encountered. We report a case of a bacteriologically documented hip infection associated with a psoas abscess due to Non-typhi Salmonella. A 64-year-old immunocompetent male was admitted in our department for pain and motion range limitation in the right hip with fever. Non-typhi Salmonella was recovered in joint fluid obtained by needle aspiration. Antimicrobial chemotherapy combined with surgical intervention was necessary for eradication of the infection. Physicians should be aware of this rare manifestation of Non-typhi Salmonella infections in non-debilitated patients Notes: DA - 20080114 IS - 1778-7254 (Electronic) IS - 1297-319X (Linking) LA - eng PT - Case Reports PT - Journal Article RN - 0 (Anti-Bacterial Agents) SB - IM

(110) Cook C, Massa L, Harm-Ernandes I, Segneri R, Adcock J, Kennedy C et al. Interrater reliability and diagnostic accuracy of pelvic girdle pain classification. Journal of Manipulative & Physiological Therapeutics 2007; 30(4):252-258. Ref ID: 139 Abstract: OBJECTIVE: The purpose of this study was to measure the reliability of a classification system for pelvic girdle pain (PGP) and diagnostic accuracy of selected examination and clinical special findings for diagnosis of PGP. METHODS: The design involved a prospective epidemiological study of pregnancy-related PGP. Consecutive subjects were recruited and classified using criteria defined by previous studies. Two clinicians examined the subjects and classified each patient into 1 of 5 classification groups. Clinical examination and clinical special tests were performed on the patients with PGP. Statistical analysis involved interobserver agreement using a kappa statistic and sensitivity and specificity values for the examination and clinical special testing. RESULTS: Twenty-one subjects were included in the analyses. Aggregated percentage of agreement for the classification system was 84.6%. The Cohen kappa was 0.78 (CI, 0.64-0.92; P < .0001), which indicated substantial agreement during selection of the classification system. Most clinical examination and clinical special-test findings demonstrated low sensitivity and high specificity, whereas clusters of findings including the lunge, manual muscle testing of the hip (lower extremities), and passive range of motion of the hip demonstrated the strongest diagnostic value. CONCLUSION: Selected tests and measures are moderately discriminatory in diagnosing PGP. A classification system for diagnosing PGP demonstrates strong agreement and may be useful for clinicians Notes: ID - 106128766 IS - 4 CY - Philadelphia, Pennsylvania

(111) Cooper HJ, Della Valle CJ. Large diameter femoral heads: is bigger always better? Bone Joint J 2014; 96-B(11 Supple A):23-26. Ref ID: 553 Abstract: Dislocation remains among the most common complications of, and reasons for, revision of both primary and revision total hip replacements (THR). Hence, there is great interest in maximising stability to prevent this complication. Head size has been recognised to have a strong influence on the risk of dislocation post-operatively. As femoral head size increases, stability is augmented, secondary to an increase in impingement-free range of movement. Larger head sizes also greatly increase the 'jump distance' required for the head to dislocate in an appropriately positioned cup. Level-one studies support the use of larger diameter heads as they decrease the risk of dislocation following primary and revision THR. Highly cross-linked polyethylene has allowed us to increase femoral head size, without a marked increase in wear. However, the thin polyethylene liners necessary to accommodate larger heads may increase the risk of liner fracture and larger heads have also been implicated in causing soft-tissue impingement resulting in groin pain. Larger diameter heads also impart larger forces on the femoral trunnion, which may contribute to corrosion, metal release, and adverse local tissue reactions. Alternative large bearings including large ceramic heads and dual mobility bearings may mitigate some of these risks, and several of these devices have been used with clinical success Notes: DA - 20141108 IS - 2049-4408 (Electronic) LA - eng PT - Journal Article PT - Review SB - AIM SB - IM

(112) Cordier W, Tonnis D, Kalchschmidt K, Storch KJ, Katthagen BD. Long-term results after open reduction of developmental hip dislocation by an anterior approach lateral and medial of the iliopsoas muscle. J Pediatr Orthop B 2005; 14(2):79-87. Ref ID: 756 Abstract: The technique of and especially the approach to open reduction of developmental dislocation of the hip are still a matter of discussion. The anterior approach, first lateral and then medial to the iliopsoas muscle, was described by Tonnis in 1978. A follow-up investigation to adulthood has now been performed. Eighty-seven children (118 hips) out of 105 children (83%) who underwent open reduction of developmental dislocation of the hip before the age of 4 years were reinvestigated 10-21 years after the operation. An anterior approach first lateral, then medial to the iliopsoas muscle was chosen, because this offers the best access to the joint. Additional operations including transiliac osteotomy for acetabuloplasty, shortening osteotomy, and femoral osteotomies were performed as necessary. In 92 (78%) of the 118 hips studied the CE angle exceeded 25 degrees and in 98 hips (83%) the VCA angle exceeded 25 degrees. Critical CE angles between 20 and 25 degrees were found in 14% of the hips, and critical VCA angles in 4%. Residual dysplasia (<20 degrees) was found in 8 and 13% of the hips, respectively. Avascular necrosis according to Hirohashi was observed after operation in grade 1 in 5.9% and grade 2 in 1.7%. No necrosis was found following shortening osteotomy of the proximal femur. The anterior approach, first lateral, then medial to the iliopsoas muscle, offers an optimal access to the medial parts of the joint with control of reduction, protects the vasculature of the femoral neck, and allows simultaneous postero-lateral capsulorrhaphy and pelvic osteotomies Notes: DA - 20050210 IS - 1060-152X (Print) IS - 1060-152X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(113) Coulson S, Palacios T, Vitetta L. Perna canaliculus (Green-lipped mussel): Bioactive components and therapeutic evaluation for chronic health conditions. Progress in Drug Research 70 ()(pp 91-132), 2015 Date of Publication: 2015 2015;91-132. Ref ID: 155 Abstract: Perna canaliculus (Green-Lippped Mussel) is found only in New Zealand waters and is cultivated and manufactured for both the food and nutraceutical industry world-wide. P. canaliculus has traditionally been used as a therapeutic to treat various arthralgias in both humans and animals; however, clinical research reports provide conflicting results. Numerous in vitro studies have reported anti-inflammatory activity of the mussel under various conditions and also demonstrated a synergistic effect with pharmaceutical medications such as non-steroidal anti-inflammatory drugs (NSAIDs) with P. canaliculus protecting the gastrointestinal mucosal lining against such medications. It is proposed that the anti-inflammatory activity demonstrated by P. canaliculus is predominantly due to the lipid fraction, however, among the major classes of compounds found in mussel meat, proteins and peptides are the largest with isolates demonstrating various anti-microbial, anti-inflammatory, anti-oxidant, bioadhesive and anti-hypertensive activities. A review of the bioactive components, their function and therapeutic application is outlined in this chapter. Furthermore, we hypothesise and provide supportive evidence that the gastrointestinal microbiota play an important role in disease processes such as Rheumatoid arthritis and Osteoarthritis and also in the efficacy of P. canaliculus in chronic inflammatory conditions. The metabolic capacity of intestinal microbiota can modify bioactive food components altering the hosts' exposure to these components, potentially enhancing or diminishing their health effects. Understanding the interaction of the bioactive compounds in P. canaliculus with commensal and pathogenic bacteria may facilitate the development of novel interventions to control intestinal and extraintestinal inflammation Notes: DB - Embase UI - 2015247356 IN - (Coulson, Vitetta) Medlab Clinical Ltd, 66 McCauley Street, Alexandria, NSW, Australia (Coulson, Palacios, Vitetta) The University of Sydney, Sydney Medical School, Sydney, NSW, Australia CP - Switzerland LG - English PT - Book Series: Article EM - 201533 DD - 20150810

(114) Cross KM, Worrell TW. Effects of a static stretching program on the incidence of lower extremity musculotendinous strains. Journal of Athletic Training 1999; 34(1):11-14. Ref ID: 89 Abstract: Objective: Musculotendinous strains are among the most prevalent injuries for which health care professionals provide treatment and rehabilitation interventions. Flexibility has been identified as one of the primary etiologic factors associated with musculotendinous strains, but limited research exists on the effect of a preventive stretching program on musculotendinous strains. Therefore, the purpose of our study was to compare the number of musculotendinous strains for the hamstrings, quadriceps, hip adductors, and gastrocnemius-soleus muscle groups before and after the incorporation of a static stretching program for each muscle group. Design and Setting: We analyzed the incidence of musculotendinous strains among the players of a Division III collegiate football team between 1994 and 1995. All variables were consistent between the 2 seasons except for the incorporation of a lower extremity stretching program in 1995. Subjects: One hundred and ninety-five Division III college football players. Measurements: We calculated the number of musculotendinous strains that required a minimum absence of 1 day from practices or games in 1994 and 1995. Results: A chi square analysis revealed a significant reduction in the number of lower extremity musculotendinous strains in 1995 as opposed to 1994. Conclusions: Our statistical analysis indicates an association between the incorporation of a static stretching program and a decreased incidence of musculotendinous strains in Division III college football players Notes: ID - 107197915 IS - 1 CY - St. Louis, Missouri

(115) Cuckler JM, Moore KD, Estrada L. Outcome of hemiresurfacing in osteonecrosis of the femoral head. Clin Orthop Relat Res 2004;(429):146-150. Ref ID: 760 Abstract: Hemiresurfacing of the femoral head for treatment of osteonecrosis has been proposed as a reasonable alternative to total hip arthroplasty. The results of 59 patients with Ficat Stage III osteonecrosis done by a single surgeon are reviewed. At an average followup of 4.5 years, 16 patients were considered failures because of conversion to total hip arthroplasty or considerable groin pain requiring medication. Failure did not correlate with age, body mass index, preoperative length of symptoms, acetabular articular cartilage status at the time of surgery, or cause of the underlying disease. The only factor associated with failure was a lower preoperative Harris hip score. Conversion of the failed implants to total hip arthroplasty was straightforward, confirming the conservative nature of the procedure. However, pain relief and recovery after resurfacing are less reliable than that associated with total hip arthroplasty. This procedure may be appropriate for patients younger than 30 years, given the ease of conversion to THR if failure occurs. The patient should be counseled regarding expectations Notes: DA - 20041203 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(116) Cuckler JM. The Dislocated Total Hip: The Dreaded 3 AM Phone Call. Seminars in Arthroplasty 22 (2) ()(pp 98-99), 2011 Date of Publication: June 2011 2011;(2):98-99. Ref ID: 392 Abstract: This review discusses the causes and management of early and late dislocation after total hip arthroplasty. Results of various strategies for management are reviewed on the basis of current literature. Â© 2011 Elsevier Inc Notes: DB - Embase UI - 2011359995 IN - (Cuckler) Alabama Medical Consultants, Naples, FL, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110718

(117) Currier LL, Froehlich PJ, Carow SD, McAndrew RK, Cliborne AV, Boyles RE et al. Development of a clinical prediction rule to identify patients with knee pain and clinical evidence of knee osteoarthritis who demonstrate a favorable short-term response to hip mobilization. Physical Therapy 87 (9) ()(pp 1106-1119), 2007 Date of Publication: September 2007 2007;(9):1106-1119. Ref ID: 484 Abstract: Background and Purpose: The primary purpose of this study was to develop a clinical prediction rule (CPR) for identifying patients with knee pain and clinical evidence of knee osteoarthritis (OA) with favorable short-term response to hip mobilizations. The secondary purpose was to determine the predictive validity of individual clinical tests for identifying these same patients. Subjects and Methods: Sixty subjects with knee OA, aged 51 to 79 years, completed self-report questionnaires, a clinical examination of the hip and knee, and functional tests and were treated with 4 hip mobilizations. Follow-up testing was completed 2 days later. The reference criterion for determining a favorable response was either (1) a decrease of at least 30% on composite Numerical Pain Rating Scale score obtained during functional tests or (2) a Global Rating of Change Scale score of at least 3. Results: The CPR developed in this study comprised 5 variables: (1) hip or groin pain or paresthesia, (2) anterior thigh pain, (3) passive knee flexion less than 122 degrees, (4) passive hip medial (internal) rotation less than 17 degrees, and (5) pain with hip distraction. Based on the pretest probability of success (68%), the presence of one variable had a positive likelihood ratio of 5.1 and increased the probability of a successful response to 92% at 48-hour follow-up. If 2 variables were present, the positive likelihood ratio was 12.9 and the probability of success increased to 97%. Discussion and Conclusion: The results suggest that the CPR developed in this study could improve clinicians' decision making and efficiency in examining and treating patients with knee OA. Â© 2007 American Physical Therapy Association Notes: DB - Embase UI - 2007585618 IN - (Currier) Malcolm Grow Medical Center, Andrews AFB, MD, United States (Froehlich) Womack Army Medical Center, Fort Bragg, NC, United States (Carow) Guthrie Medical Department, Fort Drum, NY, United States (McAndrew) Department of Physical Therapy, Bayne-Jones Army Community Hospital, Fort Polk, LA, United States (Cliborne) Brooke Army Medical Center, Fort Sam Houston, TX, United States (Currier, Froehlich, Carow, Boyles, Wainner) US Army-Baylor Doctoral Program in Physical Therapy, Fort Sam Houston, TX, United States (Mansfield) Musculoskeletal Radiology, Brooke Army Medical Center (Wainner) Texas State University, San Marcos, TX, United States CP - United States LG - English PT - Journal: Article EM - 200700 DD - 20071212

(118) Dachs R, Horn A, Koornhof H, De Jager L, Maqungo S, Roche S. Double pathology, sarcoidosis associated with multiple myeloma: A case report. Journal of Bone Oncology 3 (2) ()(pp 61-65), 2014 Date of Publication: 2014 2014;(2):61-65. Ref ID: 186 Abstract: The association of sarcoidosis with multiple myeloma is not well known. Including this case report, 12 cases of patients with both sarcoidosis and multiple myeloma have been reported in the literature. The skeletal lesions of both conditions have many clinical and radiological similarities, and unless clinicians are aware of the association and the possibility of dual pathologies, the diagnosis of multiple myeloma in patients known with sarcoidosis may be missed. We present a case of a patient known with longstanding sarcoidosis who was found to have multiple lesions on magnetic resonance imaging (MRI) involving the pelvis and both proximal femurs. Histological analysis revealed the presence of both non-necrotising granulomas consistent with sarcoidosis, and sheets of plasma cells consistent with a plasma cell neoplasm Notes: DB - Embase UI - 2014740232 IN - (Dachs, Horn, Maqungo, Roche) Department of Orthopaedic Surgery, University of Cape Town, Groote Schuur Hospital, Observatory, H49 Old Main Building, Cape Town 7925, South Africa (Koornhof) Division of Clinical Haematology, University of Cape Town, Cape Town, South Africa (De Jager) Division of Anatomical Pathology, University Of Cape Town, Cape Town, South Africa CP - Germany LG - English PT - Journal: Article EM - 201517 DD - 20150417

(119) Dahlquist M, Leisz M-C, Finkelstein M. The club-level road cyclist: Injury, pain, and performance. Clinical Journal of Sport Medicine 25 (2) ()(pp 88-94), 2015 Date of Publication: 10 Mar 2015 2015;(2):88-94. Ref ID: 190 Abstract: Objective: The aims of this study were to (1) examine riding habits of injured cyclists, (2) identify factors related to seeking medical treatment, (3) investigate performance of recreational road cyclists compared with established norms regarding strength and flexibility measures, and (4) propose cycling-specific injury risk factors. Design: Observational and prospective study. Setting: Cycling store and bicycle distribution company. Participants: Sixty-three experienced road cyclists. Assessment of Risk Factors: Initial data collection included a questionnaire. A 2-week training diary and 8 weekly follow-up injury questionnaires were also collected. Main Outcome Measures: Training habits and injury history, bike fit, flexibility, and isometric, dynamic, and plyometric strength measures. Results: Participants were likely to have an injury at baseline, and chronic pain was common. Cyclists trained for an equal quantity of time irrespective of experiencing pain. Injury severity in terms of pain level and participant age were factors in seeking medical care. Our participants performed poorly on our testing protocol compared with available norms. Flexibility, strength, and bike fit measures did not predict injury. Previous injury predicted prospective injury. The knee and lumbar region were most frequently injured. Conclusions: Cycling is a sport in which injury risk and prevention need to be further studied. Cyclists are frequently injured but continue to participate in cycling at volumes equal to their healthy peers. Clinical Relevance: This study outlines a clinically reproducible cyclist assessment and discusses behaviors common to the cycling patient Notes: DB - Embase UI - 2014743184 IN - (Dahlquist) Courage Kenny Sports and Physical Therapy Center, Minneapolis, MN, United States (Leisz) Courage Kenny Rehabilitation Institute, Minneapolis, MN, United States (Finkelstein) Courage Kenny Research Center, Minneapolis, MN, United States CP - United States LG - English PT - Journal: Article EM - 201513 DD - 20150318

(120) Dallinga JM, Benjaminse A, Lemmink KA. Which screening tools can predict injury to the lower extremities in team sports?: a systematic review. Sports Med 2012; 42(9):791-815. Ref ID: 629 Abstract: BACKGROUND: Injuries to lower extremities are common in team sports such as soccer, basketball, volleyball, football and field hockey. Considering personal grief, disabling consequences and high costs caused by injuries to lower extremities, the importance for the prevention of these injuries is evident. From this point of view it is important to know which screening tools can identify athletes who are at risk of injury to their lower extremities. OBJECTIVE: The aim of this article is to determine the predictive values of anthropometric and/or physical screening tests for injuries to the leg, anterior cruciate ligament (ACL), knee, hamstring, groin and ankle in team sports. METHODS: A systematic review was conducted in MEDLINE (1966 to September 2011), EMBASE (1989 to September 2011) and CINAHL (1982 to September 2011). Based on inclusion criteria defined a priori, titles, abstracts and full texts were analysed to find relevant studies. RESULTS: The analysis showed that different screening tools can be predictive for injuries to the knee, ACL, hamstring, groin and ankle. For injuries in general there is some support in the literature to suggest that general joint laxity is a predictive measure for leg injuries. The anterior right/left reach distance >4 cm and the composite reach distance <4.0% of limb length in girls measured with the star excursion balance test (SEBT) may predict leg injuries. Furthermore, an increasing age, a lower hamstring/quadriceps (H : Q) ratio and a decreased range of motion (ROM) of hip abduction may predict the occurrence of leg injuries. Hyperextension of the knee, side-to-side differences in anterior-posterior knee laxity and differences in knee abduction moment between both legs are suggested to be predictive tests for sustaining an ACL injury and height was a predictive screening tool for knee ligament injuries. There is some evidence that when age increases, the probability of sustaining a hamstring injury increases. Debate exists in the analysed literature regarding measurement of the flexibility of the hamstring as a predictive screening tool, as well as using the H : Q ratio. Hip-adduction-to-abduction strength is a predictive test for hip adductor muscle strain. Studies do not agree on whether ROM of the hamstring is a predictive screening tool for groin injury. Body mass index and the age of an athlete could contribute to an ankle sprain. There is support in the literature to suggest that greater strength of the plantar flexors may be a predictive measure for sustaining an ankle injury. Furthermore, there is some agreement that the measurement of postural sway is a predictive test for an ankle injury. CONCLUSIONS: The screening tools mentioned above can be recommended to medical staff and coaches for screening their athletes. Future research should focus on prospective studies in larger groups and should follow athletes over several seasons Notes: DA - 20120822 IS - 1179-2035 (Electronic) IS - 0112-1642 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(121) Dangayach P, Lu L, Hemmige V. A young man with fever and diffuse muscle pain. Journal of General Internal Medicine Conference: 37th Annual Meeting of the Society of General Internal Medicine, SGIM 2014 San Diego, CA United States Conference Start: 20140423 Conference End: 20140426 Conference Publication: (var pagings) 29 ()(pp 2014;(var.pagings):S291-S292. Ref ID: 241 Abstract: LEARNING OBJECTIVE 1: Recognize the clinical features of tropical pyomyositis. LEARNING OBJECTIVE 2: Diagnose and treat tropical pyomyositis promptly for better outcome. CASE: A previously healthy 43-year-old construction worker presented with fever and muscle pain for 8 days. His initial symptoms included a high fever up to 1020 F with left hip pain radiating down his leg. Two days prior to presentation, he noticed left shoulder pain and right elbow pain with redness, swelling, and warmth. His pain was worsened by movement. He denied muscle trauma. His fever continued to spike daily to a maximum temperature of 105 0 F. He was monogamous, married, and denied any new sexual partners, penile discharge, or skin lesions. On examination, he was febrile to 102.9 F, tachycardic to heart rate in the 120 s, and normotensive. He had limited range of motion of his left shoulder, most pronounced with abduction, and of the left hip, mainly with flexion. There was left sided gluteal point tenderness. The right elbow was erythematous and warm without palpable effusion. There were no rashes, lesions, or open wounds. His WBC was 21.6 (91 % neutrophils) with ESR 71 mm/h and CRP 32.9 mg/L. The focal muscle tenderness on exam prompted further studies. CT imaging showed fluid collections in the left iliacus muscle (2.4x8 cm), left piriformis muscle (1.2 cmx1.5 cm), and the subdeltoid bursa. The left iliacus abscess was drained, and cultures yielded Staphylococcus aureus. An attempt to drain the subdeltoid bursa was unsuccessful. Blood cultures grew methicillin susceptible Staphylococcus aureus. His transthoracic echo was negative for endocarditis. He was diagnosed with tropical pyomyositis and was initially started on intravenous vancomycin, which was changed to cefazolin when susceptibilities returned. He completed 6 weeks of therapy with resolution of all abscesses. DISCUSSION: Isolated bacterial infection of the muscles has been named "tropical pyomyositis" due to its higher incidence in equatorial regions. In the tropics, most cases occur in young healthy males. In temperate regions, the associated risk factors are immunocompromised state, intravenous drug use, or significant medical comorbidities. The most common pathogen for tropical pyomyositis is Staphylococcus aureus, with increasing reports of methicillin resistant Staphylococcus aureus. Other described pathogens are streptococci, pneumococci, enteric gram negatives, and mycobacteria. Approximately 20-50 % of cases are associated with previous muscle trauma. The commonly affected muscles include quadriceps, glutei, pectoralis major, serratus anterior, biceps, iliopsoas, gastrocnemius, abdominal and spinal muscles Notes: DB - Embase UI - 71495361 IN - (Dangayach, Lu, Hemmige) Baylor College of Medicine, Houston, TX, United States LG - English PT - Journal: Conference Abstract EM - 201425 DD - 20140617

(122) Dargan D, McCaffrey D, Kealey WDC. Pseudarthrosis of femoral neck stress fracture treated with open reduction, sliding hip screw and bone morphogenic protein. International Journal of Surgery Case Reports 3 (11) ()(pp 529-532), 2012 Date of Publication: 2012 2012;(11):529-532. Ref ID: 331 Abstract: INTRODUCTION: Pseudarthrosis of femoral neck stress fractures in young adults are associated with a high incidence of complications and revision surgery. The majority are treated urgently with closed reduction and internal fixation. PRESENTATION OF CASE: We describe a displaced tension-type femoral neck fatigue fracture presenting late. Pseudarthrosis formation prior to surgery resulted in resorption and shortening of the femoral neck. Open reduction and internal fixation was performed, with adjuvant recombinant human bone morphogenic protein-7 therapy. Radiological union was achieved by twelve weeks and by one year the patient was asymptomatic. DISCUSSION: Reports of successful management of femoral neck fatigue fracture non-unions are rare. Meyer's muscle pedicle graft, valgus subtrochanteric osteotomy, and cannulated screw fixation with autologous iliac crest bone graftare alternative procedures. CONCLUSION: This extremely rare fracture type merits open reduction to enable accurate fracture reduction. Supplementing sliding hip screw fixation with an orthobiological agent was successful in this challenging situation. Â© 2012 Surgical Associates Ltd. Published by Elsevier Ltd. All rights reserved Notes: DB - Embase UI - 2012674191 IN - (Dargan, McCaffrey, Kealey) Department of Trauma and Orthopaedics, Royal Victoria Hospital, Apartment 31, St. Johns Wharf, Laganbank Road, Belfast, BT12 6BA, United Kingdom CP - United Kingdom LG - English PT - Journal: Article EM - 201249 DD - 20121130

(123) de Sa D, Urquhart N, Philippon M, Ye JE, Simunovic N, Ayeni O. Alpha angle correction in femoroacetabular impingement. Knee Surgery, Sports Traumatology, Arthroscopy 2014; 22(4):812-822. Ref ID: 8 Notes: IS - 4

(124) de Sa D, Alradwan H, Cargnelli S, Thawer Z, Simunovic N, Cadet E et al. Extra-articular hip impingement: a systematic review examining operative treatment of psoas, subspine, ischiofemoral, and greater trochanteric/pelvic impingement. Arthroscopy 2014; 30(8):1026-1041. Ref ID: 580 Abstract: PURPOSE: Extra-articular hip impingement can be the result of psoas impingement (PI), subspine impingement (SSI), ischiofemoral impingement (IFI), and greater trochanteric/pelvic impingement (GTPI). Symptoms may be due to bony abutment or soft-tissue irritation, and often, it is a challenge to differentiate among symptoms preoperatively. Currently, the clinical picture and diagnostic criteria are still being refined for these conditions. This systematic review was conducted to examine each condition and elucidate the indications for, treatment options for, and clinical outcomes of surgical management. METHODS: We searched online databases (Medline, Embase, and PubMed) for English-language clinical studies published from database inception through December 31, 2013, addressing the surgical treatment of PI, SSI, IFI, and GTPI. For each condition, 2 independent assessors reviewed eligible studies. Descriptive statistics are presented. RESULTS: Overall, 9,521 studies were initially retrieved; ultimately, 14 studies were included examining 333 hips. For PI, arthroscopic surgery resulted in 88% of patients achieving good to excellent results, as well as significant improvements in the Harris Hip Score (P = .008), Hip Outcome Score-Activities of Daily Living (P = .02), and Hip Outcome Score-Sport (P = .04). For SSI, arthroscopic decompression, with no major complications, resulted in a mean 18.5 degrees improvement in flexion range of motion, as well as improvements in pain (mean visual analog scale score of 5.9 points preoperatively and 1.2 points postoperatively) and the modified Harris Hip Score (mean of 64.97 points preoperatively and 91.3 points postoperatively). For both IFI and GTPI, open procedures anecdotally improved patient symptoms, with no formal objective outcomes data reported. CONCLUSIONS: This review suggests that there is some evidence to support that surgical treatment, by arthroscopy for PI and SSI and by open surgery for IFI and GTPI, results in improved patient outcomes. LEVEL OF EVIDENCE: Systematic review of Level IV and V (case report) studies Notes: DA - 20140804 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(125) de Sa D, Urquhart N, Philippon M, Ye JE, Simunovic N, Ayeni OR. Alpha angle correction in femoroacetabular impingement. Knee Surg Sports Traumatol Arthrosc 2014; 22(4):812-821. Ref ID: 596 Abstract: PURPOSE: The predictive value of the alpha angle, currently the most validated magnetic resonance imaging parameter for CAM-impingement FAI, remains to be systematically evaluated in the orthopaedic literature. A systematic review was conducted to determine whether alpha angle correction influences clinical outcomes in patients with FAI. METHODS: We searched three databases (MEDLINE, EMBASE and PubMed) for English clinical studies published up to August 2012, reporting surgical correction of the alpha angle in patients with a primary diagnosis of FAI. Two independent assessors reviewed eligible studies. Where applicable, the Newcastle-Ottawa Scale was used to perform a quality assessment. Descriptive statistics are presented. RESULTS: Of the 1,103 studies initially retrieved, 14 fulfilled our eligibility criteria. Majority of studies (86 %) were case-control designs, with no randomized controlled trials. Variability existed in the surgical techniques and modalities used to measure pre- and post-operative alpha angles. All 14 studies reported a mean measured post-operative restoration of a normal alpha angle (equal to or less than 55 degrees ). Failure due to inadequate osseous correction was cited in 3/14 included studies. Correction resulted in significant improvements in range of motion and patient Visual Analog Scales, non-arthritic hip scores, Harris Hip Scores and the short-form-12. CONCLUSION: Based on this review, there is evidence supporting that precise surgical restoration of the alpha angle in CAM-type FAI to a minimum of less than 55 degrees will lead to improved patient outcomes. The alpha angle is a good predictor of outcome and represents a simple, reproducible and inexpensive guide that can be used intra-operatively and post-operatively Notes: DA - 20140318 IS - 1433-7347 (Electronic) IS - 0942-2056 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(126) de Sa D, Cargnelli S, Catapano M, Peterson D, Simunovic N, Larson CM et al. Efficacy of Hip Arthroscopy for the Management of Septic Arthritis: A Systematic Review. Arthroscopy 2015; 31(7):1358-1370. Ref ID: 543 Abstract: PURPOSE: This systematic review assessed the role of hip arthroscopic irrigation and debridement for eradication of infection in native joints to ascertain outcomes and complications associated with this surgical approach. METHODS: The Medline, Embase, and PubMed databases were searched on July 20, 2014, for English-language studies that addressed arthroscopic treatment of native septic hip arthritis. The studies were systematically screened and data abstracted in duplicate, with qualitative findings presented. RESULTS: There were 11 eligible studies (1 case-control study, 8 case series, and 2 case reports) reporting on 65 patients (65 hips) treated by arthroscopic irrigation and debridement for septic hip arthritis. The mean length of patient follow-up was 19.1 months (range, 6 to 84 months). The indications for surgery were as follows: pyrexia, anterior groin or hip pain with limited hip range of motion and an inability to bear weight, associated leukocytosis, an elevated erythrocyte sedimentation rate or C-reactive protein level, and/or hip imaging or aspiration results consistent with infection. Specific contraindications for surgery reported across studies included tuberculous of fungal infection, coexistence of osteomyelitis, immunocompromised individuals, and pre-existing surgery on the affected hip. The initial rate of infection eradication was 100%. All studies reported significant improvements in patient pain and function. Improvements were also observed in range of motion, as well as across both the Bennett radiographic and clinical assessments and Harris Hip Score. No complications, major or minor, were reported, and only 1 of 65 hips (1.5%) required revision arthroscopy for recurrence because of a methicillin-resistant Staphylococcus aureus infection. CONCLUSIONS: Arthroscopic native hip irrigation and debridement for septic arthritis appear to comprise a safe and effective treatment option for selected patients (e.g., no deformity, no bacterial infections, and not immunocompromised). Timely diagnosis and intervention, however, remain the most critical prognostic factors for successful outcomes. LEVEL OF EVIDENCE: Level IV, systematic review of Level IV and V studies Notes: DA - 20150706 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(127) de Sa D, Cargnelli S, Catapano M, Bedi A, Simunovic N, Burrow S et al. Femoroacetabular impingement in skeletally immature patients: a systematic review examining indications, outcomes, and complications of open and arthroscopic treatment. Arthroscopy 2015; 31(2):373-384. Ref ID: 559 Abstract: PURPOSE: Improvements in physical examination and radiographic appreciation of symptomatic femoroacetabular impingement (FAI) has increased the focus on early diagnosis and treatment in an adolescent population. This systematic review aimed to establish specific indications, outcomes, and complications of surgical management of adolescent FAI. METHODS: The Medline, Embase, and PubMed online databases were searched from inception until April 21, 2014, for English-language studies that addressed open and/or arthroscopic treatment of FAI in patients aged 10 to 19 years inclusively. The studies were systematically screened and data abstracted in duplicate, with qualitative findings presented. RESULTS: There were 6 eligible case series (4 with arthroscopic and 2 with open technique) and 2 conference abstracts examining 388 patients in total (435 hips), 81% of which were treated with hip arthroscopy. Overall, patients were followed up for a mean of 23.4 months postoperatively (range, 3 to 75 months). The main indication for surgery was a confirmed diagnosis of FAI with persistent pain and impaired function refractory to nonoperative interventions (activity modification, intra-articular injections, and so on). Specific contraindications included Tonnis grade 2, 3, or 4 chondral changes and acetabular dysplasia. All studies reported significant improvements in patient pain, function (e.g., no patients were "abnormally" or "severely abnormally" impaired), and satisfaction rates (84% to 100% with arthroscopic technique v 79% with open technique). Improvements also were observed in range of motion and alpha angle correction, as well as across a variety of patient-reported functional scores, with all but 7 of 388 patients (1.8%) returning to activity/sport. No major complications were reported, with only 13 of 354 hips (3.7%) treated by arthroscopy requiring revision arthroscopy for lysis of adhesions and 1 of 81 open surgical dislocation hips (1%) having asymptomatic heterotopic ossification not requiring additional management. No cases of avascular necrosis, physeal arrest or growth disturbance, or iatrogenic deformity were reported. CONCLUSIONS: Both arthroscopic and open surgical dislocation approaches for the treatment of adolescent FAI appear to be safe and effective options for patients with persistent pain and limited function after an appropriate trial of nonoperative therapy. LEVEL OF EVIDENCE: Level IV, systematic review of Level IV studies Notes: DA - 20150126 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Review SB - IM

(128) Delahunt E, McEntee BL, Kennelly C, Green BS, Coughlan GF. Intrarater Reliability of the Adductor Squeeze Test in Gaelic Games Athletes. Journal of Athletic Training 2011; 46(3):241-246. Ref ID: 40 Notes: IS - 3

(129) Deleget A. Overview of thigh injuries in dance. Journal of dance medicine & science : official publication of the International Association for Dance Medicine & Science 14 (3) ()(pp 97-102), 2010 Date of Publication: 2010 2010;(3):97-102. Ref ID: 417 Abstract: Thigh injuries include musculotendinous strains of the quadriceps, hamstrings, adductors, iliotibial band (ITB), and bony injuries to the shaft of the femur. There is scant information in the literature regarding thigh injuries in dance, which appear to range from 5% to 16% of total injury incidence. Hamstring strains and ITB syndrome are the most commonly reported thigh injuries. Hamstring injuries occur most frequently during slow stretching when the dancer's hip is flexed and knee extended. Uniquely in dancers, adductor injury occurs concurrently with hamstring injuries in approximately one-third of cases. Snapping of the ITB at the lateral hip and knee may result from imbalance of thigh muscle strength and flexibility. To date no quadriceps strain injuries or stress injuries to the shaft of the femur have been reported in the dance medicine literature. As dancers notoriously underestimate time needed to return to dance, it can be suggested that early return to work is a contributing factor to chronic injury. Further research is needed regarding the incidence and nature of injury to the thigh among dancers Notes: DB - Embase UI - 21067687 IN - (Deleget) Harkness Center for Dance Injuries, NYU Hospital for Joint Diseases, New York, New York 10003, USA CP - United States LG - English PT - Journal: Review EM - 201000 DD - 20110304

(130) Deleplanque B, Lagueny A, Flurin V, Arnaud C, Pedespan J-M, Fontan D et al. Botulinum toxin in the management of spastic hip adductors in non-ambulatory cerebral palsy children. [French]. Revue de Chirurgie Orthopedique et Reparatrice de l'Appareil Moteur 88 (3) ()(pp 279-285), 2002 Date of Publication: 2002 2002;(3):279-285. Ref ID: 519 Abstract: Purpose of the study: Spasticity of the hip adductors is a challenging problem for children with severe motor impairment due to cerebral palsy. It inhibits motor development and is also a risk factor for hip dislocation. Botulinum toxin has been found to be an effective means of treating spastic pes equinus in walking cerebral palsy patients and could have other indications. We conducted a prospective study to determine the functional and orthopedic contribution of botulinum toxin in the treatment of spastic hip adductors in non-ambulatory cerebral palsy children. Material and methods: The study included 11 quadriplegic children with cerebral palsy (mean age 5 years 9 months). Seven of the children had unilateral migration of the hip at study onset (> 40% radiographically). The children were given a single injection of botulinum toxin (Dysport: 20 units/kg/hip) in the adductor muscles (21 treated hips). The children were seen again at months 1, 3, 6 and 12 after treatment (with the exception of one patient not seen after the 6<sup>th</sup> month at the request of the parents). Spasticity was measured with the modified Ashworth scale. The motor level was determined with 8 position and motor items and with the GMFCS classification. Hip x-rays were obtained at study onset and once or twice during the follow-up. Results: There were no adverse effects of the treatment. Spasticity decreased by one point or more on the Ashworth scale in 20 hips at month 1 and remained low at month 3 in 14, and at month 6 in 12 of the 21 hips treated. The effect of the anti-spasticity treatment faded out from the 6<sup>th</sup> to the 12<sup>th</sup> month. Three children who experienced pain in the lower limbs were definitively relieved after treatment. Nine children achieved functional improvement (progress in at least one of the motor items). Three children were able to walk with a walker and two of them improved from level IV to level III on the GMFCS. The best functional responses appeared to occur in the younger children and in those who had good results at months 3 and 6. Among the 7 children whose hip was displaced by more than 40%, 5 had an unfavorable radiological progression and underwent surgery. Discussion: This study demonstrates that the botulinum toxin can be effective against spasticity of the hip adductors and that its effect is still significant 6 months after the injection in more than half the hips treated. It has an antalgesic effect. This treatment has a functional impact even in children with severe motor impairment. The benefit has been modest but three children were able to progress to walking with a walker. The best functional results were observed in the younger children and in those whose spasticity had declined at month 3 and 6. It could thus be favored either by innate potential for motor development or by the treatment itself. The botulinum toxin did not improve the orthopedic prognosis of the children: 5 of the 7 with a risk of luxation worsened. Nevertheless, our study suggests that the botulinum toxin is a well-tolerated anti-spasticity treatment that is effective for the hip adductors providing an important contribution to the management of non-ambulatory cerebral palsy children Notes: DB - Embase UI - 2002192834 IN - (Deleplanque, Lagueny) Service de Neurologie, Hopital du Haut-Leveque, avenue de Magellan, 33600 Pessac, France (Flurin, Arnaud) CAMSP Polyvalent, Hopital des Enfants, place Amelie-Raba-Leon, 33079 Bordeaux Cedex, France (Pedespan, Fontan) Service de Neuropediatrie, Hopital des Enfants, place Amelie-Raba-Leon, 33079 Bordeaux Cedex, France (Pontallier) Service de Chirurgie Pediatrique (Pr. Vergnes), Hopital des Enfants, place Amelie-Raba-Leon, 33079 Bordeaux Cedex, France CP - France OT - Toxine botulinique dans la spasticite des adducteurs de hanche chez les enfants IMC et IMOC non marchants LG - French PT - Journal: Article EM - 200200 DD - 20020611

(131) Della Valle CJ. Large diameter femoral heads: is bigger always better? The bone & joint journal 96-B ()(pp 23-26), 2014 Date of Publication: 01 Nov 2014 2014;23-26. Ref ID: 202 Abstract: Dislocation remains among the most common complications of, and reasons for, revision of both primary and revision total hip replacements (THR). Hence, there is great interest in maximising stability to prevent this complication. Head size has been recognised to have a strong influence on the risk of dislocation post-operatively. As femoral head size increases, stability is augmented, secondary to an increase in impingement-free range of movement. Larger head sizes also greatly increase the 'jump distance' required for the head to dislocate in an appropriately positioned cup. Level-one studies support the use of larger diameter heads as they decrease the risk of dislocation following primary and revision THR. Highly cross-linked polyethylene has allowed us to increase femoral head size, without a marked increase in wear. However, the thin polyethylene liners necessary to accommodate larger heads may increase the risk of liner fracture and larger heads have also been implicated in causing soft-tissue impingement resulting in groin pain. Larger diameter heads also impart larger forces on the femoral trunnion, which may contribute to corrosion, metal release, and adverse local tissue reactions. Alternative large bearings including large ceramic heads and dual mobility bearings may mitigate some of these risks, and several of these devices have been used with clinical success Notes: DB - Embase UI - 25381403 IN - (Cooper) Lenox Hill Hospital, Department of Orthopaedic Surgery, 130 East 77th Street, New York, 10075, USA (Della Valle) Rush University Medical Center, Department of Orthopaedic Surgery, 1611 West Harrison Street, Chicago, Illinois, 60612, USA CP - United Kingdom LG - English PT - Journal: Review EM - 201508 DD - 20150213

(132) Deneweth JM, Pomeroy SM, Russell JR, McLean SG, Zernicke RF, Bedi A et al. Position-Specific Hip and Knee Kinematics in NCAA Football Athletes. Orthop J Sports Med 2014; 2(6):2325967114534591. Ref ID: 576 Abstract: BACKGROUND: Femoroacetabular impingement is a debilitating hip condition commonly affecting athletes playing American football. The condition is associated with reduced hip range of motion; however, little is known about the range-of-motion demands of football athletes. This knowledge is critical to effective management of this condition. PURPOSE: To (1) develop a normative database of game-like hip and knee kinematics used by football athletes and (2) analyze kinematic data by playing position. The hypothesis was that kinematics would be similar between running backs and defensive backs and between wide receivers and quarterbacks, and that linemen would perform the activities with the most erect lower limb posture. STUDY DESIGN: Descriptive laboratory study. METHODS: Forty National Collegiate Athletic Association (NCAA) football athletes, representing 5 playing positions (quarterback, defensive back, running back, wide receiver, offensive lineman), executed game-like maneuvers while lower body kinematics were recorded via optical motion capture. Passive hip range of motion at 90 degrees of hip flexion was assessed using a goniometer. Passive range of motion, athlete physical dimensions, hip function, and hip and knee rotations were submitted to 1-way analysis of variance to test for differences between playing positions. Correlations between maximal hip and knee kinematics and maximal hip kinematics and passive range of motion were also computed. RESULTS: Hip and knee kinematics were similar across positions. Significant differences arose with linemen, who used lower maximal knee flexion (mean +/- SD, 45.04 degrees +/- 7.27 degrees ) compared with running backs (61.20 degrees +/- 6.07 degrees ; P < .001) and wide receivers (54.67 degrees +/- 6.97 degrees ; P = .048) during the cut. No significant differences were found among positions for hip passive range of motion (overall means: 102 degrees +/- 15 degrees [flexion]; 25 degrees +/- 9 degrees [internal rotation]; 25 degrees +/- 8 degrees [external rotation]). Several maximal hip measures were found to negatively correlate with maximal knee kinematics. CONCLUSION: A normative database of hip and knee kinematics utilized by football athletes was developed. Position-specific analyses revealed that linemen use smaller joint motions when executing dynamic tasks but do not demonstrate passive range of motion deficits compared with other positions. CLINICAL RELEVANCE: Knowledge of requisite game-like hip and knee ranges of motion is critical for developing goals for nonoperative or surgical recovery of hip and knee range of motion in the symptomatic athlete. These data help to identify playing positions that require remedial hip-related strength and conditioning protocols. Negative correlations between hip and knee kinematics indicated that constrained hip motion, as seen in linemen, could promote injurious motions at the knee Notes: DA - 20151104 IS - 2325-9671 (Electronic) IS - 2325-9671 (Linking) LA - eng PT - Journal Article

(133) Deslandes M, Guillin R, Cardinal E, Hobden R, Bureau NJ. The snapping iliopsoas tendon: new mechanisms using dynamic sonography. AJR Am J Roentgenol 2008; 190(3):576-581. Ref ID: 728 Abstract: OBJECTIVE: The purpose of our study was to describe new mechanisms responsible for the snapping iliopsoas tendon using dynamic sonography. MATERIALS AND METHODS: We reviewed the video recordings obtained during dynamic sonography studies used to establish the diagnosis of 18 snapping iliopsoas tendons in 14 patients (nine females and five males; age range, 13-50 years) who presented clinically with either unilateral (n = 10) or bilateral (n = 4) snapping hips. During dynamic imaging, the transducer was positioned in a transverse oblique plane just above the hip joint parallel to the pubic bone. For all patients, the hip movement that generated the snapping consisted of bringing the hip from flexion-abduction-external rotation back to the neutral position. RESULTS: In 14 of 18 hips, the snapping was provoked by the sudden flipping of the iliopsoas tendon around the iliac muscle, allowing abrupt contact of the tendon against the pubic bone and producing an audible snap. Other causes of snapping iliopsoas tendon were bifid tendon heads flipping over one another (n = 3) and iliopsoas tendon impinging over an anterior paralabral cyst (n = 1). CONCLUSION: New mechanisms of snapping iliopsoas tendon have been described using dynamic sonography. Sudden iliopsoas tendon flipping over the iliac muscle was the most common cause of snapping hip Notes: DA - 20080221 IS - 1546-3141 (Electronic) IS - 0361-803X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(134) Di Sante L, Paoloni M, De Benedittis S, Tognolo L, Santilli V. Groin pain and iliopsoas bursitis: Always a cause-effect relationship? Journal of Back and Musculoskeletal Rehabilitation 27 (1) ()(pp 103-106), 2014 Date of Publication: 2014 2014;(1):103-106. Ref ID: 258 Abstract: Background and Objective: Iliopsoas bursitis (IB) is characterized by inflammation and enlargement of the iliopsoas bursa. Although this condition is often associated with degenerative or inflammatory arthritis, infections, trauma, overuse and impingement syndromes, osteonecrosis and hip replacement, the pathogenesis of IB remains uncertain. We present a case report of IB associated with moderate hip osteoarthritis (HOA). Methods: We present a case report of a 73-year-old man with chronic left hip pain that did not respond to conservative treatments. An ultrasonography examination of the left hip revealed fluid-induced distension of the iliopsoas bursa, which was treated with aspiration followed by a corticosteroid-anesthetic injection. Results: At the 30-day follow-up, despite an initial improvement in the patient's symptoms, both the pain and functional limitation returned, though not in association with bursa distension. The patient therefore underwent a total hip arthroplasty, which fully relieved the symptoms. Conclusion: We hypothesize that iliopsoas bursitis may, when associated with other pathological conditions, not be the only source of pain. It should, nevertheless, be considered for differential diagnosis purposes. Â© 2014 - IOS Press and the authors. All rights reserved Notes: DB - Embase UI - 2014106057 IN - (Di Sante, Paoloni, Tognolo, Santilli) Department of Physical Medicine and Rehabilitation, Physical Medicine and Rehabilitation University, Azienda Policlinico Umberto i, Piazzale Aldo Moro 5, 00185, Rome, Italy (Di Sante, Paoloni, De Benedittis, Tognolo, Santilli) Board of Physical Medicine and Rehabilitation, Department of Orthopaedic Science, Sapienza University, Rome, Italy CP - Netherlands LG - English PT - Journal: Article EM - 201409 DD - 20140220

(135) Domb BG, Stake CE, Botser IB, Jackson TJ. Surgical dislocation of the hip versus arthroscopic treatment of femoroacetabular impingement: A prospective matched-pair study with average 2-year follow-up. Arthroscopy - Journal of Arthroscopic and Related Surgery 29 (9) ()(pp 1506-1513), 2013 Date of Publication: September 2013 2013;(9):1506-1513. Ref ID: 261 Abstract: Purpose: The purpose of this study was to prospectively compare outcomes of patients receiving surgical hip dislocation and those undergoing arthroscopic treatment for femoroacetabular impingement (FAI), using a matched-pair analysis. Methods: Between January 2008 and August 2011, patients aged 30 years or younger with a diagnosis of FAI treated with surgical dislocation or arthroscopy were included. Patients were excluded with Tonnis grade 2 or greater, dysplasia, Legg-Calve-Perthes disease, and previous hip surgery. Patients treated with surgical dislocation were pair-matched to patients treated arthroscopically in a 1:2 ratio. Patient-reported outcomes were prospectively obtained in all patients preoperatively and postoperatively at 3 months, at 1 year, at 2 years, and at latest follow-up. Alpha angles were measured preoperatively and postoperatively for both groups. Revision surgery and complications were recorded for each group. Results: Ten patients were included in the surgical dislocation group, and 20 pair-matched patients were included in the arthroscopic group. We obtained 100% follow-up at a mean of 24.8 months in the open group and 25.5 months in the arthroscopic group. Preoperative scores were similar between the 2 groups; significant improvements were made postoperatively for both groups. When we compared the 2 groups, the change in Hip Outcome ScoreeSport-Specific Subscale (42.8 v 23.5, P = .047) and 2-year Non-Arthritic Hip Score (94.2 v 85.7, P = .01) were significantly higher in the arthroscopic group. Both groups showed a significant decrease in the alpha angle postoperatively (P = .775). Conclusions: Favorable results were shown with both approaches, with significant improvement in all patient-reported outcome measures and high patient satisfaction ratings. However, arthroscopic treatment of FAI showed greater improvement in the Hip Outcome ScoreeSport-Specific Subscale and a higher absolute Non-Arthritic Hip Score at an average 2-year follow-up. Level of Evidence: Level II, prospective matched-pair comparative study. Â© 2013 by the Arthroscopy Association of North America Notes: DB - Embase UI - 2014076702 IN - (Domb, Stake, Botser, Jackson) American Hip Institute, Chicago; Hinsdale Orthopaedics, 1010 Executive Ct, Ste 250, Westmont, IL 60559, United States (Domb, Stake, Botser, Jackson) Stritch School of Medicine, Loyola University, Chicago, IL, United States CP - United States LG - English PT - Journal: Article EM - 201407 DD - 20140212

(136) Dorr LD, Jones RE, Padgett DE, Pagnano M, Ranawat AS, Trousdale RT. Robotic guidance in total hip arthroplasty: The shape of things to come. Orthopedics 34 (9) ()(pp 652-655), 2011 Date of Publication: September 2011 2011;(9):652-655. Ref ID: 390 Abstract: Surgeons want to perform a perfect total hip arthroplasty (THA) with every operation. Human performance has limitations, especially when performing a mechanical operation in a biological environment. Recent suggested changes to improve outcomes have been large femoral heads and anterior incisions, but unfortunately, neither has resulted in any scientific data that change has been effected. The scientific data tell us that poor component positions and impingement are the source of increasing mechanical complications. Therefore, attempts have been made to improve the surgeon's performance by precise quantitative knowledge in the operating room. Robotic-guided navigation provides numerical data for cup inclination plus anteversion and center of rotation; femoral leg length and offset; and combined anteversion of the cup and stem. The acetabular bone preparation is done with a reamer connected to a robotic arm, which prevents human error by the surgeon of reaming off line or too deep. This technology provides predictable and reproducible results Notes: DB - Embase UI - 2011516240 IN - (Dorr) Dorr Arthritis Institute, Good Samaritan Hospital, Los Angeles, CA, United States (Jones) University of Texas Southwestern Medical Center, Dallas, TX, United States (Padgett, Ranawat) Hospital of Special Surgery, New York, NY, United States (Pagnano) Mayo Clinic, Rochester, MN, United States (Trousdale) Mayo Graduate School of Medicine, Rochester, MN, United States CP - United States LG - English PT - Journal: Review EM - 201100 DD - 20110926

(137) Dudda M, Albers C, Mamisch TC, Werlen S, Beck M. Do normal radiographs exclude asphericity of the femoral head-neck junction? Clin Orthop Relat Res 2009; 467(3):651-659. Ref ID: 724 Abstract: Asphericity of the femoral head-neck junction is one cause for femoroacetabular impingement of the hip. However, the asphericity often is underestimated on conventional radiographs. This study compares the presence of asphericity on conventional radiographs with its appearance on radial slices of magnetic resonance arthrography (MRA). We retrospectively reviewed 58 selected hips in 148 patients who underwent a surgical dislocation of the hip. To assess the circumference of the proximal femur, alpha angle and height of asphericity were measured in 14 positions using radial slices of MRA. The hips were assigned to one of four groups depending on the appearance of the head-neck junction on anteroposterior pelvic and lateral crosstable radiographs. Group I (n = 19) was circular on both planes, Group II (n = 19) was aspheric on the crosstable view, Group III (n = 4) was aspheric on the anteroposterior view, and Group IV (n = 13) was aspheric on both views. In all four groups, the highest alpha angle was found in the anterosuperior area of the head-neck junction. Even when conventional radiographs appeared normal, an increased alpha angle was present anterosuperiorly. Without the use of radial slices in MRA, the asphericity would be underestimated in these patients Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(138) Dueland RT, Adams WM, Fialkowski JP, Patricelli AJ, Mathews KG, Nordheim EV. Effects of pubic symphysiodesis in dysplastic puppies. Vet Surg 2001; 30(3):201-217. Ref ID: 775 Abstract: OBJECTIVE: To determine the long-term effects of juvenile pubic symphysiodesis (JPS) in dysplastic puppies. STUDY DESIGN: Prospective, randomized, clinical trial. ANIMALS: Seven dysplastic Chesapeake Bay retrievers and 2 beagle-crosses (BX1 and 2). METHODS: Five puppies had JPS performed with electrocauterization at 12, 16, 20, 22, and 24 weeks of age, respectively. Two puppies served as controls. BX1 and BX2 were used to obtain biopsies of the symphysis. Hips were evaluated for: pelvic development (transverse computerized tomography for acetabular angle [AA] and dorsal acetabular rim angle [DARA]); laxity [hip extended and stress radiography [distraction index (DI)]); Ortolani maneuver with reduction angles; acetabular coverage (Norberg angles); and function (coxofemoral range of motion, hip pain, and gait analysis by force-plate technique at 44 and 137 weeks of age). RESULTS: The pubis fused prematurely in every puppy that was operated on with the JPS technique. Greater acetabular responses were related to younger ages at surgery. The final mean AA in dogs that had JPS was 25 degrees greater than preoperative values; 40% increased over control. The DARA final mean was 10 degrees, 52% less than preoperative values and 46% less than control. The final mean DI in dogs having JPS was 0.28, 47% improved over preoperative values and 58% better than control. Mean pelvic dimensions in dogs that had JPS were 18% less than control. Gait analyses were normal for all dogs at 137 weeks. No urinary or bowel complications occurred. CONCLUSIONS: Significant ventrolateral acetabular rotation, increased hip coverage, diminished hip laxity, normal pain-free gait, and insignificantly reduced pelvic size occurred after JPS. CLINICAL SIGNIFICANCE: Dysplastic hips in young dogs were significantly improved by JPS Notes: DA - 20010507 IS - 0161-3499 (Print) IS - 0161-3499 (Linking) LA - eng PT - Clinical Trial PT - Journal Article PT - Randomized Controlled Trial PT - Research Support, Non-U.S. Gov't SB - IM

(139) Duman A, Apiliogullari S, Duman I. Effects of intrathecal fentanyl on quality of spinal anesthesia in children undergoing inguinal hernia repair. Paediatric Anaesthesia 20 (6) ()(pp 530-536), 2010 Date of Publication: June 2010 2010;(6):530-536. Ref ID: 421 Abstract: Background: The effect of intrathecal fentanyl on the characteristics of spinal anesthesia has not been investigated in children undergoing inguinal hernia repair. The purpose of this study was to assess whether the incidence and severity of pain during peritoneal sac traction is decreased by addition of fentanyl to bupivacaine in children undergoing inguinal hernia repair with spinal anesthesia. Methods: Children (6-14 years) were randomized into two groups. Group F (n = 25): hyperbaric bupivacaine plus 0.2 mugkg <sup>-1</sup> of fentanyl. Group P (n = 25): hyperbaric bupivacaine plus 0.9% NaCl (placebo). The dose of bupivacaine was 0.4 mgkg<sup>-1</sup>. The primary variable was the incidence and severity of pain during peritoneal sac traction. Spinal block characteristics, duration of spinal anesthesia assessed by recovery of hip flexion and duration of analgesia were the secondary variables measured, and the side effects were noted. Results: There were significant differences in incidence of pain and pain scores during sac traction with lower incidence and scores in the fentanyl group (P = 0.009). Two groups were similar regarding the level of sensory block during sac traction and duration of spinal anesthesia. Duration of spinal analgesia was prolonged significantly in the fentanyl group (P = 0.025). Conclusion: Intrathecal fentanyl at a dose of 0.2 mugkg<sup>-1</sup> added to bupivacaine significantly improves the quality of intraoperative analgesia and prolongs postoperative analgesia in children undergoing inguinal hernia repair with spinal anesthesia. Â© 2010 Blackwell Publishing Ltd Notes: DB - Embase UI - 2010307850 IN - (Duman) Department of Anesthesia and Intensive Care, Medical Faculty, Konya, Turkey (Apiliogullari) Department of Anesthesiology, Faculty of Dentistry, Selcuk University, Konya, Turkey (Duman) Ministry of Health, Konya, Turkey CP - United Kingdom LG - English PT - Journal: Article EM - 201000 DD - 20100715

(140) Duncan ST, Bogunovic L, Baca G, Schoenecker PL, Clohisy JC. Are there sex-dependent differences in acetabular dysplasia characteristics? Clin Orthop Relat Res 2015; 473(4):1432-1439. Ref ID: 544 Abstract: BACKGROUND: Many patients who undergo periacetabular osteotomy (PAO) for symptomatic acetabular dysplasia experience decreased pain and improved function, yet some experience inadequate clinical improvement. The etiologies of treatment failure have not been completely defined, and sex-dependent disease characteristics that may be associated with less pain relief are not understood. QUESTION/PURPOSES: We sought to determine whether there were clinically important sex-specific differences between male and female patients undergoing PAO for acetabular dysplasia in terms of (1) clinical parameters (anthropomorphic traits and hip scores), (2) radiographic findings, and (3) intraoperative findings at the time of PAO, in particular findings potentially associated with femoroacetabular impingement (FAI) such as chondromalacia at the head-neck junction, impingement trough, or reduced head-neck offset. METHODS: Between 2007 and 2012 we treated 245 patients (270 hips) with a PAO for symptomatic acetabular dysplasia. Of those, 16 patients (16 hips; 6%) had insufficient documentation for review in the medical record and another 49 patients (51 hips; 19%) met prespecified exclusion criteria, leaving 180 patients (203 hips; 75%) for analysis in this retrospective study. One hundred thirty-nine patients were females and 41 were males. Clinical data including patient demographics, physical examination, patient self-reported outcome scores, radiographic morphologic features, and intraoperative findings were collected prospectively as part of an institutional registry. Statistical analysis was performed with univariate and multivariate analyses. RESULTS: Mean age was similar among sexes; however, BMI was greater in males compared with females (26 versus 24 kg/m(2); p = 0.002). Males had less hip ROM including internal rotation at 90 degrees flexion (14 degrees +/- 13.8 degrees versus 25 degrees +/- 16.2 degrees ; p = 0.001). Males had higher preoperative UCLA (7 +/- 2, versus 6 +/- 2; p = 0.02) and Harris hip scores (63 +/- 15 versus 58 +/- 16; p = 0.04). Radiographically, a crossover sign (88% versus 39%; p < 0.001) and posterior wall sign (92% versus 63%; p < 0.001) were more common in males. Males had greater alpha angles on the frog lateral (63 degrees +/- 15.3 degrees versus 58 degrees +/- 16 degrees ; p = 0.04) and Dunn radiograph views (64 degrees +/- 15.5 degrees versus 56 degrees +/- 14.8 degrees ; p = 0.02). The incidence of femoral head-neck chondromalacia (62% versus 82%; p = 0.03) and an impingement trough observed at surgery was greater in males (35% versus 17%; p = 0.01). Multivariate analysis showed differences between the sexes for reduced internal rotation in flexion, a higher Dunn alpha angle, increased incidence of a crossover sign, and a lower anterior center-edge angle. CONCLUSIONS: There are sex-dependent, disease characteristic differences in patients with symptomatic acetabular dysplasia. Most notably, male patients have a greater prevalence of clinical, radiographic, and intraarticular findings consistent with concurrent FAI and instability and potentially a heightened risk of secondary FAI after PAO, however postoperative and long-term followup are needed to confirm these findings and it remains unclear which patients need surgical correction of the impingement and instability. Preoperative evaluation of acetabular dysplasia in males should at least include careful attention to factors associated with symptomatic FAI; however, further studies are needed to determine when surgical correction is needed Notes: DA - 20150306 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(141) Duthon V, Charbonnier C, Kolo FC, Magnenat-Thalmann N, Becker CD, Bouvet C et al. Correlation of clinical and MRI findings in professional dancers' hip: A new femoroacetabular impingement? Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: Annual Scientific Meeting of the International Society for Hip Arthroscopy 2011 Paris France Conference Start: 20111014 Conference End: 20111015 Conference Publication: (var pagings) 2012;(var.pagings):e53. Ref ID: 368 Abstract: SUMMARY Dancer's have typical cam or pincer type femoroacetabular lesions, but with normal hip morphology. These lesions, situated in superior/postero-superior position, seem to be due to a dynamic, danse-related femoroacetabular impingement during extreme movements. DATA Purpose: Professional ballet dancers use extreme hip range of motion (ROM) to achieve ideal technique. Many complain of inguinal pain during dancing, and are at risk of early hip osteoarthritis. Goals were to clinically evaluate dancers' hip, to search femoroacetabular lesions on MRI explaining their groin pain, to assess femoroacetabular congruency in splits, to correlate clinical to MRI findings to MRI. Methods: Twenty professional female ballet dancers and fourteen active healthy female matched for age (control group) completed a questionnaire on hip pain, underwent hip examination with anterior impingement test and measures of passive ROM. All had hips MRI in back-lying position, and while doing splits for dancers, to look for femoro-acetabular morphology, lesions and congruency. Results: 12/20 dancers complained of groin pain, only while dancing; controls were asymptomatic. The mean passive hip ROM of dancers was normal with a trend to increased abduction and external rotation, and to decreased internal rotation. MRI measures of hip morphology for dancers and controls showed no difference in acetabular depth, acetabular anteversion and femoralneck antetorsion. Dancers have a lower femoral neckshaft angle. Mean alpha angle is lower in dancers in anterior, superior and postero-superior position; mean alpha angle in antero-superior position is egal in both groups. Cam morphology was found in only one dancer, none in the controls. MRI of dancers doing splits showed a fermoroacetabular subluxation of 2.05 mm. MRI of dancers' hip showed labral tears, cartilage thinning, and pits, all in superior/postero-superior position. Lesions were the same for symptomatic and asymptomatic dancers. Controls had the same amount of labral lesions but in antero-superior position, but had 2 to 3 times less cartilage lesions and pits than dancers. Conclusions: Dancer's passive hip ROM and morphology are normal. 90% of dancers present labral and/or cartilaginous lesions on MRI, symptomatic only for some of them. No criteria explain this discrepancy between clinical and MRI findings. Dancer's have typical cam or pincer type femoroacetabular lesions, but with normal hip morphology. These lesions, situated in superior/ postero-superior position, seem to be due to a dynamic, danse-related femoroacetabular impingement during extreme movements Notes: DB - Embase UI - 70795160 IN - (Duthon, Charbonnier, Kolo, Magnenat-Thalmann, Becker, Bouvet, Coppens, Hoffmeyer, Menetrey) Hopitaux Universitaires de Geneve, Geneva, Switzerland LG - English PT - Journal: Conference Abstract EM - 201228 DD - 20120705

(142) Duthon VB, Christophe FK, Charbonnier C, Duc S, Pfirrmann CW, Magnenat-Thalmann N et al. Winner of the achilles orthopedic sports medicine research award correlation of clinical and MRI findings in professional dancers' hip: A new femoroacetabular impingement? Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: 8th Biennial Congress of International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine, ISAKOS 2011 Rio de Janeiro Brazil Conference Start: 20110515 Conference E 2011;(var.pagings):e258-e259. Ref ID: 329 Abstract: Background: Professional ballet dancers use extreme hip range of motion (ROM) to achieve ideal ballet technique. Many of them complain of inguinal pain during dancing, and they are at higher risk to present early hip osteoarthritis. Purpose: Aims of the study were to clinically evaluate dancers' hip, to look for femoroacetabular lesions with MRI explaining their groin pain, to assess femoroacetabular joint congruency in splits, to correlate clinical to MRI findings to MRI. Study Design: Case-control Study Methods: Professional female ballet dancers and active healthy female matched for age (control group) completed a questionnaire on hip pain, underwent hip examination with impingement tests and measures of passive range of motion (ROM). All had hips MRI, back-lying, and while doing splits for dancers, to look for femoroacetabular morphology, lesions and congruency. Results: We recruited 20 professional ballet dancers and 15 healthy active female as controls. 12/20 dancers complained of groin pain, only while dancing; control group was asymptomatic. The mean hip dancers' ROM was 133/0/19 in F/E, 56/0/20 in Abd/Add, and 33/0/56 in IR/ER; and 127/0/20 in F/E, 46/0/20 in Abd/Add and 40/0/44 in IR/ER for controls. MRI revealed a mean acetabular depth of 7.9 mm for dancers and 8.8 mm for controls, a mean neck-shaft angle of 132degree for dancers and 135degree for controls, and a mean femoral neck anteversion of 12degree for dancers and 14degree for controls. Mean alpha angle in anterior position is 48degree (range 39.9-68.3) for dancers and 47.5degree (range 39-55.1) for controls, and 53degree (38.2-76) for dancers and 47.5degree (37.3-62.3) for controls in anterosuperior position. Cam morphology was found in only one dancer, none in the control group. MRI of dancers doing splits showed a fermoroacetabular subluxation of 2.05 mm (range 0.63-3.56 mm) and 3 types of lesions: labral tears, cartilage thinning, and pits, in superior/ postero-superior position. Lesions on MRI were the same for symptomatic and asymptomatic dancers. Conclusion: Dancer's passive hip ROM is normal and comparable to control group. In this study, almost all ballet dancers present labral and/or cartilaginous lesions on MRI, symptomatic only for some of them. No criteria in the data explain why some dancers present pain and/or femoroacetabular lesions while others don't. This discrepancy between clinical and MRI findings lets us think that surgical treatment should not be only based on MRI findings. Dancers' labral and acetabular cartilaginous lesions are the same as those found in patients with femoroacetabular impingement. However, they were located in the superior or posterosuperior position of the acetabular rim, as opposed to the anterior or anterosuperior lesions found in patients with cam or pincer FAI type. In this study, only one hip presented a cam impingement explaining usual MRI lesions. For the others, such lesions could be explained by repetitive extreme movements, leading to a superior/posterosuperior dancerelated femoroacetabular impingement. Consequently, early osteoarthritis in dancers' hip could be prevented by limiting these extreme movements implying femoroacetabular abutment Notes: DB - Embase UI - 70555790 IN - (Duthon, Christophe, Charbonnier, Duc, Pfirrmann, Magnenat-Thalmann, Becker, Hoffmeyer, Menetrey) Hopitaux Universitaires de Geneve, Geneva, Switzerland LG - English PT - Journal: Conference Abstract EM - 201300 DD - 20111015

(143) Duthon VB, Charbonnier C, Kolo FC, Magnenat-Thalmann N, Becker CD, Bouvet C et al. Correlation of clinical and magnetic resonance imaging findings in hips of elite female ballet dancers. Arthroscopy 2013; 29(3):411-419. Ref ID: 619 Abstract: PURPOSE: To understand why professional female ballet dancers often complain of inguinal pain and experience early hip osteoarthritis (OA). Goals were to examine clinical and advanced imaging findings in the hips of dancers compared with those in a matched cohort of nondancers and to assess the femoral head translation in the forward split position using magnetic resonance imaging (MRI). METHODS: Twenty professional female ballet dancers and 14 active healthy female individuals matched for age (control group) completed a questionnaire on hip pain and underwent hip examination with impingement tests and measurement of passive hip range of motion (ROM). All had a pelvic 1.5 T MRI in the back-lying position to assess femoroacetabular morphologic features and lesions. For the dancers, additional MR images were acquired in the split position to evaluate femoroacetabular congruency. RESULTS: Twelve of 20 dancers complained of groin pain only while dancing; controls were asymptomatic. Dancers' passive hip ROM was normal. No differences in alpha neck angle, acetabular depth, acetabular version, and femoral neck anteversion were found between dancers and controls. MRI of dancers while performing splits showed a mean femoral head subluxation of 2.05 mm. MRI of dancers' hips showed labral tears, cartilage thinning, and herniation pits, located in superior and posterosuperior positions. Lesions were the same for symptomatic and asymptomatic dancers. Controls had proportionally the same number of labral lesions but in an anterosuperior position. They also had 2 to 3 times fewer cartilage lesions and pits than did dancers. CONCLUSIONS: The results of our study are consistent with our hypothesis that repetitive extreme movements can cause femoral head subluxations and femoroacetabular abutments in female ballet dancers with normal hip morphologic features, which could result in early OA. Pathologic changes seen on MRI were symptomatic in less than two thirds of the dancers. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20130402 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article SB - IM

(144) Dy CJ, Schroder SJ, Thompson MT, Alexander JW, Noble PC. Etiology and severity of impingement injuries of the acetabular labrum: What is the role of femoral morphology? Orthopedics 35 (6) ()(pp e778-e784), 2012 Date of Publication: June 2012 2012;(6):e778-e784. Ref ID: 357 Abstract: Injuries to the acetabular labrum have been seen in association with femoroacetabular impingement, but recent studies have reported labral pathology in patients with normal hip morphology. The hypothesis of the current study was that labral lesions could occur without femoroacetabular impingement but that labral pathology would occur more commonly and more severely in hip joints that exhibit reduced head-neck offset. The presence, location, and severity of labral injury were recorded in 22 cadaveric specimens. Computed tomography was used to define the anatomic parameters of proximal femoral morphology. Three-dimensional modeling was used to simulate hip positions that typically cause labral impingement, including high flexion and internal rotation. Femoral morphology was compared between specimens with and without labral pathology using descriptive statistics. Labral pathology was seen in 15 of 22 specimens and was located in the anterosuperior portion of the labrum. No difference existed in age, femoral neck shaft angle, anteversion, acetabular depth, head diameter, alpha angle, or beta angle between specimens with and without labral pathology. The severity of labral pathology correlated with the alpha angle of the proximal femur. This study demonstrates that damage to the labrum may occur in hips with normal proximal femur morphology. However, the findings also indicate that the presence of morphologic features that increase the risk of impingement may predispose the hip joint to a characteristic pattern or severity of labral pathology. The results confirm the importance of considering both femoral morphology and athletic-type activities of the hip when determining the mechanism responsible for injury of the acetabular labrum Notes: DB - Embase UI - 2012464596 IN - (Dy, Schroder, Thompson, Alexander) Institute of Orthopaedic Research and Education, Houston, TX, United States (Dy) Department of Orthopaedic Surgery, Hospital for Special Surgery, 535 E 70th St, New York, NY 10021, United States (Schroder) Department of Orthopaedic Surgery, University of California Irvine, Irvine, CA, United States (Noble) Barnhart Department of Orthopaedic Surgery, Baylor College of Medicine, Houston, TX, United States CP - United States LG - English PT - Journal: Article EM - 201236 DD - 20120903

(145) Earl JE, Hoch A, Labisch T, Ochsenwald J, Worman B, Lachacz J et al. Patient outcomes, strength, and lower extremity biomechanics following a proximal rehabilitation program in women with patellofemoral pain syndrome. Journal of Orthopaedic & Sports Physical Therapy 2010; 40(3):38. Ref ID: 126 Notes: ID - 105141368 IS - 3 CY - La Crosse, Wisconsin

(146) Earl RT, Jenkins R, Munro AJ. A double-masked comparison of the efficacy of once-daily sustained-release ibuprofen and once-daily piroxicam for 24-hour control of arthralgia due to osteoarthritis in the elderly. Current Therapeutic Research - Clinical and Experimental 57 (10) ()(pp 811-821), 1996 Date of Publication: 1996 1996;(10):811-821. Ref ID: 528 Abstract: The efficacy and safety of a novel, once-daily, sustained-release (SR) tablet formulation of ibuprofen (2 x 800 mg) and once-daily piroxicam (2 x 10 mg) were compared in 59 elderly patients (age range, 55 to 92 years) with osteoarthritis of the hip and/or knee, in a randomized, double-masked, double-dummy, parallel-group trial over a period of 4 weeks. Approximately twice as many patients were randomized to receive SR ibuprofen (n = 38) as piroxicam (n = 21). Dosing took place daily in the early evening. Goniometric assessment of joint restriction was performed at baseline and at weeks 1, 2, and 4. Patients assessed their joint pain on a visual analog scale (VAS) in the early and late morning, early evening, and at bedtime at baseline and weekly thereafter. No significant differences were identified between treatments in terms of goniometrically assessed joint restriction, and both treatments were equally effective in alleviating arthralgia. Of the patients receiving SR ibuprofen, 76% (29 of 38) judged it to be effective in reducing joint pain, compared with 71% (15 of 21) receiving piroxicam, a nonsignificant difference. Early and late morning VAS pain scores at each of weeks 1 through 4 for the SR ibuprofen-treated group were significantly lower than at baseline, whereas for the piroxicam group,only the early morning pain scores at weeks 3 and 4 were significantly improved. Early evening (predosing) pain scores were significantly reduced versus baseline at week 4 with SR ibuprofen but at none of the early evening assessments in the piroxicam group. This indicated a tendency toward better 24-hour control of pain by SR ibuprofen than by piroxicam. The difference between the incidence of gastrointestinal-related symptoms in patients receiving SR ibuprofen (2 of 38; 5%) versus piroxicam (3 of 21; 14%) was not statistically significant. It was concluded that once-daily SR ibuprofen was at least as effective in relieving arthralgia as piroxicam over a 24-hour period but with a propensity for producing a lower incidence of gastrointestinal disturbances in elderly patients. Ibuprofen SR tablets combined effective control of painful arthralgia attributable to osteoarthritis of the hip and knee, with the acknowledged excellent safety profile of this nonsteroidal anti-inflammatory drug Notes: DB - Embase UI - 1996339504 IN - (Earl, Jenkins) Knoll Pharmaceuticals, Nottingham, United Kingdom (Munro) Association for Clinical Research, Twickenham, United Kingdom (Earl) Knoll Pharmaceuticals, Pennyfoot Street, Nottingham, NG1 1GF, United Kingdom CP - United States LG - English PT - Journal: Article EM - 199600 DD - 19961213

(147) Ecker TM, Bastian JD, Keel MJB, Liu L, Pascal H, Tannast M et al. Periacetabular osteotomy performed through the pararectus approach-a cadaveric feasibility study. Swiss Medical Weekly Conference: Annual Meeting of the Swiss Society of Orthopaedics and Traumatology 2014 St Gallen Switzerland Conference Start: 20140625 Conference End: 20140627 Conference Publication: (var pagings) 144 ()(pp 5S), 2014 Date of Pu 2014;(var.pagings):5S. Ref ID: 207 Abstract: Introduction: The common goal of all surgical approaches for periacetabular osteotomy (PAO) is to provide accurate and adequate exposure for the osteotomies and the reorientation of the acetabulum and at the same time minimize morbidity. While the Pararectus approach had initially been developed for anterior intrapelvic management of acetabular fractures, the purpose of this study was to assess feasibility and safety of this approach for performance of PAO. We proposed to compare fragment mobility and correction potential to a modified Smith-Petersen approach and investigate possibilities for fragment fixation. Material and Methods: Preoperative CT scans of four cadaver pelves were obtained and three-dimensional models were reconstructed. In a supine position, four Smith-Petersen and four Pararectus approaches were established. Dynamic reference bases were affixed to the pelvis and the acetabulum and the anterior pelvic plane was digitized. The osteotomies were performed either according to the traditional technique or in an inside-out technique for the Pararectus approach. An experimental navigation system was used to assess acetabular version and inclination and to track movement of the acetabular fragment. One single examiner reoriented the acetabulum to a maximum in four degrees of freedom: extension, internal rotation, external rotation and medialization. Results: The inside-out osteotomies were achieved without intraarticular penetrations or transsection of the posterior column. The median values Pararectus versus Smith Petersen were: extension 21degree (range 13 to 27) versus 20degree (14 to 32), internal rotation 10degree (range 10 to 29) versus 11degree (8 to 22), external rotation 33degree (range 20 to 37) versus 25degree (11 to 44), medialization 12 mm (range 8 to 26) versus 10 mm (8 to 26). Screw fixation through the Pararectus approach was achieved safely in all pelves with one screw into the posterior column, one into the supraacetabular bone stock and another through the superior pubic ramus. Discussion: Performance of PAO through the Pararectus approach is feasible, allowing for safe extraarticular osteotomies. Management of the acetabular fragment from inside the pelvis yields fragment mobility equal to that of the conventional technique and permits rigid screw fixation. One limitation is the impossibility for anterior hip arthrotomy in cases of concomitant cam impingement Notes: DB - Embase UI - 71754903 IN - (Ecker) Inselspital, Switzerland (Bastian, Keel, Pascal, Tannast, Siebenrock) Universitatsklinik fur Orthopadische Chirurgie, Inselspital Bern, Switzerland (Liu) Institute for Surgical Technology and Biomechanics, Universitat Bern, Switzerland LG - English PT - Journal: Conference Abstract EM - 201506 DD - 20150117

(148) El Hage S, Rachkidi R, Noun Z, Haidar R, Dagher F, Kharrat K et al. Is percutaneous adductor tenotomy as effective and safe as the open procedure? J Pediatr Orthop 2010; 30(5):485-488. Ref ID: 686 Abstract: BACKGROUND: Percutaneous adductor longus tenotomy (PAT) is a frequently used procedure, yet no study has ever compared its effectiveness and safety with those of open adductor longus tenotomy (OAT). We conducted this prospective study to describe the effects of PAT and to compare them with those of OAT. METHODS: This consisted of a cross-over randomized controlled trial including 50 consecutive hips from 27 patients with cerebral palsy scheduled for adductor tenotomy in the setting of multilevel tendon lengthening/release procedures or hip surgery (femoral or Dega osteotomy) in a university hospital. A pediatric orthopaedic surgeon conducted a PAT. Another surgeon extended the wound to explore what had been cut during the PAT, and completed the tenotomy if necessary. Hip abduction (HA) was assessed by a third surgeon immediately before PAT, after PAT, and then after OAT, using a goniometer, in a standardized reproducible manner. All 3 surgeons were blinded to the others' findings. Primary end-points included the percentage of tendon/muscle portion sectioned percutaneously, and the HA measure. Comparison between HA after PAT and OAT was done using a paired t-test with a 95% confidence interval. The influence of anatomic variants of adductor longus origin was also assessed. RESULTS: Mean HA (hips flexed) measured 40.36 degrees preoperatively and increased to 50.04 degrees after PAT (P<0.0001). After OAT, HA averaged 53.32 degrees with no statistical gain compared with that observed after PAT (P=0.2). The tendinous portion of adductor longus was cut to an average of 98% by PAT (completely in 46 cases and more than 75% in only 4 cases). The muscular portion of adductor longus origin was cut to an average of 83.7% (completely in only 15 cases, cut to more than 75% in 26 cases, and approximately 50% in 9 cases). The gain in HA positively correlated with the extent of the tendinous portion divided (P=0.03) but not with the extent of muscular portion divided. Results were independent of the anatomic variants of adductor longus origin. Partial section of adductor brevis after PAT was encountered in 6 cases. No major iatrogenic lesion was observed (obturator nerve, major vessels). CONCLUSIONS: This is the only prospective study concerning the effects of PAT. The anatomic factor associated with gain in HA seems to be the extent of the section of the tendinous portion of adductor longus origin, which was found to be cut to more than 90% in all cases after PAT. The extent of muscular portion section does not seem to influence the gain in HA. The researchers detail the technique of percutaneous adductor tenotomy and show that when done correctly, PAT is a fast and simple procedure, as reliable and effective as the open release and without any major risks. LEVEL OF EVIDENCE: Level II therapeutic study-prospective comparative study Notes: DA - 20100624 IS - 1539-2570 (Electronic) IS - 0271-6798 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Randomized Controlled Trial SB - IM

(149) Elia DS, Bohannon RW, Cameron D, Albro RC. Dynamic pelvic stabilization during hip flexion: A comparison study. Journal of Orthopaedic and Sports Physical Therapy 24 (1) ()(pp 30-36), 1996 Date of Publication: July 1996 1996;(1):30-36. Ref ID: 530 Abstract: Although physical therapists sometimes provide stabilization training for individuals with low back problems, research verifying the capacity of such training to alter pelvifemoral rhythm is lacking. This study was conducted to determine if pelvic movement could be limited by individuals who attempted active cocontraction of the abdominal and trunk extensor muscles during hip flexion. An experienced group consisting of 13 physical therapists familiar with stabilization training was compared with a novice group of 13 healthy individuals unfamiliar with such training prior to participation. All subjects were videotaped while supine, performing bilateral hip flexion. Trials were recorded both with and without attempts at limiting pelvic movement, which was digitized and analyzed from the videotape using the Peak 2-D Motion Measurement System. Inferential statistics, including a 2 x 2 x 2 analysis of variance and post hoc t tests, revealed that in the experienced group stabilization attempts resulted in significantly less pelvic movement. No significant differences were found between the stabilized and unstabilized trials of the novice group. The results of this study indicate that pelvic movement can be actively limited during hip flexion by physical therapists familiar with stabilization training. No subject, however, was able to eliminate movement Notes: DB - Embase UI - 1996210961 IN - (Elia) Pl. Sports Med. and Rehabilitation, Pittsford, NY, United States (Elia) 40 Selborne Chase, Fairport, NY 14450, United States (Elia) Dept. of Orthopedic Physical Therapy, Quinnipiac College, Hamden, CT, United States (Bohannon) Physical Therapy Program, School of Allied Health, University of Connecticut, Storrs, CT, United States (Bohannon) Department of Rehabilitation, Hartford Hospital, Hartford, CT, United States (Cameron, Albro) Physical Therapy Department, Sch. of All. Hlth. and Nat. Sciences, Quinnipiac College, Hamden, CT, United States CP - United States LG - English PT - Journal: Article EM - 199600 DD - 19960808

(150) Emara K, Samir W, Motasem eH, Ghafar KA. Conservative treatment for mild femoroacetabular impingement. J Orthop Surg (Hong Kong) 2011; 19(1):41-45. Ref ID: 666 Abstract: PURPOSE: To report early results of conservative treatments (including modifications in activities of daily living) for mild femoroacetabular impingement. METHODS: 27 male and 10 female athletic patients aged 23 to 47 years presented with unilateral hip pain secondary to femoroacetabular impingement and an alpha angle of <60 degrees. Patients were instructed to adapt to their safe range of movement and perform activities of daily living with minimal friction. The Harris Hip Score and non-arthritic hip score before and after treatment were compared. Open or arthroscopic hip surgery to remove the impinging bone was indicated when conservative treatment failed. RESULTS: Patients were followed up for 25 to 28 months. Of the 37 patients, 4 underwent surgical treatment after conservative management failed. For the remaining 33 patients, the mean Harris Hip Score improved significantly from 72 before treatment to 91 at the 24-month follow-up. The mean non-arthritic hip scores improved from 72 to 91, and the mean visual analogue scores for hip pain from 6 to 2. Six of the 33 patients had recurrent hip pain and discomfort but not severe enough for surgical treatment. CONCLUSION: Conservative treatment did not improve the range of hip movement, despite improvement in function and symptoms. Yet it achieved good early results, as long as the patients could modify activities of daily living to adapt to their hip morphology Notes: DA - 20110426 IS - 1022-5536 (Print) IS - 1022-5536 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(151) Emery CA, Meeuwisse WH. Risk factors for groin injuries in hockey. Med Sci Sports Exerc 2001; 33(9):1423-1433. Ref ID: 774 Abstract: PURPOSE: The objective of this cohort study was to determine the level of off-season sport specific activity, peak isometric adductor torque, and hip abduction flexibility that are predictive of groin or abdominal strain injury in the National Hockey League (NHL). METHODS: The subjects were 1292 consenting NHL players. Estimated relative risks of injury are reported using the following exposures: 1) level of sport specific training in the off-season, 2) peak isometric adductor torque, 3) total hip abduction flexibility, 4) previous injury, 5) years of NHL experience, and 6) skate blade hollow measurement. Estimates of probability of injury are predicted for various levels of exposures on the basis of logistic regression analysis. RESULTS: During training camp, players who reported less than 18 sessions sport specific training in the off-season were at greater than three times the risk of injury than those who did not (relative risk (RR); 3.38 95% confidence interval (CI), 1.45-7.92). Players who reported previous history of this injury were at more than two times the risk of injury than those who did not (RR, 2.88; 95% CI, 1.33-6.26). Veterans were at greater than five times the risk of injury than rookies (RR, 5.69; 95% CI, 2.05-15.85). Peak isometric adductor torque, total abduction flexibility, and skate blade hollow measurement were not predictive of injury. There is evidence of a dose-response gradient as predicted probability of injury decreases with increasing levels of sport specific training. In the regular season, sport specific training was not as strong a risk factor (RR, 2.32; 95% CI, 1.0-5.39). CONCLUSION: Low levels of off-season sport specific training and previous injury are clearly risks for groin injury at an elite level of hockey. Future research is required to investigate prevention strategies for this injury in hockey Notes: DA - 20010830 IS - 0195-9131 (Print) IS - 0195-9131 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM SB - S

(152) Engle J, Stickevers S, Edelstein Y. Femoral acetabular impingement with associated labral teartreated with ultrasound-guided intra-articular steroid injection: case report. American Journal of Physical Medicine & Rehabilitation 2014;(suppl):76. Ref ID: 105 Abstract: Case Diagnosis: Femoral Acetabular Impingement. Case Description: A 50 year old male with history of osteoarthritis and chronic low back pain presented to clinic with progressively worsening right hip and groin pain limiting ambulation. Patient was found to have antalgic gait and decreased range of motion in right hip secondary to pain. MRI revealed an anterosuperior labral tear, increased alpha angle of 67 degrees, acetabular marrow edema, joint space narrowing, and osteophyte formation consistent with CAM type femoral acetabular impingement (FAI). Ultrasound of right hip revealed prominent osteophytes on both the femoral head and acetabulum. Patient underwent right hip ultrasound-guided intra-articular steroid injection via anterior approach without incident. Patient reported complete resolution of pain and increased range of motion. Discussions: FAI results from mechanical overload of the hip due to abnormal contact stresses between the acetabulum and the femur resulting in labral tears which contribute to the development of osteoarthritis. Xrays and MRIs are the imaging modalities of choice for FAI. Conservative treatment with NSAIDs may be attempted, but patients should be monitored closely for disease progression. Surgical management of FAI aims to repair labral defects, decrease femoral head-neck offset, and CAM lesions. Minimally invasive arthroscopic osteochondroplasty with labral debridement yields decreased recovery time but this procedure is associated with an increased risk for sciatic and femoral neuropraxia. Mini-open osteochondroplasty labral repair with or without arthroscopy is associated with a higher incidence of iatrogenic lateral femoral cutaneous nerve injury. Open osteochondroplasty with dislocation is associated with a longer recovery time and higher rate of future hip arthroplasty. Conclusions: Early recognition of FAI is crucial to prevention of degenerative changes in the hip. Many factors contribute to CAM type FAI and best treatments for FAI will be identified through further research Notes: ID - 103944061 CY - Baltimore, Maryland

(153) Enseki KR, Martin RL, Draovitch P, Kelly BT, Philippon MJ, Schenker ML. The hip joint: Arthroscopic procedures and postoperative rehabilitation. Journal of Orthopaedic and Sports Physical Therapy 36 (7) ()(pp 516-525), 2006 Date of Publication: July 2006 2006;(7):516-525. Ref ID: 496 Abstract: Recent technological improvements have resulted in a greater number of surgical options available for individuals with hip joint pathology. These options are particularly pertinent to the relatively younger and more active population. The diagnosis and treatment of acetabular labral tears have become topics of particular interest. Improvements in diagnostic capability and surgical technology have resulted in an increased number of arthroscopic procedures being performed to address acetabular labral tears and associated pathology. Associated conditions include capsular laxity, femoral-acetabular impingement, and chondral lesions. Arthroscopic techniques include labral tear resection, labral repair, capsular modification, osteoplasty, and microfracture procedures. Postoperative rehabilitation following arthroscopic procedures of the hip joint carries particular concerns regarding range of motion, weight-bearing precautions, and initiation of strength activities. Postoperative rehabilitation protocols that have been typically used for surgeries such as total hip arthroplasty are often not sufficient for the population of patients undergoing arthroscopic procedures of the hip joint. Postoperative rehabilitation should be based upon the principles of tissue healing as well as individual patient characteristics. As arthroscopic procedures to address acetabular labral tears and associated pathology evolve, physical therapists have the opportunity to play a significant role through the development of corresponding rehabilitation protocols Notes: DB - Embase UI - 2006322372 IN - (Enseki) University of Pittsburgh Center for Sports Medicine, Department of Physical Therapy, University of Pittsburgh School of Health and Rehabilitation Sciences, Pittsburgh, PA, United States (Martin) Department of Physical Therapy, Duquesne University, Pittsburgh, PA, United States (Draovitch) Center for Rehab. Services, University of Pittsburgh Center for Sports Medicine, Pittsburgh, PA, United States (Kelly) Department of Orthopaedic Surgery, Hospital for Special Surgery, Weill Medical College of Cornell University, New York, NY, United States (Philippon) Steadman-Hawkins Clinic, Steadman-Hawkins Research Foundation, Vail, CO, United States (Schenker) Steadman-Hawkins Research Foundation, Vail, CO, United States (Enseki) Center for Rehab. Services, UPMC Sports Medicine Complex, 3200 South Water Street, Pittsburgh, PA 15203, United States CP - United States LG - English PT - Journal: Review EM - 200600 DD - 20060727

(154) Fabricant PD, Heyworth BE, Kelly BT. Hip arthroscopy improves symptoms associated with FAI in selected adolescent athletes. Clin Orthop Relat Res 2012; 470(1):261-269. Ref ID: 659 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) is increasingly diagnosed in young and middle-aged patients. Although arthroscopic procedures are becoming frequently used in the treatment of FAI, there are little data regarding rates of complications or the ability of hip arthroscopy to improve hip function specifically in the adolescent athlete population. Because arthroscopic treatment is being used in the treatment of FAI, it is vital to know what, if any, improvements in hip function can be expected and the potential complications. QUESTIONS/PURPOSES: We asked (1) whether validated measures of hip function improve after arthroscopic treatment of FAI in adolescent athletes, and (2) what complications might be expected during and after arthroscopic treatment of FAI in these patients. METHODS: We retrospectively reviewed the records of 27 hips in 21 patients 19 years of age or younger who underwent arthroscopic treatment for FAI between 2007 and 2008. From the records we extracted demographic data, operative details, complications, and preoperative and postoperative modified Harris hip scores (HHS) and the Hip Outcome Score (HOS). The minimum followup was 1 year (average, 1.5 years; range, 1-2.5 years). RESULTS: Modified HHS improved by an average of 21 points, the activities of daily living subset of the HOS improved by an average of 16 points, and the sports outcome subset of the HOS improved by an average of 32 points. All patients' self-reported ability to engage in their preoperative level of athletic competition improved. In 24 hips that underwent cam decompression, the mean alpha-angle improved from 64 degrees +/- 16 degrees to 40 degrees +/- 5.3 degrees postoperatively. CONCLUSIONS: We found short-term improvements in HOS and HHS with no complications for arthroscopic treatment of FAI in our cohort of adolescent athletes. We believe arthroscopic treatment of FAI by an experienced hip arthroscopist should be considered in selected patients when treating athletically active adolescents for whom nonoperative management fails Notes: DA - 20111215 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(155) Farkas G, Haro M, Lee S, Orias AE, Nho S. Hip center edge angle and alpha angle correlate with gait variables in femoroacetabular impingement morphology. FASEB Journal Conference: Experimental Biology 2014, EB San Diego, CA United States Conference Start: 20140426 Conference End: 20140430 Conference Publication: (var pagings) 28 (1 SUPPL 1) , 2014 Date of Publication: April 2014 2014;(var.pagings). Ref ID: 249 Abstract: Gait deviations have been observed in symptomatic femoroacetabular impingement (FAI) and other disorders of hip morphology1-2. However the nature of the relationship between hip morphology and gait is still unclear. We hypothesize that when FAI is diagnosed via the alpha or center edge angles, significant associations with kinematic and kinetic gait variables will be present. This IRB approved study recruited 20 preoperative patients scheduled for FAI hip arthroscopy. Subjects with back or lower extremity pathologies were excluded. Gait testing was performed using published methods3. Radiographs measured by a single observer were compared to range of motion and peak external moments (%body weight x height) about the surgical side hip and knee. Significant correlations were found between the center edge angle and minimum knee flexion angle (R=0.460, p=0.041) as well as peak external knee extension moment (R=0.547, p=0.013). Alpha angle significantly correlated with peak external hip extension moment (R=0.447, p=0.048). A moderate correlation was found between the alpha angle and minimum hip flexion angle (R=0.414, p=0.069) and the center edge angle and peak external hip flexion moment (R=-0.399, p=0.081).The relationships seen with this preliminary data are encouraging and support the association between hip morphological abnormalities and gait variables Notes: DB - Embase UI - 71418600 IN - (Farkas, Haro, Lee, Orias, Nho) Orthopaedic Surgery, Rush University Medical Center, Chicago, IL, United States LG - English PT - Journal: Conference Abstract EM - 201417 DD - 20140422

(156) Farkas GJ, Cvetanovich GL, Rajan KB, Espinoza Orias AA, Nho SJ. Impact of Femoroacetabular Impingement Morphology on Gait Assessment in Symptomatic Patients. Sports Health 2015; 7(5):429-436. Ref ID: 536 Abstract: BACKGROUND: Gait is abnormal in patients with femoroacetabular impingement (FAI). To date, studies have not correlated radiographic FAI morphology with gait abnormalities. HYPOTHESIS: Gait abnormalities in FAI patients will be associated with radiographic FAI morphology. STUDY DESIGN: Cross-sectional study. LEVEL OF EVIDENCE: Level 4. METHODS: Patients with symptomatic FAI (n = 20) underwent radiographic and gait analysis. Exclusion criteria included previous injuries or surgeries to the lower extremities or lumbar spine as well as bilateral symptomatic FAI. The alpha angle (AA) and center-edge angle (CEA) were measured on anteroposterior (AP) pelvis, Dunn lateral, and false-profile radiographs, and inter- and intraobserver variability was determined. Motion analysis techniques were used to obtain gait data including 3-dimensional kinematic and kinetic data. Descriptive analysis was performed using Spearman correlations for morphologic measurements. A stepwise regression model was used to examine the association of gait measures with AA and CEA. RESULTS: Intraobserver agreement for the AA and CEA was 0.92 (CI, 0.80-0.97) and 0.90 (CI, 0.76-0.96), while interobserver agreement for the angles was 0.96 (CI, 0.89-0.98) and 0.96 (CI, 0.90-0.98), respectively. Descriptive analysis suggested correlations between AA and peak external hip and knee external rotation moments, maximum ankle flexion angle, and ankle range of motion (range, -0.51 to 0.42; P < 0.0001). The CEA correlated with stride, peak external ankle eversion and inversion moments, peak external knee extension moment, and peak external hip flexion moment (range, -0.44 to 0.51; P < 0.0001). We found that gait variables accounted for a large amount of variation in AA (8 variables accounted for 87% variation) and in CEA (7 variables accounted for 82% variation). CONCLUSION: Lower extremity gait parameters correlate highly with radiographic FAI morphology in symptomatic FAI patients. CLINICAL RELEVANCE: Gait abnormalities are present in FAI patients and may be a useful measure in outcome studies Notes: DA - 20151027 IS - 1941-0921 (Electronic) IS - 1941-0921 (Linking) LA - eng PT - Journal Article SB - IM

(157) Fasmeyer J, Lunebourg A, Fischer J-F, Husmann O, Vuilleumier B. Diagnosis and management of failed metal-on-metal total hip arthroplasty. Swiss Medical Weekly Conference: Annual Meeting of the Swiss Society of Orthopaedics and Traumatology 2013 Lausanne Switzerland Conference Start: 20130626 Conference End: 20130628 Conference Publication: (var pagings) 143 ()(pp 32S), 2013 Date of Pub 2013;(var.pagings):32S. Ref ID: 208 Abstract: Introduction: Large head metal-on-metal (MoM) total hip arthroplasty (THA) has been considered as particularly interesting in young and active patients. This type of total hip replacement has several advantages, such as less wear, lower risk of dislocation and better range of motion. Unfortunately, revision rate is significatively higher. The purpose of this study is to review our revision cases and to define clinical, biological and radiological criteria helping us to decide if revision surgery of a large head MoM THA is necessary (flow chart). Technical and surgical aspects are discussed. Materials and methods: Between 2005 and 2012 we implanted 352 large head MoM THA. We reviewed all patients with large head MoM THA operated in our department during this period. 17 (5%) patients with a mean age of 67 years (+/- 9) have been revised. Patients complains were noted. They all had blood test analysis (FBC, PCR, chrome/cobalt serum concentration) and standard x-ray. Sometimes CT and hip aspiration were necessary to obtain a better assessment. Anatomopathological and microbiological analysis were obtained systematically. Results: With a mean follow-up of 5 years (+/- 2) after THA, 13 patients presented pain associated with a decreased range of motion, 2 patients a periprosthetic fracture, 1 patient with a swelling around the thigh and 1 infection. In all cases, chrome/cobalt serum level was elevated (maximum Chrome/Cobalt: 2203/2344 nm/l). No superficial signs of inflammation were reported but blood test sometimes showed increased inflammatory parameters, which needed complementary investigation by hip aspiration. On the x-ray analysis, implants were in an adequate position except in 2 cases, where the cup was too vertical (>45degree of inclination). Osteolysis was rarely obvious on standard X-ray, but was uncovered by CT scan, particularly on the acetabular side. In 14 cases, revision included cup and femoral head exchange and in 3 cases cup and stem were revised. Aggressive synovitis with local invasion of muscles (gluteus medius and psoas) and metallosis were observed and confirmed by anatomopathological analysis. Conclusion: Large head MoM THA represents a serious concern because of a high rate of revision. Pain and decreased range of motion with a high blood level of chrome/cobalt were routinely found. Revision of MoM THA involved most of the time an exchange of the cup and the femoral head. Surgery could be complicated by severe cancellous bone resorption on the acetabular side and/or lysis of tendon attachment. Patients with large head MoM THA should be closely followed-up. In case of clinical complains, elevated Chrome/Cobalt serum concentration or radiological (standard X-rays, CT) abnormalities, early revision should be proposed Notes: DB - Embase UI - 71755609 IN - (Fasmeyer, Lunebourg, Fischer, Husmann, Vuilleumier) eHnv, Yverdon, Switzerland LG - English PT - Journal: Conference Abstract EM - 201506 DD - 20150117

(158) Ferro FP, Ho CP, Briggs KK, Philippon MJ. Patient-centered outcomes after hip arthroscopy for femoroacetabular impingement and labral tears are not different in patients with normal, high, or low femoral version. Arthroscopy 2015; 31(3):454-459. Ref ID: 547 Abstract: PURPOSE: The purpose of this study was to determine whether outcomes after hip arthroscopy were different based on femoral version. METHODS: The inclusion criteria were diagnosis of femoroacetabular impingement (FAI) based on clinical examination and/or imaging findings and preoperative measurement of femoral version by magnetic resonance imaging. For this study, the definition of FAI was a positive impingement sign, a positive flexion-abduction-external rotation examination finding, or radiographic signs of impingement. A query of a prospective data registry identified 180 patients who matched the inclusion and exclusion criteria. Group 1 had version of less than 5 degrees (n = 48), group 2 had version of 5 degrees to 15 degrees (n = 84), and group 3 had version greater than 15 degrees (n = 48). The mean age of the patients was 35 years (range, 18 to 61 years). RESULTS: On radiographic examination, the mean alpha angle for all patients' injured hips was 63 degrees (range, 42 degrees to 88 degrees ). The mean center-edge angle was 30 degrees (range, 20 degrees to 43 degrees ), and mean femoral version was 9.9 degrees (range, -16 degrees to 29 degrees ). There was no significant difference in age, alpha angle, or center-edge angle among the 3 version groups. A significant difference in psoas release procedures (psoas impingement) was seen with increasing femoral version. The mean follow-up period was 30 months (range, 18 to 47 months). Patient-reported functional outcomes were not statistically different among the groups. CONCLUSIONS: Patient-reported functional outcomes after hip arthroscopy for labral tears and FAI were not different based on femoral version in this population. Although some differences were observed regarding intraoperative findings, these also did not result in differences in patient outcomes reported at a mean follow-up of 2 years. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20150306 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article SB - IM

(159) Finnoff JT, Hall MM, Kyle K, Krause DA, Lai J, Smith J. Hip Strength and Knee Pain in High School Runners: A Prospective Study. PM and R 3 (9) ()(pp 792-801), 2011 Date of Publication: September 2011 2011;(9):792-801. Ref ID: 399 Abstract: Objective: To determine whether pre-injury hip muscle weakness is associated with the development of patellofemoral pain (PFP) in high school running athletes. Design: Prospective cohort study. Setting: Academic institution sports medicine center. Participants: High school running athletes. Methods: Baseline hip strength of high school running athletes was assessed at the beginning of the running season. Strength testing was repeated in athletes who developed PFP. Peak hip muscle strengths and strength ratios were compared between the injured and non-injured groups. Results: Six injuries occurred in 5 of the 98 subjects who completed the study. The baseline hip external-to-internal strength ratio was lower in injured than in uninjured subjects (P = .008). In the injured group, hip abduction and external rotation strengths decreased from pre-injury to post-injury (P = .002 and P = .01, respectively). Logistic regression analysis demonstrated that a greater baseline hip abduction strength (odds ratio = 5.35, 95% confidence interval [CI] 1.46-19.53; P < .01) and abduction-to-adduction strength ratio increased the risk of injury (odds ratio = 14.14, 95% CI 0.90-221.06; P = .05), and a greater pre-injury hip external-to-internal rotation strength ratio decreased the risk of injury (odds ratio < 0.01, 95% CI < .01, 0.44; P = .02). Conclusions: The findings of the current study suggest that stronger pre-injury hip abductors (particularly in relation to their hip adductors) and weaker pre-injury hip external rotators (particularly in relation to their hip internal rotators) are associated with the development of PFP. In addition, persons in whom PFP develops appear to lose hip abduction and external rotation strength when compared with their pre-injury strength. Finally, a higher hip external-to-internal rotation strength ratio may protect against the development of PFP. Â© 2011 American Academy of Physical Medicine and Rehabilitation Notes: DB - Embase UI - 2011538125 IN - (Finnoff) Dept. of Physical Medicine and Rehabilitation, Mayo Clinic College of Medicine, Mayo Clinic Sports Medicine Center, 200 1st St. SW, Rochester, MN, United States (Hall) Department of Physical Medicine and Rehabilitation, Mayo Clinic College of Medicine, Mayo Clinic Sports Medicine Center, Rochester, MN, United States (Kyle) Mayo Clinic Sports Medicine Center, Rochester, MN, United States (Krause) Department of Physical Medicine and Rehabilitation, Mayo Clinic College of Medicine, Rochester, MN, United States (Lai) Mayo Clinic Sports Medicine Center, Rochester, MN, United States (Smith) Department of Physical Medicine and Rehabilitation, Mayo Clinic College of Medicine, Mayo Clinic Sports Medicine Center, Rochester, MN, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20111007

(160) Fiz N, Sanchez M, Perez JC, Guadilla J, Delgado D, Azofra J et al. A less-invasive technique for capsular management during hip arthroscopy for femoroacetabular impingement. Arthroscopy Techniques 3 (4) ()(pp e439-e443), 2014 Date of Publication: 01 Aug 2014 2014;(4):e439-e443. Ref ID: 213 Abstract: The aim of this work is to describe a new arthroscopic technique for the treatment of femoroacetabular impingement that allows a complete articular joint view with maximum protection of the capsuloligamentous complex. This arthroscopic technique avoids injury to the capsuloligamentous complex, preventing the risk of postoperative instability. The diagnosis of femoroacetabular impingement was based on clinical and radiographic grounds. An alpha angle greater than 50degree was considered pathologic. In this technique, the use of intra-articular devices (retractors) allows us to separate the capsular tissue from the femoral head-neck junction and mobilize the capsule, achieving an adequate joint view without performing a capsulotomy and, consequently, avoiding the complications of capsular damage Notes: DB - Embase UI - 2014735966 IN - (Fiz, Sanchez, Perez, Guadilla, Azofra, Aizpurua) Arthroscopic Surgery Unit, Vithas San Jose Hospital, Vitoria-Gasteiz, Spain (Sanchez, Delgado) Arthroscopic Surgery Unit Research, Vithas San Jose Hospital, Vitoria-Gasteiz, Spain CP - Netherlands LG - English PT - Journal: Article EM - 201445 DD - 20141101

(161) Foucher KC, Schlink BR, Shakoor N, Wimmer MA. Sagittal plane hip motion reversals during walking are associated with disease severity and poorer function in subjects with hip osteoarthritis. J Biomech 2012; 45(8):1360-1365. Ref ID: 640 Abstract: A midstance reversal of sagittal plane hip motion during walking, or motion discontinuity (MD), has previously been observed in subjects with endstage hip osteoarthritis (OA) and in patients with femoroacetabular impingement. The goal of the present study was to evaluate whether this gait pattern is a marker of OA presence or radiographic severity by analyzing a large IRB approved motion analysis data repository. We also hypothesized that subjects with the MD would show more substantial gait impairments than those with normal hip motion. We identified 150 subjects with symptomatic unilateral hip OA and Kellgren-Lawrence OA severity data on file, and a control group of 159 asymptomatic subjects whose ages fell within 2 standard deviations of the mean OA group age. From the gait data, the MD was defined as a reversal in the slope of the hip flexion angle curve during midstance. Logistic regressions and general linear models were used to test the association between the MD and OA presence, OA severity and, other gait variables. 53% of OA subjects compared to 7.5% of controls had the MD (p<0.001); occurrence of the MD was associated with OA severity (p=0.009). Within the OA subject group, subjects with the MD had reduced dynamic range of motion, peak, extension, and internal rotation moments compared to those who did not (MANCOVA p </= 0.042) after controlling for walking speed. We concluded that sagittal plane motion reversals are indeed associated with OA presence and severity, and with more severe gait abnormalities in subjects with hip OA Notes: DA - 20120424 IS - 1873-2380 (Electronic) IS - 0021-9290 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(162) Fowler JR, Criner K, Craig MR. Prophylactic intramedullary fixation for bisphosphonate-related subtrochanteric stress fracture. Orthopedics 35 (6) ()(pp e954-e957), 2012 Date of Publication: June 2012 2012;(6):e954-e957. Ref ID: 356 Abstract: Bisphosphonates are the most widely used medication to treat osteoporosis. Recent reports have documented an association between chronic bisphosphonate use and femoral insufficiency fractures. This article describes an 84-year-old woman with a diagnosis of osteoporosis treated with bisphosphonate medications for 9 years. She presented with left groin pain, and magnetic resonance imaging revealed a subtrochanteric femoral stress fracture. Operative and nonoperative management was discussed with the patient, and she chose to undergo prophylactic intramedullary nailing of the left femur. Six months postoperatively, she was asymptomatic and ambulating without assistive devices. This article describes successful management of a bisphosphonate-related femoral insufficiency fracture. The presence of groin or thigh pain in a patient taking bisphosphonates should alert the physician to the possibility of insufficiency fracture of the proximal femur, and plain radiographs should be obtained. If these radiographs show lateral cortical thickening, consideration should be given to prophylactic intramedullary femoral nailing. The risks and benefits of prophylactic fixation vs conservative management should be discussed with the patient. A recent series showed a high failure rate with conservative treatment of these fractures. A dialogue with the primary care physician should be initiated to determine the necessity of bisphosphonate therapy, and, if deemed necessary, an alternative class of medications should be considered Notes: DB - Embase UI - 2012464620 IN - (Fowler, Criner, Craig) Department of Orthopaedics, Temple University Hospital, Outpatient Bldg., Zone B, 3401 N Broad St, Philadelphia, PA 19140, United States (Craig) Department of Orthopaedics, Abington Memorial Hospital, Abington, PA, United States CP - United States LG - English PT - Journal: Article EM - 201236 DD - 20120903

(163) Fraitzl CR, Kafer W, Nelitz M, Reichel H. Radiological evidence of femoroacetabular impingement in mild slipped capital femoral epiphysis: a mean follow-up of 14.4 years after pinning in situ. J Bone Joint Surg Br 2007; 89(12):1592-1596. Ref ID: 731 Abstract: Conventional treatment of mild slipped capital femoral epiphysis consists of fixation in situ with wires or screws. Recent contributions to the literature suggest that even a mild slip may lead to early damage of the acetabular labrum and adjacent cartilage by abutment of a prominent femoral metaphysis. It has been suggested that the appropriate treatment in mild slipped capital femoral epiphysis should not only prevent further slipping of the epiphysis, but also address potential femoroacetabular impingement by restoring the anatomy of the proximal femur. Between October 1984 and December 1995 we treated 16 patients for unilateral mild slipped capital femoral epiphysis by fixation in situ with Kirschner wires. In this study we have reviewed these patients for clinical and radiological evidence of femoroacetabular impingement. There was little clinical indication of impingement but radiological evaluation assessing the femoral head-neck ratio and measuring the Notzli alpha angle on the anteroposterior and cross-table radiographs showed significant alterations in the proximal femur. None of the affected hips had a normal head-neck ratio and the mean alpha angle was 86 degrees (55 degrees to 99 degrees ) and 55 degrees (40 degrees to 94 degrees ) on the anteroposterior and lateral cross-table radiographs, respectively. While our clinical data favours conventional treatment, our radiological findings are in support of restoring the anatomy of the proximal femur to avoid or delay the development of femoroacetabular impingement following mild slipped capital femoral epiphysis Notes: DA - 20071206 IS - 0301-620X (Print) IS - 0301-620X (Linking) LA - eng PT - Evaluation Studies PT - Journal Article SB - AIM SB - IM

(164) Frank RM, Lee S, Bush-Joseph CA, Kelly BT, Salata MJ, Nho SJ. Improved outcomes after hip arthroscopic surgery in patients undergoing T-capsulotomy with complete repair versus partial repair for femoroacetabular impingement: a comparative matched-pair analysis. Am J Sports Med 2014; 42(11):2634-2642. Ref ID: 562 Abstract: BACKGROUND: Hip capsular management after hip arthroscopic surgery for femoroacetabular impingement (FAI) is controversial. PURPOSE/HYPOTHESIS: To compare the clinical outcomes of patients undergoing hip arthroscopic surgery for FAI with T-capsulotomy with partial capsular repair (PR; closed vertical incision, open interportal incision) versus complete capsular repair (CR; full closure of both incisions). The hypothesis was that there would be improved clinical outcomes in patients undergoing CR compared with those undergoing PR. STUDY DESIGN: Cohort study; Level of evidence, 3. METHODS: Consecutive patients undergoing hip arthroscopic surgery for FAI by a single fellowship-trained surgeon from January 2011 to January 2012 were prospectively collected and analyzed. Inclusion criteria included all patients between ages 16 and 65 years with physical examination and radiographic findings consistent with symptomatic FAI, with a minimum 2-year follow-up. For analysis, patients were matched according to sex and age +/-2 years. Primary clinical outcomes were measured via the Hip Outcome Score Activities of Daily Living (HOS-ADL) and Sport-Specific (HOS-SS) subscales, the modified Harris Hip Score (mHHS), patient satisfaction (measured on a visual analog scale), and clinical improvement at baseline, 6 months, 1 year, and 2 years. Statistical analysis was performed utilizing Student paired and unpaired t tests, with P < .05 considered significant. RESULTS: A total of 64 patients were included in the study, with 32 patients (12 male, 20 female) in each group. The average follow-up was 29.9 +/- 2.6 months. There were no significant demographic differences between the groups. The CR group demonstrated significantly superior outcomes in the HOS-SS at 6 months (PR: 63.8 +/- 31.1 vs CR: 72.2 +/- 16.1; P = .039), 1 year (PR: 72.7 +/- 14.7 vs CR: 82.5 +/- 10.7; P = .006), and 2.5 years (PR: 83.6 +/- 9.6 vs CR: 87.3 +/- 8.3; P < .0001) after surgery. Patient satisfaction at final follow-up was significantly better in the CR group (PR: 8.4 +/- 1.0 vs CR: 8.6 +/- 1.1; P = .025). Both groups demonstrated significant improvements in the HOS-ADL (PR: 64.6 +/- 17.0 to 90.7 +/- 8.4 [P < .0001]; CR: 66.1 +/- 15.7 to 92.1 +/- 7.9 [P < .0001]) and HOS-SS (PR: 39.4 +/- 23.9 to 83.6 +/- 9.6 [P < .0001]; CR: 39.1 +/- 24.2 to 87.3 +/- 8.3 [P < .0001]) at final follow-up. There were no significant differences between the groups in the HOS-ADL at any time point. There were no significant differences in the mHHS between the groups at final follow-up (PR: 82.5 +/- 5.0 vs CR: 83.0 +/- 4.4; P = .364). The overall revision rate was 6.25%; all patients (n = 4) who required revision arthroscopic surgery were in the PR group (13% of 32 patients), while no patients in the CR group required revision surgery. CONCLUSION: While significant improvements were seen at 6 months, 1 year, and 2.5 years of follow-up regardless of the closure technique, patients who underwent CR of the hip capsule demonstrated superior sport-specific outcomes compared with those undergoing PR. There was a 13% revision rate in the PR group, but no patients in the CR group required revision surgery. While longer term outcome studies are needed to determine if these results are maintained over time, these data suggest improved outcomes after CR compared with PR at 2.5 years after hip arthroscopic surgery for FAI Notes: DA - 20141031 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(165) Fransen M, Agaliotis M, Bridgett L, MacKey MG. Hip and knee pain: Role of occupational factors. Best Practice and Research: Clinical Rheumatology 25 (1) ()(pp 81-101), 2011 Date of Publication: February 2011 2011;(1):81-101. Ref ID: 396 Abstract: Many people rely economically on occupations involving high loading of the hip or knee joints for lengthy periods, possibly placing them at increased risk of developing chronic pain in these joints. There is a growing body of evidence from large longitudinal cohort studies, case-control studies and population-based surveys that certain occupations, or having work involving considerable heavy lifting, kneeling or squatting, may be associated with increased risk of symptomatic hip or knee osteoarthritis and joint replacement surgery. Only a few studies have evaluated the effectiveness of specific workplace strategies to reduce this risk. Identifying modifiable workplace risk factors and implementing feasible and accessible preventative strategies will be of great public health significance in the next decade.Â© 2011 Elsevier Ltd. All rights reserved Notes: DB - Embase UI - 2011318477 IN - (Fransen, Agaliotis, Bridgett, MacKey) Clinical and Rehabilitation Sciences Research Group, Faculty of Health Sciences, University of Sydney, PO Box 170, Lidcombe, NSW 1825, Australia CP - United Kingdom LG - English PT - Journal: Article EM - 201100 DD - 20110617

(166) Freiberg A. Does a restricted hip joint range of motion influence the development of osteitis pubis in athletes? A systematic review. Physiotherapy (United Kingdom) Conference: World Physical Therapy 2011 Amsterdam Netherlands Conference Start: 20110620 Conference End: 20110623 Conference Publication: (var pagings) 97 ()(pp eS366-eS367), 2011 Date of Publication: June 2011 2011;(United Kingdom):eS366-eS367. Ref ID: 176 Abstract: Purpose: The purpose of this study was to review the literature systematically for trials about restrictions in the movement of the hip joint in athletes with Osteitis pubis. Relevance: Osteitis pubis is a non infectious inflammation of the symphysis and adductor muscle insertions. The disease affects mostly masculine athletes who play soccer, American football, ice hockey or rugby. The classical symptom is pain in the symphysis and the adductor muscles. The aetiology is unknown to date. Repetitive microtrauma, abnormal shear forces and an instability of the symphysis or the sacroilical joints are often described as aetiological factors. But only few trials regard the restricted hip joint range of motion (ROM) as one. Participants: No participants were required because this is a literature review. Methods: Trials with an aetiological study design were included. In a systematic, retrospective literature review the following databases were searched until February 2009: CINAHL, PubMed and Embase. The trials had to investigate the influence of a restriction hip joint range of motion (ROM) in athletes with osteitis pubis. Analysis: The author selected trials for inclusion, classified the evidence level according to the Oxford Centre for Evidence-based Medicine Levels of Evidence and investigated the methodological quality of each trial with the Critical Appraisal Skills Programme of the Public Health Resource Unit of the Oxford University. Results: A meta analysis was not possible due to the lack of information about the measurement methods in one of the trials. The athletes in the trial of Williams (1978) had an average internal rotation of 33.3degree (m= 33.3degree, sd = 7.02, n = 12). Verrall et al. (2005) showed an average internal rotation of 37.2degree (m= 37.2degree, sd = 10.6, n = 37). Asymptomatic athletes had a higher average internal rotation. The prospective study (Verrall et al., 2007) presented a smaller internal rotation of the dominant and non dominant leg in American football players with Osteitis pubis compared to healthy athletes (m(dominant leg) = 15.5degree, sd = 2.06; m(non dominant leg) = 15.5degree, sd = 1.32). The trials demonstrate a restricted internal rotation of the hip in athletes with osteitis pubis. According to Verrall et al. (2007) a limited hip joint ROM precedes athletic Osteitis pubis. Conclusions: A reduction in the hip joint ROM should be considered as an aetiological factor in athletes with Osteitis pubis. However there should be more evidence of high quality due to the fact that the three trials were only of moderate or good quality. Implications: A restriction in the movement of the hip joint should be regarded as one of the aetiological factors in Osteitis pubis. Enlarging the hip joint range of motion could help to prevent the development of Osteitis pubis in athletes Notes: DB - Embase UI - 71882673 LG - English PT - Journal: Conference Abstract EM - 201522 DD - 20150519

(167) Fukui S, Iwamoto N, Tsuji S, Umeda M, Nishino A, Nakashima Y et al. RS3PE syndrome with iliopsoas bursitis distinguished from an iliopsoas abscess using a CT-guided puncture. Internal Medicine 54 (13) ()(pp 1653-1656), 2015 Date of Publication: 01 Jul 2015 2015;(13):1653-1656. Ref ID: 163 Abstract: A 55-year-old man was diagnosed with remitting seronegative symmetrical synovitis with pitting edema (RS3PE) syndrome. Contrast-enhanced computed tomography for cancer screening showed a mass with lowdensity centers with an enhanced rim in the left iliopsoas muscle. We suspected an iliopsoas abscess and performed computed-tomography-guided puncture of the mass. Both Gram staining and the culture of the fluid were negative. We diagnosed the patient with RS3PE syndrome with iliopsoas bursitis and administered lowdose corticosteroids without antibiotics. The symptoms, including left hip pain, quickly disappeared following treatment. Clinicians should be aware that iliopsoas bursitis may resemble an iliopsoas abscess. As a result, it is important to make an accurate differential diagnosis Notes: DB - Embase UI - 2015180805 IN - (Fukui, Iwamoto, Tsuji, Umeda, Nishino, Nakashima, Suzuki, Horai, Koga, Kawashiri, Ichinose, Hirai, Tamai, Nakamura, Origuchi, Kawakami) Department of Immunology and Rheumatology, Nagasaki University, Graduate School of Biomedical Sciences, Japan (Kawashiri) Department of Public Health, Nagasaki University, Graduate School of Biomedical Sciences, Japan (Origuchi) Department of Rehabilitation Sciences, Nagasaki University, Graduate School of Biomedical Sciences, Japan CP - Japan LG - English PT - Journal: Article EM - 201530 DD - 20150715

(168) Ganz R, Leunig M, Leunig-Ganz K, Harris WH. The etiology of osteoarthritis of the hip: An integrated mechanical concept. Clinical Orthopaedics and Related Research 466 (2) ()(pp 264-272), 2008 Date of Publication: February 2008 2008;(2):264-272. Ref ID: 477 Abstract: The etiology of osteoarthritis of the hip has long been considered secondary (eg, to congenital or developmental deformities) or primary (presuming some underlying abnormality of articular cartilage). Recent information supports a hypothesis that so-called primary osteoarthritis is also secondary to subtle developmental abnormalities and the mechanism in these cases is femoroacetabular impingement rather than excessive contact stress. The most frequent location for femoroacetabular impingement is the anterosuperior rim area and the most critical motion is internal rotation of the hip in 90degree flexion. Two types of femoroacetabular impingement have been identified. Cam-type femoroacetabular impingement, more prevalent in young male patients, is caused by an offset pathomorphology between head and neck and produces an outside-in delamination of the acetabulum. Pincer-type femoroacetabular impingement, more prevalent in middle-aged women, is produced by a more linear impact between a local (retroversion of the acetabulum) or general overcoverage (coxa profunda/protrusio) of the acetabulum. The damage pattern is more restricted to the rim and the process of joint degeneration is slower. Most hips, however, show a mixed femoroacetabular impingement pattern with cam predominance. Surgical attempts to restore normal anatomy to avoid femoroacetabular impingement should be performed in the early stage before major cartilage damage is present. Level of Evidence: Level V, therapeutic study. See the Guidelines for Authors for a complete description of levels of evidence. Â© 2008 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2008315328 IN - (Ganz, Leunig) University of Berne, Berne, Switzerland (Ganz) Department of Orthopaedics, Balgrist University Hospital, Zurich, Switzerland (Leunig) Hip Service, Department of Orthopaedics, Schulthess Clinic, Lengghalde 2, Zurich CH-8008, Switzerland (Leunig-Ganz) Maternity Department, Triemli City Hospital, Zurich, Switzerland (Harris) Harvard Medical School, Massachusetts General Hospital, Harris Orthopedic Biomechanics and Biomaterials Lab., Boston, MA, United States CP - United States LG - English PT - Journal: Conference Paper EM - 200800 DD - 20080723

(169) Garvey JF, Read JW, Turner A. Sportsman hernia: what can we do? Hernia 2010; 14(1):17-25. Ref ID: 694 Abstract: INTRODUCTION: Sportsman (sports) hernia is a medially located bulge in the posterior wall of the inguinal canal that is common in football players. About 90% of cases occur in males. The injury is also found in the general population. CLINICAL PRESENTATION: The presenting symptom is chronic groin pain which develops during exercise, aggravated by sudden movements, accompanied by subtle physical examination findings and a medial inguinal bulge on ultrasound. Pain persists after a game, abates during a period of lay-off, but returns on the resumption of sport. Frequently, sports hernia is one component of a more extensive pattern of injury known as 'groin disruption injury' consisting of osteitis pubis, conjoint tendinopathy, adductor tendinopathy and obturator nerve entrapment. RISK FACTORS: Certain risk factors have been identified, including reduced hip range of motion and poor muscle balance around the pelvis, limb length discrepancy and pelvic instability. The suggested aetiology of the injury is repetitive athletic loading of the symphysis pubis disc, leading to accelerated disc degeneration with consequent pelvic instability and vulnerability to micro-fracturing along the pubic osteochondral junction, periosteal stripping of the pubic ligaments and para-symphyseal tendon tears, causing tendon dysfunction. RADIOLOGY: Diagnostic imaging includes an erect pelvic radiograph (X-ray) with flamingo stress views of the symphysis pubis, real-time ultrasound and, occasionally, computed tomography (CT) scanning and magnetic resonance imaging (MRI), but seldom contrast herniography. Other imaging tests occasionally performed can include nuclear bone scan, limb leg measurement and test injections of local anaesthetic/corticosteroid. PREVENTION AND TREATMENT: The injury may be prevented by the detection and monitoring of players at risk and by correcting significant limb length inequality. Groin reconstruction operation consists of a Maloney darn hernia repair technique, repair of the conjoint tendon, transverse adductor tenotomy and obturator nerve release. Rehabilitation involves core stabilisation exercises and the maintenance of muscle control and strength around the pelvis. OUTCOME: Using this regimen of groin reconstruction and post-operative rehabilitation, a player would be anticipated to return to their pre-injury level of activity approximately 3 months after surgery Notes: DA - 20100216 IS - 1248-9204 (Electronic) IS - 1248-9204 (Linking) LA - eng PT - Journal Article SB - IM

(170) Gebhart JJ, Streit JJ, Bedi A, Bush-Joseph CA, Nho SJ, Salata MJ. Correlation of pelvic incidence with cam and pincer lesions. Am J Sports Med 2014; 42(11):2649-2653. Ref ID: 564 Abstract: BACKGROUND: The sacropelvic parameter of pelvic incidence (PI) is a position-independent anatomic parameter that regulates lumbar lordosis and pelvic orientation. While it has been extensively studied in relation to spine pathology, only a single study has correlated PI with femoroacetabular impingement (FAI). HYPOTHESIS: Decreased PI would be associated with an increased prevalence of cam and pincer lesions. STUDY DESIGN: Controlled laboratory study. METHODS: Measurements of the acetabulum, proximal femur, and sacropelvis were made bilaterally on 40 cadaveric specimens, for a total of 80 hips. Twenty specimens had the presence of bilateral cam deformities (alpha angle >55 degrees ), and 20 age- and sex-matched specimens had bilateral normal hips. Pincer lesions were defined as an anteversion <15 degrees . Pelvic incidence and acetabular version were measured using standardized lateral photographs and a goniometer, respectively. Independent-samples t tests were performed to evaluate for differences in measured parameters between groups. RESULTS: The mean PI was 43.1 degrees +/- 8.6 degrees for hips with a cam lesion and 47.7 degrees +/- 9.3 degrees for normal hips, demonstrating a significant association between decreased PI and the presence of a cam lesion (P = .02). The mean version of acetabula with pincer lesions (n = 28) was 11.4 degrees +/- 2.5 degrees , and the mean version of normal acetabula (n = 52) was 20.1 degrees +/- 3.8 degrees . The mean PI of hips with pincer lesions was 42.5 degrees +/- 8.5 degrees , significantly less than that of normal hips, 47.0 degrees +/- 9.2 degrees (P = .04). CONCLUSION: This study supports a recent study that suggested patients with pincer impingement have a smaller PI than the healthy population, and it is the first to demonstrate a significant association between decreased PI and cam-type femoral deformity. Based on results of this study, further clinical study of the effects of pelvic geometry on FAI is warranted. CLINICAL RELEVANCE: While the study results do not prove a causal relationship, it is theorized that the restriction of range of motion and biomechanical adaptations of the pelvis around the hip joints resulting from a smaller PI may affect hip development and FAI. The influence of mechanical factors beyond the hip joint in the development of FAI should be considered by clinicians Notes: DA - 20141031 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(171) Geiser CF, O'Connor KM, Earl JE. Effects of isolated hip abductor fatigue on frontal plane knee mechanics. Med Sci Sports Exerc 2010; 42(3):535-545. Ref ID: 695 Abstract: PURPOSE: Anterior cruciate ligament injuries and patellofemoral pain syndrome are both common and significant injuries to the knee that have been associated with hip weakness. Prospective studies have linked the risk of experiencing either injury to alterations in the frontal plane knee angle and moment during activity. These components of knee mechanics are theorized to be affected by hip abductor weakness. The purpose of this study was to identify the effects of isolated hip abductor fatigue-induced weakness on lower extremity kinematics and kinetics in recreationally active women. METHODS: Twenty participants performed cut, jump, and run tasks off a raised platform while three-dimensional motion analysis data were collected.Participants then performed an isolated hip abductor fatigue protocol in side lying against isokinetic resistance, followed immediately by repeated biomechanical data collection. Separate repeated-measures ANOVA (P G 0.05) were used for each dependent variable. RESULTS: After the hip fatigue protocol, regardless of task, the knee angle at initial ground contact was more adducted (pre = 0.7 degrees +/- 3.4 degrees, post = 1.2 degrees +/- 3.9 degrees, F(1,19) = 5.3, P = 0.032), the knee underwent greater range of motion into abduction (pre = 0.7 degrees +/- 1.5 degrees, post = 2.1 degrees +/- 1.6 degrees, F(1,19) = 73.2, P < 0.001), and there was a greater internal knee adductor moment (pre = -2.6 +/- 13.3 N x m, post = 4.7 +/- 14.1 N x m, F(1,19) = 41.0, P < 0.001) during the weight acceptance phase of stance. CONCLUSIONS: This study demonstrates that simulated hip abductor weakness causes small alterations of frontal plane knee mechanics. Although some of these alterations occurred in directions associated with increased risk of knee injury, changes were small in magnitude, and the effect of these small changes on knee injury risk is unknown Notes: DA - 20100302 IS - 1530-0315 (Electronic) IS - 0195-9131 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM SB - S

(172) Gellert C. Exploring hip pain: Femoroacetabular Impingement. IDEA Fitness Journal 2012; 9(2):42-50. Ref ID: 24 Notes: IS - 2

(173) Genovese E, Spiga S, Vinci V, Aliprandi A, Di Pietto F, Coppolino F et al. Femoroacetabular impingement: role of imaging. Musculoskelet Surg 2013; 97 Suppl 2:S117-S126. Ref ID: 601 Abstract: The femoroacetabular impingement (FAI) is an impingement characterized by repetitive abutment between the femur and the acetabular rim during hip motion due to loss of joint clearance (Imam and Khanduja in Int Orthop 35(10):1427-1435, 2011; James et al. in AJR Am J Roentgenol 187(6):1412-1419, 2006). Femoroacetabular impingement (FAI) can be classified as either cam or pincer type, and it can be differentiated on the basis of a predominance of either a femoral or an acetabular abnormality (Pfirrmann et al. in Radiology 244(2):626, 2007; Ganz et al. in Clin Orthop Relat Res 466(2):264-272, 2008). In cases of cam FAI, the nonspherical shape of the femoral head at the femoral head-neck junction and reduced depth of the femoral waist lead to abutment of the femoral head-neck junction against the acetabular rim. In cases of pincer FAI, acetabular overcoverage limits the range of motion and leads to a conflict between the acetabulum and the femur. The most important role of preoperative MR evaluation in patients affected by FAI is the accurate assessment of the damage's extension Notes: DA - 20130816 IS - 2035-5114 (Electronic) IS - 2035-5114 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(174) Geoghegan JM, Geutjens GG, Downing ND, Colclough K, King RJ. Hip extension strength following hamstring tendon harvest for ACL reconstruction. Knee 14 (5) ()(pp 352-356), 2007 Date of Publication: October 2007 2007;(5):352-356. Ref ID: 488 Abstract: Hamstring autograft harvest for ACL reconstruction may have an effect on hip extension strength and this may be important especially in sports that involve high speed running such as soccer, rugby, American football and the sprint disciplines of track and field. This aspect of hamstring tendon harvesting has not been looked at before. We have performed a non-randomised prospective case control study comparing isokinetic hip extension strength following four strand semitendinosus and gracilis tendons (4SHS) and bone-patellar tendon-bone (BPTB) autografts in ACL reconstruction. Isokinetic hip extension was assessed at 3 and 12 months post-operatively using a Kin-Com machine at a speed of 30degree per second. Three months post-operatively there was a significant decrease (p < 0.05) in the peak force of concentric hip extension in the 4SHS group. There was no evidence that hip extension is weaker following ACL reconstruction with 4SHS tendon autograft than ACL reconstruction with BPTB autograft at 12 months post-operatively. We find no contra-indication to the use of 4SHS tendon autografts in ACL reconstruction in patients who wish to preserve hip extension strength for their sporting activities. Â© 2007 Elsevier B.V. All rights reserved Notes: DB - Embase UI - 2007435729 IN - (Geoghegan, Geutjens, Colclough, King) Derbyshire Royal Infirmary, Derby, United Kingdom (Downing) Queen's Medical Centre, Nottingham, United Kingdom CP - Netherlands LG - English PT - Journal: Article EM - 200700 DD - 20070918

(175) Geraci MC, Jr., Brown W. Evidence-based treatment of hip and pelvic injuries in runners. Phys Med Rehabil Clin N Am 2005; 16(3):711-747. Ref ID: 751 Abstract: The runner is especially at risk for development of injury to the hip and pelvis secondary to chronic repetitive microtrauma. The key to treatment is establishing complete and accurate diagnosis, and, in particular, identifying the functional biomechanical deficits in the kinetic chain that contribute to this repetitive microtrauma. A long-term successful outcome and prevention of reinjury are more likely if the focus of rehabilitation is on the restoration of the functional kinetic chain, rather than on a specific injured tissue. For example, the typical treatment of "iliotibial band syndrome" is a stretching protocol that frequently is unsuccessful in the long-term improvement of symptoms. A functional biomechanical approach might identify that the injured runner has lack of calcaneal eversion and a structurally rigid supinated foot. These functional biomechanical deficits would lead to inadequate internal rotation of the tibia and femur and result in inhibition or decreased recruitment of the gluteal muscles, in particular the gluteus medius. Restoring pronation throughout the lower extremity would require joint play techniques or functional joint mobilizations for the foot and ankle. In addition, a running shoe with a cushioned heel may be necessary to promote pronation and to attenuate shock. Exercises that integrate foot and hip function, including balance reaches, lunges and step-downs, are prescribed to stimulate the gluteus medius and other gluteals in positions that simulate running. Activities that are done in this manner activate the entire functional kinetic chain of muscles and joints. The nonoperative sports medicine specialist, in particular the physiatrist and physical therapist, are in an excellent position to integrate treatment of the entire functional kinetic chain through a thorough biomechanical evaluation and comprehensive rehabilitation of the injured runner. Additional training in the areas of biomechanical evaluation and functional biomechanical deficits should be sought, because residency and even many fellowship-trained programs often overlook these important areas. Finally, the injured runner is best taken care of in a setting in which different sports medicine specialists are available and work well as a team. No one sports medicine specialist can provide all of the needs to the injured runner Notes: DA - 20050711 IS - 1047-9651 (Print) IS - 1047-9651 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(176) Gerdesmeyer L, Gollwitzer H, Bader R, Rudert M. Surgical approaches in hip resurfacing. [German]. Orthopade 37 (7) ()(pp 650-658), 2008 Date of Publication: July 2008 2008;(7):650-658. Ref ID: 481 Abstract: A large variety of approaches are described for standard total hip arthroplasty. All of them are technically based on three different approaches: anterior, anterolateral, or posterior. In recent hip resurfacing, the posterior approach is common, due to large instruments used to ream the femur. Better exposure of the acetabulum is achieved by the posterior approach, but this technique puts the important extraosseous blood supply to the femoral head at risk. The anterior approach preserves blood supply and gives better options to treat the femoroacetabular impingement. If specific surgical modifications and instruments designed for minimally invasive surgery are used, hip resurfacing can be performed with an anterolateral technique. Excellent functional and clinical outcomes have been reported after all three approaches. Â© 2008 Springer Medizin Verlag Notes: DB - Embase UI - 2008362972 IN - (Gerdesmeyer) Department fur Endoprothetik und Wirbelsaulenchirurgie, Mare-Klinikum, Kiel-Kronshagen, Germany (Gollwitzer, Rudert) Klinik fur Orthopadie und Unfallchirurgie, Technische Universitat Munchen, Munchen, Germany (Bader) Klinik fur Orthopadie, Universitat, Rostock, Germany (Gerdesmeyer) Department fur Endoprothetik und Wirbelsaulenchirurgie, Mare-Klinikum, Eckernforder Strase 219, 24119 Kiel-Kronshagen, Germany CP - Germany OT - Zugangswege zum oberflachenersatz am huftgelenk LG - German PT - Journal: Article EM - 200800 DD - 20080818

(177) Giannini S, Chiarello E, Cadossi M, Tedesco G. Is poli-carbonate - Urethane on metal a viable solution for the treatment of femoral neck fractures in severe osteoporotic elderly patients? Osteoporosis International Conference: IOF World Congress on Osteoporosis and 10th European Congress on Clinical and Economic Aspects of Osteoporosis and Osteoarthritis, IOF WCO - ECCEO 10 Florence Italy Conference Start: 20100505 Conference End: 201005 2010;(var.pagings):S173-S174. Ref ID: 449 Abstract: Aims: The purpose of this clinical study was to evaluate the efficacy of a new acetabular cup made in Poly-Carbonate-Urethane (PCU) coupled with large femoral metal head in elderly patients affected by Displaced Intracapsular Femoral Neck Fracture (DIF-NF) and DXA diagnosis of osteoporosis. Methods: Between September 2006 and January 2010, 30 patients were enrolled in the study; six patients that missed the Follow-Up (FU) were excluded from the analysis. Inclusion criteria were: age between 65 and 90, DIFNF type 3 and 4, according to Garden's classification requiring hip joint replacement, T-score < -2.5 SD, prior ambulating status. Exclusion criteria were: patients unable to understand and sign the informed consent and patients with malignant tumor. An uncemented tapered stem was implanted in all patients. Outcomes included: Harris Hip Score (HHS), Range Of Motion (ROM) and radiological assessment. Results: Six males, 18 females were evaluated, mean age was 80.5 (range 65 to 89). The main T-score, was -2.9 (range -2.5 to -3.8). Clinical assessment was performed at 1, 3, 6 and at 12 months following surgery, afterward once every year. Four patients completed 24 months follow-up (FU), 14 patients completed 12 months FU, 5 patients completed 6 months FU and one 3 months FU. The latest HHS was excellent in 8 patients; good in 8; fair in 4 and poor in 4; 19 patients had no hip pain. five patients at 6 months FU had some groin pain. (HHS pain sub-score: 30 out of 44, with the 44 being no pain). No radiolucent areas were found. The ROM in all operated hips was similar to the contralateral hip. (Graph presented). Conclusions: Standard implants are made of stiff materials, such as metals, ceramics or polymers. However, they failed to provide the significant function of shock-absorption, as provided naturally by cartilage. The direct contact between rigid implants and acetabular bone, is suspected to be the major cause of surgical failures of current devices. The PCU cup reduces the pressure between the metal head and acetabular bone. Moreover the large femoral head (sizes 44-50mm) reduces the risk of dislocation or subluxation. The potential advantages of PCU pliable cup are the minimal bone removal and the preservation of acetabular bone stock over time thus avoiding acetabular protrusion. Our preliminary results in elderly osteoporotic patients demonstrate safety of the device and good clinical results, nevertheless longer FU is necessary Notes: DB - Embase UI - 70225970 IN - (Giannini, Chiarello, Cadossi, Tedesco) Instituteo Ortopedico Rizzoli, Bologna University, Bologna, Italy LG - English PT - Journal: Conference Abstract EM - 200900 DD - 20100804

(178) Girard J. Femoral head diameter considerations for primary total hip arthroplasty. Orthop Traumatol Surg Res 2015; 101(1 Suppl):S25-S29. Ref ID: 545 Abstract: The configuration of total hip arthroplasty (THA) implants has constantly evolved since they were first introduced. One of the key components of THA design is the diameter of the prosthetic femoral head. It has been well established that the risk of dislocation is lower as the head diameter increases. But head diameter impacts other variables beyond joint stability: wear, cam-type impingement, range of motion, restoration of biomechanics, proprioception and groin pain. The introduction of highly cross-linked polyethylene and hard-on-hard bearings has allowed surgeons to implant large-diameter heads that almost completely eliminate the risk of dislocation. But as a result, cup liners have become thinner. With femoral head diameters up to 36 mm, the improvement in joint range of motion, delay in cam-type impingement and reduction in dislocation risk have been clearly demonstrated. Conversely, large-diameter heads do not provide any additional improvements. If an "ecologically sound" approach to hip replacement is embraced (e.g. keeping the native femoral head diameter), hip resurfacing with a metal-on-metal bearing must be carried out. The reliability of large-diameter femoral heads in the longer term is questionable. Large-diameter ceramic-on-ceramic bearings may be plagued by the same problems as metal-on-metal bearings: groin pain, squeaking, increased stiffness, irregular lubrication, acetabular loosening and notable friction at the Morse taper. These possibilities require us to be extra careful when using femoral heads with a diameter greater than 36 mm Notes: DA - 20150210 IS - 1877-0568 (Electronic) IS - 1877-0568 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(179) Gollwitzer H, Hapfelmeier A, Pinkas D. Clinical and radiologic risk factors of acetabular chondral damage in femoroacetabular impingement syndrome. Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: Annual Scientific Meeting of the International Society for Hip Arthroscopy 2013, ISHA 2013 Munich Germany Conference Start: 20131010 Conference End: 20131012 Conference Publication: 2013;(var.pagings):e212-e213. Ref ID: 267 Abstract: Objectives: Deformities suggestive of femoroacetabular impingement syndrome (FAI) are common in young adults. Since non-invasive measures like MRI provide only limited accuracy to appropriately predict acetabular cartilage damage, valid parameters indicating patients at risk to develop significant chondral defects and osteoarthritis are urgently warranted. Both reduced internal rotation and increased alpha angle have been previously shown to be associated with an increased risk of acetabular chondral injury. The objective of the present study was to investigate the association between various clinical and radiographic parameters and the severity of acetabular cartilage damage. Methods: A total of 320 consecutive hip arthroscopies performed by a single surgeon were retrospectively reviewed. Subjects were included in the study if arthroscopic surgery was performed to correct deformities causing FAI. The following exclusion criteria were defined: previous surgery, intra-articular comorbidities (e.g. synovial chondromatosis), other prearthritic deformities (e.g. significant hip dysplasia), systemic inflammatory and musculoskeletal disease, post-traumatic cartilage damage, and insufficient joint distraction to assess the central compartment. Clinical data as well as X-ray and MRI parameters were recorded. The degree of cartilage damage was classified according to Beck et al. distinguishing (0) normal cartilage; (1) softening, surface roughening, fibrillation; (2) loss of fixation to subchondral bone, carpet phenomenon; (3) delamination, frayed edges, flap; and (4) full-thickness defects. Furthermore, the distance of the damaged cartilage extending from the chondrolabral junction to the central fossa was classified as follows: (0) no cartilage damage, (1) = 0.5 cm, (2) >0.5- 1.0 cm, (3) >1.0-1.5 cm, (4) >1.5-2.0 cm, (5) >2.0 cm. Results: 193 hips of 157 patients (50 women, 107 men) with an average age of 34 years (range, 17-67) met the inclusion criteria. Proportional odds logistic regression analysis revealed the following risk factors to be significantly associated with both a higher degree (p<0.05) as well as a larger size (p<0.05) of acetabular chondral damage: male gender, higher age at the time of surgery, reduced (internal) rotation, cam-type deformity, pistol grip deformity, positive horizontal growth plate sign, larger alpha angle, larger 1/2 radial height/radius ratio, smaller femoral head-neck offset, and larger acetabular depth. Regression analysis failed to demonstrate a significant association between cartilage damage and duration of symptoms, moderate coxa vara or coxa valga, center edge angle, cross-over sign, ischial spine sign, coxa profunda, prominent posterior wall, linear indentation sign, herniation pits, os acetabuli, and epiphyseal torsion angle. Conclusions: Our study provides important information on risk factors predicting more severe cartilage injury in FAI. The results might help to identify those patients at higher risk to develop severe chondral damage and osteoarthritis Notes: DB - Embase UI - 71271408 IN - (Gollwitzer, Hapfelmeier, Pinkas) Germany LG - English PT - Journal: Conference Abstract EM - 201401 DD - 20131227

(180) Goost H, Kabir K, Wirtz D, Rohrig H, Burger C, Weber O. [Bilateral femoral neck fracture after seizure]. Z Orthop Unfall 2009; 147(5):567-569. Ref ID: 700 Abstract: Femoral neck fractures after seizure are rare. This injury can easily be underdiagnosed due to generalised, musculoskeletal pain after seizure. In case of persisting groin pain and limited range of motion X-rays are indicated. Within the first 6 hours after the trauma a joint-preserving therapy is possible. After a delayed diagnosis total hip arthroplasty is necessary. As the result of prolonged intra-articular haematoma the incidence of a femoral head necrosis increases. When choosing the implant, an elevated risk of joint dislocation should be considered Notes: DA - 20091006 IS - 1864-6697 (Print) IS - 1864-6697 (Linking) LA - ger PT - Case Reports PT - English Abstract PT - Journal Article RN - 0 (Anticonvulsants) SB - IM

(181) Gorgey AS, Chiodo AE, Zemper ED, Hornyak JE, Rodriguez GM, Gater DR. Original contribution: Relationship of spasticity to soft tissue body composition and the metabolic profile in persons with chronic motor complete spinal cord injury. Journal of Spinal Cord Medicine 33 (1) ()(pp 6-15), 2010 Date of Publication: 2010 2010;(1):6-15. Ref ID: 431 Abstract: Background/Objective: To determine the effects of spasticity on anthropometrics, body composition (fat mass [FM] and fat-free mass [FFM]), and metabolic profile (energy expenditure, plasma glucose, insulin concentration, and lipid panel) in individuals with motor complete spinal cord injury (SCI). Methods: Ten individuals with chronic motor complete SCI (age, 33 +/-7 years; BMI, 24 +/-4 kg/m<sup>2</sup>; level of injury, C6-T11; American Spinal Injury Association A and B) underwent waist and abdominal circumferences to measure trunk adiposity. After the first visit, the participants were admitted to the general clinical research center for body composition (FFM and FM) assessment using dual energy x-ray absorptiometry. After overnight fasting, resting metabolic rate (RMR) and metabolic profile (plasma glucose, insulin, and lipid profile) were measured. Spasticity of the hip, knee, and ankle flexors and extensors was measured at 6 time points over 24 hours using the Modified Ashworth Scale. Results: Knee extensor spasticity was negatively correlated to abdominal circumferences (r = -0.66, P = 0.038). After accounting for leg or total FFM, spasticity was negatively related to abdominal circumference (r = -0.67, P = 0.03). Knee extensor spasticity was associated with greater total %FFM (r = 0.64; P = 0.048), lower %FM (r = -0.66; P = 0.03), and lower FM to FFM ratio. Increased FFM (kg) was associated with higher RMR (r = 0.89; P = 0.0001 ). Finally, spasticity may indirectly influence glucose homeostasis and lipid profile by maintaining FFM (r = -0.5 to -0.8, P < 0.001). Conclusion: Significant relationships were noted between spasticity and variables of body composition and metabolic profile in persons with chronic motor complete SCI, suggesting that spasticity may play a role in the defense against deterioration in these variables years after injury. The exact mechanism is yet to be determined. Â© 2010 by the American Paraplegia Society Notes: DB - Embase UI - 2010258445 IN - (Gorgey, Gater) Spinal Cord Disorders Service, Hunter Holmes McGuire VA Medical Center, 1201 Broad Rock Boulevard, Richmond, VA 23249, United States (Gorgey, Chiodo, Zemper, Hornyak, Rodriguez) Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI, United States (Gater) Department of Physical Medicine and Rehabilitation, Virginia Commonwealth University, Richmond, VA, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100527

(182) Graham HK, Boyd R, Carlin JB, Dobson F, Lowe K, Nattrass G et al. Does botulinum toxin a combined with bracing prevent hip displacement in children with cerebral palsy and "hips at risk"? A randomized, controlled trial. J Bone Joint Surg Am 2008; 90(1):23-33. Ref ID: 729 Abstract: BACKGROUND: Cerebral palsy is the most common cause of childhood physical disability in developed countries, affecting two children per 1000 live births. Hip displacement affects about one-third of children with cerebral palsy and may result in pain, deformity, and impaired function. The prevention of hip displacement has not been studied in a randomized trial as far as we know. METHODS: A randomized, controlled trial was conducted to examine the effect of intramuscular injections of botulinum toxin A combined with use of a variable hip abduction brace on the progression of hip displacement in children with cerebral palsy. The patients in the treatment group received injections of botulinum toxin A to the adductor and hamstring muscles every six months for three years and were prescribed a hip abduction brace to be worn for six hours per day. In the control group, no hip bracing was used nor were injections performed. The primary outcome measure was hip displacement from the acetabulum as determined by serial measurements of the migration percentage. RESULTS: Ninety children with bilateral cerebral palsy and so-called hips at risk (a migration percentage of >10% but <40%) were entered into the study. Fifty-nine patients were boys, and the mean age was three years. Progressive hip displacement, as determined by serial measurements of the migration percentage, was found in both the treatment and control groups. The rate of hip displacement was reduced in the treatment group by 1.4% per year (95% confidence interval, -0.6% to 3.4%; p = 0.16) when weighted for the uncertainty in rates due to the differing numbers of migration percentage measurements per subject. CONCLUSIONS: There may be a small treatment benefit for the combined intervention of intramuscular injection of botulinum toxin A and abduction hip bracing in the management of spastic hip displacement in children with cerebral palsy. However, progressive hip displacement continued to occur in the treatment group, and our data do not support recommending this treatment Notes: DA - 20080103 IS - 1535-1386 (Electronic) LA - eng PT - Clinical Trial, Phase III PT - Journal Article PT - Multicenter Study PT - Randomized Controlled Trial PT - Research Support, Non-U.S. Gov't RN - EC 3.4.24.69 (Botulinum Toxins, Type A) SB - AIM SB - IM

(183) Graves ML, Mast JW. Femoroacetabular impingement: do outcomes reliably improve with surgical dislocations? Clin Orthop Relat Res 2009; 467(3):717-723. Ref ID: 718 Abstract: Femoroacetabular impingement is a motion-based concept of conflict that occurs secondary to morphologic abnormalities of the proximal femur and/or acetabulum. Creating impingement-free motion through restoration of normal morphology serves as the goal of joint-preserving procedures. We retrospectively reviewed the short-term functional and radiographic outcomes of 46 patients (48 hips) with femoroacetabular impingement treated with a surgical dislocation and restoration of offset. The average Merle D'Aubigne-Postel score improved from a preoperative of 13 (range, 7-16 +/- 1.7) to a postoperative score of 16.8 (range, 12-18 +/- 1.3). Creating impingement-free motion via a surgical dislocation improves symptoms in patients with limited radiographic signs of arthritis who are experiencing impingement-related hip pain Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(184) Griffee S, Sellon JL. Exertional thigh pain in a competitive recreational runner. Clinical Journal of Sport Medicine Conference: 23rd Annual Meeting of the American Medical Society for Sports Medicine New Orleans, LA United States Conference Start: 20140405 Conference End: 20140409 Conference Publication: (var pagings) 24 (2) ()(pp 2014;(var.pagings):e11-e12. Ref ID: 220 Abstract: History: A 44-year-old recreational competitive runner presented to sports medicine clinic with exertional anterior thigh pain. Three years prior, he developed anterior thigh pain during a 5k race. He described a relatively rapid onset of severe, left mid anterior thigh pain. The pain resolved within 30 seconds of stopping running. Over the past several years, he described pain recurrence during running with increasing frequency. Initially, the pain occurred only at about a 5:30 per mile running pace, but at the time of presentation, symptoms were provoked at about 7:30 per mile pace. He associated the pain with running at high speed, long duration, or hill running. The pain never occurred at rest. He denied distal leg pain, paresthesia, or weakness. Other than mild hypercholesterolemia, the patient had no known risk factors for peripheral vascular disease. Physical Examination: General: Fit-appearing, male in no acute distress. Skin: Normal in the left lower limb. Vessels: Toes were warm and appear well perfused bilaterally. No lower limb edema. Slightly decreased dorsalis pedis pulse on the left side compared to the right. Pulses did not change with active plantarflexion or passive dorsiflexion. Neurologic: Normal gait. Mild dynamic valgus knee instability on partial single leg squats, but otherwise normal strength and muscle stretch reflexes in the bilateral lower limbs. Straight leg raise and femoral nerve stretch test negative for radicular symptoms. Left thigh: No muscle atrophy noted. No tenderness to palpation or masses palpated. Symmetric hip flexor tightness with Ely's test; otherwise normal hip range of motion. Negative fulcrum, anterior impingement, FABER, logroll, and Stinchfield tests. Knees: Full non-painful knee range of motion bilaterally. Knee ligaments stable in all planes. No tenderness about the knees. Differential Diagnosis: Vascular claudication; Quadriceps muscle hernia; Quadriceps strain; L2/L3/L4 radiculopathy; Femoroacetabular impingement; Psoas tendinopathy. Tests & Results: Left Hip Radiographs: Cam type femoral head deformity with preserved hip joint. MRI Left Thigh: Normal-no evidence of quadriceps muscle hernia or injury. Left Hip MR Arthrogram: Small anterosuperior labral tear; otherwise unremarkable. Ankle Brachial Indices: Left: Rest 1.19; Post-exercise 0.53 (1-min), 0.62 (3-min), 0.79 (5-min). Negative popliteal artery entrapment maneuvers. Right: Rest 1.04; Post-exercise 0.81 (1-min), 0.93 (3-min), 1.00 (5-min). Doppler Ultrasound: Left common femoral artery showed post-exercise biphasic waveforms. Otherwise normal. CT Angiogram: Subtle narrowing of left external iliac artery. Final/Working Diagnosis: External iliac artery endofibrosis (EIAE)- Although EIAE is a common cause for anterior thigh and leg pain in cyclists, it is also important to consider this diagnosis in running-related lower limb pain. Maree et al (Vasc Med 2007) reported on a similar case of EIAE in a runner with predominantly anterior thigh pain. It is possible that runners with this condition may be more likely to manifest symptoms in the thigh. Further reports of EIAE in runners will help clarify unique clinical features. Treatment: The patient was referred to Vascular Medicine for management. His arterial lesion was not amenable to endovascular treatment. He was offered conservative management (running modification) versus surgical revascularization. Outcome: Given the invasive nature of the procedure, the patient declined surgical intervention. Return to Activity and Follow-Up: The patient resumed moderate-intensity, sub-symptom threshold, recreational running. He has discontinued competitive running Notes: DB - Embase UI - 71702981 IN - (Griffee, Sellon) Mayo Clinic, Rochester, MN, United States LG - English PT - Journal: Conference Abstract EM - 201450 DD - 20141204

(185) Grishkevich VM. Postburn perineal obliteration: Elimination of perineal, inguinal, and perianal contractures with the groin flap. Journal of Burn Care and Research 31 (5) ()(pp 786-790), 2010 Date of Publication: September-October 2010 2010;(5):786-790. Ref ID: 439 Abstract: Deep burns of the perineum result in perineal obliteration, hip adduction contracture, and limitation of hip range of motion. Bodily hygiene becomes difficult to maintain. Perineal obliteration is often combined with inguinal and perianal contractures and genitalia injury. These factors present a challenge for the surgeon. The extreme scar surface deficit and the fold absence in the perineal region do not allow contracture elimination with local tissues. As skin grafts shrink, success can be achieved only by using pedicled or free flaps. The groin flap is an excellent tissue for simultaneous perineal, inguinal, and anal reconstruction. In cases involving both perineal and inguinal contractures, two groin flaps can be used simultaneously. The groin flap has steady axis blood circulation that prevents postoperative complications. The donor wound is primarily closed or partially covered with superficial inferior epigastric artery flap (bilobed flap). Corrective procedure is required for "dog-ear" elimination. In children, the flap continues to grow, thus preventing contracture recurrence. Good results have been achieved in four operated patients. This allows one to make the following conclusion: In cases in which the abdominal wall is healthy or not severely injured by scars, groin flap plasty can be considered as a preferable technique for obliterated perineum and multiple perineo-inguino-anal reconstruction in burned adult and pediatric patients. Â© 2010 by the American Burn Association Notes: DB - Embase UI - 2010552757 IN - (Grishkevich) Department of Reconstructive and Plastic Surgery, A.V. Vishnevsky Institute of Surgery, Russian Academy of Medical Sciences, Moscow, Russian Federation CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101025

(186) Gross TP, Liu F. Hip resurfacing with the Biomet Hybrid ReCap-Magnum system: 7-year results. J Arthroplasty 2012; 27(9):1683-1689. Ref ID: 636 Abstract: The purpose of this study was to report our clinical outcome of a large series of metal-on-metal hip resurfacing arthroplasty (HRA) using the hybrid Biomet ReCap-Magnum system. This is a single-designer surgeon series with an average of 5 +/- 1 years. Seven hundred forty consecutive hybrid HRAs were performed in 653 patients. Kaplan-Meier survivorship with any revision as an end point was 96.4% at 7 years. Twenty-five (3.4%) cases were revised: 8 due to acetabular component loosening, 6 due to femoral neck facture, 4 due to failure of femoral component fixation, 2 due to deep infection, 2 due to adverse wear, 1 due to psoas tendonitis, 1 due to recurrent dislocation, and 1 due to unexplained pain. Biomet ReCap and Magnum HRA components with hybrid fixation methods showed excellent survivorship for a minimally selected young patient cohort at 7 years Notes: DA - 20120921 IS - 1532-8406 (Electronic) IS - 0883-5403 (Linking) LA - eng PT - Journal Article RN - 0 (Metals) SB - IM

(187) Guenther JR, Gilbart MK, Hunt MA. People with femoroacetabular impingement exhibit altered frontal and transverse plane strength, movement, and gait characteristics compared to those without impingement. Osteoarthritis and Cartilage Conference: 2012 Osteoarthritis Research Society International World Congress, OARSI 2012 Barcelona Spain Conference Start: 20120426 Conference End: 20120429 Conference Publication: (var pagings) 20 ()(pp S103-S104), 2012 2012;(var.pagings):S103-S104. Ref ID: 372 Abstract: Purpose: To compare frontal and transverse plane hip strength, active range of motion, and gait kinematics in people with and without femoroacetabular impingement (FAI). Methods: Seventeen (13 males, mean age = 29.4 +/- 7.0 years) people with radiographically confirmed FAI and eleven (5 males, mean age = 28.0 +/-4.3 years) healthy, pain-free individuals were tested on one occasion. Isometric hip muscle strength was assessed using a handheld dynamometer. Internal and external hip rotation strength were assessed in high sitting with the hip and knee flexed 90 degrees and the dynamometer placed just proximal to the lateral and medial malleolus, respectively. Abduction and adduction strength were assessed in supine lying with the dynamometer placed just proximal to the lateral and medial femoral epicondyle, respectively. The largest force production from three maximal effort trials for each movement was converted to a torque by multiplying by the lever arm distance, then normalized to body mass (Nm/kg). Active range of motion was assessed using a universal goniometer in the same starting positions as strength assessment. Participants then underwent a three-dimensional gait analysis along a 10 metre walkway while kinematic data were collected using eight high speed digital cameras (Motion Analysis Corporation) and the standard Helen Hayes marker set. Peak hip internal rotation, external rotation, abduction, and adduction angles during stance were identified for each trial and averaged across five trials at a self-selected walking speed. Unpaired t-tests were used to compare differences between the two groups (FAI vs. control) with statistical significance set at an alpha of 0.05. Results: All data are summarized in Table 1. Compared to the healthy group, those in the FAI group exhibited significantly less internal rotation (p<0.001), external rotation (p=0.008), and adduction (0.05) strength as well as significantly less active internal rotation (p=0.005) and adduction (p=0.005) range of motion. During gait, no significant differences existed, though those with FAI exhibited less internal rotation and adduction than those without FAI. No other significant differences were observed between the two groups. Conclusions: These findings are consistent with the clinical presentation of those with FAI. Importantly, given that FAI has been implicated as a potential risk factor in the development of hip osteoarthritis, alterations in muscle and joint function due to the impingement may play a role in the breakdown of cartilage. Though previous studies have focused on strength or gait characteristics primarily in the sagittal plane, our findings indicate that deficiencies in all three planes of motion are exhibited in those with FAI. As a result, treatment strategies such as muscle strengthening or gait retraining should not be limited to hip extension or flexion Notes: DB - Embase UI - 70755392 IN - (Guenther, Gilbart, Hunt) Univ. of British Columbia, Vancouver, BC, Canada LG - English PT - Journal: Conference Abstract EM - 201223 DD - 20120531

(188) Gupta A, Redmond JM, Stake CE, Finch NA, Dunne KF, Domb BG. Does the femoral cam lesion regrow after osteoplasty for femoroacetabular impingement? Two-year follow-up. Am J Sports Med 2014; 42(9):2149-2155. Ref ID: 569 Abstract: BACKGROUND: There are currently no studies that have examined the recurrence of the cam lesion after femoral neck osteoplasty for femoroacetabular impingement. Although patient-reported outcome (PRO) scores at midterm follow-up have shown continued success, the maintenance of a normalized alpha angle has not been shown radiographically. PURPOSE: To assess the radiographic recurrence of cam deformity at 2-year follow-up after adequate decompression during the index hip arthroscopic procedure and correlate the findings with PRO scores. The hypothesis was that there would be no recurrence or regrowth of the cam deformity at the 2-year postoperative time point after adequate cam decompression during hip arthroscopic surgery. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: Between March 2009 and January 2011, data were prospectively collected on all patients undergoing hip arthroscopic surgery with femoral neck osteoplasty. Minimum follow-up was 2 years, with radiographic images for review. RESULTS: A total of 47 patients met the inclusion criteria. The mean age of the participants at the start of the study was 37.18 years (range, 31.70-47.43 years). There were 28 men (59.57%) and 19 women (40.43%). The mean follow-up duration was 28.32 months (range, 24-41 months). The mean preoperative alpha angle (Dunn view) was 70 degrees (range, 60 degrees -97 degrees ), compared with 42.79 degrees (range, 32 degrees -50 degrees ) at 2 weeks postoperatively (P < .0001). The mean 2-year alpha angle was 42.72 degrees (range, 32 degrees -54 degrees ), which was not significantly different compared with the mean 2-week alpha angle (P = .93). Additionally, the mean femoral offset measurement was 3.7 mm (range, 0-9.9 mm) preoperatively and 7.8 mm (range, 0.3-13.9 mm) 2 weeks postoperatively (P < .0001). The mean 2-year postoperative femoral offset measurement was 8.0 mm (range, 2.4-12.8 mm), which was not significantly different compared with the mean 2-week femoral offset measurement (P = .63). All PRO scores were significantly improved at 3 months compared with preoperative scores and, except for visual analog scale score, continued to show improvement at 2-year follow-up. CONCLUSION: There was no recurrence of cam deformity at 2 years after femoral neck osteoplasty for femoroacetabular impingement. PRO scores were improved at the 3-month and 2-year postoperative time points Notes: DA - 20140829 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(189) Gupta T, Kim E, Han B, Suen W. A rare complication of aortic aneurysms. Journal of the American Geriatrics Society Conference: 2011 Annual Scientific Meeting of the American Geriatrics Society National Harbor, MD United States Conference Start: 20110511 Conference End: 20110514 Conference Publication: (var pagings) 59 ()( 2011;(var.pagings):S163. Ref ID: 320 Abstract: Disseminated intravascular coagulation (DIC), a systemic disruption in hemostasis and fibrinolysis, may present with a chronic bleeding diathesis and thrombotic episodes. This indolent course of DIC is a rare, but recognized complication of aortic aneurysms. We present a case of chronic DIC in an elderly patient with a thoracoabdominal aortic aneurysm (TAA) who presented on multiple occasions with spontaneous hematomas. A 70 year old Haitian American gentleman with hypertension and a 7.3 cm-wide TAA presented with worsening right hip pain and anemia. He denied any trauma or use of anticoagulation therapy. Prior workup revealed normal platelet and coagulation panels. On admission, he was tachycardic yet normotensive. Physical exam revealed bilateral large hematomas across his hips and buttocks with central induration. The areas were tender and he had limited range of motion of his right hip. Laboratory results were notable for a Hb 5.0 g/dl, Hct 15.4, platelets 112 k/ul, INR 1.17, PTT 27, fibrinogen 194 mg/dl, and D. dimer >30. A CT scan showed an enlarging intramuscular hematoma in the right gluteus, measured 12 x 17 cm, as well as a hematoma of the left gluteus, adductor, and obturator externus, measuring 7 X 16 cm. Given his spontaneous bleeding in the setting of thrombocytopenia, high d-dimer, low fibrinogen, and prolonged INR, chronic DIC as a result of TAA was diagnosed. Surgical correction of his TAA was considered, but given his significant peri- and post-operative risks, the patient opted for medical management. Intravenous heparin therapy was begun, after which his platelets and fibrinogen normalized. The patient continued with daily subcutaneous heparin after discharge until presenting three months later with emesis, headache, and altered mental status. A CT head revealed extensive intracerebral hemorrhage. His clinical condition deteriorated despite aggressive critical care treatment. Aortic aneurysms are common especially in elderly men. Though rare, chronic DIC has been associated with aortic aneurysms, possibly from activation of consumptive coagulopathy by the damaged overlying endothelium. Preferred treatment is repair of the aneurysm; however if inoperable, anticoagulation can be used to control coagulopathy. This case highlights a possible complication of aortic aneurysms and the risks of its treatment Notes: DB - Embase UI - 70990102 IN - (Gupta, Kim, Han, Suen) Medicine, Section of Geriatrics, Boston Medical Center, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201309 DD - 20130219

(190) Gurcay E, Ozturk EA, Sultanotlu TE, Gurcay AG, Cakci A. Heterotopic ossification as rare complication of hemiplegia following stroke: Two cases, Inme Sonrasi Hemiplejinin Nadir Bir Komplikasyonu Olan Heterotopik Ossifikasyon: Iki Olgu Sunumu. [Turkish, English]. Turkiye Fiziksel Tip ve Rehabilitasyon Dergisi Conference: 24th National Physical Medicine and Rehabilitation Congress Antalya Turkey Conference Start: 20130327 Conference End: 20130331 Conference Publication: (var pagings) 59 ()(pp 395), 2013 Date o 2013;(var.pagings):395. Ref ID: 310 Abstract: Introduction: Heterotopic ossification (HO), characterized by new bone formation in the periarticular regions of large joints, is frequently seen following traumatic brain injury (TBI), spinal cord injury (SCI), burn, or direct trauma to the muscles; however, it is a rarely reported complication in post stroke hemiplegia. A few reports estimate the incidence of this complication as 1% or less in the stroke population Case: We report herein two unusual presentations of HO: 1) A 56-year-old male with a history of atrial fibrillation on warfarin developed a sudden-onset left hemiplegia. Eight months after the event, he was diagnosed with HO of the hip joint including both the affected and unaffected sides. 2) A 55-year-old female with left hemiplegia due to subarachnoid bleeding developed HO in the left hip joint seven months later. In both cases, spasticity around the hip muscle groups, especially hip flexors, adductors, and knee extensors, and limited range of motion accompanied by pain were present. X-rays and pelvic computed tomography revealed HO around the hip joints. After four weeks of inpatient rehabilitation, the range of motion of the hip joint improved not more than 10degree in the directions of flexion and rotation, functional recovery was achieved to some extent and the motor functional independence measure score increased from 41 to 44 for the first case and from 50 to 53 for the second case, and ambulation levels were wheelchairbound for the first case and dependent with cane for the second case. Conclusion: Considering the presented cases, we suggest that HO should be kept in mind in the differential diagnosis in stroke patients presenting with spontaneous joint pain or limitation. The clinical importance of HO development in both the affected and unaffected sides in post-stroke hemiplegia is emphasized, since it may worsen the patient's functional status Notes: DB - Embase UI - 71071479 IN - (Gurcay, Ozturk, Sultanotlu, Cakci) Ministry of Health, Ankara Diskapi Yildirim Beyazit Training and Research Hospital, Department of Physical Medicine and Rehabilitation, Ankara, Turkey (Gurcay) Ministry of Health, Ankara Ataturk Training and Research Hospital, Neurosurgery Clinic, Ankara, Turkey LG - Turkish, English PT - Journal: Conference Abstract EM - 201323 DD - 20130531

(191) Gwathmey FW, Jr., Kadrmas WR. Intra-articular hip disorders in the military population: evaluation and management. Clin Sports Med 2014; 33(4):655-674. Ref ID: 556 Abstract: The physical demands of the military expose the hip to extreme forces and stresses and generate a high incidence of hip disorders within this population. Fundamental to the pathophysiology of hip injuries is the underlying anatomy of the joint because problematic femoroacetabular mechanics predispose to injury. FAI is increasingly recognized as the underlying cause of hip disorders and should be considered when assessing a patient with hip complaints. Young, male patients are at increased risk of FAI, especially cam impingement, and high levels of athletic activity during skeletal growth may contribute to the development of cam morphology. A complete evaluation requires a careful history and physical examination combined with multiple imaging modalities. Conservative treatment is indicated for acute hip injury to allow alleviation of inflammation and restoration of normal gait and range of motion. Surgery should be considered for refractory dysfunction, mechanical symptoms, or significant deformities. Arthroscopy has revolutionized the treatment of hip injuries in young, active patients, and is likely to continue to expand in use Notes: DA - 20141004 IS - 1556-228X (Electronic) IS - 0278-5919 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(192) Hack K, Di Primio G, Rakhra K, Beaule PE. Prevalence of cam-type femoroacetabular impingement morphology in asymptomatic volunteers. Journal of Bone and Joint Surgery - Series A 92 (14) ()(pp 2436-2444), 2010 Date of Publication: 20 Oct 2010 2010;(14):2436-2444. Ref ID: 430 Abstract: Background: Femoroacetabular impingement is a cause of hip pain in adults and is a possible precursor of osteoarthritis, with the cam type of impingement being the most common. The purpose of this study was to determine the prevalence of cam-type morphology of the hip in asymptomatic patients. Methods: Two hundred asymptomatic volunteers with no prior hip surgery or childhood hip problems underwent magnetic resonance imaging targeted to both hips. The subjects were examined at the time of magnetic resonance imaging for internal rotation of the hips at 90degree of hip flexion and for a positive impingement sign. The contour of the femoral head-neck junction was quantified with use of the alpha angle. A value of >50.5degree was considered positive for cam morphology. Measurements were performed independently by two musculoskeletal radiologists. Results: The mean age of the individuals was 29.4 years (range, 21.4 to 50.6 years); 79% were white, and 55.5% were women. The mean alpha angle anteriorly at the three o'clock position was 40.9degree +/- 7.0degree on the right and 40.6degree +/- 7.1degree on the left, whereas the mean alpha angle anterosuperiorly at the 1:30 position was 50.2degree +/- 8.0degree on the right and 50.1degree +/- 8.3degree on the left. Fourteen percent of the volunteers had at least one hip with cam morphology: 10.5% had an elevated alpha angle on either the right or the left side, and 3.5% had the deformity in both hips. Seventy-nine percent (twenty-two) of twenty-eight individuals who had an elevated alpha angle were men, and 21% (six) were women. Individuals with an elevated alpha angle on at least one side tended to be male (p < 0.001), with 24.7% (twenty-two) of eighty-nine men having cam morphology compared with only 5.4% (six) of 111 women. Conclusions: The prevalence of cam-type femoroacetabular impingement deformity is higher in men as well as in individuals with decreased internal rotation. Defining what represents a normal head-neck contour is important for establishing treatment strategies in patients presenting with prearthritic hip pain. Copyright Â© 2010 by The Journal of Bone and Joint Surgery, Incorporated Notes: DB - Embase UI - 2010605999 IN - (Hack, Di Primio, Rakhra) Department of Diagnostic Imaging, Ottawa Hospital - General Campus, Ottawa, ON K1H 8L6, Canada (Beaule) Department of Adult Reconstruction, Ottawa Hospital - General Campus, 501 Smyth Road, Ottawa, ON K1H 8L6, Canada CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101115

(193) Hagel B. Hamstring injuries in Australian football. Clin J Sport Med 2005; 15(5):400. Ref ID: 750 Abstract: OBJECTIVE: To identify risk factors for hamstring injury in community-level Australian football players. DESIGN: Cohort study. SETTING: The preseason and 2000 season of 4 adult Victorian Amateur Football Association clubs. PARTICIPANTS: All players in the clubs who were training at the time of the baseline assessment were invited to participate (n = 148). Players who were injured and unable to participate in the baseline assessment were excluded (22 players; 15%). ASSESSMENT OF RISK FACTORS: During 3 weeks before preseason practice, each player had a series of musculoskeletal tests and completed a questionnaire. The musculoskeletal screening included flexibility tests of the hamstrings, lower extremities, quadriceps, and iliopsoas; range of motion assessments of the lumbar spine and hip rotation; and the active slump test of neural mobility. Testing was done after a brief warm up by 4 trained screeners. A questionnaire with pre-established validity and reliability included information on playing experience, injury history, and training habits. MAIN OUTCOME MEASURES: The main outcome measure was a first hamstring injury that resulted in missed participation time and/or treatment from a health professional in relation to predictive factors. Criteria defining a hamstring injury were sudden onset of posterior thigh pain, and tenderness on palpation with or without pain on stretching or contracting the hamstring muscle group. Through the season, the clubs' coaching staff collected information on exposure (hours of match and training participation). MAIN RESULTS: A total of 26 hamstring injuries occurred (incidence, 4 injuries per 1000 player hours). More injuries were sustained during competition (77%) than training. Rapid acceleration during running or sprinting was the primary mechanism of injury (81%), with the remainder occurring as the player kicked the ball. After adjustment for exposure, younger age was associated with a lower relative risk (RR) of injury (RR for age > or =23 years, 3.8; 95% CI, 1.1-14.0), as were quadriceps flexibility (RR for >51 degree knee flexion, 0.3; CI, 0.1-0.8) and active knee extension range of motion (RR for >27 degree knee flexion, 2.8; CI, 0.9-8.5; not significant). Frequency of off-season running, body height, and neural mobility were not significantly associated with hamstring injury. CONCLUSIONS: Hamstring injuries in amateur Australian football players most commonly occurred with sprinting and were more frequent in players older than 23 years or with lesser quadriceps flexibility Notes: DA - 20050915 IS - 1050-642X (Print) IS - 1050-642X (Linking) LA - eng PT - Journal Article

(194) Hagen M, Abraham C, Ficklscherer A, Lahner M. Biomechanical study of plantar pressures during walking in male soccer players with increased vs. normal hip alpha angles. Technol Health Care 2015; 23(1):93-100. Ref ID: 552 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) is accompanied by increased hip alpha angles, in particular in athletes with high impact sports. OBJECTIVE: The aim of our study was to investigate the dynamic function of the foot during walking in male soccer players with increased versus normal alpha angles. METHODS: Plantar pressures of 20 injury-free male soccer players were recorded during barefoot walking at 1.6 m/s. Ten subjects had bilaterally increased (>55 degrees ) (IA) and ten subjects normal (<50 degrees ) hip alpha angles (NA). Both standing and kicking leg were analyzed. RESULTS: Compared to NA, IA showed lower force-time-integrals (-23%; p< 0.01), pressure-time-integrals (-29%; p< 0.001) and relative loads (p< 0.05) under the heel. In IA contact area of the hallux is about 13% (p< 0.05) reduced. In IA relative loads are increased under the lateral midfoot (p< 0.05) and the second toe (p< 0.05). Higher loading of the lateral midfoot is also reflected in the increased force-time integral (+33%; p< 0.001). No differences between legs and no interactions, indicating a specifity in kicking or standing leg, are found. CONCLUSIONS: Compared to NA, soccer players with IA show a forward shifting of the center of pressure which indicates a compensatory mechanism of the foot during walking Notes: DA - 20150209 IS - 1878-7401 (Electronic) IS - 0928-7329 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(195) Hananouchi T, Yasui Y, Yamamoto K, Toritsuka Y, Ohzono K. Anterior impingement test for labral lesions has high positive predictive value. Clin Orthop Relat Res 2012; 470(12):3524-3529. Ref ID: 631 Abstract: BACKGROUND: The anterior impingement test is intended to detect anterosuperior acetabular labral lesions. In patients treated for labral lesions its sensitivity is reportedly 95% to 100%, and in a small group of patients undergoing periacetabular osteotomy, its sensitivity was 59% and specificity 100%. However, the sensitivity, specificity, positive predictive value, and negative predict value of this test to detect these labral lesions in unselected patients with hip pain are unknown. QUESTIONS/PURPOSES: We investigated these four parameters (1) in unselected patients with hip pain, and (2) in three subgroups of patients with dysplasia, femoroacetabular impingement (FAI), and with an intact joint space. METHODS: We prospectively studied 69 patients (15 men and 54 women) with a mean age of 57.2 years (range, 27-81 years). One observer performed the anterior impingement test in all patients. We determined the presence or absence of an anterosuperior labral lesion with radial MRI in 107 hips (38 patients in both hips: 14 with pain, and 24 without pain). We also investigated the parameters in the three subgroups which consisted of 60 cases of dysplasia, 27 cases of FAI, and 80 cases with intact joint space; the third subgroup partially overlapped the first and second subgroups. RESULTS: The four parameters in all hips were 50.6% (45/89), 88.9% (16/18), 95.7% (45/47), and 26.7% (16/60), respectively. Parameters in the three subgroups were similar to those of all cases. CONCLUSIONS: Although the sensitivity of the anterior impingement test did not reach a sufficient level for detecting anterosuperior labral lesions, we believe the high positive predictive value makes the test useful. LEVEL OF EVIDENCE: Level III, diagnostic study. See the Guidelines for Authors for a complete description of levels of evidence Notes: DA - 20121108 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(196) Handel M, Phillips O, Anders S, Kock FX, Sell S. Dose-dependent efficacy of diclofenac-cholestyramine on pain and periarticular ossifications after total hip arthroplasty: A double-blind, prospective, randomised trial. Archives of Orthopaedic and Trauma Surgery 124 (7) ()(pp 483-485), 2004 Date of Publication: September 2004 2004;(7):483-485. Ref ID: 508 Abstract: Introduction: To investigate the efficacy of treatment with diclofenac-cholestyramine on postoperative pain and functional outcome after total hip arthroplasty, a randomised double-blind study was conducted. Materials and methods: A total of 245 patients received postoperative treatment with 75 mg or 150 mg diclofenac p.o. daily for 14 days. Results: Patients who received 75 mg diclofenac per day needed paracetamol as an additional analgesic significantly more often (p=0.0162) than patients who were treated with 150 mg diclofenac daily (75 mg twice a day). The incidence of adverse gastrointestinal events was significantly lower in the group receiving 75 mg diclofenac daily than in the group receiving the higher dose (23.1% vs 37.1%; p=0.025). Six months after the operation, no differences were observed between the two groups with regard to pain or functionality measured in terms of overall mobility of the hip. No patient of either group developed clinically relevant heterotopic ossifications. Conclusion: Treatment with a dose of 75 mg diclofenac once daily - if necessary with the additional use of paracetamol - is a favourable option for the postoperative care of THA. Â© Springer-Verlag 2004 Notes: DB - Embase UI - 2004426775 IN - (Handel, Anders, Kock) Department of Orthopedics, University Hospital, Regensburg, Germany (Phillips) Department of Plastic Surgery, Marienhospital, Stuttgart, Germany (Sell) Department of Orthopedics, Sana Arthritis Hospital, Bad Wildbad, Germany (Handel) Kaiser-Karl-V-Allee 3, 93077 Bad Abbach, Germany CP - Germany LG - English PT - Journal: Article EM - 200400 DD - 20041018

(197) Handrakis JP, Friel K, Hoeffner F, Akinkunle O, Genova V, Isakov E et al. Key characteristics of low back pain and disability in college-aged adults: a pilot study. Arch Phys Med Rehabil 2012; 93(7):1217-1224. Ref ID: 639 Abstract: OBJECTIVE: To identify which factors commonly associated with low back pain (LBP) and disability differ between college-aged persons with LBP and with no or minimal LBP. DESIGN: Clinical measurement, observational study. Subjects were assessed for LBP with the visual analog scale (VAS) and for disability from LBP using the Oswestry Disability Index (ODI). Subjects were measured for variables commonly associated with LBP and were grouped by both VAS (minimum [min]/no pain, pain) and ODI (no disability, disability) scores. SETTING: College campus at a university. PARTICIPANTS: A convenience sample (N=84) of English-speaking students (34 men, 50 women) between 18 and 30 years of age. INTERVENTIONS: Not applicable. MAIN OUTCOME MEASURES: Sports activity (sports activity score of the Baecke Physical Activity Questionnaire), depression, hamstring and hip flexor range of motion, low back extensor endurance, abdominal strength and endurance. RESULTS: A significant main effect of group was found for both pain (P=.019) and disability groups (P=.006). The min/no pain and pain groups differed in back endurance (114.2+/-38.8s vs 94.5+/-44.5s, respectively; P=.04). The no disability and disability groups differed in back endurance (116.3+/-35.9s vs 97.1+/-45.7s, respectively; P=.03) and the sports activity score of the Baecke Physical Activity Questionnaire (2.98+/-.95 vs 2.48+/-.85, respectively; P=.01). Subjects with hyperkyphotic postures compared with the normative thoracic group had higher depression scores (49 vs 38.5, respectively; P=.03) and less hamstring flexibility (30.5 vs 49.9, respectively; P<.001). CONCLUSIONS: Back extensor endurance was consistently different between both the pain and disability groups. Addressing limited low back extensor endurance and low levels of physical activity in young adults may have clinical relevance for the prevention and treatment of LBP and disability Notes: DA - 20120703 IS - 1532-821X (Electronic) IS - 0003-9993 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(198) Harris-Hayes M, MUELLER MJ, SAHRMANN SA, BLOOM NJ, STEGER-MAY KARE, Clohisy JC et al. Persons With Chronic Hip Joint Pain Exhibit Reduced Hip Muscle Strength. Journal of Orthopaedic & Sports Physical Therapy 2014; 44(11):890-899. Ref ID: 46 Notes: IS - 11

(199) Hartmann A, Gunther KP. Arthroscopically assisted anterior decompression for femoroacetabular impingement: technique and early clinical results. Arch Orthop Trauma Surg 2009; 129(8):1001-1009. Ref ID: 714 Abstract: INTRODUCTION: In patients with symptomatic femoroacetabular impingement resection osteochondroplasty of the femoral head-neck junction may improve hip pain and range of motion. We evaluated the short-term treatment results of an arthroscopically assisted mini-open anterior approach to compare it with the results after surgical dislocation for FAI. METHODS: The clinical and radiographic results of 33 patients were reviewed retrospectively 15 months after the surgery. Harris hip scores and plain radiographs were obtained preoperatively and at follow-up. Patient satisfaction with the treatment result was quantified with a Visual Analogous scale (VAS) ranging from 0 (very dissatisfied) to 10 (very satisfied). RESULTS: The mean Harris hip score improved from 64 points preoperatively to 85 points at the time of follow-up (P < 0.001). Mean patient satisfaction on the VAS was seven points (range: 2-10 points). In two of our first patients we observed a transient femoral nerve palsy (completely resolved at follow-up) and 15 patients reported numbness in the area of the lateral cutaneous femoral nerve. CONCLUSIONS: Treatment of anterior femoroacetabular impingement through an arthroscopically assisted mini-open anterior approach can reduce pain and improve function in a short-term observation period. Femoral osteochondroplasty as well as surgical treatment of acetabular cartilage and labrum lesions are possible, but the access is limited to the anterior and anterolateral part of the hip joint Notes: DA - 20090626 IS - 1434-3916 (Electronic) IS - 0936-8051 (Linking) LA - eng PT - Journal Article SB - IM

(200) Hartog M, Smith J, Zujko A. Acetabular labral tears in the dancer. Journal of Dance Medicine & Science 2006; 10(1/2):51-57. Ref ID: 5 Notes: IS - 1/2

(201) Hatzung G, Muller A, Impellizzeri FM, Leunig M, Naal FD. Validation of a self-reported Beighton score to assess hypermobility in patients with femoroacetabular impingement. Swiss Medical Weekly Conference: Annual Meeting of the Swiss Society of Orthopaedics and Traumatology 2014 St Gallen Switzerland Conference Start: 20140625 Conference End: 20140627 Conference Publication: (var pagings) 144 ()(pp 44S), 2014 Date of P 2014;(var.pagings):44S. Ref ID: 205 Abstract: Background: Joint hypermobility (JH) seems to be associated with musculoskeletal pain and injury incidence in an active population. The prevalence of JH in patients with femoroacetabular impingement (FAI) and its association with outcomes is yet widely unknown. Hypothesis/Purpose: To validate a self-reported version of the Beighton score for FAI patients, and to determine possible associations between JH and clinical and radiographic parameters. Methods: The study included 55 consecutive patients (18 females, mean age 29 years) with a diagnosis of FAI. All patients completed a self-reported Beighton score before clinical assessment, and two clinicians blinded to the self-reported form filled the examiner-based version. Reliabity of the self-reported version was assessed using kappa statistics. The prevalence of JH and associations between Beighton scores and clinical and radiographic parameters were determined. Results: The patients scored a mean of 2.6 +/- 2.8 points on the self-reported Beighton score. Agreement between self-assessment and examination was good to excellent for all single items and for the total score. Considering a Beighton score of >4 as cutoff for JH, the prevalence in the present cohort was 32.7% (50% of females and 24.3% of males). Significant associations were found between Beighton scores and hip flexion (r = 0.61) and internal rotation (r = 0.56). No significant correlations were found between Beighton scores and any of the radiographic parameters. Conclusion: The patient-oriented Beighton score proved to be feasible and reliable in FAI patients. The prevalence of JH in these patients seems to be high and future investigations about the association of JH with FAI and treatment outcomes are therefore warranted Notes: DB - Embase UI - 71755047 IN - (Hatzung, Muller, Impellizzeri, Leunig, Naal) Schulthess Klinik Zurich, Switzerland LG - English PT - Journal: Conference Abstract EM - 201506 DD - 20150117

(202) Haviv B, O'Donnell J. Arthroscopic debridement of the isolated Ligamentum Teres rupture. Knee Surg Sports Traumatol Arthrosc 2011; 19(9):1510-1513. Ref ID: 676 Abstract: PURPOSE: Most tears of the Ligamentum Teres (LT) are diagnosed when treating other hip pathologies. The purpose of this study was to evaluate the outcome of arthroscopic surgery for a unique group of patients with symptomatic isolated Ligamentum Teres rupture of the hip. METHODS: The study included 29 patients who suffered from an isolated Ligamentum Teres rupture of the hip and were treated with an arthroscopic debridement from 2003 to 2008. Patients with femoroacetabular impingement or other hip pathologies except Ligamentum Teres tear were excluded. Clinical results were measured preoperatively and postoperatively with the modified Harris Hip Score (MHHS) and Non-Arthritic Hip Score (NAHS). The mean age was 25 years (SD +/- 11) with a mean follow-up time of 2.5 years (SD +/- 1.5). RESULTS: At the last follow-up, the mean MHHS improved from 70 to 86 [mean difference = 16 (95% CI 4-27)] and the mean NAHS improved from 64 to 86 [mean difference = 22 (95% CI 10-33)]. Five patients have had a second arthroscopic debridement due to symptomatic recurrent tears. CONCLUSION: Arthroscopic debridement alone of the isolated Ligamentum Teres rupture has a short-term beneficial result in more than 80% of cases Notes: DA - 20110823 IS - 1433-7347 (Electronic) IS - 0942-2056 (Linking) LA - eng PT - Journal Article SB - IM

(203) Hayashi S, Nishiyama T, Fujishiro T, Hashimoto S, Kanzaki N, Nishida K et al. Obese patients may have more soft tissue impingement following primary total hip arthroplasty. International orthopaedics 36 (12) ()(pp 2419-2423), 2012 Date of Publication: Dec 2012 2012;(12):2419-2423. Ref ID: 292 Abstract: Several studies have reported a risk of dislocation in obese patients after total hip arthroplasty. In this study, we evaluated the interaction between obesity and dislocation by kinematic analysis using a navigation system. The intraoperative range of motion (ROM) and postoperative impingement-free ROM were measured in 38 patients, and we compared the impingement-free ROM in obese and non obese patients. The postoperatively simulated ROM was similar in the obese and non obese groups. The intraoperative ROM was smaller in the obese group. The difference values between the intraoperative ROM and postoperatively simulated ROM were larger in the obese group. These results indicate that obese patients have less ROM following primary total hip arthroplasty even when the implant positioning is performed correctly. Dislocations are multifactorial problems including soft tissue impingement. Therefore, the risk of dislocation caused by soft tissue impingement in obese patients may be increased Notes: DB - Embase UI - 23135350 IN - (Hayashi) Department of Orthopaedic Surgery, Kobe University Graduate School of Medicine, 7-5-1 Kusunoki-cho, Chuo-ku, Kobe, 650-0017, Japan CP - Germany LG - English PT - Journal: Article EM - 201330 DD - 20130530

(204) Hellman M, Haughom B, Brown N, Fillingham Y, Salata M, Nho S. Pelvic incidence and femoroacetabular impingement-a novel relationship. Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: Annual Scientific Meeting of the International Society for Hip Arthroscopy 2013, ISHA 2013 Munich Germany Conference Start: 20131010 Conference End: 20131012 Conference Publication: 2013;(var.pagings):e196-e197. Ref ID: 268 Abstract: Objectives: Pelvic Incidence (PI) is a fixed anatomic parameter that plays an integral role in the sagittal balance of the spine and in maintaining stable posture while expending a minimum of energy - conus of economy. While PI has been studied in relation to the spine, PI has yet to be studied as it relates to disorders of the hip. We propose that abnormal PI is associated with femoroacetabular impingement (FAI). Methods: We performed a retrospective analysis of 50 consecutive patients (60 hips) who underwent hip arthroscopy for labral tears secondary to FAI. There were 31 women and 19 men. The average age was 33.1+/-8.7. All patient's underwent hip CT evaluation as well as plain radiographs. PI, acetabular version (AV) at a 3-o'clock position, alpha- angle, center-edge angle (CEA) and acetabular index (AI) were all measured. The PI was measured using scout lateral radiographs from the CT scan. Cam Impingement was defined as a bump on the head neck junction with an alpha-angle > 55degree. Alpha angles were measured on all radiographs available as well as the oblique femoral head neck CT reformatted views and the largest number was used. Pincer Impingement was defined as global overcoverage with an AI < 0degree or a CEA > 39degree or as focal overcoverage/retroversion with an AV < 14degree. The AI and the CEA were measured on AP x-rays. The AV was measured on the available CT imaging. Our cohort was compared to a historical control: Vialle et al. JBJS 2005. Vialle et al. measured spinopelvic measurements including PI on 300 asymptomatic patients (without spine or hip complaints). Student t-tests were used to compare all groups. Results: Our mean PI was 50.8+/-11.3, less than the asymptomatic historical control (n=300) with a mean PI of 55.0+/-10.6 (p=0.01). Patients with global overcoverage (n=24) had a mean PI of 47.3+/-8.9, less than those without global overcoverage (n=36) with a mean PI of 53.2+/-12.3 (p=0.02). Patients with retroversion (n=23) had a mean PI of 45.6+/-9.9, less than those without retroversion (n=37) with a mean PI of 54.1+/-11.1 (p=0.003). Patients with cam impingement (n=39) had a mean PI of 51.1+/-9.8 compared to those without cam impingement with a mean PI of 49.6+/-14.0 (p=0.7). Conclusions: Pelvic incidence has been well described in the spine literature and has been shown to play an important role in spine pathology. The investigation of PI as it relates to the native hip is novel. Patients with labral tears due to FAI, particularly those with pincer impingement, have a smaller PI than an asymptomatic population. PI is the sum of sacral slope and pelvic tilt. Sacral slope and pelvic tilt change with position while PI is constant. With a smaller PI, the amount of change in sacral slope and pelvic tilt is limited. Thus, with a smaller pelvic incidence there is less range of motion between the lumbar spine and the pelvis around the hip joints. This restriction of movement and subsequent biomechanical adaptations may affect hip development, FAI, and resultant labral tears Notes: DB - Embase UI - 71271376 IN - (Hellman, Haughom, Brown, Fillingham, Salata, Nho) United States LG - English PT - Journal: Conference Abstract EM - 201401 DD - 20131227

(205) Hetaimish BM, Khan M, Crouch S, Simunovic N, Bedi A, Mohtadi N et al. Consistency of reported outcomes after arthroscopic management of femoroacetabular impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 29 (4) ()(pp 780-787), 2013 Date of Publication: April 2013 2013;(4):780-787. Ref ID: 286 Abstract: Purpose: The purpose of this systematic review is to evaluate the consistency of the reporting of clinical and radiographic outcomes after arthroscopic management of femoroacetabular impingement (FAI). Methods: Two databases (Medline and EMBASE) were screened for clinical studies involving the arthroscopic management of FAI. A full-text review of eligible studies was conducted, and the references were searched. Inclusion and exclusion criteria were applied to the searched studies, and a quality assessment was completed for included studies. Results: We identified 29 eligible studies involving 2,816 patients. There was a lack of consensus with regard to reported outcomes (clinical and radiographic) after arthroscopic treatment of FAI. Clinical outcomes reported include the Harris Hip Score (45%) and the Non-Arthritic Hip Scale (28%), range of motion (34%), pain scores (24%), and patient satisfaction (28%). The most commonly reported radiographic outcomes included the alpha angle (38%), head-neck offset (14%), and degenerative changes (21%). Conclusions: There is significant variation in reported clinical and radiographic outcomes after arthroscopic treatment of FAI. This study highlights the need for consistent outcome reporting after arthroscopic FAI surgery. Level of Evidence: Level IV, systematic review of Level II, III, and IV studies. Â© 2013 by the Arthroscopy Association of North America Notes: DB - Embase UI - 2013211402 IN - (Hetaimish, Khan, Bhandari, Ayeni) Division of Orthopaedic Surgery, Department of Surgery, McMaster University, Hamilton, ON, Canada (Crouch, Simunovic, Bhandari) Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, ON, Canada (Hetaimish) Orthopedic Surgery Department, College of Medicine, Taibah University, Madina, Saudi Arabia (Bedi) MedSport, Department of Orthopaedic Surgery, University of Michigan, Ann Arbor, MI, United States (Mohtadi) Department of Orthopaedic Surgery, University of Calgary, Calgary, AB, Canada CP - United States LG - English PT - Journal: Review EM - 201317 DD - 20130418

(206) Hetsroni I, Poultsides L, Bedi A, Larson CM, Kelly BT. Anterior inferior iliac spine morphology correlates with hip range of motion: A classification system and dynamic model hip. Clinical Orthopaedics and Related Research 471 (8) ()(pp 2497-2503), 2013 Date of Publication: August 2013 2013;(8):2497-2503. Ref ID: 289 Abstract: Background: The anterior inferior iliac spine (AIIS) contributes to hip dysfunction in patients with symptomatic impingement and resection of a prominent AIIS can reportedly improve function. However, the variability of the AIIS morphology and whether that variability correlates with risk of associated symptomatic impingement are unclear. Questions/purposes: We characterized AIIS morphology in patients with hip impingement and tested the association between specific AIIS variants and hip range of motion. Methods: We evaluated three-dimensional CT reconstructions of 53 hips (53 patients) with impingement and defined three morphological AIIS variants: Type I when there was a smooth ilium wall between the AIIS and the acetabular rim, Type II when the AIIS extended to the level of the rim, and Type III when the AIIS extended distally to the acetabular rim. A separate cohort of 78 hips (78 patients) with impingement was used to compare hip range of motion among the three AIIS types. Results: Mean hip flexion was limited to 120, 107, and 93 in hips with Type I, Type II, and Type III AIIS, respectively. Mean internal rotation was limited to 21, 11, and 8 in hips with Type I, Type II, and Type III AIIS, respectively. Conclusions: When the AIIS is classified into three variants based on the relationship between the AIIS and the acetabular rim in patients with impingement, Type II and III variants are associated with a decrease in hip flexion and internal rotation, supporting the rationale for considering AIIS decompression for variants that extend to and below the rim. Level of Evidence: Level III, diagnostic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2013 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2013446269 IN - (Hetsroni) Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel (Poultsides, Kelly) Hospital for Special Surgery, Weill Medical College of Cornell University, New York, NY, United States (Bedi) MedSport, Sports Medicine and Shoulder Surgery, University of Michigan, Ann Arbor, MI, United States (Larson) Minnesota Orthopedic Sports Medicine Institute at Twin Cities Orthopedics, Edina, MN, United States CP - United States LG - English PT - Journal: Conference Paper EM - 201332 DD - 20130801

(207) Hiemstra LA, Gofton WT, Kriellaars DJ. Hip strength following hamstring tendon anterior cruciate ligament reconstruction. Clin J Sport Med 2005; 15(3):180-182. Ref ID: 754 Abstract: OBJECTIVE: The objective of this study was to determine whether there is alteration in resultant joint moment of the hip extensors and adductors after hamstring anterior cruciate ligament (ACL) reconstruction. DESIGN: Cross-sectional outcome analysis. SETTING: University sport medicine center. SUBJECTS: Fifteen subjects more than 1 year after ACL reconstruction with semitendinosus and gracilis tendons were compared with 15 matched controls with no knee injury. INTERVENTIONS: Strength testing of the hip extensors and hip adductors of both limbs. MAIN OUTCOME MEASUREMENTS: Isokinetic (50 degrees /s and 150 degrees /s) hip extensor strength test and isometric (15 degrees and 30 degrees ) hip adductor strength test. RESULTS: Hip extensors increase in strength after hamstring ACL reconstruction, evening out normal side-to-side strength differences. Hip adductor strength deficits of up to 43% are demonstrated in the ACL reconstructed subjects compared with controls. CONCLUSIONS: The identification of hip adductor strength deficits after hamstring harvest for ACL reconstruction may have important implications for both graft harvest site selection as well as postoperative rehabilitation protocols. Given the known existence of knee strength deficits after ACL reconstruction, increases in isovelocity hip extensor strength may contribute to increased lower limb strength imbalances. This may have implications for the ability of the lower limb muscles to protect the ACL graft Notes: DA - 20050503 IS - 1050-642X (Print) IS - 1050-642X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(208) Hingsammer AM, Stelzeneder D, Kalish LA, Millis MB, Kim Y-J. Prognostic factors for mid-term symptom relief after open surgical correction for femoroacetabular impingement. HIP International 25 (5) ()(pp 406-412), 2015 Date of Publication: 01 Sep 2015 2015;(5):406-412. Ref ID: 149 Abstract: Background: We sought to identify, which patient and radiographic factors at preoperative and 1-year follow up will predict patient symptom relief at mid-term. Materials and methods: A total of 50 hips in 47 patients with symptomatic FAI were included in this retrospective study. We stratified the hips into "success" and "failure" groups based on the change from baseline to mid-term follow up WOMAC pain score (mean follow up of 5.8 years). An attempt was made to identify factors that are predictive of mid-term outcome among preoperative radiographic measures, dGEMRIC index, range of motion and WOMAC score as well as 1-year follow-up range of motion, radiographic measures, and WOMAC pain scores. Results: At 1-year follow up, the success rate was 72% (36/50) and at mid-term follow the success rate increased to 82% (41/50). There were no significant associations between mid-term pain scores and baseline factors (all p-values >0.10). One-year pain score and hip internal rotation was associated with poor mid-term pain scores but only the 1-year pain score was associated with the mid-term success/failure outcome. Conclusions: We did not identify clear preoperative predictors of mid-term results but patients with poor pain scores and limited hip internal rotation at 1-year follow-up are less likely to do well at mid-term Notes: DB - Embase UI - 2015454458 IN - (Hingsammer) Department of Orthopaedic Surgery, University Hospital Balgrist, Zurich, Switzerland (Stelzeneder) Department of Orthopaedic Surgery, Medical University of Vienna, Vienna General Hospital, Vienna, Austria (Kalish) Clinical Research Center, Boston Children's Hospital, Boston, MA, United States (Millis, Kim) Department of Orthopaedic Surgery, Boston Children's Hospital, Harvard Medical School, Boston, MA, United States CP - Italy LG - English PT - Journal: Article EM - 201545 DD - 20151029

(209) Hingsammer AM, Lee CB, LaReau J, Kalish LA, Kim YJ. Is acetabular osteoplasty always required in mixed impingement? Eur J Orthop Surg Traumatol 2015; 25(2):331-338. Ref ID: 571 Abstract: BACKGROUND: Mixed femoroacetabular impingement (FAI) is typically managed with both femoral and acetabular rim osteoplasties, but it has not been reported if the rim osteoplasty is always required. HYPOTHESIS/PURPOSE: We hypothesized that mixed FAI managed by femoral or combined femoral and acetabular osteoplasties will both attain satisfactory clinical results, provided intraoperative impingement-free functional motion is attained. METHODS: We retrospectively reviewed 30 hips (23 patients, mean age at surgery 24.3 years, mean follow-up time 1.6 years) with mixed FAI who underwent surgical dislocation of the hip and had femoral osteochondroplasty with rim trim (RT, n = 21) or no rim trim (NRT, n = 9). Physical examination results and Western Ontario and McMaster Universities Osteoarthritis (WOMAC) scores were evaluated. RESULTS: Mean (+/- SD) WOMAC pain scores improved from 6.56 (+/- 2.96) to 2.33 (+/- 3.64) in the NRT group (p = .002) and from 6.86 (+/- 4.15) to 3.86 (+/- 3.95) in the RT group (p = .014). Function improved in both groups, but the difference was significant only for the NRT group (p < .001). Over 50 % of patients in both groups had resolution of impingement sign. Internal rotation increased from 8.6 degrees (+/- 11.8) to 20.0 degrees (+/- 10.4) in the NRT group (p = .043) and from 4.0 degrees (+/- 12.1) to 18.6 degrees (+/- 14.0) in the RT group (p < .001). Both groups had increased flexion post-operatively to normal range, but the change was only significant for the RT group (p = .02). Both groups had insignificant decreases in external rotation. CONCLUSION: Satisfactory clinical outcomes were seen in hips with mixed impingement, regardless of whether RT was performed, provided impingement-free functional motion was attained and no severe cartilage damage was seen Notes: DA - 20150121 IS - 1633-8065 (Print) IS - 1633-8065 (Linking) LA - eng PT - Journal Article SB - IM

(210) Hisatome T, Doi H. Theoretically optimum position of the prosthesis in total hip arthroplasty to fulfill the severe range of motion criteria due to neck impingement. Journal of Orthopaedic Science 16 (2) ()(pp 229-237), 2011 Date of Publication: 2011 2011;(2):229-237. Ref ID: 402 Abstract: Background The purpose of this investigation is to determine the optimum position of the prosthesis in total hip arthroplasty for reducing neck impingement using a mathematical formula. Methods We calculated the cup inclination, cup anteversion, and stem antetorsion in cases with various sizes of femoral head (28, 32, 36, and 44 mm in diameter) to fulfill severe range of motion criteria: (1) flexion more than 120degree, (2) extension more than 30degree, (3) internal rotation at 90degree flexion more than 60degree, and (4)external rotation at neutral more than 40degree. Results When the areas to fulfill the severe range of motion criteria were compared by femoral head diameter, the area for 28 mmwas extremelysmall relative to those of 32, 36, and 44 mm. Theoretically, the optimum position of theprosthesis in total hip arthroplasty without neck impingement should be oriented at a cup inclination of 45degree combined with the cup anteversion and stem antetorsion so that thesum of the cup anteversion plus 0.7 times the stem antetorsion equals 42degree with a head diameter more than 32 mm. This study also recommends the optimum position of the prosthesis as 45degree cup inclination, 25degree cup anteversion, and 25degree stem antetorsion when the surgeon can choose a freely adjustablemodular stem system. However, this theory assumes that the pelvic inclination has no changes caused by aging and can be validated in the lying, sitting, and standing positions. Conclusions The prosthesis in total hip arthroplastywithout neck impingement should be oriented at a cup inclination of 45degree combined with cup anteversion and stem antetorsion determined by the formula: cup anteversion + 0.79 x stem antetorsion = 42degree. A range of acceptable positions would be more helpful and realistic to a surgeon trying to ensure adequate prosthesis positions. Â© The Japanese Orthopaedic Association 2011 Notes: DB - Embase UI - 2011494149 IN - (Hisatome) Department of Orthopedic Surgery, Chugoku Rosai Hospital, 1-5-1 Hiro Tagaya, Kure, Hiroshima 737-0193, Japan (Doi) Department of Mathematics, Graduate School of Science, Hiroshima University, 1-3-1 Kagamiyama, Higashi Hiroshima, Hiroshima 739-8526, Japan CP - Japan LG - English PT - Journal: Article EM - 201100 DD - 20110916

(211) Hjort J, Rahbek O, Stilling M. [Children with hip pain should be seen by a specialist]. Ugeskr Laeger 2013; 175(7):417-418. Ref ID: 615 Abstract: Slipped capital femoral epiphysis (SCFE) is a relatively rare growth disturbance in the proximal femoral growth plate. It results in posterior displacement of the femoral head. Symptoms are an intermittent hip, knee or groin pain, which is exacerbated by sports, giving restricted hip motion, and sometimes a limping gait with out-toeing. SCFE is typically seen in overweight boys, but may also occur in normal-weight teenage girls. Early image diagnostic assessment of both hips is crucial, since slip severity and consequently the risk of disabling complications are strongly correlated to late diagnosis Notes: DA - 20130213 IS - 1603-6824 (Electronic) IS - 0041-5782 (Linking) LA - dan PT - Case Reports PT - English Abstract SB - IM

(212) Hofmann S, Tschauner C, Graf R. Mechanical causes of osteoarthritis in young adults. HIP International 13 1 (SUPPL 2) ()(pp S3-S9), 2003 Date of Publication: January/March 2003 2003;(SUPPL. 2):S3-S9. Ref ID: 514 Abstract: Femoroacetabular impingement is a very common cause of secondary osteoarthritis (OA) in the young adult. It is an important co-factor in the better recognized prearthritic deformities such as residual hip dysplasia (RHD), Perthes disease and slipped capital femoral epiphysis (SCFE). Another subgroup of patients has isolated malrotation of the hip joint and/or reduced femoral head-neck offset causing femoroacetabular impingement and chronic hip joint pain. Special clinical tests and imaging modalities can identify these patients at an early stage when they have little or no OA. The common biomechanical pathway for deformities causing chronic femoroacetabular impingement is local damage of the capsular-labrum complex and the cartilage. Understanding the anatomy, biomechanics and pathophysiology of these conditions of the hip joint is a prerequisite for planning treatment Notes: DB - Embase UI - 2003237212 IN - (Hofmann, Tschauner, Graf) General and Orthopaedic Hospital, Stolzalpe, Austria CP - Italy LG - English PT - Journal: Conference Paper EM - 200300 DD - 20030627

(213) Holstege MS, Lindeboom R, Lucas C. Preoperative quadriceps strength as a predictor for short-term functional outcome after total hip replacement. Arch Phys Med Rehabil 2011; 92(2):236-241. Ref ID: 672 Abstract: OBJECTIVE: To determine the preoperative strength of the muscle group of the lower extremity that is most important in predicting functional recovery after primary unilateral total hip replacement (THR). DESIGN: Prospective observational study with inception cohort. SETTINGS: Joint care program (hospital care/clinical division of a nursing home/outpatient physical therapy). PARTICIPANTS: Patients (N=55) undergoing primary unilateral THR. INTERVENTIONS: Not applicable. MAIN OUTCOME MEASURES: Baseline measures within 2 weeks preoperative and follow-up at 6 and 12 weeks postoperative included isometric strength measurement of the hip (flexors, extensors, abductors, adductors) and knee (flexors, extensors) musculature using a handheld dynamometer. Functional outcome was tested using performance-based (Timed Up and Go Test, 6-Minute Walk Test) and self-report measures (Western Ontario and McMaster Universities Osteoarthritis Index, subscale Physical Function [WOMAC PF], 36-Item Short Form Health Survey subscale Mental Health, visual analog scale for pain). RESULTS: Of the patients (N=55; mean age, 72.7+/-6.8y; 41 women) included; 18 dropped out, leaving 37 patients for analyses. After correction for WOMAC PF score at baseline, body mass index, sex, and age, the preoperative knee extensors strength measure of the operated site was the only muscle group showing a significant effect on functional outcome measured by using the WOMAC PF at 12 weeks postoperatively (R(2)=.355; beta=-.105; P for beta=.004). CONCLUSION: Preoperative greater knee extensor strength of the operated site is associated with better physical function, measured by using the WOMAC PF at 12 weeks postoperative Notes: DA - 20110128 IS - 1532-821X (Electronic) IS - 0003-9993 (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(214) Horisberger M, Brunner A, Valderrabano V, Herzog RF. [Femoroacetabular impingement of the hip in sports - a review for sports physicians]. Sportverletz Sportschaden 2010; 24(3):133-139. Ref ID: 681 Abstract: Recently the relevance of femoroacetabular impingement as a cause of hip and groin pain in sportsmen has been recognized. The entity often poses diagnostic and therapeutic problems to the sports physician. The patients go through an odyssey of different diagnostic and therapeutic modalities before the correct diagnosis is made and an adequate therapy is implemented. Not seldom, patients get even operated at another site which is thought to cause the problems. The present review analyzes the current literature concerning diagnostic standards and therapy of femoroacetabular impingement focussing on their relevance for sports medicine. It is aimed to help the sports physician to recognise this entity as a cause for groin and hip pain in the athlete and realise its importance for the short term performance of the athlete and its long term significance in terms of development of early hip osteoarthrosis Notes: DA - 20100916 IS - 1439-1236 (Electronic) IS - 0932-0555 (Linking) LA - ger PT - English Abstract PT - Journal Article PT - Review SB - IM

(215) Horisberger M, Brunner A, Herzog RF. Arthroscopic treatment of femoral acetabular impingement in patients with preoperative generalized degenerative changes. Arthroscopy 2010; 26(5):623-629. Ref ID: 689 Abstract: PURPOSE: The aim of this study was to evaluate the short-term results after arthroscopic femoroacetabular impingement (FAI) correction combined with additional procedures addressing labral and chondral damages in patients who showed generalized severe cartilage lesions intraoperatively. METHODS: Between 2004 and 2007, 20 patients (16 men and 4 women) could be included in the study. Clinical parameters, the pain score on a visual analog scale, initial radiologic degenerative changes, the alpha angle, and the Nonarthritic Hip Score were prospectively documented. The study endpoint was the implantation of a total hip arthroscopy or the latest follow-up. RESULTS: At a mean follow-up of 3.0 years, 10 patients (50%) had undergone, or planned to undergo, total hip replacement. The remaining patients showed a significant improvement in pain, Nonarthritic Hip Score, and hip flexion and internal rotation. CONCLUSIONS: In patients with already marked generalized chondral lesions, arthroscopy does not have any effect beyond the short-term pain relief resulting from debridement. The study underlines the fact that FAI with advanced osteoarthrosis, particularly Tonnis grade III, is not an indication for arthroscopic FAI correction. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20100503 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(216) Horisberger M, Brunner A, Herzog RF. Arthroscopic treatment of femoroacetabular impingement of the hip: a new technique to access the joint. Clin Orthop Relat Res 2010; 468(1):182-190. Ref ID: 701 Abstract: Femoroacetabular impingement has been established as an important cause of groin pain and limitation of range of motion in young, active patients and a possible cause for early osteoarthritis of the hip. Open surgery is a well-recognized approach for treatment and probably the standard for most surgeons, but recent reports regarding arthroscopic treatment procedures suggest comparable results. We present a technique that provides a way to securely penetrate the joint capsule and evaluate the clinical results of this technique in patients with femoroacetabular impingement. Between 2004 and 2007, we prospectively followed a cohort of 105 hips (88 patients; 60 males, 28 females) who underwent surgery for symptomatic cam or mixed femoroacetabular impingement. All patients were evaluated for the Nonarthritic Hip Score, clinical parameters, visual analog scale pain score, initial radiographic degenerative changes, and alpha angle. At a minimum followup of 1.3 years (average, 2.3 years; range, 1.3-4.1 years), all clinical outcome measures improved. The Nonarthritic Hip Score improved from 56.7 points (range, 15-92.5 points) to 84.6 points (range, 47.5-100 points). Nine patients (8.6%) underwent THA during followup. The outcome measures after arthroscopic therapy for femoroacetabular impingement seem comparable to those reported after open procedures. LEVEL OF EVIDENCE: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence Notes: DA - 20091218 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(217) Hoshikawa Y, Iida T, Ii N, Muramatsu M, Nakajima Y, Chumank K et al. Cross-sectional area of psoas major muscle and hip flexion strength in youth soccer players. European Journal of Applied Physiology 112 (10) ()(pp 3487-3494), 2012 Date of Publication: October 2012 2012;(10):3487-3494. Ref ID: 306 Abstract: This study aimed to clarify the differences in the cross-sectional area (CSA) of the psoas major (PM) muscle and hip flexion force (HFF) of the right (dominant) side between adolescent male soccer players and age-matched non-athletes. PM CSA at L4-L5 and HFF at 1.05 rad/s were determined in 22 early (12.8-13.6 years) and 27 late (16.1-17.9 years) adolescent soccer players and 11 early (12.6-13.5 years) and 20 late (16.0-17.7 years) adolescent non-athletes. Fat-free mass (FFM) was greater in late adolescent soccer players than in late adolescent non-athletes, but was similar between the two early adolescent groups. Without the effect of age, PM CSA and HFF were greater in soccer players than in non-athletes. PM CSA and HFF were significantly correlated to FFM (soccer players, r = 0.860, P<0.0001; non-athletes, r = 0.709, P<0.0001) and PM CSA (soccer players, r = 0.760, P<0.0001; non-athletes, r = 0.777, P<0.0001), respectively. The difference between soccer players and non-athletes in PM CSA was still significant even when PM CSA was covaried for FFM. On the other hand, HFF covaried for PM CSA was similar between the two groups. The current results indicate that, as compared to age-matched non-athletes: (1) not only late, but also early adolescent soccer players have a greater PM CSA even when the difference in FFM was adjusted, and (2) their superiority in hip flexion force can be attributed to the difference in PM CSA. Â© Springer-Verlag 2012 Notes: DB - Embase UI - 22297611 IN - (Hoshikawa, Iida, Ii, Muramatsu, Nakajima) Sports Photonics Laboratory, Hamamatsu Photonics K.K., 2150-1 Iwai, Iwata, Shizuoka 438-0016, Japan (Chumank) Yamaha Football Club Co. Ltd., 2500, Shingai, Iwata, Shizuoka 438-0025, Japan (Kanehisa) National Institute of Fitness and Sports in Kanoya, 1 Shiromizu, Kanoya, Kagoshima 891-2393, Japan CP - Germany LG - English PT - Journal: Article EM - 201328 DD - 20130703

(218) Hrysomallis C. Hip adductors' strength, flexibility, and injury risk. J Strength Cond Res 2009; 23(5):1514-1517. Ref ID: 703 Abstract: The hip adductor muscle group plays an important role in both movement and stability at the hip joint in many athletic pursuits. Injury to this muscle group has been reported in a number of sports, among them, ice hockey, soccer, Australian football, and swimming. The identification of muscle characteristics that predispose a muscle to injury is an important step in developing conditioning programs to reduce injury risk. Muscle strength and range of motion are 2 parameters that may influence injury risk. The aim of this review was to examine the relationship between hip adductors' strength, flexibility, and injury risk. Strength testing has involved isokinetic or hand-held dynamometry. Flexibility has usually been assessed by goniometry during maximal hip abduction. An association has been reported between adductor strength deficits and injury for ice hockey players. Low adductor flexibility has also been identified as a risk factor for injury in soccer players. An intervention program that strengthened the hip adductors had some success in reducing injury risk for ice hockey players. There is some low- to moderate-level evidence from cohort studies to suggest that flexibility and strength are related to injury risk in particular sports and that an intervention program may be effective in reducing injury risk. Higher level evidence from randomized controlled trials is required to firmly establish the link between hip adductor flexibility, strength, and injury Notes: DA - 20090805 IS - 1533-4287 (Electronic) IS - 1064-8011 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(219) Hrysomallis C. Injury incidence, risk factors and prevention in Australian rules football. Sports Med 2013; 43(5):339-354. Ref ID: 612 Abstract: Along with the enjoyment and the other positive benefits of sport participation, there is also the risk of injury that is elevated in contact sport. This review provides a summary of injury incidence in Australian rules football (ARF), identifies injury risk factors, assesses the efficacy of interventions to reduce injury risk and makes recommendations for future research. The most common injuries were found to be muscle strains, particularly hamstrings; joint ligament sprains, especially ankle; haematomas and concussion. The most severe joint injury was anterior cruciate ligament rupture. Mouthguards are commonly worn and have been shown to reduce orofacial injury. There is evidence that thigh pads can reduce the incidence of thigh haematomas. There is a reluctance to wear padded headgear and an attempt to assess its effectiveness was unsuccessful due to low compliance. The most readily identified risk factor was a history of that injury. There were conflicting findings as to the influence strength imbalances or deficit has on hamstring injury risk in ARF. Static hamstring flexibility was not related to risk but low hip flexor/quadriceps flexibility increased hamstring injury risk. High lower-limb and high hamstring stiffness were associated with an elevated risk of hamstring injury. Since stiffness can be modulated through strength or flexibility training, this provides an area for future intervention studies. Low postural balance ability was related to a greater risk of ankle injury in ARF, players with poor balance should be targeted for balance training. There are preliminary data signifying a link between deficiencies in hip range of motion and hip adductor strength with groin pain or injury. This provides support for future investigation into the effectiveness of an intervention for high-risk players on groin injury rate. Low cross-sectional area of core-region muscle has been associated with more severe injuries and a motor control exercise intervention that increased core muscle size and function resulted in fewer games missed due to injury. A randomized controlled trial of the effectiveness of eccentric hamstring exercise in decreasing hamstring injury rate in ARF players was unsuccessful due to poor compliance from muscle soreness; a progressive eccentric training intervention for ARF should be given future consideration. Jump and landing training reduced injury risk in junior ARF players and it would be advisable to include this component as part of a neuromuscular training intervention. A multifaceted programme of sport-specific drills for hamstring flexibility while fatigued, sport skills that load the hamstrings and high-intensity interval training to mimic match playing conditions showed some success in reducing the incidence of hamstring injuries in ARF. A countermeasure designed to reduce injury risk is more likely to be adopted by coaches and players if it also has the scope to enhance performance Notes: DA - 20130429 IS - 1179-2035 (Electronic) IS - 0112-1642 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(220) Huang R, Parvizi J. Femoroacetabular Impingement: Saving the Joint. Seminars in Arthroplasty 22 (2) ()(pp 52-55), 2011 Date of Publication: June 2011 2011;(2):52-55. Ref ID: 394 Abstract: Many factors have been linked to the development of osteoarthritis (OA) of the hip, but often, cases are still considered "idiopathic." Femoroacetabular impingement (FAI) has been suggested as a possible etiologic factor for the otherwise "idiopathic" cases. It is theorized that the subtle morphologic abnormalities seen at the head-neck junction and acetabulum in FAI may lead to labral tears, chondral damage, and subsequent progression of OA. Prevalence of FAI has been suggested to be as high as 14% in the general population. It often presents in young active patients that subject their hip joint to repetitive micro trauma associated with impingement of the osseous deformity within normal ranges of motion. Current surgical treatment options for FAI include arthroscopy, open surgical dislocation, or mini-open direct anterior osteoplasty. All methods are directed at correcting the osseous abnormalities and associated pathologies in hopes of delaying the progression of OA and the need for hip replacement. Limited short term follow-up data has shown significant improvement in pain and function following each of the three procedures. However, long term follow-up and comparative studies are necessary to evaluate the efficacy of each of the surgical approaches in delaying the progression of osteoarthritis. Â© 2011 Elsevier Inc Notes: DB - Embase UI - 2011359984 IN - (Huang, Parvizi) Department of Orthopedic Surgery, Rothman Institute, Thomas Jefferson University Hospital, Philadelphia, PA, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110718

(221) Hung NN. Traumatic hip dislocation in children. J Pediatr Orthop B 2012; 21(6):542-551. Ref ID: 633 Abstract: The aim of this study was to evaluate the outcomes of reduction in the treatment of traumatic posterior hip dislocation in children. Data of 22 pediatric patients (22 hips) with traumatic hip dislocation from January 1995 to December 2007 were analyzed. The clinical evaluation focused on symptoms, physical findings, and range of motion. Radiographs identified the type of hip dislocation. The hip dislocation classification was based on Thompson and Epstein. The reduction procedure was performed according to three variants: variant 1, closed reduction; variant 2, release of the adductor longus, lengthening of the psoas tendon, and insertion of a Kirschner wire through the femoral head into the acetabulum; and variant 3, removal of the soft-tissue interposition of the hip. After reduction, radiography was used to determine whether the hip is concentric and to check whether any other injuries might have been caused after manipulation. There were six females (27.3%) and 16 males (72.7%) in this study. All had type I posterior dislocation of the hip. The ages of the patients at diagnosis ranged from 3 years, 2 months to 9 years, 10 months. The reduction procedure was performed according to variant 1 in 16, variant 2 in five, and variant 3 in one. We attained excellent results in eight hips (36.4%), good results in seven hips (31.8%), fair results in four hips (18.2%), and poor results in three hips (13.6%). There was avascular necrosis in three hips (13.6%), coxa magna in two hips (9.1%), deficient limb of 2 cm in two hips (9.1%), and a limp in two hips (9.1%). The hip scores were 82.4 points on average (range 62-100). Children with traumatic hip dislocation should undergo reduction as soon as possible. If the interval from injury to reduction exceeds 3 weeks, we suggest that the surgeon release the adductor longus, lengthen the psoas tendon, and insert a Kirschner wire. This simple and safe surgical procedure results in marked improvement in hip function and prevents complications later Notes: DA - 20121004 IS - 1473-5865 (Electronic) IS - 1060-152X (Linking) LA - eng PT - Journal Article SB - IM

(222) Huot Carlson JC, Van Citters DW, Currier JH, Bryant AM, Mayor MB, Collier JP. Femoral stem fracture and in vivo corrosion of retrieved modular femoral hips. Journal of Arthroplasty 27 (7) ()(pp 1389-1396 e1), 2012 Date of Publication: August 2012 2012;(7):1389-1396. Ref ID: 365 Abstract: A series of 78 retrieved modular hip devices were assessed for fretting and corrosion. Damage was common at both the head-neck junction (54% showing corrosion; 88% showing fretting) and at the stem-sleeve junction (88% corrosion; 65% fretting). Corrosion correlated to in vivo duration, patient activity, and metal (vs ceramic) femoral heads but did not correlate to head carbon content. Femoral stem fatigue fracture was observed in seven retrievals; all had severe corrosion, were under increased stress, and were in vivo longer than the non-fractured cohort. This study emphasizes the potential for stem fracture when small diameter femoral stems with large offsets are used in heavy and active patients. Designs which reduce fretting and corrosion in modular implants is warranted as patients demand longer lasting implants. Â© 2012 Elsevier Inc Notes: DB - Embase UI - 2012425629 IN - (Huot Carlson, Van Citters, Currier, Bryant, Mayor, Collier) Thayer School of Engineering, Dartmouth College, Hanover, NH, United States CP - United States LG - English PT - Journal: Article EM - 201231 DD - 20120801

(223) Iaccarino MA, Foley CM, D'Hemecourt P. Hip pain after zumba. Clinical Journal of Sport Medicine Conference: 23rd Annual Meeting of the American Medical Society for Sports Medicine New Orleans, LA United States Conference Start: 20140405 Conference End: 20140409 Conference Publication: (var pagings) 24 (2) ()(pp 2014;(var.pagings):e9-e10. Ref ID: 221 Abstract: History: A 25-year-old female college student with a history of asthma, seasonal allergies, and eosinophilic esophagitis presented with a 2-month history of right hip pain beginning after a Zumba class. Her pain was characterized as subacute in onset and progressively worsening in nature. She described the pain as a searing sensation located in a C-shape around her right hip. It was exacerbated by activity, with sitting, or with standing and she was limited in her ability to exercise. The pain also occurred without provocation, particularly at night. There was no known trauma to the area and no radiation of pain above or below the level of the hip. Her pain did not improve with a course of physical therapy. She denied back pain, arthralgias, myalgias, rashes, night sweats, fevers, or chills. Her family history was significant for non-Hodgkin's lymphoma in her mother's family and a paternal relative with a CNS glioma. She was a non-smoker, denied drug or alcohol use. Physical Examination: Well-developed female with normal gait and stance. Bilateral hips appeared normal and symmetric without malalignment. Focused right hip exam revealed flexion to 120degree with 20degree of internal rotation and 60degree of external rotation. Hip strength was full. She had positive femoral acetabular impingement signs and pain with Scours test. Straight leg raise test and Patrick's test were negative. On palpation there were multiple tender areas over her psoas, sacroiliac joint, piriformis, and gluteal muscles. She had 2+ dorsalis pedis and posterior tibial pulses. There was no limb edema, skin changes, or groin adenopathy. Left hip revealed a normal exam. Cardiopulmonary, abdominal, lumbar spine and bilateral knee exams were normal. Differential Diagnosis: Femoral acetabular labral tear; iliopsoas tendonitis; gluteal muscle or hip external rotator strain; femoral acetabular impingement; osteoid osteoma; proximal femoral stress fracture. Tests & Results: Radiographs of the pelvis and AP bilateral hips including Dunn view: Bilateral coxa profunda; no cam or pincher lesions. Non-contrast MRI of the right hip: Diffuse signal abnormality in the bone marrow, specifically, well-defined lesions of the right femoral head and intertrochanteric region. Multiple poorly defined heterogeneous signal abnormalities in the right L5 vertebral body and pedicle, the bilateral sacroiliac joints, left iliac wing, left acetabular roof, left inferior pubic ramus and ischial tuberosity, right acetabulum, and right superior pubic ramus. Findings consistent with an infiltrative process verses metastatic disease with an unknown primary. Extraosseous aneural bone cyst of the left paraspinals likely related to an infiltrative bone marrow process. Chest radiograph: Expansile 5 x 2cm lesion of the 2nd left lateral rib. Bone Marrow Biopsy: Diffuse large B Cell lymphoma. Final/Working Diagnosis: Diffuse large B Cell lymphoma. Treatment: Given the large size of the multiple marrow replacing lesions of the right femoral head she was placed on crutches with partial weight bearing status of the right lower extremity and activity modification. She was evaluated by orthopedic oncology but did not require prophylactic fixation of her right femur. However, she was at increased risk of fracture and was maintained in a 50% weight bearing status until she could begin lymphoma treatment. She was referred to general oncology for bone marrow biopsy and lymphoma management. Outcome: At follow-up in sports medicine clinic she was without hip pain. She had a normal hip exam with the exception of mild right sacroiliac joint tenderness. Her residual pain was not functionally limiting, she did not have constitutional symptoms, and she felt well despite her diagnosis. Return to Activity and Follow-Up: She returned to non-impact activities including light yoga and stretching. She continued to use axillary crutches with partial weight bearing while awaiting treatment for lymphoma Notes: DB - Embase UI - 71702976 IN - (Iaccarino, Foley, D'Hemecourt) Harvard Medical School, Spaulding Rehabilitation Hospital, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201450 DD - 20141204

(224) Ibrahim A, Murrell GA, Knapman P. Adductor strain and hip range of movement in male professional soccer players. J Orthop Surg (Hong Kong) 2007; 15(1):46-49. Ref ID: 739 Abstract: PURPOSE: To determine whether hip range of movement (ROM) can predict the occurrence of adductor strain among male professional soccer players. METHODS: 120 subjects were prospectively selected from 6 professional soccer clubs in Australia. Internal rotation, external rotation, and ROM of the hip were measured using a goniometer before and during the course of a soccer season (2003-2004). When adductor strain occurred, further assessments of the hip were performed. Injured subjects' hip ROMs were measured again at the end of the season. RESULTS: Eight of the 120 subjects had 9 adductor strains (one bilateral). There was a correlation between preseason decreased hip ROM and occurrence of adductor strain. The mean preseason hip ROM was 44.7 degrees in the injured group and 53.7 degrees in the uninjured group. Once the subjects were able to resume playing soccer, their hip ROM increased to near pre-injury levels. CONCLUSION: Decreased hip ROM may be considered an aetiological factor in the occurrence of adductor strain in male professional soccer players Notes: DA - 20070412 IS - 1022-5536 (Print) IS - 1022-5536 (Linking) LA - eng PT - Journal Article SB - IM

(225) Ilfeld BM, Moeller LK, Mariano ER, Loland VJ, Stevens-Lapsley JE, Fleisher AS et al. Continuous peripheral nerve blocks: Is local anesthetic dose the only factor, or do concentration and volume influence infusion effects as well? Anesthesiology 112 (2) ()(pp 347-354), 2010 Date of Publication: February 2010 2010;(2):347-354. Ref ID: 434 Abstract: Background: The main determinant of continuous peripheral nerve block effects-local anesthetic concentration and volume or simply total drug dose-remains unknown. Methods: We compared two different concentrations and basal rates of ropivacaine-but at equivalent total doses-for continuous posterior lumbar plexus blocks after hip arthroplasty. Preoperatively, a psoas compartment perineural catheter was inserted. Postoperatively, patients were randomly assigned to receive perineural ropivacaine of either 0.1% (basal 12 ml/h, bolus 4 ml) or 0.4% (basal 3 ml/h, bolus 1 ml) for at least 48 h. Therefore, both groups received 12 mg of ropivacaine each hour with a possible addition of 4 mg every 30 min via a patient-controlled bolus dose. The primary endpoint was the difference in maximum voluntary isometric contraction (MVIC) of the ipsilateral quadriceps the morning after surgery, compared with the preoperative MVIC, expressed as a percentage of the preoperative MVIC. Secondary endpoints included hip adductor and hip flexor MVIC, sensory levels in the femoral nerve distribution, hip range-of-motion, ambulatory ability, pain scores, and ropivacaine consumption. Results: Quadriceps MVIC for patients receiving 0.1% ropivacaine (n = 26) declined by a mean (SE) of 64.1% (6.4) versus 68.0% (5.4) for patients receiving 0.4% ropivacaine (n = 24) between the preoperative period and the day after surgery (95% CI for group difference:-8.0-14.4%; P = 0.70). Similarly, the groups were found to be equivalent with respect to secondary endpoints. Conclusions: For continuous posterior lumbar plexus blocks, local anesthetic concentration and volume do not influence nerve block characteristics, suggesting that local anesthetic dose (mass) is the primary determinant of perineural infusion effects. Copyright Â© 2010, the American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins Notes: DB - Embase UI - 2010138224 IN - (Ilfeld, Mariano, Loland, Donohue) Department of Anesthesiology, UCSD Center for Pain Medicine, MC7651, 9300 Campus Point Drive, San Diego, CA 92037-7651, United States (Moeller) Division of Physical Therapy, University of Colorado, Denver, CO, United States (Ball) Department of Orthopedic Surgery, University of Colorado, Denver, CO, United States (Ferguson) Department of Physical Therapy, University of Colorado, Denver, CO, United States (Stevens-Lapsley, Fleisher, Girard) Department of Neurology, Banner Alzheimer's Institute, Phoenix, AZ, United States CP - United States CN - NCT00912873/ClinicalTrials.gov LG - English PT - Journal: Article EM - 201000 DD - 20100322

(226) Imai H, Mashima N, Takahashi T, Yamamoto H. The Relationship Between Increased Hip Range of Motion, Wear, and Locking Mechanism Failure in the Harris-Galante Acetabular Component. Journal of Arthroplasty 24 (6) ()(pp 892-897), 2009 Date of Publication: September 2009 2009;(6):892-897. Ref ID: 473 Abstract: We performed both clinical and radiographic evaluations of 178 patients (190 hips) who had undergone cementless total hip arthroplasties using Harris-Galante I/II porous cups after an average 12-year follow-up period (range, 8-18 years). We revised 15 Harris-Galante I/II porous cups (7.8%), and the locking mechanism was broken in 10 revised cups (67%). There was a significant association between locking mechanism failure and linear polyethylene wear. We observed a significant positive correlation between linear polyethylene wear and increased ranges of motion such as flexion, adduction, and external rotation at the last follow-up visit after the primary operation. Increased ranges of motion seen in Asians induced higher linear polyethylene wear and locking mechanism failure due to impingement of the neck and cup. Crown Copyright Â© 2009 Notes: DB - Embase UI - 2009427633 IN - (Imai, Mashima, Takahashi, Yamamoto) Department of Bone and Joint Surgery, Ehime University Graduate School of Medicine, Ehime, Japan CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20090915

(227) Impellizzeri FM, Mannion AF, Naal FD, Leunig M. Acceptable symptom state after surgery for femoroacetabular impingement compared with total hip arthroplasty. Hip Int 2013; 23 Suppl 9:S54-S60. Ref ID: 590 Abstract: The aim of the study was to examine whether patients undergoing total hip arthroplasty (THA) are better able to accept a given level of pain and disability than patients undergoing surgery for femoro-acetabular impingement (FAI). Before surgery, 417 THA and 162 FAI patients completed the Oxford Hip Score (OHS). At 12-months follow-up (FU), they were requested to complete the OHS again, rate the global treatment outcome, and state whether their symptom state was acceptable. Preoperatively, THA had worse (p<0.001) OHS scores than FAI. At 12 months, 99% THA and 86% FAI patients reported various degrees of improvement. The proportions of patients perceiving notable improvement and considering their current state acceptable were higher (p<0.0001) in THA (95-99%) than FAI (66-70%) and THA had greater (p<0.0001) improvements in OHS scores than FAI. The mean OHS score of the patients perceiving notable improvements at follow-up did not differ (p>0.05) between THA and FAI groups. Higher "success rates" in THA than FAI are not due to a better acceptance of pain and disability, because the OHS of patients considering their current state to be acceptable was similar for both groups. The difference is simply the result of more THA than FAI patients actually achieving an acceptable status after surgery Notes: DA - 20131224 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(228) Ingber RS. Iliopsoas myofascial dysfunction: a treatable cause of "failed" low back syndrome. Arch Phys Med Rehabil 1989; 70(5):382-386. Ref ID: 791 Abstract: Most patients with low back pain experience loss of spinal and hip extension range of motion. The limitation appears to involve significant iliopsoas myofascial dysfunction manifested in tenderness, as shown by deep abdominal palpation of the psoas muscle, hip flexor contracture, pain elicited by the stretch maneuver of the spine and hip, and relative weakness of the psoas muscle when tested manually. These signs assisted in identifying the source of low back pain in six patients who had failed to respond to prior treatment. Therapy consisted of iliopsoas trigger point treatment using a dry needling technique, followed by self-administered postisometric relaxation exercise of the iliopsoas. In all cases, marked improvement of hip and spine extension, dramatic reduction of pain, and return to normal activity resulted. Given the low risk-to-benefit ratio, trigger point treatment is indicated in "failed back syndrome" and chronic low back pain after conservative therapy or surgery have been tried without success Notes: DA - 19890613 IS - 0003-9993 (Print) IS - 0003-9993 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - AIM SB - IM

(229) Ito K, Leunig M, Ganz R. Histopathologic features of the acetabular labrum in femoroacetabular impingement. Clin Orthop Relat Res 2004;(429):262-271. Ref ID: 758 Abstract: This paper summarizes clinical and histopathologic findings derived from 25 patients who had surgery for symptomatic femoroacetabular impingement. We explored if observed pathologic features were consistent with hypothesized mechanisms of injury, if severity of osteoarthritis and labral degeneration were associated, and if labral refixation would present an alternative. Clinically, all patients presented with limited range of motion at the hip attributable to pain and a positive impingement test. Magnetic resonance arthrography and surgical observations showed degenerated or ruptured labra or both in the anterior and/or superior regions of the acetabular rim (24 of 25 specimens) which correlated with pain provocation, limited range of motion, and anatomic deformities. Histologically, labra were mostly hyperplastic with disorganized cystic matrices. No inflammation was observed. Spatial distribution of degenerated labral matrices was not different for the two femoroacetabular impingement mechanisms. Labral degeneration and severity of osteoarthritis observed on radiographs did not correlate. In patients having only joint debridement, the labral matrix at the tip, near its vascular supply, was normal. Femoroacetabular impingement is a gentle chronic irritation of the labra located at the site of rupture that elicits a degenerative reaction. In early stages of the disease, the labral tip is not involved, providing the possibility of labral refixation after resection of the degenerated portion Notes: DA - 20041203 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(230) Ito T, Tsubahara A, Watanabe S. Use of electrical or magnetic stimulation for generating hip flexion torque. American journal of physical medicine & rehabilitation / Association of Academic Physiatrists 92 (9) ()(pp 755-761), 2013 Date of Publication: Sep 2013 2013;(9):755-761. Ref ID: 273 Abstract: The purpose of this study was to investigate the most suitable site and method to effectively generate isometric hip flexion torque (torque value) using transcutaneous electrical or magnetic stimulation. Eleven healthy volunteers underwent torque value and pain degree measurements during magnetic stimulation of the iliopsoas using three coil placements. After that, the peak torque values generated under three conditions of electrical stimulation of the sartorius, the tensor fasciae latae, and the rectus femoris or that generated by magnetic stimulation of the iliopsoas were recorded at maximum tolerance intensity. No significant differences in torque values were observed among the three coil placements. Magnetic stimulation of the point below the inguinal ligament caused significantly more pain than the other points. Magnetic stimulation of the iliopsoas generated significantly higher torque values than did the electrical stimulation of the two hip flexor muscles together. The hip joint was one of the most suitable regions for application of magnetic stimulation as an alternative method to electrical stimulation Notes: DB - Embase UI - 23370583 IN - (Ito) Department of Rehabilitation, Faculty of Health Science and Technology, Kawasaki University of Medical Welfare, Kurashiki, Japan CP - United States LG - English PT - Journal: Article EM - 201345 DD - 20131106

(231) Iwai S, Kabata T, Maeda T, Kajino Y, Watanabe S, Kuroda K et al. Three-dimensional kinetic simulation before and after rotational acetabular osteotomy. J Orthop Sci 2014; 19(3):443-450. Ref ID: 586 Abstract: BACKGROUND: Some reports indicate that one of major causes of clinical failure after periacetabular osteotomy is development of secondary femoroacetabular impingement (FAI). To assess the impact of range of motion (ROM) on the increase in FAI following rotational acetabular osteotomy (RAO), we performed FAI simulations before and after RAO. METHODS: We evaluated 12 hips that had undergone RAO (study group), and 12 normal hips (control group). The study group was evaluated before and after surgery. Morphological parameters were evaluated to assess acetabular coverage. The acetabular anteversion angle, anterior CE angle, alpha angle, and combined anteversion angle were also measured. Impingement simulations were performed using 3D-CT. The ROM which causes bone-to-bone impingement was evaluated in flexion (flex), abduction, external rotation at 0 degrees flexion, and internal rotation at 90 degrees flexion. The lesions caused by impingement were evaluated. RESULTS: Radiographic measurements indicated improved postoperative acetabular coverage in the study group. The crossover sign was recognized pre- and postoperatively in every case in the study group and in no cases in the control group. In the simulation study, flexion, abduction, and internal rotation at 90 degrees flexion decreased postoperatively. Impingement occurred within 45 degrees internal rotation at 90 degrees flexion in two preoperative and nine postoperative cases. The impingement lesions were anterosuperior of the acetabulum in all cases. There were correlations between anterior CE angle, CE angle, acetabular anteversion angle, and hip flexion angle. There were also correlations between the anterior CE angle, combined anteversion angle, and angle of internal rotation at 90 degrees flexion. CONCLUSIONS: In the postoperative simulation, there was a tendency to reduce the ROM in flexion, abduction, and internal rotation at 90 degrees flexion due to impingement. Since there were more cases which caused impingement within 45 degrees internal rotation at 90 degrees flexion after RAO, we consider there is a potential for increased FAI after RAO Notes: DA - 20140527 IS - 1436-2023 (Electronic) IS - 0949-2658 (Linking) LA - eng PT - Journal Article SB - IM

(232) Iwata T, Nozawa S, Ohashi M, Sakai H, Shimizu K. Giant iliopectineal bursitis presenting as neuropathy and severe edema of the lower limb: Case illustration and review of the literature. Clinical Rheumatology 32 (5) ()(pp 721-725), 2013 Date of Publication: May 2013 2013;(5):721-725. Ref ID: 308 Abstract: We report a 61-year-old woman with rheumatoid arthritis (RA: Steinblocker stage III, class 3) who developed severe swelling and neuropathy of the right lower limb caused by an iliopectineal bursa associated with destruction of the hip joint. Physical examination revealed an inguinal mass and groin pain. X-ray examination indicated destruction of the hip joint. Contrast-enhanced computed tomography showed the bursa connected with the hip joint and a markedly compressed external iliac vein among the inguinal ligament, pubis, and bursa. The patient underwent partial synovial resection and total hip arthroplasty for recovery of hip function, and this led to successful resolution of the symptoms and bursa. We present the characteristic images from this case and review all previously reported cases of RA iliopsoas bursitis causing leg swelling or neuropathy, and summarize the background. Since this lesion may cause various symptoms, clinical awareness that iliopsoas bursitis may present with unique clinical symptoms may aid correct diagnosis. Â© 2013 Clinical Rheumatology Notes: DB - Embase UI - 2013361507 IN - (Iwata) Department of Orthopaedic Surgery, Matsunami General Hospital, Gifu, Japan (Nozawa) Sanford-Burnham Medical Research Institute, 10901 North Torrey Pines Road, San Diego, CA 92037, United States (Ohashi, Sakai) Department of Orthopaedic Surgery, Ibi Kosei Hospital, Gifu, Japan (Nozawa, Shimizu) Department of Orthopaedic Surgery, Gifu University School of Medicine, Gifu, Japan CP - United Kingdom LG - English PT - Journal: Review EM - 201325 DD - 20130613

(233) Jackson TJ, Stake CE, Trenga AP, Morgan J, Domb BG. Arthroscopic Technique for Treatment of Femoroacetabular Impingement. Arthroscopy Techniques 2 (1) ()(pp e55-e59), 2013 Date of Publication: February 2013 2013;(1):e55-e59. Ref ID: 284 Abstract: With an increasing understanding of femoroacetabular impingement (FAI) and advancement of the surgical treatment in patients with FAI, various techniques have been published. Successful outcome after arthroscopic hip surgery depends on appropriately reshaping the bony architecture to allow for improved range of motion before impingement symptoms occur, with special attention to preserve the labrum and restore its function. We present our surgical technique for the arthroscopic treatment of FAI. Â© 2013 Arthroscopy Association of North America Notes: DB - Embase UI - 2013206441 IN - (Jackson, Stake, Trenga, Morgan, Domb) American Hip Institute, Chicago, IL, United States (Stake, Morgan, Domb) Hinsdale Orthopaedics, Chicago, IL, United States (Domb) Loyola University Stritch School of Medicine, Chicago, IL, United States CP - France LG - English PT - Journal: Article EM - 201317 DD - 20130418

(234) Jacobsen JS, Nielsen DB, Sorensen H, Soballe K, Mechlenburg I. Changes in walking and running in patients with hip dysplasia. Acta Orthop 2013; 84(3):265-270. Ref ID: 611 Abstract: BACKGROUND AND PURPOSE: Earlier studies have suggested that the hip extension angle and the hip flexor moment in walking are affected by hip dysplasia, but to our knowledge there have been no reports on running or evaluations of self-reported health. We evaluated differences in walking, running, and self-reported health between young adults with symptomatic hip dysplasia and healthy controls. PATIENTS AND METHODS: Walking and running in 32 patients with hip dysplasia, mean 34 (18-53) years old, was compared with walking and running in 32 controls, mean 33 (18-54) years old. Joint kinematics and kinetics-quantified by the peak hip extension angle and the peak net joint moment of hip flexion during walking and running-were recorded using a motion-capture system, and health was evaluated using the Copenhagen Hip and Groin Outcome Score (HAGOS). RESULTS: The peak hip extension angle during walking was less in the patients than in the controls (-10.4 (SD 4.8) degrees vs. -13.2 (SD 4.5) degrees; p = 0.02). Similarly, the peak net joint moment of hip flexion during walking was lower in the patients than in the controls (0.57 (SD 0.13) N\*m/kg vs. 0.70 (SD 0.22) N\*m/kg; p = 0.008). In all dimensions of HAGOS, the patients scored lower than the controls. Furthermore, the hip extension angle and the net joint moment of hip flexion correlated with the HAGOS subscales pain and physical function in sport and recreation. INTERPRETATION: Patients with symptomatic hip dysplasia do modify walking and running, and we therefore suggest that the impairment found in this study should play an important role in the evaluation of later operative and training interventions Notes: DA - 20130531 IS - 1745-3682 (Electronic) IS - 1745-3674 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(235) Jacobsen S, Romer L, Soballe K. Degeneration in dysplastic hips. A computer tomography study. Skeletal Radiol 2005; 34(12):778-784. Ref ID: 748 Abstract: BACKGROUND: Hip dysplasia is considered pre-osteoarthritic, causing degeneration in young individuals. OBJECTIVE: To determine the pattern of degenerative change in moderate to severely dysplastic hips in young patients. DESIGN AND PATIENTS: One hundred and ninety-three consecutively-referred younger patients with hip pain believed to be caused by hip dysplasia constituted the study cohort. The average age was 35.5 years (range, 15-61 years). They were examined by close-cut transverse pelvic and knee computed tomography and antero-posterior radiographs (CT). We identified 197 hips with moderate to severe dysplasia, and 78 hips with normal morphology in the study cohort, whilst 111 hip joints were borderline dysplastic according to preset definitions. Comparative analyses of anatomy and distribution of degeneration between dysplastic and normal hips in the study cohort were performed. RESULTS: In dysplastic hips the anterior acetabular sector angle was significantly and inversely associated to femoral anteversion (p < 0.001). The center-edge (CE) angle, the acetabular angle (AA), and the acetabular depth ratio (ADR) were significantly interrelated (p < 0.001; correlation coefficients ranging from -0.8 to 0.7). Fifty-one hips were subluxated (24R/27L). There were no cases of complete dislocation. The formation of subchondral cysts or osteophytes in dysplastic hips was significantly associated with reduced minimum joint space width (p ranging from 0.005 to 0.02). However, in 67 hips with acetabular cysts, only 6 hips had minimum joint space widths = 2.0 mm (8.9%) in the coronal plane. In 96 cases with acetabular cysts found in the sagittal plane, 43 cases had minimum joint space widths = 2.0 mm (44.7%). Bony rim detachment at the site of labral insertion was recorded in 30 hips. Twenty-three of these were dysplastic (p = 0.01). CONCLUSIONS: Degeneration was most often found in the anterolateral part of the dysplastic hip joints. Most cysts were located above the transition zone between the bony and the fibrocartilaginous acetabulum, and we found a significantly- increased number of cases with avulsed bony fragments at the antero-lateral labral insertion in dysplastic hips compared to normal hips. It seems likely that the early degenerative process in dysplastic hips originates at the watershed zone between the acetabular labrum and the acetabular cartilage in response to subluxation and femoroacetabular impingement Notes: DA - 20051205 IS - 0364-2348 (Print) IS - 0364-2348 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(236) Jamali AA, Fritz AT, Reddy D, Meehan JP. Minimally Invasive Bone Grafting of Cysts of the Femoral Head and Acetabulum in Femoroacetabular Impingement: Arthroscopic Technique and Case Presentation. Arthroscopy - Journal of Arthroscopic and Related Surgery 26 (2) ()(pp 279-285), 2010 Date of Publication: February 2010 2010;(2):279-285. Ref ID: 437 Abstract: Femoroacetabular impingement (FAI) has been recently established as a risk factor in the development of osteoarthritis of the hip. Intraosseous cysts are commonly seen on imaging of FAI. In most cases these cysts are incidental and do not require specific treatment at the time of surgical treatment of hip impingement. However, in some cases the cysts may mechanically compromise the acetabular rim or femoral neck. We present a technique for treating such cysts with an all-arthroscopic technique using a commercially available bone graft substitute composed of cancellous bone and demineralized bone matrix placed within an arthroscopic cannula for direct delivery into the cysts. This technique may be of benefit to surgeons treating FAI with an all-arthroscopic technique. Â© 2010 Arthroscopy Association of North America Notes: DB - Embase UI - 2010070226 IN - (Jamali, Fritz, Meehan) Department of Orthopaedic Surgery, University of California, Davis, Sacramento, CA, United States (Reddy) Pritzker School of Medicine, The University of Chicago, Chicago, IL, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100617

(237) Jamali AA, Palestro A, Meehan JP, Sampson M. Management of incarcerating pincer-type femoroacetabular impingement with hip arthroscopy. Arthroscopy Techniques 3 (1) ()(pp e155-e160), 2014 Date of Publication: February 2014 2014;(1):e155-e160. Ref ID: 251 Abstract: This report describes the arthroscopic management of a case of incarcerating pincer-type femoroacetabular impingement. The hip joint had a marked restriction of range of motion and secondary pain as a result of osteophytes wrapping around the femoral head down the femoral neck. The patient was treated with staged bilateral hip arthroscopy. The procedures were initially performed through the peripheral compartment to remove the incarcerating acetabular rim, followed by arthroscopy of the central compartment with acetabuloplasty and femoral head osteochondroplasty. The patient's treatment has led to an excellent clinical and radiographic result at 24 months' follow-up despite an unrelated pelvic fracture sustained in the postoperative period. This technique emphasizes the capabilities of hip arthroscopy in advanced cases of femoroacetabular impingement as an alternative to arthroplasty for patients with healthy articular cartilage. Â© 2014 Arthroscopy Association of North America Notes: DB - Embase UI - 2014194824 IN - (Jamali, Palestro, Sampson) Joint Preservation Institute, Sacramento, CA, United States (Meehan) Sacramento Knee and Sports Medicine, Sacramento, CA, United States CP - France LG - English PT - Journal: Article EM - 201415 DD - 20140404

(238) Jensen J, Holmich P, Bandholm T, Zebis MK, Andersen LL, Thorborg K. Eccentric strengthening effect of hip-adductor training with elastic bands in soccer players: a randomised controlled trial. Br J Sports Med 2014; 48(4):332-338. Ref ID: 632 Abstract: BACKGROUND: Soccer players with weak hip-adductor muscles are at increased risk of sustaining groin injuries. Therefore, a simple hip-adductor strengthening programme for prevention of groin injuries is needed. OBJECTIVE: We aimed to investigate the effect of an 8-week hip-adductor strengthening programme, including one hip-adduction exercise, on eccentric and isometric hip-adduction strength, using elastic bands as external load. METHODS: Thirty-four healthy, sub-elite soccer players, mean (+/-SD) age of 22.1 (+/-3.3) years, were randomised to either training or control. During the mid-season break, the training group performed 8 weeks of supervised, progressive hip-adduction strength training using elastic bands. The participants performed two training sessions per week (weeks 1-2) with 3x15 repetition maximum loading (RM), three training sessions per week (weeks 3-6) with 3x10 RM and three training sessions per week (weeks 7-8) with 3x8 RM. Eccentric hip-adduction (EHAD), isometric hip-adduction (IHAD) and isometric hip-abduction (IHAB) strength, and the IHAD/IHAB ratio were measured assessor-blinded preintervention and postintervention, using reliable hand-held dynamometry procedures. RESULTS: In the training group, EHAD strength increased by 30% (p<0.001). In the control group, EHAD strength increased by 17% (p<0.001), but the increase was significantly larger in the training group compared with the control group (p=0.044). No other significant between-group strength-differences in IHAD, IHAB or the IHAD/IHAB ratio existed (p>0.05). CONCLUSIONS: 8 weeks of hip-adduction strength training, using elastic bands, induce a relevant increase in eccentric hip-adduction strength in soccer players, and thus may have implications as a promising approach towards prevention of groin injuries in soccer Notes: DA - 20140127 IS - 1473-0480 (Electronic) IS - 0306-3674 (Linking) LA - eng PT - Journal Article PT - Randomized Controlled Trial SB - IM

(239) Jiang K, Gupta A, Napolitano J, Shetty S. New lower extremity weakness due to an iliopsoas hematoma in a rehab patient with a cardioembolic stroke requiring anticoagulation: A case report. PM and R Conference: 2015 Annual Assembly of the American Academy of Physical Medicine and Rehabilitation Boston, MA United States Conference Start: 20151001 Conference End: 20151004 Conference Publication: (var pagings) 7 (9 SUPPL 1) ()(pp S178), 20 2015;(var.pagings):S178. Ref ID: 145 Abstract: Setting: Acute inpatient rehabilitation unit of academic medical center. Results or Clinical Course: A 92-year-old man with a past medical history of coronary artery disease, hypertension, diabetes mellitus, prostate and colon cancer, and transient ischemic attack presented with left hemiparesis and MRI evidence of right middle cerebral artery acute ischemic stroke. This lesion was attributed to an atrial thrombus found on echocardiogram. The patient was transitioned from a heparin drip to warfarin with an enoxaparin bridge 80mg every 12 hours, in addition to his home dose of 81mg Aspirin. He was admitted to acute inpatient rehabilitation with primarily deficits in dynamic balance, coordination, and vision, as his strength was measured as an equal 5/5 in all four extremities. On rehab day two he began to complain of left groin pain interfering with ambulation. Examination revealed tenderness to palpation over the left femur at the insertion of the iliopsoas. Strength of left lower extremity was intact distally, while hip flexion strength and range of motion were limited due to pain, measured as 2/5. At this time the patient's INR was 1.3 and his hemoglobin had dropped from 12.0 on admission to 8.9. A CT scan revealed a hematoma in left iliopsoas muscle extending from the pelvis to its attachment on femur below the lesser trochanter, and further anticoagulation was held. His groin pain and hip flexor weakness gradually improved over the next 5 days, hemoglobin returned to 10.0 and warfarin was restarted without an enoxaparin bridge. Discussion: While it is prudent to first consider stroke extension, hemorrhagic transformation, or new lesion in a patient exhibiting new weakness after an acute stroke, other peripheral causes of weakness must be considered as well. Retroperitoneal or iliopsoas muscle hematomas are likely causes of lower extremity weakness in patients with increased risk of bleeding. Conclusion: Large hematomas can place pressure on the lumbosacral plexus or on the femoral nerve in iliopsoas hematomas leading to neurapraxia. Mechanical fullness alone can also lead to weakness and pain without neurologic compromise, as seen in this case. Initial workup should include CT or ultrasound imaging and monitoring of hemoglobin. While, most cases are self limited, persistent weakness should be evaluated by electromyography Notes: DB - Embase UI - 72072689 IN - (Jiang) Loyola University, Maywood, IL, United States LG - English PT - Journal: Conference Abstract EM - 201548 DD - 20151109

(240) Jimenez CL, Beebe MJ, Maak TG, Aoki SK. Acute severe hip pain associated with labral calcific deposition disease. Orthopedics 37 (12) ()(pp e1137-e1140), 2014 Date of Publication: 01 Dec 2014 2014;(12):e1137-e1140. Ref ID: 217 Abstract: Calcific tendinitis is a term used to describe radiographic evidence of calcific deposition within a tendon. This condition, also known as calcium deposition disease, has been described in the gluteus maximus, the peroneus longus tendon, the popliteus tendon, the longus colli muscle in the neck, and the tendon of the rectus femoris. However, most of the literature on calcific tendinitis relates to crystal deposition within the rotator cuff of the shoulder. The peri-articular pain related to calcium deposition may be indolent and chronic, and patients can have varying degrees of functional deficit. Patients also may present with an acute inflammatory event, with severe incapacitation and restricted passive range of motion and a clinical picture that is concerning for septic arthritis. Severe pain associated with calcific tendonitis usually occurs during the resorptive phase, where there is vascular infiltration of the calcium deposits and histologic evidence of phagocytosis. The authors report a case of calcium deposition disease found within the hip labrum with a clinical presentation of acute, atraumatic, debilitating pain in a patient with underlying femoroacetabular impingement. This clinical picture is similar to that described during the resorptive phase seen in calcific tendonitis of the shoulder. The authors attribute this presentation to acute rupture of the calcium deposit into the intra-articular joint space of the hip. To the authors' knowledge, there are no other reports of this clinical presentation in the literature Notes: DB - Embase UI - 2014955322 IN - (Jimenez, Beebe, Maak, Aoki) Department of Orthopedic Surgery, University of Utah School of Medicine, 590 Wakara Way, Salt Lake City, UT 84108, United States CP - United States LG - English PT - Journal: Article EM - 201452 DD - 20141219

(241) Johanson MA, Greenfield BH, Greene BL, Abelew TA. An impairment-based intervention for a patient with non-specific bilateral hip pain: Clinical and biomechanical outcomes. Journal of Musculoskeletal Research 12 (2) ()(pp 113-125), 2009 Date of Publication: 2009 2009;(2):113-125. Ref ID: 460 Abstract: Study design: Case study. Background: To date, there is little researchthat has examined the association of impairments at the hip with cumulative trauma syndromes of the hip. The purposes of this case report are to: (1) describe clinical outcomes for a patient with non-specific bilateral musculoskeletal hip pain associated with recreational walking, (2) explore the relationship between this patient's impairments and her cumulative trauma syndrome at the hip, and (3) integrate biomechanical analysis with this patient's clinical diagnosis. Case description: The patient was a 28-year-old female research assistant who reported anterior bilateral hip pain during recreational walking. After examination, the physical therapist diagnosed primary impairments of hip pain, limited hip flexion range of motion (ROM), and weakness of hip musculature, resulting in her ambulation limitations. Intervention consisted of a home exercise program (HEP) designed to strengthen the iliopsoas, gluteus maximus, and gluteus medius (specifically, the posterior portion), increase extensibility of the IT Band and medial hamstrings, and promote posterior glide of the proximal femur. The patient's HEP was the only intervention she received. There were follow-up telephone conversations, but no clinical re-examination for ten weeks. The patient performed the HEP a total of 41 days over the ten week period. Biomechanical gait analysis was performed pre- and post-intervention. Outcomes: Following intervention, the patient was pain-free during recreational walking, and passive hip flexion ROM and manual muscle testing (MMT) grades of hip musculature improved. Global score on the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) improved ten points. Motion analysis, force plate analysis, and electromyography (EMG) showed that maximum hip extension decreased, maximum hip flexion increased, maximum ground reaction force increased, activation of the gluteus maximus increased, while activation of the gluteus medius and tensor fascia latae (TFL) decreased following the intervention. Discussion: This patient's changes in muscle activity following a HEP appear largely consistent with improved symptoms based on theoretical descriptions of a common muscle imbalance (shortened and overactive TFL and weakness of the gluteus maximus and posterior portion of the gluteus medius), thought to contribute to increased femoral medial rotation. Â© 2009 World Scientific Publishing Company Notes: DB - Embase UI - 2009356203 IN - (Johanson, Greenfield, Greene) Department of Rehabilitation Medicine, Emory University, Atlanta, GA, United States (Abelew) Department of Cell Biology, Emory University, Atlanta, GA, United States (Abelew) School of Applied Physiology, Georgia Institute of Technology, Atlanta, GA, United States (Johanson) 1441 Clifton Road, Atlanta, GA 30322, United States CP - Singapore LG - English PT - Journal: Article EM - 200900 DD - 20090810

(242) Johnson R. Osteitis pubis. Curr Sports Med Rep 2003; 2(2):98-102. Ref ID: 766 Abstract: Osteitis pubis is a painful condition, usually caused by abnormal muscle forces acting on the symphysis pubis. The symptoms of osteitis pubis mimic many other injuries that affect the athlete's groin. To correctly diagnose this condition, the clinician must maintain a high index of suspicion. Reports suggest this condition is more common in men than women. Confirmatory radiographs, bone scans, and magnetic resonance imaging aid the diagnosis. Once diagnosed, the prognosis for full recovery is good, although lengthy. Typical treatments include physical therapy, involving strengthening the abdominal and hip muscles, and improving range of motion of the hip, particularly the muscles of internal rotation. Corticosteroid injections, wedge resection of the symphysis, curettage, and arthrodesis have all been used with variable success Notes: DA - 20030630 IS - 1537-890X (Print) IS - 1537-890X (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(243) Johnston CA, Lindsay DM, Wiley JP. Treatment of iliopsoas syndrome with a hip rotation strengthening program: a retrospective case series. J Orthop Sports Phys Ther 1999; 29(4):218-224. Ref ID: 782 Abstract: STUDY DESIGN: Retrospective case series. OBJECTIVE: To review the effectiveness of a home-based rehabilitation program in the treatment of iliopsoas syndrome. BACKGROUND: Conservative management strategies for iliopsoas bursitis (syndrome) have not been well documented in the literature. This study relates the outcome of an exercise program (hip rotation exercises and stretching) to address clinical deficiencies observed in iliopsoas syndrome. METHODS AND MEASURES: A retrospective chart review and phone follow-up were done to determine pain and activity limitation for 9 patients (mean age, 35.6 +/- 12.7 years; 8 women, 1 man) before and after application of the rehabilitation program. As a group, symptoms of iliopsoas syndrome were present for a mean of 12.6 (+/- 18.4) months prior to diagnosis and rehabilitation. Activity restrictions related to presenting symptoms were measured using a 4-point ordinal scale (from a score of 1 [pain and unable to do sport] to a score of 4 [pain-free, full activity]). RESULTS: Pain and function improvement occurred in 7 of 9 (77%) patients. Five patients improved by at least 2 pain/activity levels at the time of follow-up (13.2 +/- 9.8 months following diagnosis); all but 2 patients were able to return to full activity. CONCLUSIONS: This study gives preliminary evidence that a specific exercise regimen incorporating hip rotation might improve function and reduce pain for patients with iliopsoas syndrome Notes: DA - 19990702 IS - 0190-6011 (Print) IS - 0190-6011 (Linking) LA - eng PT - Journal Article SB - IM

(244) Johnston TL, Schenker ML, Briggs KK, Philippon MJ. Relationship Between Offset Angle Alpha and Hip Chondral Injury in Femoroacetabular Impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 24 (6) ()(pp 669-675), 2008 Date of Publication: June 2008 2008;(6):669-675. Ref ID: 482 Abstract: Purpose: The purpose of this study was to examine the relationship between the size of cam lesions and the presence of cartilage damage, labral damage, or changes in range of motion in the hips with signs and symptoms of femoroacetabular impingement (FAI). Methods: Cross-table lateral radiographs were available for 102 consecutive patients presenting with signs and symptoms of FAI. Radiographs with excessive external rotation, dysplasia, severe arthritis, avascular necrosis, or Legg-Calve-Perthes syndrome were excluded, leaving 82 patients available for analysis (47 men, 35 women; average age, 25 yr [range, 12 to 55 yr]). Offset angle alpha was measured from the films with a digital goniometer. Patients subsequently underwent hip arthroscopy and the surgical findings and hip range of motion were prospectively recorded. Results: Higher offset angle alpha was associated with the presence of acetabular rim chondral defects (P = .044) and full-thickness delamination of the acetabular cartilage (P = .034). Patients with detachment of the base of the labrum had a higher offset angle alpha (P = .016). Higher offset angle alpha was related to male sex (P = .001) and decreased range of motion (P < .05), but not to age. Conclusions: Cam-type FAI, as measured by an increased offset angle alpha, was correlated with increased chondral damage, labral injury, and decreased range of motion. Level of Evidence: Level II, development of diagnostic criteria on basis of consecutive patients with universally applied gold standard. Â© 2008 Arthroscopy Association of North America Notes: DB - Embase UI - 2008253156 IN - (Johnston) Cedar Valley Medical Associates, Waterloo, IA, United States (Schenker, Briggs, Philippon) Steadman Hawkins Research Foundation, Vail, CO, United States CP - United States LG - English PT - Journal: Article EM - 200800 DD - 20080711

(245) Jones MA, Stratton G, Reilly I, Unnithan VB. Biological risk indicators for recurrent non-specific low back pain in adolescents. British Journal of Sports Medicine 2005; 39(3):137-141. Ref ID: 13 Notes: IS - 3

(246) Jones MA, Stratton G, Reilly T, Unnithan VB. Biological risk indicators for recurrent non-specific low back pain in adolescents. Br J Sports Med 2005; 39(3):137-140. Ref ID: 755 Abstract: OBJECTIVES: A matched case-control study was carried out to evaluate biological risk indicators for recurrent non-specific low back pain in adolescents. METHODS: Adolescents with recurrent non-specific low back pain (symptomatic; n = 28; mean (SD) age 14.9 (0.7) years) and matched controls (asymptomatic; n = 28; age 14.9 (0.7) years) with no history of non-specific low back pain participated. Measures of stature, mass, sitting height, sexual maturity (Tanner self assessment), lateral flexion of the spine, lumbar sagittal plane mobility (modified Schober), hip range of motion (Leighton flexometer), back and hamstring flexibility (sit and reach), and trunk muscle endurance (number of sit ups) were performed using standardised procedures with established reliability. Backward stepwise logistic regression analysis was performed, with the presence/absence of recurrent low back pain as the dependent variable and the biological measures as the independent variables. RESULTS: Hip range of motion, trunk muscle endurance, lumbar sagittal plane mobility, and lateral flexion of the spine were identified as significant risk indicators of recurrent low back pain (p<0.05). Follow up analysis indicated that symptomatic subjects had significantly reduced lateral flexion of the spine, lumbar sagittal plane mobility, and trunk muscle endurance (p<0.05). CONCLUSIONS: Hip range of motion, abdominal muscle endurance, lumbar flexibility, and lateral flexion of the spine were risk indicators for recurrent non-specific low back pain in a group of adolescents. These risk indicators identify the potential for exercise as a primary or secondary prevention method Notes: DA - 20050224 IS - 1473-0480 (Electronic) IS - 0306-3674 (Linking) LA - eng PT - Evaluation Studies PT - Journal Article SB - IM

(247) Joo JH, Lee SC, Ahn HS, Park JS, Lee WJ, Jung KA. Evaluation of the alpha angle in asymptomatic adult hip joints: analysis of 994 hips. Hip Int 2013; 23(4):395-399. Ref ID: 597 Abstract: INTRODUCTION: Numerous studies on cam femoroacetabular impingement (FAI) causing osteoarthritis have been conducted in Western populations, but not in Asian populations. The alpha angle in cam type FAI can be measured by routine hip AP and axial radiographs. The purpose of this study was to determine the range of alpha angles in an asymptomatic Asian cohort. MATERIALS AND METHODS: We performed a retrospective examination on 500 asymptomatic Asian adults (1000 hips) who underwent simultaneous spine MRI and hip coronal survey MRI for evaluation of back pain from December 2009 to March 2010. The alpha angle was measured on anteroposterior (AP) pelvic survey images. According to inclusion criteria, 372 hips of 186 men and 622 hips of 311 women were analysed. RESULTS: The mean alpha angles for men and women were 50.61 degrees +/- 7.61 degrees and 49.82 degrees +/- 4.14 degrees , respectively with no statistically significant differences (p = 0.063). Alpha angles of the two age groups (>/=50 years old and <50 years old) were similar in both genders: 49.90 degrees +/- 6.88 degrees versus 51.40 degrees +/- 8.30 degrees in men (p = 0.060), and 50.61 degrees +/- 7.61 degrees versus 49.82 degrees +/- 4.14 degrees in women (p = 0.71). The frequency of pathologic alpha angle of men and women was 0.5% and 3.1%, respectively. CONCLUSIONS: After review of 994 asymptomatic adult hips, we found neither gender-specific nor age-specific differences in the alpha angle. The frequency of the pathological range of the alpha angle was notably rare, as compared to those of Western countries. We assume that these findings could be related to a low prevalence of FAI and idiopathic osteoarthritis of the hip in the Asian population Notes: DA - 20130912 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Journal Article SB - IM

(248) Kajino Y, Kabata T, Maeda T, Iwai S, Kuroda K, Fujita K et al. Strict component positioning is necessary in hip resurfacing. Journal of Orthopaedic Science 18 (2) ()(pp 290-297), 2013 Date of Publication: March 2013 2013;(2):290-297. Ref ID: 297 Abstract: Background: Hip resurfacing arthroplasty has some advantages, including improved metal-on-metal articulation, a lower dislocation rate and preserved femoral bone. This procedure is a surgical option for younger and more active patients with osteoarthritis and osteonecrosis of the femoral head. Although there have been some reports about the efficacy of this technique, others report serious complications caused by metal debris. Additionally, femoral neck preservation adversely decreases the head-neck ratio and results in postoperative impingement. Methods: We evaluated the range of motion after hip resurfacing with various component orientations and optimal component orientations to avoid postoperative impingement using computer simulations in 10 male patients with osteonecrosis. Results: The mean ranges of motion in flexion, extension, abduction, adduction and internal rotation at 90 of flexion were 92.4 +/- 13.8, 25.7 +/- 13.8, 38.0 +/- 11.1, 29.1 +/- 10.0 and 20.9 +/- 11.5, respectively. The oscillation angle in flexion and extension motion was 118.1 +/- 10.3. More than 100 of flexion was acquired in 79 of 240 simulations (32.9 %), and more than 20 extension was acquired in 142 simulations (59.2 %). Combined anteversion was significantly correlated with maximal flexion and extension angles. The component safe zone to fulfill the range of motion criteria varied among patients, and 4 of 10 patients had no safe zone. Conclusions: Postoperative impingement occurs relatively frequently in hip resurfacing because of preservation of the femoral neck and component malpositioning. The safe zone of the acetabular component to avoid postoperative impingement is very narrow. Greater care should be taken regarding patient selection, rigorous preoperative planning and accurate component positioning. Â© 2013 The Japanese Orthopaedic Association Notes: DB - Embase UI - 2013413838 IN - (Kajino, Kabata, Maeda, Iwai, Kuroda, Fujita, Tsuchiya) Department of Orthopaedic Surgery, Graduate School of Medical Science, Kanazawa University, 13-1 Takaramachi, Kanazawa Ishikawa 920-8641, Japan CP - Japan LG - English PT - Journal: Article EM - 201329 DD - 20130717

(249) Kalteis T, Sendtner E, Beverland D, Archbold PA, Hube R, Schuster T et al. The role of the transverse acetabular ligament for acetabular component orientation in total hip replacement: An analysis of acetabular component position and range of movement using navigation software. Journal of Bone and Joint Surgery - Series B 93 B (8) ()(pp 1021-1026), 2011 Date of Publication: August 2011 2011;(8):1021-1026. Ref ID: 391 Abstract: Orientation of the native acetabular plane as defined by the transverse acetabular ligament (TAL) and the posterior labrum was measured intra-operatively using computer-assisted navigation in 39 hips. In order to assess the influence of alignment on impingement, the range of movement was calculated for that defined by the TAL and the posterior labrum and compared with a standard acetabular component position (abduction 45degree/anteversion 15degree). With respect to the registration of the plane defined by the TAL and the posterior labrum, there was moderate interobserver agreement (r = 0.64, p < 0.001) and intra-observer reproducibility (r = 0.73, p < 0.001). The mean acetabular component orientation achieved was abduction of 41degree (32degree to 51degree) and anteversion of 18degree (-1degree to 36degree). With respect to the Lewinnek safe zone (abduction 40degree +/-10degree, anteversion 15degree +/-10degree), 35 of the 39 acetabular components were within this zone. However, there was no improvement in the range of movement (p = 0.94) and no significant difference in impingement (p = 0.085). Alignment of the acetabular component with the TAL and the posterior labrum might reduce the variability of acetabular component placement in total hip replacement. However, there is only a moderate interobserver agreement and intra-observer reliability in the alignment of the acetabular component using the TAL and the posterior labrum. No reduction in impingement was found when the acetabular component was aligned with the TAL and the posterior labrum, compared with a standard acetabular component position. Â©2011 British Editorial Society of Bone and Joint Surgery Notes: DB - Embase UI - 2011403258 IN - (Kalteis, Sendtner, Beverland, Archbold, Hube, Schuster, Renkawitz, Grifka) Department of Orthopaedic Surgery, University of Regensburg, Franz-Josef-Strauss Allee 11, 93053 Regensburg, Germany (Hube) OCM Clinic, Steinerstrasse 6, 81369 Munich, Germany (Beverland) Outcome Assessment Unit, Musgrove Park Hospital, Belfast BT9 7JB, United Kingdom (Archbold) Altnagelvin Area Hospital, Glenshane Road, Londonderry BT47 6SB, United Kingdom (Schuster) Statistician Institute of Medical Statistics and Epidemiology, Technical University Munich, Ismaninger Strasse 22, 81675 Munich, Germany CP - United Kingdom LG - English PT - Journal: Article EM - 201100 DD - 20110729

(250) Kaplan KM, Shah MR, Youm T. Femoroacetabular impingement--diagnosis and treatment. Bull NYU Hosp Jt Dis 2010; 68(2):70-75. Ref ID: 684 Abstract: Femoroacetabular impingement results from an abnormal contact between the femur and the pelvis. This abnormal contact leads to developmental changes in the femoral neck, labrum, and acetabulum. Secondary to the altered hip joint mechanics, chondral damage occurs and initiates the degenerative process, eventually leading to osteoarthritis. Numerous etiologies have been implicated in femoroacetabular impingement, and a variety of treatment algorithms have been established, with no definitive gold standard. However, the treatment of this disorder with joint preserving techniques offers a viable option between the extremes of nonoperative treatment and total joint arthroplasty Notes: DA - 20100716 IS - 1936-9727 (Electronic) IS - 1936-9719 (Linking) LA - eng PT - Journal Article PT - Review RN - 0 (Anti-Inflammatory Agents) SB - IM

(251) Kappe T, Kocak T, Neuerburg C, Lippacher S, Bieger R, Reichel H. Reliability of radiographic signs for acetabular retroversion. Int Orthop 2011; 35(6):817-821. Ref ID: 688 Abstract: Acetabular retroversion may contribute to femoroacetabular impingement and lead to osteoarthritis of the hip. Retroversion has been measured on computed tomography scans. In recent years, assessment of acetabular version on anteroposterior pelvic views has gained increasing attention. We therefore aimed to determine the reliability of radiographic signs of acetabular retroversion and its association with the rater's experience. Five orthopedic surgeons (o1 to o5) rated the crossover sign, ischial spine sign and posterior wall sign on X-rays of 40 hip joints. Also, we determined the rater's experience in recognizing acetabular retroversion with a questionnaire and correlated intraobserver reliability to the calculated experience score. The intraobserver results were 0.325 (o1), 0.848 (o2), 0.684 (o3), 0.701 (o4), and 1.000 (o5) for the crossover sign, 0.750 (o1), 0.890 (o2), 0.593 (o3), 0.483 (o4), and 0.946 (o5) for the posterior wall sign; and 0.578 (o1), 0.680 (o2), 0.595 (o3), 0.375 (o4), and 0.800 (o5) for the ischial spine sign. Interobserver reliability was 0.514 for the crossover, 0.633 for the posterior, and 0.543 for the ischial spine sign wall. The experience sum score correlated to the kappa results for the crossover (r = 0.527), posterior wall (r = 0.738), and ischial spine sign (r = 0.949). Assessing acetabular version on plain radiographs is subject to intra- and interindividual error and related to the observer's individual experience Notes: DA - 20110531 IS - 1432-5195 (Electronic) IS - 0341-2695 (Linking) LA - eng PT - Journal Article SB - IM

(252) Kapron AL, Anderson AE, Aoki SK, Phillips LG, Petron DJ, Toth R et al. Radiographic prevalence of femoroacetabular impingement in collegiate football players: AAOS Exhibit Selection. J Bone Joint Surg Am 2011; 93(19):e111-10. Ref ID: 654 Abstract: BACKGROUND: The prevalence of femoroacetabular impingement may be greater in athletes than in the general population because of increased loading of the hip during sports. This study evaluated the radiographs of collegiate football players in order to quantify the prevalence of femoroacetabular impingement in asymptomatic athletes. METHODS: Sixty-seven male collegiate football players (age, 21 +/- 1.9 years) participated in this prospective study. Both hips (n = 134) were evaluated independently by two orthopaedic surgeons for radiographic signs of femoroacetabular impingement. The alpha angle and femoral head-neck offset were measured on frog-leg lateral radiographs. The lateral center-edge angle, acetabular index, crossover sign, and alpha angle were measured on anteroposterior radiographs. Data for continuous variables were averaged between observers prior to assessing prevalence. Cam femoroacetabular impingement was considered to be present if the femoral head-neck offset was &lt;8 mm and/or the alpha angle was &gt;50 degrees on either radiograph. Pincer femoroacetabular impingement was considered to be present if the lateral center-edge angle was &gt;40 degrees , the acetabular index was &lt;0 degrees , and/or a positive crossover sign was detected by both observers. RESULTS: Ninety-five percent of the 134 hips had at least one sign of cam or pincer impingement, and 77% had more than one sign. Twenty-one percent had only one sign of cam femoroacetabular impingement and 57% had both signs. Fifty-two percent had only one sign of pincer femoroacetabular impingement, 10% had two, and 4% had all three signs. Specifically, 72% had an abnormal alpha angle, 64% had a decreased femoral head-neck offset, 61% had a positive crossover sign, 16% had a decreased acetabular index, and 7% had an increased lateral center-edge angle. Fifty percent of all hips had at least one sign of pincer femoroacetabular impingement and at least one sign of cam impingement. Interobserver and intraobserver repeatability was moderate or better for each measure (range, 0.59 to 0.85). CONCLUSIONS: Morphologic abnormalities associated with cam and pincer femoroacetabular impingement were common in these collegiate football players. The prevalence of cam and pincer femoroacetabular impingement was substantially higher than the previously reported prevalence in the general population Notes: DA - 20111018 IS - 1535-1386 (Electronic) LA - eng PT - Journal Article SB - AIM SB - IM

(253) Kapron AL, Anderson AE, Peters CL, Phillips LG, Stoddard GJ, Petron DJ et al. Hip internal rotation is correlated to radiographic findings of cam femoroacetabular impingement in collegiate football players. Arthroscopy 2012; 28(11):1661-1670. Ref ID: 625 Abstract: PURPOSE: The objective of this study was to determine whether physical examinations (flexion-abduction-external rotation [FABER], impingement, range-of-motion profiles) could be used to detect the bony abnormalities of femoroacetabular impingement (FAI) in an athletic population. METHODS: We performed a prospective study of 65 male collegiate football players. Both hips were evaluated by 2 orthopaedic surgeons for radiographic signs of FAI. The alpha angle and head-neck offset were measured on frog-leg lateral films. The center-edge angle, acetabular index, crossover sign, and alpha angle were measured on anteroposterior films. Measurements were averaged for both observers. Maximum hip range of motion in flexion (supine) and internal/external rotation (supine, sitting, and prone) was measured with a goniometer. Pain provoked by the impingement and FABER tests was also recorded. Examinations were completed at 2 of 4 stations (2 duplicates), each staffed by 2 clinicians (1 examined and 1 measured). The relation between each range-of-motion and radiographic measure was determined. Data from each station were assessed separately. Only those regressions significant (P < .05) for paired stations were considered clinically significant. RESULTS: The alpha angle and head-neck offset measured on the frog-leg lateral films were significantly correlated (all P < .01) to supine, sitting, and prone internal rotation for all stations. Correlation coefficients ranged from -0.59 to -0.35 for alpha angle and 0.42 to 0.57 for head-neck offset. Although 95% of the hips had at least 1 radiographic sign of FAI, pain was reported in only 8.5% and 2.3% during the impingement and FABER tests, respectively. CONCLUSIONS: Internal rotation correlates to radiographic measures of cam FAI in this cohort of collegiate football players. Football players with diminished internal rotation in whom hip pain develops should be evaluated for underlying cam FAI abnormalities. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20121030 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(254) Kapron AL, Aoki SK, Peters CL, Anderson AE. Subject-specific patterns of femur-labrum contact are complex and vary in asymptomatic hips and hips with femoroacetabular impingement. Clin Orthop Relat Res 2014; 472(12):3912-3922. Ref ID: 565 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) may constrain hip articulation and cause chondrolabral damage, but to our knowledge, in vivo articulation and femur-labrum contact patterns have not been quantified. PURPOSE: In this exploratory study, we describe the use of high-speed dual-fluoroscopy and model-based tracking to dynamically measure in vivo hip articulation and estimate the location of femur-labrum contact in six asymptomatic hips and three hips with FAI during the impingement examination. We asked: (1) Does femur-labrum contact occur at the terminal position of impingement? (2) Could range of motion (ROM) during the impingement examination appear decreased in hips with FAI? (3) Does the location of femur-labrum contact coincide with that of minimum bone-to-bone distance? (4) In the patients with FAI, does the location of femur-labrum contact qualitatively correspond to the location of damage observed intraoperatively? METHODS: High-speed dual-fluoroscopy images were acquired continuously as the impingement examination was performed. CT arthrogram images of all subjects were segmented to generate three-dimensional (3-D) surfaces for the pelvis, femur, and labrum. Model-based tracking of the fluoroscopy images enabled dynamic kinematic observation of the 3-D surfaces. At the terminal position of the examination, the region of minimal bone-to-bone distance was compared with the estimated location of femur-labrum contact. Each patient with FAI underwent hip arthroscopy; the location of femur-labrum contact was compared qualitatively with damage found during surgery. As an exploratory study, statistics were not performed. RESULTS: Femur-labrum contact was observed in both groups, but patterns of contact were subject-specific. At the terminal position of the impingement examination, internal rotation and adduction angles for each of the patients with FAI were less than the 95% confidence intervals (CIs) for the asymptomatic control subjects. The location of minimum bone-to-bone distance agreed with the region of femur-labrum contact in two of nine hips. The locations of chondrolabral damage identified during surgery qualitatively coincided with the region of femur-labrum contact. CONCLUSIONS: Dual-fluoroscopy and model-based tracking provided the ability to assess hip kinematics in vivo during the entire impingement examination. The high variability in observed labrum-femur contact patterns at the terminal position of the examination provides evidence that subtle anatomic features could dictate underlying hip biomechanics. Although femur-labrum contact occurs in asymptomatic and symptomatic hips at the terminal position of the impingement examination, contact may occur at reduced adduction and internal rotation in patients with FAI. Use of minimum bone-to-bone distance may not appropriately identify the region of femur-labrum contact. Additional research, using a larger cohort and appropriate statistical tests, is required to confirm the findings of this exploratory study Notes: DA - 20141104 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(255) Kapron AL, Aoki SK, Peters CL, Anderson AE. In-vivo hip arthrokinematics during supine clinical exams: Application to the study of femoroacetabular impingement. J Biomech 2015; 48(11):2879-2886. Ref ID: 541 Abstract: Visualization of hip articulation relative to the underlying anatomy (i.e., arthrokinematics) is required to understand hip dysfunction in femoroacetabular (FAI) patients. In this exploratory study, we quantified in-vivo arthrokinematics of a small cohort of asymptomatic volunteers and three symptomatic patients with varying FAI deformities during the passive impingement, FABER, and rotational profile exams using dual fluoroscopy and model-based tracking. Joint angles, joint translations, and relative pelvic angles were calculated. Compared to the 95% confidence interval of the asymptomatic cohort, FAI patients appeared to have decreased adduction and internal rotation during the impingement exam and greater flexion and less abduction/external rotation in the FABER exam. During the rotational profile, only the FAI patient with the most severe deformities demonstrated considerable rotation deficits. In all participants, contact between the labrum and femoral head/neck limited motion during the impingement exam, but not the rotational profile. Substantial pelvic motion was measured during the impingement exam and FABER test in all participants. Femoral translation along any given anatomical direction ranged between 0.69 and 4.1mm. These results suggest that hip articulation during clinical exams is complex in asymptomatic hips and hips with FAI, incorporating pelvic motion and femur translation. Range of motion appears to be governed by femur-labrum contact and other soft tissue constraints, suggesting that current computer simulations that rely on direct bone contact to predict impingement may be unrealistic. Additional research is necessary to confirm these preliminary results. Still, dual fluoroscopy data may serve to validate existing software platforms or create new programs that better-represent hip arthrokinematics Notes: DA - 20150813 IS - 1873-2380 (Electronic) IS - 0021-9290 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Research Support, U.S. Gov't, P.H.S SB - IM

(256) Karrasch C, Lynch S. Practical approach to hip pain. Medical Clinics of North America 98 (4) ()(pp 737-754), 2014 Date of Publication: July 2014 2014;(4):737-754. Ref ID: 239 Abstract: Hip pain is a common complaint among patients presenting to outpatient clinics. Stratifying patients based on age, acuity, and location of pain (extra-articular vs intra-articular) can help to aid in appropriate imaging and timely referral to an orthopedic surgeon. A thorough history and an organized physical examination combined with radiographs are usually sufficient to diagnose most hip complaints. If the diagnosis remains uncertain, magnetic resonance imaging, usually with intra-articular gadolinium, is the imaging modality of choice in diagnosing both intra-articular and extra-articular pathologies. Â© 2014 Elsevier Inc Notes: DB - Embase UI - 2014445989 IN - (Karrasch, Lynch) Department of Orthopaedic Surgery, Penn State Milton S. Hershey Medical Center, Pennsylvania State University College of Medicine, 30 Hope Drive, Hershey, PA 17033, United States CP - United States LG - English PT - Journal: Review EM - 201429 DD - 20140715

(257) Kawakami R, Fukuda K, Hayama T, Sugiyama H. Correlation between hip pain and synovitis in osteoarthritic hips: Evaluation with contrast enhanced MR images and hip arthroscopy. Annals of the Rheumatic Diseases Conference: Annual European Congress of Rheumatology of the European League Against Rheumatism, EULAR 2014 Paris France Conference Start: 20140611 Conference End: 20140614 Conference Publication: (var pagings) 73 , 201 2014;(var.pagings). Ref ID: 237 Abstract: Background The causes of hip pain in osteoarthritis remain unknown. In recent years, Femoroacetabular impingement has attracted much attention as a cause of this symptom. In cases of knees, Roemer et. al. suggested that out of several osteoarthritic MRI features, synovitis is related to knee pain1. Objectives To investigate the correlation between pain and synovitis in symptomatic hips, by using Contrast Enhanced Magnetic Resonance Images (CEMRI) and hip arthroscopy findings. Methods Approval was obtained from Institutional Review Board. Consent was obtained from 29 patients included in this study. In collecting the data, 10 exclusions were made on several grounds, including contraindication to the use of contrasts, high risk for anesthetics, and cases that had MR images taken with non-routine sequences. Hip pain was evaluated with Hip Disability and Osteoarthritis Outcome Score (HOOS) and Japanese Orthopedic Association Hip Score (JOAHS). Two board-approved orthopedic surgeons performed the hip arthroscopy, assessing the severity of synovitis on labral recess, acetabular fossa and lateral aspect of head-neck junction of femur. Two board-approved musculoskeletal radiologists evaluated the thickness of synovial membrane of the hip at the specified location in Hip Osteoarthritis MRI Scoring System (HOAMS) and the designated location assessed under the arthroscopy, on CEMRI. The correlation between clinical scores and severity of synovitis was evaluated. Results 19 subjects were included (mean age 37.57 years old, range 11-66, BMI 23.89kg/m2 range 17.72-32.92kg/m2, 6 male and 13 female, 11 right hips 8 left hips). The thickness of synovial membrane on CEMRI showed association with the synovial findings of hip arthroscopy (P=0.023). Severity of synovitis showed association with clinical hip pain scores on the anterior aspects of the labral recess (P=0.009). Conclusions The thickness of synovial membrane on CEMRI associated with the findings of hip arthroscopy. CEMRI is a reliable investigation for assessing the severity and location of synovitis responsible for hip pain. Synovitis on the anterior aspect of the labral recess showed strongest association with hip pain. This is thought to be due to the large anterior range of movement of the hip. Performing CEMRI may reveal the location of synovitis responsible for hip pain. This may reduce unnecessary investigative arthroscopy and shorten the length of procedure by locating the site of synovitis pre-operatively Notes: DB - Embase UI - 71553698 IN - (Kawakami, Fukuda) Department of Radiology, Tokyo, Japan (Hayama) Department of Orthopaedic Radiology, Jikei University Hospital, Tokyo, Japan (Sugiyama) Department of Orthopaedic Radiology, Kanagawa Rehabilitation Hospital, Atsugi, Japan LG - English PT - Journal: Conference Abstract EM - 201432 DD - 20140805

(258) Kawasaki M, Inoue H, Sabanai K, Sawai T, Sato K. Synovial cyst of the hip in a patient with rheumatoid arthritis. Modern Rheumatology 23 (3) ()(pp 587-592), 2013 Date of Publication: May 2013 2013;(3):587-592. Ref ID: 311 Abstract: A 67-year-old woman with rheumatoid arthritis (RA; Steinblocker stage IV, class 4) who had RA onset at 34 years of age had anterior thigh pain, femoral neuropathy and lower abdominal pain. Physical examination showed multidirectional limit of motion, and radiographic examination showed destruction of the hip joint. MRI and arthrography indicated a cystic lesion that communicated with the hip joint. The rheumatoid synovial cyst was removed during total hip arthroplasty. The symptoms were relieved, and the mass was reduced in size. Â© 2012 Japan College of Rheumatology Notes: DB - Embase UI - 2013308016 IN - (Kawasaki, Inoue, Sabanai, Sato) Department of Orthopaedics, Tohoku Rosai Hospital, 4-3-21 Dainohara, Aoba-ku, Sendai Miyagi 981-8563, Japan (Sawai) Department of Pathology, Iwate Medical University, 2-1-1 Nishiokuda, Yahaba-cho, Shiwa-gun Iwate 020-3694, Japan (Kawasaki) School of Medicine, University of Occupational and Environmental Health, 1-1 Iseigaoka, Yahatanisi-ku, Kitakyushu Fukuoka 807-8555, Japan CP - Japan LG - English PT - Journal: Article EM - 201322 DD - 20130528

(259) Kelly BT, Weiland DE, Schenker ML, Philippon MJ. Arthroscopic labral repair in the hip: Surgical technique and review of the literature. Arthroscopy - Journal of Arthroscopic and Related Surgery 21 (12) ()(pp 1496-1504), 2005 Date of Publication: December 2005 2005;(12):1496-1504. Ref ID: 501 Abstract: Hip pain can be caused by multiple pathologies. Injuries to the acetabular labrum are the most common pathologic findings identified at the time of hip arthroscopy. Five causes of labral tears have been identified; these include trauma, femoroacetabular impingement, capsular laxity, dysplasia, and degeneration. Studies have shown the function and the importance of the labrum. To restore function of the labrum, new surgical techniques, such as suture anchor repair, have been described. The goal of arthroscopic treatment of a torn labrum is to relieve pain by eliminating the unstable flap tear that causes hip discomfort. The goals of these treatments are to maintain the function of the hip joint and decrease the development of premature arthrosis. Â© 2005 by the Arthroscopy Association of North America Notes: DB - Embase UI - 2005580520 IN - (Kelly) Hospital for Special Surgery, New York, NY, United States (Weiland) Center for Sports Medicine, Department of Orthopaedic Surgery, University of Pittsburgh, Pittsburgh, PA, United States (Schenker, Philippon) Steadman Hawkins Foundation, Vail, CO, United States (Philippon) Steadman Hawkins Clinic, Steadman Hawkins Research Foundation, Clinical Research, 181 W Meadow Dr, Vail, CO 81657, United States CP - United States LG - English PT - Journal: Article EM - 200500 DD - 20060127

(260) Kelly BT, Bedi A, Robertson CM, Dela TK, Giveans MR, Larson CM. Alterations in internal rotation and alpha angles are associated with arthroscopic cam decompression in the hip. The American journal of sports medicine 40 (5) ()(pp 1107-1112), 2012 Date of Publication: May 2012 2012;(5):1107-1112. Ref ID: 359 Abstract: Symptomatic labral tears of the hip are associated with bony abnormalities of the femoral head and acetabulum, resulting in impingement. These patients have characteristic internal rotation limitations, which can result in compensatory athletic injury patterns around the hip, pelvis, and lumbar spine. Patients undergoing arthroscopic cam decompression will have improvement in internal rotation after decompression. Patients with decreased femoral neck anteversion will have decreased preoperative internal rotation of the hip and show less improvement after cam decompression. Cohort study; Level of evidence, 3. Patients undergoing arthroscopic decompression of cam and pincer lesions of the hip and treatment of labral injury were evaluated for range of motion and bony anatomy by preoperative computed tomography and pre- and postoperative radiographs. Patients were excluded for age older than 40 years, arthritic changes of the joint, and revision setting. Fifty-five patients (56 hips) were treated with selective labral debridement with functional labral preservation (33/56) or selective labral debridement with labral refixation (23/56) and cam decompression. Fifty-one of the 56 had resection of associated pincer lesions. Patients were divided into femoral anteversion subgroups: normal (5degree-20degree, 34 patients), increased (>20degree, 8 patients), and decreased (<5degree, 13 patients). Mean patient age was 24.7 +/- 6.3 years (range, 14-39 years). Alpha angle, a measure of the head-neck offset, decreased from 68.0degree +/- 10.0degree preoperatively to 43.4degree +/- 4.0degree after decompression (P < .001). Internal rotation of the hip increased from 9.9degree +/- 6.6degree preoperatively to 27.6degree +/- 6.4degree after decompression (P < .001) and 30.1degree +/- 5.3degree at 3 months (P < .001). Hip flexion was not significantly different immediately after decompression but was significantly improved from 115.7degree +/- 13.3degree preoperatively to 127.9degree +/- 6.6degree at 3 months postoperatively (P < .003). Although improvement in internal rotation after decompression increased independent of femoral version, patients with abnormal version had altered internal rotation with increased values associated with increased anteversion (15.7degree +/- 5.4degree/34.3degree +/- 6.7degree) and decreased with relative retroversion (7.1degree +/- 8.3degree/25.2degree +/- 4.9degree; P < .05). Arthroscopic decompression results in improvement of the radiographic alpha angle and normalization of internal rotation in impingement-related disease of the hip. Internal rotation improvements can be achieved even in the setting of femoral retroversion Notes: DB - Embase UI - 22392560 IN - (Kelly) Center for Hip Pain and Preservation, Hospital for Special Surgery, New York, NY, USA CP - United States LG - English PT - Journal: Article EM - 201235 DD - 20120823

(261) Kempthorne JT, Armour PC, Rietveld JA, Hooper GJ. Surgical dislocation of the hip and the management of femoroacetabular impingement: results of the Christchurch experience. ANZ J Surg 2011; 81(6):446-450. Ref ID: 645 Abstract: BACKGROUND: Surgical dislocation of the hip has been developed to deal with the problems causing femoroacetabular impingement (FAI). This is a relatively recent procedure that was historically reserved for larger areas specializing in hip surgery. METHODS: We hypothesized that surgical dislocation can be used for symptomatic FAI in a typical Australasian tertiary orthopaedic centre with acceptable results. This prospective study reviews the results of 53 surgical dislocations in this setting, looking particularly at functional outcomes and early complications. RESULTS: There were significant improvements in the Western Ontario and McMaster University Osteoarthritis Index score at 1, 2, 3 and 4 years post-operatively. Western Ontario and McMaster University Osteoarthritis Index scores increased by 23, 28, 34 and 35 points, respectively (P 0.0039). There was no significant improvement in hip range of motion. There were two (4%) early failures with conversion to total hip arthroplasty, and no cases of post-operative avascular necrosis of the femoral head. CONCLUSIONS: We believe that as the diagnosis of FAI and conservative nonarthroplasty surgery of the hip gains wider acceptance, it will become a procedure that should be offered to all appropriate patients in an attempt to delay or limit total hip arthroplasty in this young age group Notes: DA - 20120201 IS - 1445-2197 (Electronic) IS - 1445-1433 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(262) Kennedy MJ, Lamontagne M, Beaule PE. Femoroacetabular impingement alters hip and pelvic biomechanics during gait Walking biomechanics of FAI. Gait Posture 2009; 30(1):41-44. Ref ID: 711 Abstract: Femoroacetabular impingement (FAI) has been reported to cause hip pain in a variety of daily activities including walking. However, the biomechanics of level gait has not been compared between FAI patients and a control group. This study quantified the affect of cam FAI on the three-dimensional (3-D) kinematics of the hip and pelvis, as well as the 3-D kinetics generated at the hip during walking. A unilateral cam impingement group (n=17) was compared to a matched control group (n=14) using between-group one-way ANOVAs. The FAI group had significantly lower peak hip abduction (p=0.009), frontal range of motion (ROM) (p=0.003), as well as attenuated pelvic frontal ROM (pelvic roll) (p=0.004) compared to the controls during level gait. There was also a trend of the impinged group having a lower sagittal ROM (p=0.047) than the controls. However, there were no kinetic differences between the two groups. Attenuated hip abduction, frontal ROM and sagittal ROM during gait in FAI individuals may be caused by soft tissue restriction, and decreased frontal pelvic ROM could result from limited mobility at the sacro-lumbar joint Notes: DA - 20090518 IS - 1879-2219 (Electronic) IS - 0966-6362 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(263) Kern-Scott R, Peterson JR, Morgan P. Review of acetabular labral tears in dancers. J Dance Med Sci 2011; 15(4):149-156. Ref ID: 674 Abstract: Over the past decade numerous articles have been published regarding the hip labrum. Injuries to the labrum are becoming better understood as biomechanical, kinematic, and diagnostic technologies improve. When the last article on acetabular labral tears appeared in the Journal of Dance Medicine and Science in 2006, this injury was widely handled surgically by debridement. Just 5 years later, we see a shift toward preservation and repair of the labrum and correction of morphology when possible. This change in philosophy has come about as new information on the function of the labrum and the stresses placed upon it at extremes of hip range of motion became available. It is now felt that an intact labrum is useful for preserving the hip's articular cartilage. The change in surgical technique has also necessitated a change in rehabilitation protocols focused on protecting the healing labrum and chondral surface. The vast majority of research available for analysis has not been addressed specifically to a dance population, yet most is relevant and helpful in determining better treatment for dancers. This article reviews the latest available data on labral function, stresses on the labrum resulting from dance, clinical and diagnostic detection of labral tears, and outcomes of labral tear treatment in the young athletic population, including dancers. Recommendations are offered to improve data collection and focus for future research Notes: DA - 20120612 IS - 1089-313X (Print) IS - 1089-313X (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(264) Keschner MT, Bong MR, Wittig JC, Tejwani N. Pseudopathologic Fracture of the Neck of the Femur. Journal of Bone & Joint Surgery 2004; 86-A(7):1534-1538. Ref ID: 50 Notes: IS - 7

(265) Khanna V, Caragianis A, Diprimio G, Rakhra K, Beaule PE. Incidence of hip pain in a prospective cohort of asymptomatic volunteers: is the cam deformity a risk factor for hip pain? The American journal of sports medicine 42 (4) ()(pp 793-797), 2014 Date of Publication: Apr 2014 2014;(4):793-797. Ref ID: 231 Abstract: Although cam-type femoroacetabular impingement is commonly associated with labral chondral damage and hip pain, a large proportion of asymptomatic individuals will have this deformity. To determine the incidence of hip pain in a prospective cohort of volunteers who had undergone magnetic resonance imaging (MRI) of their hips. Case control study; Level of evidence, 3. A total of 200 asymptomatic volunteers who underwent an MRI of both hips were followed for a mean time of 4.4 years (range, 4.01-4.95 years). Thirty were lost to follow-up, leaving 170 individuals (77 males, 93 females) with a mean age of 29.5 years (range, 25.7-54.5 years). All patients were blinded to the results of their MRI. All completed a follow-up questionnaire inquiring about the presence of hip pain or a history of hip pain lasting longer than 6 weeks since the original MRI. Each patient was asked to draw where the pain was on a body diagram. Eleven patients (5 males, 6 females; 6.5% of sample; mean age, 29.9 years; range, 25.7-45.6 years) reported hip pain, of which 3 (1 male, 2 females) had bilateral pain for a total of 14 hips. Seven of the 14 painful hips had a cam-type deformity at the time of the initial MRI versus 37 of the 318 nonpainful hips (P = .0002). This gave a relative risk of 4.3 (95% confidence interval [CI], 2.3-7.8) of developing hip pain if cam deformity was present. Those 14 painful hips had a significantly greater alpha angle at the radial 1:30 clock position than did those who did not develop pain with a cam deformity: 61.5degree (range, 57.3degree-65.7degree) versus 57.9degree (range, 56.9degree-59.1degree), respectively (P = .05). A significantly greater proportion of patients (12%) with limited internal rotation <20degree (versus 2.7% with internal rotation >20degree) went on to develop hip pain (P = .009; relative risk = 3.1 [95% CI, 1.6-6.0]). The presence of a cam deformity represents a significant risk factor for the development of hip pain. An elevated alpha angle at the 1:30 clock position and decreased internal rotation are associated with an increased risk of developing hip pain. However, not all patients with a cam deformity develop hip pain, and further research is needed to better define those at greater risk of developing degenerative symptoms Notes: DB - Embase UI - 24481825 IN - (Khanna) Paul E. Beaule, Division of Orthopedic Surgery, University of Ottawa, 501 Smyth Road, CCW 1646, Ottawa, ON, Canada K1H 8L6 LG - English PT - Journal: Article EM - 201441 DD - 20141006

(266) Khoo-Summers L, Bloom NJ. Examination and treatment of a professional ballet dancer with asuspected acetabular labral tear: A case report. Manual Therapy 20 (4) ()(pp 623-629), 2015 Date of Publication: 01 Aug 2015 2015;(4):623-629. Ref ID: 166 Abstract: Dancers are at risk for developing groin pain that is due to acetabular labral tears. Although surgical management of labral tears has been reported extensively, conservative management has been poorly described. This case report describes the examination, diagnosis, and treatment of groin pain in a professional ballet dancer with a suspected acetabular labral tear. Treatment focused on decreasing anterior hip joint stresses and improving the precision of hip motion through correction of alignment and movement impairments noted during functional activities and dance. Successful outcomes included a reduction in pain and return to professional ballet dancing Notes: DB - Embase UI - 2015780743 IN - (Khoo-Summers, Bloom) Washington University School of Medicine, Department of Orthopedic Surgery, 4444 Forest Park Blvd, Campus Box 8502, St Louis, MO 63108, United States CP - United Kingdom LG - English PT - Journal: Article EM - 201527 DD - 20150626

(267) Kim HT, Jang JH, Ahn JM, Lee JS, Kang DJ. Early results of one-stage correction for hip instability in cerebral palsy. Clinics in Orthopedic Surgery 4 (2) ()(pp 139-148), 2012 Date of Publication: 2012 2012;(2):139-148. Ref ID: 369 Abstract: Background: We evaluated the clinical and radiological results of one-stage correction for cerebral palsy patients. Methods: We reviewed clinical outcomes and radiologic indices of 32 dysplastic hips in 23 children with cerebral palsy (13 males, 10 females; mean age, 8.6 years). Ten hips had dislocation, while 22 had subluxation. Preoperative Gross Motor Function Classification System (GMFCS) scores of the patients were as follows; level V (13 patients), level IV (9), and level III (1 ). Acetabular deficiency was anterior in 5 hips, superolateral in 7, posterior in 11 and mixed in 9, according to 3 dimensional computed tomography. The combined surgery included open reduction of the femoral head, release of contracted muscles, femoral shortening varus derotation osteotomy and the modified Dega osteotomy. Hip range of motion, GMFCS level, acetabular index, center-edge angle and migration percentage were measured before and after surgery. The mean follow-up period was 28.1 months. Results: Hip abduction (median, 40degree), sitting comfort and GMFCS level were improved after surgery, and pain was decreased. There were two cases of femoral head avascular necrosis, but no infection, nonunion, resubluxation or redislocation. All radiologic indices showed improvement after surgery. Conclusions: A single event multilevel surgery including soft tissue, pelvic and femoral side correction is effective in treating spastic dislocation of the hip in cerebral palsy. Copyright Â© 2012 by The Korean Orthopaedic Association Notes: DB - Embase UI - 2012347499 IN - (Kim, Jang, Ahn, Lee, Kang) Department of Orthopaedic Surgery, Pusan National University Hospital, 179 Guduk-ro, Seo-gu, Busan 602-739, South Korea CP - South Korea LG - English PT - Journal: Review EM - 201227 DD - 20120629

(268) Kim KC, Felson DT, Linsenmeyer KD, Guermazi A, Vlad SC, Clancy MM et al. Concordance of hip pain with radiographic hip osteoarthritis in an urban us community: The framingham osteoarthritis study. Arthritis and Rheumatism Conference: American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting, ACR/ARHP 2013 San Diego, CA United States Conference Start: 20131025 Conference End: 20131030 Conference P 2013;(var.pagings):S108. Ref ID: 259 Abstract: Background/Purpose: While it is well known that knee pain and radiographic knee osteoarthritis (OA) are often discordant, little is known of the concordance of hip pain with the presence of radiographic hip OA. From a prevalence study of hip osteoarthritis done in Framingham, Massachusetts, we examined the relationship between hip pain and radiographic hip OA. Methods: We performed a community based study of OA among persons age 50-79 living in Framingham in 2002-2005 with recruitment by random digit dialing and subjects studied without respect to joint pain or arthritis. Anteroposterior standing long-limb radiographs of the lower extremities including the pelvis were obtained and were read for radiographic hip OA(ROA) by two trained physicians. Cases of ROA were confirmed by an experienced musculoskeletal radiologist. ROA was defined as Kellgren-Lawrence score > 2. Using a homunculus in which the hip joint was depicted as a large circle in the groin, participants were asked whether they had hip pain on most days. Those who said 'yes' were defined as having hip pain. If they had hip pain, subjects then answered another question asking location of pain: groin, front of the leg (anterior), outside the leg (lateral), lower back, or buttocks. Also, many participants had a standardized hip exam during which they were asked about pain during passive internal rotation. We examined sensitivity (Sn), specificity (Sp) and positive and negative predictive values (PPV, NPV) of different constellations of hip pain and location specific pain with ROA. Results: Radiographs from 948 participants were evaluated including 419 men and 529 women. The average age was 63.5 years (s.d. 9 yrs). One hundred sixty participants (87 men and 73 women) had ROA (16.9%). One hundred eighty-two participants (19.2%) had hip pain. Only 22% of participants with hip pain had ROA in the same hip whereas 15.7% of participants without hip pain had ROA in that hip. The Sn of hip pain for ROA was 25%, the Sp of hip pain for ROA was 82%, and the PPV for hip pain was 22% (See table). However, when we restricted analyses to those with hip pain who localized this pain to the groin, the PPV rose to 38.1%. But of those with ROA, only 6.3% had hip and groin pain. For hip pain with anterior pain, the PPV was 27.8%, and the Sn was 7%. The diagnostic test performance for other sites of pain was poorer. If a participant had hip pain and pain with passive internal rotation, 18% had ROA. (Table Presented) Conclusion: We found poor agreement between hip pain on most days and radiographic OA in the ipsilateral hip. Many older persons with frequent hip pain including pain in the groin or front of the thigh did not have positive x-rays in that hip, and many persons with radiographic OA did not have hip pain. Of the constellation of questions for hip pain, those with the highest PPV were hip pain with groin or anterior pain Notes: DB - Embase UI - 71317750 IN - (Kim, Linsenmeyer) Boston Medical Center, Boston, MA, United States (Felson, Niu) Boston University, School of Medicine, Boston, MA, United States (Guermazi, Vlad, Clancy) Boston University, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201408 DD - 20140213

(269) Kim KI, Cho YJ, Ramteke AA, Yoo MC. Peri-acetabular rotational osteotomy with concomitant hip arthroscopy for treatment of hip dysplasia. Journal of Bone & Joint Surgery 2011; 93(6):732-737. Ref ID: 121 Abstract: Reconstructive acetabular osteotomy is a well established and effective procedure in the treatment of acetabular dysplasia. However, the dysplasia is frequently accompanied by intra-articular pathology such as labral tears. We intended to determine whether a concomitant hip arthroscopy with peri-acetabular rotational osteotomy could identify and treat intra-articular pathology associated with dysplasia and thereby produce a favourable outcome. We prospectively evaluated 43 consecutive hips treated by combined arthroscopy and acetabular osteotomy. Intra-operative arthroscopic examination revealed labral lesions in 38 hips. At a mean follow-up of 74 months (60 to 97) the mean Harris hip score improved from 72.4 to 94.0 (p < 0.001), as did all the radiological parameters (p < 0.001). Complications included penetration of the joint by the osteotome in one patient, a fracture of the posterior column in another and deep-vein thrombosis in one further patient. This combined surgical treatment gave good results in the medium term. We suggest that arthroscopy of the hip can be performed in conjunction with peri-acetabular osteotomy to provide good results in patients with symptomatic dysplasia of the hip, and the arthroscopic treatment of intra-articular pathology may alter the progression of osteoarthritis Notes: ID - 104904054 IS - 6

(270) Kindsfater KA, Politi JR, Dennis DA, Sychterz Terefenko CJ. The incidence of femoral component version change in primary THA using the S-ROM femoral component. Orthopedics 34 (4) , 2011 Date of Publication: April 2011 2011;(4). Ref ID: 405 Abstract: Although use of modular femoral components in revision total hip arthroplasty (THA) is widely accepted, many still question the need for modular versatility in primary THA. This study examined a large cohort of primary THA patients implanted with a modular S-ROM femoral component (DePuy Orthopaedics, Warsaw, Indiana) to determine the percentage of hips in which the surgeon changed version of the femoral component to increase the intraoperative stability of the THA construct and/or to maximize hip range of motion without impingement. In a group of 1000 routine, primary THAs, femoral component version was changed in 479 hips (47.9%). This change in rotational position of the femoral stem ranged from 60degree retroversion with respect to the position of the sleeve to 80degree of anteversion with respect to the sleeve. Ten hips (1%) experienced dislocation within the first 3 postoperative months. There was no difference in the dislocation rate between those patients in which femoral component version was changed versus those in which version was not changed. Statistical analysis showed no correlation between the likelihood of changing stem version and any of the following clinical variables: patient age, sex, diagnosis, or surgeon. The high percentage of straightforward primary THAs in which it was deemed beneficial to change version of the stem combined with the lack of correlation between femoral version change and clinical variables leads us to conclude that the routine use of a stem that allows variable version may be advantageous when compared to a nonmodular stem, as it is not possible to preoperatively determine when changing version will be required Notes: DB - Embase UI - 2011219324 IN - (Kindsfater) Orthopaedic Center of the Rockies, 2500 E Prospect Rd, Fort Collins, CO 80525, United States (Politi) Cardinal Orthopaedic Institute, Columbus, OH, United States (Dennis) University of Colorado Health Sciences Center, Colorado Joint Replacement, Denver, CO, United States (Sychterz Terefenko) Arthritis and Joint Replacement Center of Reading, Wyomissing, PA, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110518

(271) Kiyoshige Y, Watanabe E. Fatty degeneration of gluteus minimus muscle as a predictor of falls. Archives of Gerontology and Geriatrics 60 (1) ()(pp 59-61), 2015 Date of Publication: 01 Jan 2015 2015;(1):59-61. Ref ID: 216 Abstract: The cause of falls is multifactorial, however, hip fractures in elderly would be prevented if accidental falls are predictable. We assessed magnetic resonance images of 38 patients with groin pain after taking a fall whose fracture could not be detected by plain X-rays, and 45 patients with no episode of falls. Their ages were over 65 years. Fatty degeneration of muscles, gluteus maximus, gluteus medius, gluteus minimus, obturator externus, adductor longus, rectus femoris and iliopsoas muscles, were evaluated by Goutallier's staging. Odds ratio was calculated by a logistic regression analysis allocating dependent variable for falls and independent variables for Goutallier's stage, age and gender. The fatty degeneration of gluteus maximus muscle was generalized, while that of gluteus minimus muscle was unevenly distributed, especially in anterior area. Gluteus minimus muscle initiated its fatty degeneration earlier than gluteus medius muscle. Odds ratio of falling was 3.2 (95% confidence intervals: 1, 14, 8.94) for Goutallier' stage of the gluteus medius muscle. Fatty degeneration of gluteus medius muscle has a crucial role in providing stability of the pelvis including hip joint. Evaluating fatty streaks in the gluteus minimus muscle could help give early indication to those who have a higher risk of falling Notes: DB - Embase UI - 2014869667 IN - (Kiyoshige) Department of Physical Therapy, Yamagata Prefectural University of Health Science, 260 Kamiyanagi, Yamagata 990-2212, Japan (Kiyoshige) Department of Orthopaedic Surgery, Saiseikai Yamagata Hospital, 79-1 Oki-machi, Yamagata 990-8545, Japan (Watanabe) Department of Radiology, Saiseikai Yamagata Hospital, 79-1 Oki-machi, Yamagata 990-8545, Japan CP - Ireland LG - English PT - Journal: Article EM - 201501 DD - 20141229

(272) Klit J, Gosvig K, Magnussen E, Gelineck J, Kallemose T, Soballe K et al. Cam deformity and hip degeneration are common after fixation of a slipped capital femoral epiphysis. Acta Orthop 2014; 85(6):585-591. Ref ID: 566 Abstract: BACKGROUND AND PURPOSE: Slipped capital femoral epiphysis is thought to result in cam deformity and femoroacetabular impingement. We examined: (1) cam-type deformity, (2) labral degeneration, chondrolabral damage, and osteoarthritic development, and (3) the clinical and patient-reported outcome after fixation of slipped capital femoral epiphysis (SCFE). METHODS: We identified 28 patients who were treated with fixation of SCFE from 1991 to 1998. 17 patients with 24 affected hips were willing to participate and were evaluated 10-17 years postoperatively. Median age at surgery was 12 (10-14) years. Clinical examination, WOMAC, SF-36 measuring physical and mental function, a structured interview, radiography, and MRI examination were conducted at follow-up. RESULTS: Median preoperative Southwick angle was 22o (IQR: 12-27). Follow-up radiographs showed cam deformity in 14 of the 24 affected hips and a Tonnis grade>1 in 1 affected hip. MRI showed pathological alpha angles in 15 affected hips, labral degeneration in 13, and chondrolabral damage in 4. Median SF-36 physical score was 54 (IQR: 49-56) and median mental score was 56 (IQR: 54-58). These scores were comparable to those of a Danish population-based cohort of similar age and sex distribution. Median WOMAC score was 100 (IQR: 84-100). INTERPRETATION: In 17 patients (24 affected hips), we found signs of cam deformity in 18 hips and early stages of joint degeneration in 10 hips. Our observations support the emerging consensus that SCFE is a precursor of cam deformity, FAI, and joint degeneration. Neither clinical examination nor SF-36 or WOMAC scores indicated physical compromise Notes: DA - 20141121 IS - 1745-3682 (Electronic) IS - 1745-3674 (Linking) LA - eng PT - Journal Article SB - IM

(273) Koch A, Jozwiak M. Avascular necrosis as a complication of spastic hip dislocation treatment. Developmental Medicine and Child Neurology Conference: 65th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine Las Vegas, NV United States Conference Start: 20111012 Conference End: 20111015 Conference Publication: (va 2011;(var.pagings):25-26. Ref ID: 414 Abstract: Background and Objectives: To present the frequency and risk factors of femoral head avascular necrosis (AVN) in the spastic hip dislocation treatment of cerebral palsy children. Design: Retrospective analysis of patient data. Participants and Setting: We analyzed a group of 77 patients (109 hips) with hip joint dislocation (MP<80%), in which 31 patients had bilateral dislocation and 47 patients had unilateral dislocation. All patients were treated in our department between 1998 and 2008. Inclusion criterion was at least 1 year of observation. The mean time of follow up was 3.2 years (1.2-10.2). In our group, 58 hips belonged to males and 51 belonged to females. Materials and Methods: We evaluated the shape of femoral head according to Miller criteria, and searched for avascular necrosis according to Kruczynski classification. We also perform the clinical examination of hip joints (range of motion measurement) and analyzed the X-ray of hip joints in a-p view before operation and at latest follow-up. The relationship between the femoral head and the acetabulum was evaluated with Acetabular Index (AI) and Reimers Migration Index (RM) in all X-rays. Results: Acetabular Index improved from 30.9degree before open reduction procedure (10-62) to 21.1degree at the last follow-up (3-50), Reimers Migration Index improved from 98.8%(82-100%) before the operation to 15.6%(0-100%) at the end of observation. The observed change of AI and RM was statistically significant. In our group, at the last follow up we had four dislocations and four severe subluxations. Based on Kruczynski classification, there were no signs of AVN after operative treatment in 36.7% of participants. In the rest 63.7% of patients, changes of proximal femoral end were observed: Type I - 33.0% of hips; Type II - 14.7%; Type III - 3.8%; Type IV - 7.4%; Type V - 4.8%. Estimation of femur head shape was based on Miller criteria. Preoperatively, we had 50 hips classified as Type I and 59 hips classified as Type II. After surgery, we observed 45 hips as Type I, 49 as Type II and 15 as Type III. This deterioration was statistically significant (p<0.001). Changes of femoral head shape depended on post-operative AI, age at the time of surgery, postoperative range of abduction and post-operation spasticity of ili-opsoas and adductors. Appearance of femoral head avascular necrosis is closely connected to preoperative value of neck-shaft angle, intraoperative correction of neck-shaft angle, post-operation range of motion in abduction and post-operation spasticity of adductors, iliopsoas and rectus femoris muscle. Conclusions and Significance: Although the open reduction of hip joint combined with derotation-varus-shortening femoral osteotomy and Dega pelvic osteotomy is clinically effective treatment of spastic hip dislocation in cerebral palsy children, however, we observed in almost 2/3 of all cases with the sign of avascular necrosis. The majority of them presented minimal to mild changes without any clinical symptoms Notes: DB - Embase UI - 70594142 IN - (Koch, Jozwiak) Department of Paediatrics Orthopaedics and Traumatology, Poznan University of Medical Sciences, Poznan, Poland LG - English PT - Journal: Conference Abstract EM - 201100 DD - 20111129

(274) Kolo FC, Charbonnier C, Pfirrmann CW, Duc SR, Lubbeke A, Duthon VB et al. Extreme hip motion in professional ballet dancers: dynamic and morphological evaluation based on magnetic resonance imaging. Skeletal Radiol 2013; 42(5):689-698. Ref ID: 621 Abstract: OBJECTIVE: To determine the prevalence of femoroacetabular impingement (FAI) of the cam or pincer type based on magnetic resonance imaging (MRI) in a group of adult female professional ballet dancers, and to quantify, in vivo, the range of motion (ROM) and congruence of the hip joint in the splits position. MATERIALS AND METHODS: Institutional review board approval and informed consent from each volunteer were obtained. Thirty symptomatic or asymptomatic adult female professional ballet dancers (59 hips) and 14 asymptomatic non-dancer adult women (28 hips, control group) were included in the present study. All subjects underwent MRI in the supine position, while, for the dancers, additional images were acquired in the splits position. Labral abnormalities, cartilage lesions, and osseous abnormalities of the acetabular rim were assessed at six positions around the acetabulum. A morphological analysis, consisting of the measurement of the alpha angle, acetabular depth, and acetabular version, was performed. For the dancers, ROM and congruency of the hip joint in the splits position were measured. RESULTS: Acetabular cartilage lesions greater than 5 mm were significantly more frequent in dancer's hips than in control hips (28.8 vs 7.1%, p = 0.026), and were mostly present at the superior position in dancers. Distribution of labral lesions between the dancers and the control group showed substantially more pronounced labral lesions at the superior, posterosuperior, and anterosuperior positions in dancers (54 lesions in 28 dancer's hips vs 10 lesions in 8 control hips). Herniation pits were found significantly more often (p = 0.002) in dancer's hips (n = 31, 52.5%), 25 of them being located in a superior position. A cam-type morphology was found for one dancer and a retroverted hip was noted for one control. Femoroacetabular subluxations were observed in the splits position (mean: 2.05 mm). CONCLUSION: The prevalence of typical FAI of the cam or pincer type was low in this selected population of professional ballet dancers. The lesions' distribution, mostly superior, could be explained by a "pincer-like" mechanism of impingement with subluxation in relation to extreme movements performed by the dancers during their daily activities Notes: DA - 20130315 IS - 1432-2161 (Electronic) IS - 0364-2348 (Linking) LA - eng PT - Journal Article SB - IM

(275) Koman LA. Does botulinum toxin A reduce adductor muscle spasticity in children with cerebral palsy? Commentary. Nature Clinical Practice Neurology 2 (8) ()(pp 414-415), 2006 Date of Publication: August 2006 2006;(8):414-415. Ref ID: 494 Notes: DB - Embase UI - 2006362029 IN - (Koman) Department of Orthopaedic Surgery, Wake Forest University Health Sciences, Winston-Salem, NC, United States CP - United Kingdom LG - English PT - Journal: Short Survey EM - 200600 DD - 20060816

(276) Krauss H, Maier D, Buhren V, Hogel F. Development of heterotopic ossifications, blood markers and outcome after radiation therapy in spinal cord injured patients. Spinal Cord 2015; 53(5):345-348. Ref ID: 551 Abstract: STUDY DESIGN: Retrospective study. OBJECTIVES: This study was implemented to detect risk factors for the developing of heterotopic ossifications (HOs) in spinal cord injury (SCI) patients. SETTING: This study was conducted in Murnau, Germany. METHODS: All patients from 2008-2012 with acute SCI were routinely examined by ultrasound of the hips every 2 weeks. The sub group of SCI patients suffering of HO of the hips were extracted and the incidence of developing an HO was calculated. Parameters like age, level of injury, ASIA Impairment Scale (AIS), duration time of accident until diagnosis of HO, Brooker stage, localization of HO (magnetic resonance imaging (MRI)) and symptoms like thrombosis, emboli, decrease of range of motion (ROM), dermal symptoms, swelling, increase in D-Dimere level, were evaluated. Also accompanying injuries of the brain, lung and extremities were recorded. RESULTS: From January 2008 until January 2012, 575 patients with an acute and traumatic SCI were treated in our Department. During this period 32 HOs were detected in the muscles surrounding the hip. In 10 cases a single side and in 22 cases both sides were affected. A total of 26 patients were detected showing up a Brooker 0, two patients Brooker 1, and five patients a Brooker stage >2. The adductor muscles showed an edema in 19 cases and the quadriceps muscles were affected in 15 cases. 26% of all SCI patients showed AIS A status, but in patients who developed HO, 64% have had an AIS A status. 19% of patients with a HO were AIS B and 9.5% showed an AIS C and D. Regarding the level of injury the distribution of patients suffering of HO was comparable to the distribution of SCI patients without HO. In mean HO were detected 9 weeks after SCI and no new HO were found after the 22nd (n=1) week of injury. Clinical symptoms such as swelling, pain, redness or decrease in ROM or increase in D-Dimere levels were seen in 24 cases. Accompanying injuries like brain injury and lung contusions were found in 83% of patients developing HO. The incidence of thrombosis was comparable to SCI patients without HO. One patient with no accompanying injuries or clinical symptoms was detected by routinely performed ultrasound. CONCLUSIONS: The risk of developing HO in patients with traumatic SCI is 5.5% but increases when accompanying injuries of the brain and lung occur. Patients with a neurological status of AIS A must also be quoted as risk patients. When considering the described risk factors and clinical symptoms, 96% of all HO can be detected Notes: DA - 20150509 IS - 1476-5624 (Electronic) IS - 1362-4393 (Linking) LA - eng PT - Journal Article SB - IM

(277) Kubota M, Uchida K, Kokubo Y, Shimada S, Matsuo H, Yayama T et al. Changes in gait pattern and hip muscle strength after open reduction and internal fixation of acetabular fracture. Arch Phys Med Rehabil 2012; 93(11):2015-2021. Ref ID: 643 Abstract: OBJECTIVES: To characterize changes in the gait pattern at 3 and 12 months after surgery for acetabular fracture, to assess the relationship between various gait parameters and hip muscle strength, and to determine the factors associated with gait disorders that correlate with gait parameters measured at 12 months after surgery. DESIGN: Prospective cohort study. SETTING: University hospital. PARTICIPANTS: Patients (N=19) with acetabular fractures were treated by open reduction and internal fixation (ORIF) and examined at 3 and 12 months postoperatively. The study also included a similar number of sex- and age-matched control subjects. INTERVENTIONS: Postoperative rehabilitation program. MAIN OUTCOME MEASURES: Spatiotemporal, kinematic, and kinetic variables of gait and strength of hip flexor, adductor, and abductor muscles at 3 and 12 months after ORIF. RESULTS: Walking velocity at 3 months after ORIF was slower in the patients than in the control subjects; however, walking velocity at 12 months was similar in the 2 groups. Although most of the kinematic and kinetic variables showed recovery to control levels at 3 and 12 months after ORIF, recovery was incomplete for pelvic forward tilt and hip abduction moment even at 12 months after ORIF. The greatest loss of muscle strength was noted in the hip abductors, where the average deficit was 35.4% at 3 months and 24.6% at 12 months. There was a significant relationship between hip abductor muscle strength and hip abduction moment at 3 months (R(2)=.63); however, this relationship diminished at 12 months (R(2)=.14). The presence of associated injuries correlated with lack of recovery of the peak hip abduction moment. CONCLUSIONS: Pelvic forward tilt and peak hip abduction moment showed incomplete recovery at 12 months after ORIF with subsequent conventional and home exercise rehabilitation programs. Our results suggest that improvement of hip abductor muscle strength in the early postoperative period could improve the peak hip abduction moment Notes: DA - 20121029 IS - 1532-821X (Electronic) IS - 0003-9993 (Linking) LA - eng PT - Clinical Trial PT - Journal Article SB - AIM SB - IM

(278) Kubota M, Uchida K, Kokubo Y, Shimada S, Matsuo H, Yayama T et al. Postoperative gait analysis and hip muscle strength in patients with pelvic ring fracture. Gait Posture 2013; 38(3):385-390. Ref ID: 618 Abstract: The aims of present study were (1) to determine changes in kinematic and kinetic variables at 3 and 12 months after open reduction and internal fixation (ORIF) of pelvic ring fracture and (2) to determine the factor(s) associated with gait disorders that correlate with gait parameters measured at 12 months after surgery. Nineteen patients with pelvic ring fractures underwent ORIF and examined at 3 and 12 months postoperatively. The study also included a similar number of age-matched control subjects. Peak hip abduction angle, peak hip extension moment in the stance, peak hip abduction moment, and peak ankle plantarflexion moment at 3 months after ORIF were significantly lower than the respective control values. At 12 months, complete recovery was noted in peak hip abduction moment and peak ankle plantarflexion moment, whereas the recovery in peak hip abduction angle and peak hip extension moment in the stance was partial. The existence of neurological lesions and strength asymmetry of hip abductor and adductor at 3 months post-ORIF correlated with decreased peak hip abduction moment after ORIF. Our results highlighted characteristic gait patterns up to 12 months after ORIF for pelvic fracture, and these patterns correlated with neurological lesion and weakness of hip abductor and adductor muscles Notes: DA - 20130729 IS - 1879-2219 (Electronic) IS - 0966-6362 (Linking) LA - eng PT - Journal Article SB - IM

(279) Kujala UM, Salminen JJ, Taimela S, Oksanen A, Jaakkola L. Subject characteristics and low back pain in young athletes and nonathletes. Medicine and Science in Sports and Exercise 24 (6) ()(pp 627-632), 1992 Date of Publication: 1992 1992;(6):627-632. Ref ID: 532 Abstract: Factors associated with low back pain (LBP) were sought by means of a questionnaire and physical measurements in 138 adolescents. One-hundred athletes and 38 nonathletes, 138 subjects total (58 boys and 80 girls; age range 10.3-13.3 yr), were studied. The questionnaire included questions on physical activity and LBP. Quantitative measurements on anthropometry, flexibility (joint hypermobility and muscular tightness), and strength were performed. There was no significant difference in the occurrence of LBP between athletes and nonathletes. Among the athletes, the duration of training during the past 12 months (min wk<sup>-1</sup>) was higher in subjects with the experience of LBP during the past 12 months (N = 23) compared with nonsymptomatic subjects (N = 76) (mean 493 +/- 308 min wk<sup>-1</sup> vs 354 +/- 160 min wk<sup>-1</sup>; P < 0.0001). Similar differences were also seen between subjects with positive lifetime histories of LBP and nonsymptomatic subjects. Various differences were seen in the measurements of anthropometry, flexibility, and strength between boys and girls as well as between athletes and nonathletes. In a multivariate analysis, the cumulative incidence of lifetime history of LBP was associated with tightness of hip flexor muscles only (P = 0.014). LBP during the past 12 months was associated only with the amount of training during the past 12 months (min wk<sup>-1</sup>) (P = 0.0066). Our study suggests that high training duration predisposes young athletes to LBP. However, e.g., the flexibility measurements cannot be used to determine athletes at high risk Notes: DB - Embase UI - 1992221159 IN - (Kujala, Salminen, Taimela, Oksanen, Jaakkola) Helsinki Research Inst. for S.E.M., Toolon kisahalli, Mannerheimintie 17, SF-00250 Helsinki, Finland CP - United States LG - English PT - Journal: Article EM - 199200 DD - 19920731

(280) Kullar RS, Kapron AL, Ihnat D, Aoki SK, Maak TG. Acetabular paralabral cyst: An unusual cause of femoral vein compression. Arthroscopy Techniques 4 (1) ()(pp e35-e40), 2015 Date of Publication: 01 Feb 2015 2015;(1):e35-e40. Ref ID: 187 Abstract: Acetabular labral tears are a known cause of hip pain in the young, active patient. Labral tears can be due to trauma, femoroacetabular impingement, capsular laxity, dysplasia, and degenerative pathology. Paralabral cysts are relatively common in association with labral tears of the hip, with cysts seen on magnetic resonance imaging studies in as many as 50% to 70% of patients with labral tears. In some cases the cysts can become sizeable and cause neurovascular compression. Nonoperative interventions for the management of paralabral cysts in the shoulder and knee have shown high recurrence rates. In the shoulder and knee, arthroscopic debridement of paralabral cysts has shown good results with lower recurrence rates and resolution of neurovascular function. In the hip there is limited literature regarding surgical management of paralabral cysts. We present a surgical technique for arthroscopic decompression of acetabular paralabral cysts combined with labral repair Notes: DB - Embase UI - 2015691329 IN - (Kullar, Kapron, Aoki, Maak) Department of Orthopaedics, University of Utah, Salt Lake City, UT, United States (Ihnat) Division of Vascular Surgery, University of Utah, Salt Lake City, UT, United States CP - Netherlands LG - English PT - Journal: Article EM - 201514 DD - 20150330

(281) Kumar D, Dillon A, Nardo L, Link TM, Majumdar S, Souza RB. Differences in the association of hip cartilage lesions and cam-type femoroacetabular impingement with movement patterns: a preliminary study. PM R 2014; 6(8):681-689. Ref ID: 587 Abstract: OBJECTIVE: To investigate the differences in hip movement patterns during different daily and athletic activities in persons with cam-type femoroacetabular impingement (FAI) with and without cartilage lesions compared with control subjects in a preliminary study. DESIGN: Controlled laboratory study using a cross-sectional design. SETTING: Research institution with a tertiary care medical center. PARTICIPANTS: Fifteen subjects [M:F, 13:2; age, 31.6 +/- 9.7 years (range, 22-52 years); body mass index, 24.9 +/- 4.6 (range, 18.8-38.4); FAI:control, 7:8]. METHODS: All subjects had 3-Tesla magnetic resonance imaging of the hip and also underwent 3-dimensional motion capture during walking, deep-squat, and drop-landing tasks. Experienced radiologists graded cartilage lesions on clinical magnetic resonance images. OUTCOMES: Peak kinematic and kinetic variables were compared between subjects who did and did not have FAI, and subjects who had FAI and cartilage lesions were compared with subjects who did not have cartilage lesions. RESULTS: Subjects who had FAI demonstrated no significant differences for walking or drop landing compared with control subjects. However, during the deep-squat task, subjects with FAI adducted more and had a greater internal rotation moment. Subjects who had cartilage lesions in the presence of a cam lesion demonstrated (1) no difference for walking; (2) greater adduction, greater internal rotation moment, and lower transverse plane range of motion during the deep-squat task; and (3) greater adduction and lower internal rotation during the drop-landing task compared with subjects who did not have cartilage lesions. CONCLUSIONS: We observed differences in movement patterns between subjects who had FAI compared with control subjects. However, the differences were more pronounced between subjects with FAI who had cartilage lesions compared with subjects who did not have cartilage lesions. These findings highlight the importance of understanding the complex interplay between bony morphologic features, cartilage lesions, and movement patterns in persons with cam-type FAI Notes: DA - 20140829 IS - 1934-1563 (Electronic) IS - 1934-1482 (Linking) LA - eng PT - Comparative Study PT - Controlled Clinical Trial PT - Journal Article PT - Research Support, N.I.H., Extramural SB - IM

(282) Kumar R, Aggarwal A. Femoroacetabular impingement and risk factors: a study of 50 cases. Orthop Surg 2011; 3(4):236-241. Ref ID: 652 Abstract: OBJECTIVE: To study the asphericity of the femoral head in femoroacetabular impingement using the radiological indices alpha angle and triangular index, and correlation with risk factors. METHODS: The study was conducted retrospectively from January 2008 to June 2010 on 50 consecutive patients with suspected cam type femoroacetabular impingement of the hip who reported to the orthopaedics outpatients department of the Postgraduate Institute of Medical Education and Research. Ten controls were also used in the study. Radiographs of the affected hip were taken and then the alpha angle and triangular index were measured and correlated with various risk factors. RESULTS: In the anteroposterior view the alpha angle range was from 55 degrees to 106 degrees for the cases and from 54 degrees to 70 degrees for the controls. In the lateral view the range was from 62 degrees to 104 degrees for the cases and from 54 degrees to 62 degrees for the controls. The mean alpha angle in the anteroposterior view was measured as 75 degrees +/- 10 degrees in the cases and 61 degrees +/- 6 degrees in the controls, and the mean in the lateral view was 74 degrees +/- 8 degrees in the cases and 58 degrees +/- 6 degrees for the controls. The triangular index range in the radiographs was from 1 to 7 in the cases and from 0 to 1 for the controls. The mean triangular index in the radiographs was 2.9 +/- 1.2 for the cases and 0.2 +/- 0.4 for the controls. CONCLUSION: There was no significant correlation between the age and gender of the patient and the femoroacetabular impingement. However, there was significant correlation between the body mass index of the patient and the femoroacetabular impingement Notes: DA - 20111024 IS - 1757-7861 (Electronic) IS - 1757-7853 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(283) Kurtz WB, Ecker TM, Reichmann WM, Murphy SB. Factors affecting bony impingement in hip arthroplasty. Journal of Arthroplasty 25 (4) ()(pp 624-634 e2), 2010 Date of Publication: June 2010 2010;(4):624-634. Ref ID: 444 Abstract: Computer modeling of 10 patients' computed tomographic scans was used to study the variables affecting hip arthroplasty range of motion before bony impingement (ROMBI) including acetabular offset and height, femoral offset, height and anteversion, and osteophyte removal. The ROMBI was compared with the ROM before component impingement and the native hip ROM. The ROMBI decreased with decreased total offset and limb shortening. Acetabular offset and height had a greater effect on ROMBI than femoral offset and height. The ROMBI lost with decreased acetabular offset was not fully recoverable with an increase in femoral offset or osteophyte removal. Bony impingement increased and component impingement decreased with decreased acetabular offset and increased head diameter. Â© 2010 Elsevier Inc Notes: DB - Embase UI - 2010314840 IN - (Kurtz) Tennessee Orthopaedic Alliance, Nashville, TN, United States (Ecker) Center for Computer Assisted and Reconstructive Surgery, New England Baptist Hospital, Boston, MA, United States (Reichmann) New England Baptist Statistical Department, New England Baptist Hospital, Boston, MA, United States (Murphy) Center for Computer Assisted and Reconstructive Surgery, New England Baptist Hospital, Boston, MA, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100729

(284) Kurylo JC, Templeman D, Mirick GE. The perfect reduction: Approaches and techniques. Injury 46 (3) ()(pp 441-444), 2015 Date of Publication: 01 Mar 2015 2015;(3):441-444. Ref ID: 192 Abstract: Anatomic reduction of femoral neck fractures is difficult to obtain in a closed fashion. Open reduction provides for direct and controlled manipulation of fracture fragments. This can be accomplished via multiple approaches. The anterolateral, or Watson-Jones, approach or Smith-Petersen, or direct anterior, approach are the two most frequently used. Percutaneous techniques have also been described, though they lack the visual confirmation of reduction of a traditional open approach. These can be performed using a fracture table or with a free leg on a radiolucent table in either supine or lateral positions. Knowledge of the hip and pelvis anatomy is crucial for the preservation of critical femoral neck vasculature. Intra-operative fluoroscopy together with direct visualization provides the framework for successful manipulation of the fracture fragments, temporary stabilization, and ultimately fracture fixation Notes: DB - Embase UI - 2015685967 IN - (Kurylo, Templeman, Mirick) Hennepin County Medical Center, Department of Orthopaedic Surgery, 701 Park Ave, G2.140, Minneapolis, MN 55415, United States (Templeman) University of Minnesota, United States CP - United Kingdom LG - English PT - Journal: Article EM - 201513 DD - 20150319

(285) Kutty S, Schneider P, Faris P, Kiefer G, Frizzell B, Park R et al. Reliability and predictability of the centre-edge angle in the assessment of pincer femoroacetabular impingement. Int Orthop 2012; 36(3):505-510. Ref ID: 665 Abstract: PURPOSE: The aim of the study was to assess the use of the centre-edge (CE) angle in the assessment of pincer femoro-acetabular impingement (FAI) for reliability and predictability in the diagnosis. METHODS: Between 2004 and 2008, 55 patients underwent surgical treatment for FAI. A control group of 30 was identified among patients attending the emergency department with normal radiographs. Radiographs were assessed by two independent observers both before and after the operation. Nine patients with trauma were excluded. The magnetic resonance arthrogram reports of the remaining 46 patients were assessed for pincer FAI. Nineteen patients were identified and underwent repeat radiographic assessment. All underwent surgical dislocation of hip (SDH), acetabular, with/without femoral osteochondroplasty. Acetabular depth and version were also assessed. The intraclass correlation (ICC) was used to assess reliability of the CE angle. The paired t test and independent groups t test were used to assess the difference between the pincer FAI group, both pre-op and post-op and against controls. RESULTS: The control and pincer groups were similar in demographics (p=0.1769). Coxa profunda was present in 14 patients with eight also having retroverted acetabuli. Of the rest two had retroverted acetabuli and one protrusio. The mean CE angle in the control group was 31.4 degrees , in the pre-op pincer group 46.2 degrees and in the post-op pincer group 38.3 degrees . The ICC for intra-observer correlation was 0.977 and 0.992 pre-op and 0.986 and 0.974 post-op. The ICC for inter-observer correlation was 0.960 and 0.957 pre-op and 0.979 and 0.967 post-op.The p value was <0.001 between the controls, the pre-op and post-op pincer groups. The test characteristics using the CE angle >/= 40 is a reasonably good predictor of FAI, with a sensitivity of 84.2% and a specificity of 100%. CONCLUSIONS: The pincer FAI can be reliably assessed with the CE angle and can be predicted in patients presenting with FAI Notes: DA - 20120302 IS - 1432-5195 (Electronic) IS - 0341-2695 (Linking) LA - eng PT - Evaluation Studies PT - Journal Article SB - IM

(286) Kuukkanen T, Malkia E. Effects of a three-month therapeutic exercise programme on flexibility in subjects with low back pain. Physiother Res Int 2000; 5(1):46-61. Ref ID: 778 Abstract: BACKGROUND AND PURPOSE: Spinal and muscle flexibility have been studied intensively and used clinically as outcome measurements in the rehabilitation of subjects with low back pain. The results of previous studies are contradictory and there is a lack of longitudinal data on the effects of long term therapeutic exercise on flexibility. METHOD: A controlled experimental study was conducted to determine the effects of progressive therapeutic exercise on spinal and muscle flexibility. Eighty-six chronic low back pain subjects fulfilled the inclusion criteria and were divided into three study groups: (1) intensive training group, (2) home exercise group and (3) control group. The intervention period lasted three months and measurements were performed at both the beginning of the study and immediately after intervention. Follow-up measurements were carried out six and 12 months after baseline. Spinal flexibility was measured with lumbar flexion, extension, spinal lateral flexion and rotation, and muscle flexibility was measured with measurements of erector spinae, hamstring and iliopsoas muscles. Also self-reported outcomes of the Oswestry Index and Borg Scale--Back Pain Intensity were used. Associations between change (pre- to post-treatment) were determined for the dependent variables. RESULTS: The results showed no correlation between flexibility, the Oswestry Index or back pain intensity. After the first three-month period lumbar flexion, extension and spinal rotation decreased among all subjects. Spinal rotation and erector spinae muscle flexibility improved significantly with intensive training. At the nine-month follow-up, erector spine flexibility was still greater than at baseline. Hamstring flexibility increased among the intensive training and home exercise groups from pre- to post-intervention. However, the degree of hamstring flexibility gained during training was subsequently lost following the period without programmed exercise in both training groups. Self-reported outcome variables showed positive changes among the three study groups after the completion of intervention period, but these changes were only able to be maintained during subsequent follow-ups for the intensive training and home exercise groups. CONCLUSIONS: The findings suggest that flexibility does not play an important role in coping with chronic low back pain for subjects whose functional limitations are not severe. Also, it appears that the achieved gains in spinal and muscle flexibility may not be able to be maintained without continued exercise Notes: DA - 20000516 IS - 1358-2267 (Print) IS - 1358-2267 (Linking) LA - eng PT - Clinical Trial PT - Journal Article PT - Randomized Controlled Trial PT - Research Support, Non-U.S. Gov't SB - IM

(287) Kuzyk PR, Kim YJ, Millis MB. Surgical management of healed slipped capital femoral epiphysis. J Am Acad Orthop Surg 2011; 19(11):667-677. Ref ID: 650 Abstract: Slipped capital femoral epiphysis (SCFE) results in posterior and inferior displacement of the epiphysis on the femoral neck. In most centers, the recommended initial management of stable SCFE is in situ pinning. Minimal reduction with in situ pinning is recommended for unstable SCFE. This approach does not restore the normal anatomy of the hip joint, and the resulting proximal femoral deformity may cause femoroacetabular impingement. Patients with femoroacetabular impingement experience reduced hip range of motion as well as hip pain, and they are at risk of early-onset hip osteoarthritis. Techniques for managing this deformity include arthroscopic femoral neck osteochondroplasty, a limited anterior hip approach or surgical hip dislocation, and flexion intertrochanteric osteotomy. These surgical techniques should be considered for patients with healed SCFE deformity who present with hip pain at an early age Notes: DA - 20111104 IS - 1067-151X (Print) IS - 1067-151X (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(288) Kwofie MK, Shastri UD, Gadsden JC, Sinha SK, Abrams JH, Xu D et al. The effects of ultrasound-guided adductor canal block versus femoral nerve block on quadriceps strength and fall risk: A blinded, randomized trial of volunteers. Regional Anesthesia and Pain Medicine 38 (4) ()(pp 321-325), 2013 Date of Publication: July-August 2013 2013;(4):321-325. Ref ID: 283 Abstract: BACKGROUND AND OBJECTIVES: Adductor canal block (ACB) has been suggested as an analgesic alternative to femoral nerve block (FNB) for procedures on the knee, but its effect on quadriceps motor function is unclear. We performed a randomized, blinded study to compare quadriceps strength following adductor canal versus FNB in volunteers. Our hypothesis was that quadriceps strength would be preserved following ACB, but not FNB. Secondary outcomes included relative preservation of hip adduction and degree of balance impairment. METHODS: The ACB was performed in one leg and the FNB in the contralateral leg in 16 volunteers using a randomized block sequence. For all blocks, 15 mL of 3% chloroprocaine was injected under ultrasonographic guidance. Maximal voluntary isometric contraction of knee extension and hip adduction was measured at baseline and at 30 and 60 minutes after block. After 60-minute assessments were complete, the second block was placed. A test of balance (Berg Balance Scale) was performed 30 minutes after the first block only. RESULTS: Quadriceps strength and balance scores were similar to baseline following ACB. Following FNB, there was a significant reduction in quadriceps strength (95.1% +/- 17.1% vs 11.1% +/- 14.0%; P < 0.0001) and balance scores (56 +/- 0 vs 37 +/- 17.2; P = 0.02) compared with baseline. There was no difference in hip adductor strength (97.0% +/- 10.8% vs 91.8% +/- 9.6%; P = 0.17). CONCLUSIONS: Compared with FNB, ACB results in significant quadriceps motor sparing and significantly preserved balance. Copyright Â© 2013 by American Society of Regional Anesthesia and Pain Medicine Notes: DB - Embase UI - 2013479103 IN - (Kwofie) Dalhousie University, Halifax, NS, Canada (Shastri) St Michael's Hospital, Toronto, ON, Canada (Gadsden, Xu, Salviz) Department of Anesthesiology, St Luke's-Roosevelt Hospital, 1111 Amsterdam Ave, New York, NY 10025, United States (Sinha, Abrams) St Francis Hospital, Medical Center, Hartford, CT, United States CP - United States LG - English PT - Journal: Conference Paper EM - 201333 DD - 20130808

(289) Laborie LB, Lehmann TG, Engesaeter IO, Engesaeter LB, Rosendahl K. Is a positive femoroacetabular impingement test a common finding in healthy young adults? Clin Orthop Relat Res 2013; 471(7):2267-2277. Ref ID: 614 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) is an incompletely understood clinical concept that implies pathomechanical changes in the hip as a cause for hip-related pain in young adults. While a positive anterior impingement test is suggestive of FAI, its association with clinical and radiographic findings remain unconfirmed in healthy young adults. QUESTIONS/PURPOSES: We determined the prevalence of a positive test in 1170 young adults and examined its possible associations with (1) self-reported hip discomfort for the past 3 months; (2) weekly physical exercise; (3) hip ROM; and (4) radiographic findings associated with femoroacetabular impingement. METHODS: We invited 2344 healthy 19-year-olds to a population-based hip study between 2008 and 2009; 1170 patients (50%) consented. The study included questionnaires on medical and functional status, a clinical hip examination including the impingement test and hip ROM, and two pelvic radiographs (AP and frog-leg views). RESULTS: Based on at least one affected hip, 35 of 480 (7.3%) men and 32 of 672 (4.8%) women had positive impingement tests. Eighteen of the 1170 patients were excluded owing to suboptimal or missing radiographs. Self-reported hip discomfort in the women and increased physical exercise in the men were strongly associated with the positive impingement tests. Decreased abduction and internal rotation in the men, decreased flexion in both genders, and radiographic cam type findings in the men also were associated with positive tests. CONCLUSION: A positive test for anterior impingement is not uncommon in healthy young adults, especially in males. We believe it always should be performed along with pelvic radiographs in young, active patients presenting with hip pain. LEVEL OF EVIDENCE: Level II, diagnostic study. See the Guidelines for Authors for a complete description of level of evidence Notes: DA - 20130610 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(290) Ladner B, Nester K, Cascio B. Abdominal Fluid Extravasation During Hip Arthroscopy. Arthroscopy - Journal of Arthroscopic and Related Surgery 26 (1) ()(pp 131-135), 2010 Date of Publication: January 2010 2010;(1):131-135. Ref ID: 463 Abstract: Hip arthroscopy has gained popularity in recent years as an alternative to open treatment for several conditions including bursitis, acetabular labral tears, synovitis, arthritis, extraction of loose bodies, and femoroacetabular impingement. Complications during hip arthroscopy are rare in the current literature, but reports include venous thromboembolism, peripheral nerve injury, septic arthritis, instrument failure, and various problems associated with joint traction. Extravasation of fluid into the abdomen during hip arthroscopy is another rare but known complication. We report an occurrence of extravasation of fluid into the abdomen during arthroscopic treatment of femoroacetabular impingement and our management of the condition postoperatively. Â© 2010 Arthroscopy Association of North America Notes: DB - Embase UI - 2009659543 IN - (Ladner) Department Orthopaedic Surgery, Louisiana State University, New Orleans, LA, United States (Nester) Louisiana State University Health Sciences Center New Orleans, New Orleans, LA, United States (Cascio) Orthopaedic Specialists, Lake Charles, LA, United States CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20100129

(291) Lahner M, Bader S, Walter PA, Duif C, von Schulze PC, Lukas C et al. Prevalence of femoro-acetabular impingement in international competitive track and field athletes. International Orthopaedics 38 (12) ()(pp 2571-2576), 2014 Date of Publication: 19 Nov 2014 2014;(12):2571-2576. Ref ID: 218 Abstract: Purpose: The aim of our study was to analyse the prevalence of femoro-acetabular impingement (FAI) in national elite track and field athletes compared to peers using magnetic resonance imaging (MRI) and clinical examination including impingement tests. Methods: A total of 44 participants (22 national elite track and field athletes and 22 non-athletes) underwent an MRI for radiological findings associated with FAI, including alpha angle, lateral centre edge angle (CEA), findings of labral and cartilage lesions. The study group was furthermore investigated by the hip outcome score (HOS) and a clinical hip examination including range of motion (ROM) and impingement tests. Results: Concerning the cam impingement, there was a significant difference measured by mean alpha angle between the athlete group (52.2 +/- 7.29degree) and the control group (48.1 +/- 5.45degree, P = 0.004). Eleven athletes showed a cam impingement, while two probands of the control group had a pincer impingement and one a mixed form (P = 0.0217). There was no statistically significant difference concerning the CEA upon evaluating pincer impingement. Seven track and field athletes had a positive impingement test, whereof three had an increased alpha angle >55degree. No participant of the control group showed pathological results in the impingement test (P = 0.0121). Conclusions: MRI evidence and clinical examination suggest that cam impingement is more common in elite athletes in comparison to non-athletes. At a professional level, the intense practice of track and field athletics is susceptible for FAI Notes: DB - Embase UI - 2014923666 IN - (Lahner, Bader, Walter, Duif) Department of Orthopaedic Sports Surgery, St. Josef-Hospital, Ruhr-University Bochum, Bochum, Germany (von Schulze Pellengahr) Department of Orthopaedic Surgery, St. Josef-Hospital, Ruhr-University Bochum, Bochum, Germany (Lukas) Department of Diagnostic and Interventional Radiology and Nuclear Medicine, St. Josef-Hospital, Ruhr-University Bochum, Bochum, Germany (Ficklscherer) Department of Orthopaedic Surgery, Physical Medicine and Rehabilitation, University Hospital of Munich (LMU), Campus Groshadern, Munich, Germany (Fickert) Sporthopaedicum Straubing, Straubing, Germany (Hagen) Biomechanics Laboratory, Department of Sport and Movement Sciences, University of Duisburg-Essen, Essen, Germany (Lahner) Department of Orthopaedic Sports Surgery, St. Josef-Hospital, Gudrunstr. 56, Bochum 44797, Germany CP - Germany LG - English PT - Journal: Article EM - 201450 DD - 20141206

(292) Lahner M, von Schulze PC, Walter PA, Lukas C, Falarzik A, Daniilidis K et al. Biomechanical and functional indicators in male semiprofessional soccer players with increased hip alpha angles vs. amateur soccer players. BMC Musculoskeletal Disorders 15 (1) , 2014 Article Number: 88 Date of Publication: 16 Mar 2014 2014;(1). Ref ID: 246 Abstract: Background: Femoroacetabular impingement (FAI) is predominant in young male athletes, but not much is known about gait differences in cases of increased hip alpha angles. In our study, the hip alpha angle of Notzli of soccer players was quantified on the basis of magnetic resonance imaging (MRI) with axial oblique sequences. The aim of the current study was to compare the rearfoot motion and plantar pressure in male semiprofessional soccer players with increased alpha angles to age-matched amateur soccer players. Methods. In a prospective analysis, male semiprofessional and amateur soccer players had an MRI of the right hip to measure the alpha angle of Notzli. In a biomechanical laboratory setting, 14 of these participants in each group ran in two shoe conditions. Simultaneously in-shoe pressure distribution, tibial acceleration, and rearfoot motion measurements of the right foot were performed. Results: In the semiprofessional soccer group, the mean value of the alpha angle of group was 55.1 +/- 6.58degree (range 43.2-76.6degree) and 51.6 +/- 4.43degree (range 41.9-58.8degree) in the amateur group. In both shoe conditions, we found a significant difference between the two groups concerning the ground reaction forces, tibial acceleration, rearfoot motion and plantar pressure parameters (P < 0.01, P < 0.05, P = 0.04). Maximum rearfoot motion is about 22% lower in the semiprofessional group compared to the amateur group in both shoe conditions. Conclusions: This study confirmed that semiprofessional soccer players with increased alpha angles showed differences in gait kinematics compared to the amateur group. These findings support the need for a screening program for competitive soccer players. In cases of a conspicuous gait analysis and symptomatic hip pain, FAI must be ruled out by further diagnostic tests. Â© 2014 Lahner et al.; licensee BioMed Central Ltd Notes: DB - Embase UI - 2014286477 IN - (Lahner, Von Schulze Pellengahr, Walter) Department of Orthopaedic Surgery, Ruhr-University Bochum, St. Josef-Hospital, Gudrunstr. 56, 44791 Bochum, Germany (Lukas) Department of Diagnostic and Interventional Radiology and Nuclear Medicine, Ruhr-University Bochum, St. Josef-Hospital, Gudrunstr. 56, 44791 Bochum, Germany (Falarzik) Olympic Training Center Westfalen/Bochum, Hollandstr. 95, 44866 Bochum, Germany (Daniilidis) Department of Orthopaedic Surgery, Annastift Hannover, Medical School Hannover, MHH, Anna-von-Borries-Str. 1-7, 30625 Hannover, Germany (Von Engelhardt) Faculty of Health Sciences, University of Witten/Herdecke, Alfred-Herrhausen-Str. 50, 58448 Witten, Germany (Abraham, Hennig, Hagen) Biomechanics Laboratory, Department of Sport and Movement Sciences, University of Duisburg-Essen, Gladbecker Str. 182, 45141 Essen, Germany CP - United Kingdom LG - English PT - Journal: Article EM - 201419 DD - 20140505

(293) Lahner M, Walter PA, von Schulze PC, Hagen M, von Engelhardt LV, Lukas C. Comparative study of the femoroacetabular impingement (FAI) prevalence in male semiprofessional and amateur soccer players. Arch Orthop Trauma Surg 2014; 134(8):1135-1141. Ref ID: 577 Abstract: INTRODUCTION: Femoroacetabular impingement (FAI) represents a novel approach to the mechanical etiology of hip osteoarthritis. The cam-type femoroacetabular impingement deformity occurs frequently in young male athletes. The aim of our study was to evaluate the prevalence of FAI in male semiprofessional soccer players using clinical examination and magnetic resonance imaging (MRI), compared to amateur soccer players. In MRI, the alpha angle of Notzli is determined for quantifying FAI. MATERIALS AND METHODS: According to power analysis, a total of 22 asymptomatic semiprofessional soccer players with a median of 23.3 years of age (range 18-30 years) and 22 male amateur soccer players with a median of 22.5 years of age (control group, range 18-29 years) underwent an MRI to measure the hip alpha angle of Notzli. The alpha angle of the kicking legs of the semiprofessional group and the amateur group were analyzed. The study group was moreover evaluated by the Hip Outcome Score (HOS) and a clinical hip examination including range of motion (ROM) and impingement tests. RESULTS: In the semiprofessional group, 19 soccer players had a right kicking leg and 1 soccer player had a left kicking leg. 2 soccer players kicked with two feet. In the semi-professional group, the mean value of the alpha angle of the kicking leg (57.3 +/- 8.2 degrees ) was significantly higher than in the amateur group (51.7 +/- 4.8 degrees , P = 0.008). In the semi-professional group, 15 (62.5 %) of 24 kicking legs had an increased alpha angle >55 degrees , while 5 (27.3 %) kicking legs of the amateur group had an alpha angle >55 degrees . Five semi professional soccer players had findings in clinical examination, whereof 4 had an increased alpha angle >55 degrees . No participant of the amateur group showed pathological results in the clinical examination (P = 0.0484). Overall, semiprofessional soccer players had a higher proportion of an increased alpha angle than the amateur group. CONCLUSIONS: Semiprofessional players have a higher prevalence of an increased alpha angle in the kicking leg than the amateur group at the same age. The kicking leg is predisposed for FAI Notes: DA - 20140722 IS - 1434-3916 (Electronic) IS - 0936-8051 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(294) Lambrecht JM, Audu ML, Triolo RJ, Kirsch RF. Musculoskeletal model of trunk and hips for development of seated-posture-control neuroprosthesis. J Rehabil Res Dev 2009; 46(4):515-528. Ref ID: 698 Abstract: The paralysis resulting from spinal cord injury severely limits voluntary seated-posture control and increases predisposition to a number of health risks. We developed and verified a musculoskeletal model of the hips and lumbar spine using published data. We then used the model to select the optimal muscles for-and evaluate the likely functional recovery benefit of-an 8-channel seated-posture-control neuroprosthesis based on functional electrical stimulation (FES). We found that the model-predicted optimal muscle set included the erector spinae, oblique abdominals, gluteus maximus, and iliopsoas. We mapped muscle excitations to seated trunk posture so that the required excitations at any posture could be approximated using a static map. Using the optimal muscle set, the model predicted a maximum stimulated range of motion of 49 degrees flexion, 9 degrees extension, and 16 degrees lateral bend. In the nominal upright posture, the modeled user could hold almost 15 kg with arms at sides and elbows bent. We discuss in this article the practicality of using FES with the oblique abdominals. A seated-posture-control neuroprosthesis would increase the user's bimanual work space and include several secondary benefits Notes: DA - 20091102 IS - 1938-1352 (Electronic) IS - 0748-7711 (Linking) LA - eng PT - Journal Article PT - Research Support, N.I.H., Extramural PT - Research Support, U.S. Gov't, Non-P.H.S SB - IM

(295) Lamontagne M, Kennedy MJ, Beaule PE. The effect of cam FAI on hip and pelvic motion during maximum squat. Clin Orthop Relat Res 2009; 467(3):645-650. Ref ID: 722 Abstract: Femoroacetabular impingement (FAI) causes abnormal contact at the anterosuperior aspect of the acetabulum in activities requiring a large hip range of motion (ROM). We addressed the following questions in this study: (1) Does FAI affect the motions of the hip and pelvis during a maximal depth squat? (2) Does FAI decrease maximal normalized squat depth? We measured the effect of cam FAI on the 3-D motion of the hip and pelvis during a maximal depth squat as compared with a healthy control group. Fifteen participants diagnosed with cam FAI and 11 matched control participants performed unloaded squats while 3-D motion analysis was collected. Patients with FAI had no differences in hip motion during squatting but had decreased sagittal pelvic range of motion compared to the control group (14.7 +/- 8.4 degrees versus 24.2 +/- 6.8 degrees , respectively). The FAI group also could not squat as low as the control group (41.5 +/- 12.5% versus 32.3 +/- 6.8% of leg length, respectively), indicating the maximal depth squat may be useful as a diagnostic exercise. Limited sagittal pelvic ROM in FAI patients may contribute to their decreased squatting depth, and could represent a factor amongst others in the pathomechanics of FAI Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(296) Langlais F, Lambotte J-C, Lannou R, Gedouin J-E, Belot N, Thomazeau H et al. Hip pain from impingement and dysplasia in patients aged 20-50 years. Workup and role for reconstruction. Joint Bone Spine 73 (6) ()(pp 614-623), 2006 Date of Publication: December 2006 2006;(6):614-623. Ref ID: 492 Abstract: In the 20-50-year age group, hip pain usually indicates dysplasia. Chronic mechanical pain is the usual pattern, although acute pain caused by avulsion or degeneration of the labrum may occur. The morphological characteristics of the dysplastic hip should be evaluated, and the link between the dysplasia and the osteoarthritis should be confirmed. Three factors indicate a favorable prognosis: joint space preservation, age younger than 40 years, and correctable femoral and acetabular abnormalities. Reconstruction is highly desirable, as it delays the need for joint replacement by 20 years. After 15 years, good outcomes are seen in 87% of patients after shelf arthroplasty and 85% after femoral varus osteotomy with or without shelf arthroplasty. Chiari acetabular osteotomy can be performed in patients with osteoarthritis but is followed by prolonged limping. Periacetabular osteotomy should be reserved for patients with moderate dysplasia and no evidence of osteoarthritis. Shelf arthroplasty and femoral osteotomy require 5-8 months off work (compared to 5 months after hip replacement surgery) but subsequently permits a far more active lifestyle. Hip replacement, which is required 20 years or more after biologic reconstruction, carries the same prognosis as first-line hip replacement (good results in 80% of patients after 15 years). Acute sharp pain related to anterior hip derangement also occurs in primary femoroacetabular impingement (FAI). The most common pattern is cam impingement, which is due to a decrease in head-neck offset and manifests as pain during flexion and adduction of the hip. Cam impingement can be corrected by anterolateral osteoplasty, which is often performed arthroscopically. Pincer-type impingement is contact between the anterior acetabular rim and the femoral neck due to retroversion of the proximal acetabulum. The imaging study strategy is discussed. Coxometry, computed tomography, and arthrography can be used. Primary FAI, which occurs as a result of geometric abnormalities, should be distinguished from secondary impingement. Causes of secondary impingement include exaggerated lumbar lordosis with pelvic tilt and to hip osteophytosis (sports or posterior hip osteoarthritis). Osteoplasty is rarely appropriate in patients with secondary impingement. The features of acute anterior hip derangement are now better defined. They can be used to guide palliative treatment, which is effective, in the medium term at least. Experience acquired over the last two decades has established the efficacy of surgery for hip dysplasia. Â© 2006 Notes: DB - Embase UI - 2006617460 IN - (Langlais, Lambotte, Lannou, Gedouin, Belot, Thomazeau) Federation d'Orthopedie, CHU de Rennes, 16, boulevard de Bulgarie, 35203 Rennes, France (Frieh) Service d'Orthopedie, CH La Roche-sur-Yon, Les-Oudairies, 85000 La Roche-sur-Yon, France (Gouin) Departement d'Orthopedie, CHU de Nantes, 1, place Alexis Ricordeau-Nantes, 44093 Nantes cedex 1, France (Hulet, Vielpeau) Service de Chirurgie Orthopedique, CHU de Caen, av Cote de Nacre, 14000 Caen, France (Marin) Departement d'Imagerie, CHU Hopital Sud Rennes, 16 bd Bulgarie, 35200 Rennes, France (Migaud) Service de Chirurgie Orthopedique, CHU de Lille, 59000 Lille, France (Sadri) Departement d'Orthopedie, Hopitaux Universitaires de Geneve, 24, rue Micheli-du-Crest, 1211 Geneve 14, Switzerland (Richter) Clinique Saint-Martin, 18 r Roquemonts, 14050 Caen cedex 4, France CP - France LG - English PT - Journal: Short Survey EM - 200600 DD - 20070125

(297) Larson AN, Sucato DJ, Herring JA, Adolfsen SE, Kelly DM, Martus JE et al. A prospective multicenter study of Legg-Calve-Perthes disease: functional and radiographic outcomes of nonoperative treatment at a mean follow-up of twenty years. J Bone Joint Surg Am 2012; 94(7):584-592. Ref ID: 642 Abstract: BACKGROUND: Long-term studies have indicated good outcomes for most patients with Legg-Calve-Perthes disease. However, clinical experience suggests that less favorable outcomes are common. We sought to prospectively document pain and function in a cohort of adults who had previously been treated nonoperatively for Legg-Calve-Perthes disease. METHODS: Patients in our region with Legg-Calve-Perthes disease were enrolled between 1984 and 1991 as part of a multicenter prospective trial and were treated with hip range-of-motion exercises or bracing. Patients returned for physical examination, radiographs, and completion of outcome measures including the Nonarthritic Hip Score (NAHS) and the Iowa Hip Score (IHS). RESULTS: Fifty-six patients (fifty-eight hips) were examined at a mean of 20.4 years (range, 16.3 to 24.5 years) after enrollment. The mean NAHS was 79 (range, 35 to 100), and the mean IHS was 74 (range, 43 to 100). Three patients had required hip arthroplasty and one patient had required a pelvic osteotomy. Fourteen (26%) of the remaining hips had no hip osteoarthritis, sixteen (30%) had mild osteoarthritis (Tonnis grade 1), and twenty-four (44%) had moderate or severe osteoarthritic changes on radiographs (grade 2 or 3). Femoroacetabular impingement indicated by physical examination was associated with pain and with poorer outcomes on the IHS and the NAHS (p = 0.0004, 0.0014, and 0.0007, respectively). The Stulberg classification was significantly associated with impingement on physical examination (p = 0.0495), the NAHS (p = 0.003), and the Tonnis grade (p = 0.012). Multivariate logistic regression showed that only the Stulberg classification was significantly associated with the NAHS (p = 0.0032); the odds ratio for a Stulberg type of I or II compared with IV or V in patients with a fair or poor NAHS was 0.101 (95% confidence interval, 0.018 to 0.573). CONCLUSIONS: Pain, arthritis, and ongoing hip dysfunction are common in patients with Legg-Calve-Perthes disease that was treated nonoperatively. Hips rated as Stulberg type III or IV more frequently had poor or fair outcomes on the IHS and NAHS (61% and 72% for type III and 77% and 60% for type IV). Patients with a lateral pillar type of B, B/C, or C frequently had pain and radiographic evidence of osteoarthritis. Clinical signs of femoroacetabular impingement were associated with pain and with lower functional scores. This prospective study establishes a modern benchmark for outcomes following nonoperative, weight-bearing treatment of Legg-Calve-Perthes disease Notes: DA - 20120410 IS - 1535-1386 (Electronic) LA - eng PT - Comparative Study PT - Journal Article PT - Multicenter Study SB - AIM SB - IM

(298) Larson CM, Giveans MR. Arthroscopic debridement versus refixation of the acetabular labrum associated with femoroacetabular impingement. Arthroscopy 2009; 25(4):369-376. Ref ID: 710 Abstract: PURPOSE: The purpose of this study was to compare the outcomes of arthroscopic labral debridement with those of labral refixation. METHODS: We reviewed patients who underwent labral debridement during a period before the development of labral repair techniques. Patients with labral tears deemed repairable with our current arthroscopic technique were compared with patients who underwent labral refixation with a minimum 1 of year of follow-up. To better match the 2 groups, only patients with labral pathology caused by pincer-type or combined pincer- and cam-type femoroacetabular impingement were included. In the first 36 hips the labrum was debrided (group 1); in the next 39 hips the labrum underwent refixation (group 2). Outcomes were measured preoperatively and postoperatively with the modified Harris Hip Score (HHS), Short Form 12, and visual analog scale for pain. Preoperative and postoperative radiographs were obtained to evaluate bony resection (alpha angle) and osteoarthritis (Tonnis grade). RESULTS: The mean age was 31 years in group 1, with a mean follow-up of 21.4 months, and 27 years in group 2, with a mean follow-up of 16.5 months. Preoperative subjective outcomes scores were not significantly different between groups. At the 1-year follow-up visit, subjective outcomes were significantly improved (P < .01) in both groups. HHSs were significantly better for the refixation group (94.3) compared with the debridement group (88.9) at 1 year (P = .029). At most recent follow-up, good to excellent results were noted in 66.7% of hips in the debridement group compared with 89.7% of hips in the refixation group (P < .01). CONCLUSIONS: Although other variables could have influenced these outcomes, these preliminary results indicate that labral refixation resulted in better HHS outcomes and a greater percentage of good to excellent results compared with the results of labral debridement in an earlier cohort. LEVEL OF EVIDENCE: Level III, retrospective comparative study Notes: DA - 20090403 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Evaluation Studies PT - Journal Article SB - IM

(299) Larson CM, Kelly BT, Stone RM. Making a case for anterior inferior iliac spine/subspine hip impingement: Three representative case reports and proposed concept. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (12) ()(pp 1732-1737), 2011 Date of Publication: December 2011 2011;(12):1732-1737. Ref ID: 389 Abstract: Femoroacetabular impingement is typically described as occurring due to a conflict between the femoral head-neck junction and acetabular rim. A prior case report described an open decompression of the anterior inferior iliac spine (AIIS) due to impingement against the proximal femur. AIIS impingement may be developmental or the result of a prior AIIS avulsion or pelvic osteotomy. We describe 3 representative cases with minimum 1-year follow-up treated with an arthroscopic AIIS decompression. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011670651 IN - (Larson, Stone) Minnesota Orthopedic Sports Medicine Institute at Twin Cities Orthopedics, 4010 W 65th St, Edina, MN 55435, United States (Kelly) New York-Presbyterian Hospital, Weill Cornell Medical College, Hospital for Special Surgery, New York, NY, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20111214

(300) Larson CM, Pierce BR, Giveans MR. Treatment of athletes with symptomatic intra-articular hip pathology and athletic pubalgia/sports hernia: A case series. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (6) ()(pp 768-775), 2011 Date of Publication: June 2011 2011;(6):768-775. Ref ID: 397 Abstract: Purpose: The purpose of the study was to evaluate the results of surgical treatment in athletes with associated intra-articular hip pathology and extra-articular sports pubalgia. Methods: Between December 2003 and September 2009, 37 hips (mean patient age, 25 years) were diagnosed with both symptomatic athletic pubalgia and symptomatic intra-articular hip joint pathology. There were 8 professional athletes, 15 collegiate athletes, 5 elite high school athletes, and 9 competitive club athletes. Outcomes included an evaluation regarding return to sports and modified Harris Hip Score, Short Form 12 score, and visual analog scale score. Results: We evaluated 37 hips at a mean of 29 months (range, 12 to 78 months) after the index surgery. Thirty-one hips underwent thirty-five athletic pubalgia surgeries. Hip arthroscopy was performed in 32 hips (30 cases of femoroacetabular impingement treatment, 1 traumatic labral tear, and 1 borderline dysplasia). Of 16 hips that had athletic pubalgia surgery as the index procedure, 4 (25%) returned to sports without limitations, and 11 (69%) subsequently had hip arthroscopy at a mean of 20 months after pubalgia surgery. Of 8 hips managed initially with hip arthroscopy alone, 4 (50%) returned to sports without limitations, and 3 (43%) had subsequent pubalgia surgery at a mean of 6 months after hip arthroscopy. Thirteen hips had athletic pubalgia surgery and hip arthroscopy at one setting. Concurrent or eventual surgical treatment of both disorders led to improved postoperative outcomes scores (P < .05) and an unrestricted return to sporting activity in 89% of hips (24 of 27). Conclusions: When surgery only addressed either the athletic pubalgia or intra-articular hip pathology in this patient population, outcomes were suboptimal. Surgical management of both disorders concurrently or in a staged manner led to improved postoperative outcomes scoring and an unrestricted return to sporting activity in 89% of hips. Level of Evidence: Level IV, therapeutic case series. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011302840 IN - (Larson, Giveans) Minnesota Orthopedic Sports Medicine Institute, Fairview Southdale, Edina, MN, United States (Pierce) Twin Cities Orthopaedics, General Surgical Consultants, Fairview Southdale, Edina, MN, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110609

(301) Larson CM, Giveans MR, Taylor M. Does arthroscopic FAI correction improve function with radiographic arthritis? Clin Orthop Relat Res 2011; 469(6):1667-1676. Ref ID: 675 Abstract: BACKGROUND: Previous studies reporting the impact of osteoarthritis (OA) on pain and function after hip arthroscopy largely predate resection of femoroacetabular impingement (FAI). QUESTIONS/PURPOSES: We determined (1) functional improvement after resection of FAI impingement lesions in patients with preoperative radiographic joint space narrowing, and (2) identified preoperative predictors of pain, function, and failure rates in these patients. PATIENTS AND METHODS: Between September 2004 and April 2008, we treated 210 patients (227 hips) with FAI and a minimum 12-month followup (mean, 27 months). Group FAI consisted of 154 patients (169 hips) without radiographic joint space narrowing, whereas Group FAI-OA consisted of 56 patients (58 hips) with preoperative radiographic joint space narrowing. We collected Harris hip scores (HHS), Short Form-12 (SF-12), and pain scores on a visual analog scale (VAS) preoperatively and postoperatively. RESULTS: Score improvements were better for Group FAI compared with Group FAI-OA. The overall failure rate was greater for Group FAI-OA (52%) than for Group FAI (12%). Although patients with less than 50% joint space narrowing or greater than 2 mm joint space remaining on preoperative radiographs had improved scores throughout the study, we observed no score improvements at any time with advanced preoperative joint space narrowing. Greater joint space narrowing, advanced MRI chondral grade, and longer duration of preoperative symptoms predicted lower scores. CONCLUSION: FAI correction with milder degrees of preoperative radiographic joint space narrowing resulted in improvements in pain and function at short-term followup. Patients with advanced radiographic joint space narrowing do not improve and we believe should not be considered for arthroscopic FAI correction Notes: DA - 20110516 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(302) Larson CM. Sports hernia/athletic pubalgia: evaluation and management. Sports Health 2014; 6(2):139-144. Ref ID: 584 Abstract: CONTEXT: Sports hernia/athletic pubalgia has received increasing attention as a source of disability and time lost from athletics. Studies are limited, however, lacking consistent objective criteria for making the diagnosis and assessing outcomes. EVIDENCE ACQUISITION: PubMed database through January 2013 and hand searches of the reference lists of pertinent articles. STUDY DESIGN: Review article. LEVEL OF EVIDENCE: Level 5. RESULTS: Nonsurgical outcomes have not been well reported. Various surgical approaches have return-to-athletic activity rates of >80% regardless of the approach. The variety of procedures and lack of outcomes measures in these studies make it difficult to compare one surgical approach to another. There is increasing evidence that there is an association between range of motion-limiting hip disorders (femoroacetabular impingement) and sports hernia/athletic pubalgia in a subset of athletes. This has added increased complexity to the decision-making process regarding treatment. CONCLUSION: An association between femoroacetabular impingement and athletic pubalgia has been recognized, with better outcomes reported when both are managed concurrently or in a staged manner Notes: DA - 20140303 IS - 1941-7381 (Print) IS - 1941-0921 (Linking) LA - eng PT - Journal Article

(303) Larson JA, Chang W, Taher R, Sigler JD. Left femoral neck stress fracture in 17-year-old female athlete: A case report. PM and R Conference: 2014 Annual Assembly of the American Academy of Physical Medicine and Rehabilitation San Diego, CA United States Conference Start: 20141113 Conference End: 20141116 Conference Publication: (var pagings) 6 (9 SUPPL 1) ()(pp S379), 2014;(var.pagings):S379. Ref ID: 226 Abstract: Case Description: Patient is a 17-year-old Caucasian female athlete who presented with a six-week history of left groin pain. Pain was initially attributed to a pulled groin muscle. Despite aggressive ice, NSAIDs, and stretching she continued to have pain with weight bearing of left lower extremity. She denies a history of falls/trauma, use of prescription medications, tobacco, alcohol or illicit drugs and has no previous medical history. Patient appeared fit with a normal BMI, had regular menses, and consumed a healthy diet with daily multivitamin. Program Description: University of Kansas PM&R Residency Program. Setting: Acute care regional medical center. Results or Clinical Course: Initial x-rays done of left hip/ pelvis region did not show evidence acute pathology and patient was advised to continue to stretch/ice/rest regimen. Patient's groin pain continued to worsen until she was unable to bear weight on left lower extremity. An MRI was ordered which demonstrated a left, femoral neck stress fracture. Orthopedic consultation recommended immediate non-weight bearing status and pins placed within the femoral neck to prevent avascular necrosis Discussion: Femoral neck stress fractures are rare in pediatric populations and considered a surgical emergency. Per the literature, femoral neck stress fractures are most commonly seen in young military recruits under intense physical conditioning. Risk factors for stress fractures include a family history of osteopenia or osteoporosis, Caucasian race, menstrual irregularities, and previous stress fractures. Conclusions: This patient was a previously healthy, 17-yearold Caucasian female with a normal BMI, regular menses, and consistent activity level. To her knowledge, she neither had a family history of osteoporosis nor did she have a personal history of previous stress fracture. After her left femoral neck stress fracture was diagnosed on MRI she underwent emergent left femoral neck hip pinning the summer before her senior year of high school. Nine months later her hip pins were removed. With aggressive physical rehabilitation, she was able to regain the strength, speed, and range of motion allowing her to continue her athletic career in a Division I program about a year after her left femoral neck stress fracture was diagnosed Notes: DB - Embase UI - 71644030 IN - (Larson) University of Kansas, Kansas City, KS, United States LG - English PT - Journal: Conference Abstract EM - 201445 DD - 20141011

(304) Laude F, Sariali E, Nogier A. Femoroacetabular impingement treatment using arthroscopy and anterior approach. Clin Orthop Relat Res 2009; 467(3):747-752. Ref ID: 717 Abstract: Femoroacetabular impingement (FAI) has been identified as a common cause of hip pain in young adults. However, treatment is not well standardized. We retrospectively reviewed 97 patients (100 hips) who underwent osteochondroplasty of the femoral head-neck for FAI using a mini-open anterior Hueter approach with arthroscopic assistance. The mean age of the patients was 33.4 years. The labrum was refixed in 40 hips, partially excised in 39 cases, completely excised in 14 cases, and left intact in seven. Six patients were lost to followup, leaving 91 (94 hips) with a minimum followup of 28.6 months (mean, 58.3 months; range, 28.6-104.4 months). We assessed patients clinically using the nonarthritic hip score (NAHS). One patient had a femoral neck fracture 3 weeks postoperatively. At the last followup, the mean NAHS score increased by 29.1 points (54.8 +/- 12 preoperatively to 83.9 +/- 16 points at last followup). Eleven hips developed osteoarthritis and subsequently had total hip arthroplasty. The best results were obtained in patients younger than 40 years old with a 0 Tonnis grade. Refixation of the labrum did not correlate with a higher NAHS score (87 +/- 11 with refixation versus 82 +/- 19 points without) at the last followup. The technique for FAI treatment allowed direct visualization of the anterior femoral head-neck junction while avoiding surgical dislocation, had a low complication rate, and improved functional scores Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(305) Lax-Perez R, Marin-Pena O, Garcia-Galvez A, Ferrero-Manzanal F, Rincon-Recarey FJ, Salinas-Gilabert J. Femoroacetabular impingement and low energy posterior hip dislocation: a case report. Hip Int 2012; 22(3):339-342. Ref ID: 634 Abstract: We report a case of a 28-year-old male who sustained an indirect injury of his left hip while playing soccer, which resulted in a posterior fracture-dislocation. Radiological examination showed signs of combined femoroacetabular impingement (FAI). We discuss the role of FAI as a risk factor for hip dislocation in low energy sport injuries Notes: DA - 20120712 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(306) LeBeau RT, Nho SJ. The use of manual therapy post-hip arthroscopy when an exercise-based therapy approach has failed: a case report. J Orthop Sports Phys Ther 2014; 44(9):712-721. Ref ID: 567 Abstract: STUDY DESIGN: Case report. BACKGROUND: Although there is a growing body of literature on both surgical intervention and postsurgical rehabilitation of acetabular labral repairs and femoroacetabular impingement, there is a paucity of information on how to manage individuals who show a lack of progress postsurgery. CASE DESCRIPTION: A 30-year-old woman underwent surgical labral repair with femoroacetabular impingement osteochondroplasty. Postsurgery, she was initially treated with an exercise-based approach, but experienced an increase in hip pain and further decline in function. Her primary functional deficits were difficulty standing and pain (6/10) with ambulation. A combination of soft tissue mobilization and trigger point dry needling was used to address perceived muscle dysfunction, and nonthrust manipulation was used to address perceived hip joint hypomobility. OUTCOMES: Following 12 therapy sessions over 120 days, the patient returned to her demanding occupation with minimal residual symptoms. By the end of the period of care, the patient's Harris hip score had improved from 56 to 96 and her Lower Extremity Functional Scale score had improved from 26 to 70. DISCUSSION: This case describes a multimodal manual therapy approach and the health outcomes of a patient following labral repair with femoroacetabular impingement decompression who did not respond to an initial exercise-based postsurgical rehabilitation approach. Level of Evidence Therapy, level 4 Notes: DA - 20140901 IS - 1938-1344 (Electronic) IS - 0190-6011 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(307) Lee AJJ, Armour P, Thind D, Coates MH, Kang ACL. The prevalence of acetabular labral tears and associated pathology in a young asymptomatic population. Bone and Joint Journal 97-B (5) ()(pp 623-627), 2015 Date of Publication: 01 May 2015 2015;(5):623-627. Ref ID: 148 Abstract: Acetabular labral tears and associated intra-articular pathology of the hip have been recognised as a source of symptoms. However, it is now appreciated that there is a relatively high prevalence of asymptomatic labral tears. In this study, 70 young asymptomatic adult volunteers with a mean age of 26 years (19 to 41) were recruited and underwent three tesla non-arthrographic MR scans. There were 47 women (67.1%) and 23 men (32.9%). Labral tears were found in 27 volunteers (38.6%); these were an isolated finding in 16 (22.9%) and were associated with other intra-articular pathology in the remaining 11 (15.7%) volunteers. Furthermore, five (7.1%) had intra-articular pathology without an associated labral tear. Given the high prevalence of labral pathology in the asymptomatic population, it is important to confirm that a patient's symptoms are due to the demonstrated abnormalities when considering surgery Notes: DB - Embase UI - 2015036283 IN - (Lee, Armour, Coates) Christchurch Hospital, Private Bag 4710, Christchurch 8140, New Zealand (Thind) Dunedin Hospital, Private Bag 1921, Dunedin 9054, New Zealand (Kang) Christchurch Radiology Group, PO Box 130-000, Christchurch 8141, New Zealand CP - United Kingdom LG - English PT - Journal: Article EM - 201545 DD - 20150515

(308) Lee CB, Clark J. Fluoroscopic demonstration of femoroacetabular impingement during hip arthroscopy. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (7) ()(pp 994-1004), 2011 Date of Publication: July 2011 2011;(7):994-1004. Ref ID: 395 Abstract: Femoroacetabular impingement is a cause of hip pain that in selected cases can be treated by removal of impinging bone (osteoplasty). No absolute parameters for osteoplasty exist. We present a technique for dynamic evaluation of bony impingement and control of arthroscopic osteoplasty using intraoperative fluoroscopy. With the patient supine on a fracture table, the C-arm is positioned between the legs. Femoral anteversion is measured with the C-arm vertical and the hip flexed 90degree (Dunn view). The C-arm is then tilted back 25degree from vertical to create a profile view of the anterior rim, and the hip is flexed under fluoroscopy to find the location of maximum head/neck deformity. Because the distance between rim and neck is apparent, a spot view in that position is used to plan the osteoplasties. Impingement is demonstrated by forced internal rotation and is obvious as bony contact, movement of the pelvis, or joint subluxation. Osteoplasty of the neck is performed with the hip extended and the C-arm tilted to reproduce the view of the maximum neck deformity. The dynamic examination is repeated to confirm adequacy of the osteoplasty and improvement in internal rotation. Hip deformities could be efficiently identified and individually corrected. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011341547 IN - (Lee, Clark) Orthopaedic Surgery, Group Health Central Specialty Center, 125 16th Ave E, Seattle, WA 98112, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110629

(309) Leetun DT, Ireland ML, Willson JD, Ballantyne BT, Davis IM. Core stability measures as risk factors for lower extremity injury in athletes. Medicine and Science in Sports and Exercise 36 (6) ()(pp 926-934), 2004 Date of Publication: June 2004 2004;(6):926-934. Ref ID: 511 Abstract: Introduction/Purpose: Decreased lumbo-pelvic (or core) stability has been suggested to contribute to the etiology of lower extremity injuries, particularly in females. This prospective study compares core stability measures between genders and between athletes who reported an injury during their season versus those who did not. Finally, we looked for one or a combination of these strength measures that could be used to identify athletes at risk for lower extremity injury. Methods: Before their season, 80 female (mean age = 19.1 +/- 1.37 yr, mean weight 65.1 +/- 10.0 kg) and 60 male (mean age = 19.0 +/- 0.90 yr, mean weight 78.8 +/- 13.3 kg) intercollegiate basketball and track athletes were studied. Hip abduction and external rotation strength, abdominal muscle function, and back extensor and quadratus lumborum endurance was tested for each athlete. Results: Males produced greater hip abduction (males = 32.6 +/- 7.3%BW, females = 29.2 +/- 6.1%BW), hip external rotation (males = 21.6 +/- 4.3%BW, females = 18.4 +/- 4.1%BW), and quadratus lumborum measures (males = 84.3 +/- 32.5 s, females = 58.9 +/- 26.0 s). Athletes who did not sustain an injury were significantly stronger in hip abduction (males = 31.6 +/- 7.1%BW, females = 28.6 +/- 5.5%BW) and external rotation (males = 20.6 +/- 4.2%BW, females = 17.9 +/- 4.4%BW). Logistic regression analysis revealed that hip external rotation strength was the only useful predictor of injury status (OR = 0.86, 95% CI = 0.77, 0.097). Conclusion: Core stability has an important role in injury prevention. Future study may reveal that differences in postural stability partially explain the gender bias among female athletes Notes: DB - Embase UI - 2004242261 IN - (Leetun, Ireland) Kentucky Sports Medicine Clinic, Lexington, KY, United States (Willson, Ballantyne, Davis) Joyner Sportsmedicine Institute, Lexington, KY, United States (Willson, Davis) University of Delaware, Department of Physical Therapy, Newark, DE, United States (Willson) University of Delaware, Department of Physical Therapy, 305 McKinly Lab., Newark, DE 19716, United States CP - United States LG - English PT - Journal: Article EM - 200400 DD - 20040622

(310) Lerch S, Kasperczyk A, Warnecke J, Berndt T, Ruhmann O. Evaluation of Cam-type femoroacetabular impingement by ultrasound. International Orthopaedics 37 (5) ()(pp 783-788), 2013 Date of Publication: May 2013 2013;(5):783-788. Ref ID: 309 Abstract: Purpose: In the diagnosis of femoroacetabular impingement (FAI), magnetic resonance imaging (MRI) and X-ray are widely accepted methods for detection. When evaluating the hip head-neck junction using MRI, oblique axial sequences are required. However, the construction and analysis of these images are restricted to specialist radiologists and surgeons in the field of hip joint MRI. This study sought to investigate whether ultrasound, a simple and inexpensive method, can be used as a reliable tool for diagnosing Cam-type FAI. Methods: Forty patients, with a mean age of 39 years (range, 18-61 years), were consecutively included in this prospective study, following a diagnosis of Cam-type FAI on an oblique axial MRI. All patients underwent ultrasound examination in the ventral longitudinal section at 20 external rotation, neutral position and 20 internal rotation. The alpha angle, anterior offset, offset-ratio, and anterior femoral distance (AFD) were measured using MRI and ultrasound. Results: No significant differences were detected between the alpha angle on MRI and that using ultrasound in the neutral position or in 20 internal rotation, with strong correlations observed between these parameters (r = 0.67 for neutral position, r = 0.77 for 20 internal rotation). The Pearson's correlation coefficient for the alpha angle on MRI and the ratio of AFD/anterior offset on ultrasound in internal rotation was 0.76 (p < 0.0001). Conclusions: The results show strong correlations between MRI and ultrasound measurements in patients with Cam-type FAI. Consequently, ultrasound may provide a useful tool for the early diagnosis of Cam-type FAI in daily practice. Â© 2013 Springer-Verlag Berlin Heidelberg Notes: DB - Embase UI - 2013321985 IN - (Lerch, Warnecke, Berndt, Ruhmann) Clinic for Orthopaedics/Traumatology/Sports Medicine, Klinikum Agnes Karll Laatzen, Klinikum Region Hannover, Hildesheimer Str. 158, 30880 Laatzen, Germany (Kasperczyk) Clinic for Radiology and Nuclear Medicine, Hildesheimer Str. 158, 30880 Laatzen, Germany CP - Germany LG - English PT - Journal: Article EM - 201324 DD - 20130610

(311) Leunig M, Huff TW, Ganz R. Femoroacetabular impingement: treatment of the acetabular side. Instr Course Lect 2009; 58:223-229. Ref ID: 707 Abstract: Over the past decade, femoroacetabular impingement (FAI) has become an increasingly recognized pathomechanism that may explain why some hips that were previously considered to have normal morphology fail early in life. Subtle morphologic alterations in the acetabulum or femur, as well as the degree of hypermobility or impact on the hip, affect the potential for joint damage. The most frequent location of FAI is the anterosuperior acetabular rim, and the most critical motion is internal rotation of the hip in flexion. Because medication, activity restrictions, and physical therapy are rarely successful in treating symptoms caused by FAI, surgery has become a mainstay of treatment. Acetabular causes of FAI, called pincer FAI, can be treated by improving hip clearance. Independent of whether local or global overcoverage is present, rim reduction should be combined with labral preservation whenever possible Notes: DA - 20090423 IS - 0065-6895 (Print) IS - 0065-6895 (Linking) LA - eng PT - Journal Article SB - IM

(312) Leunig M, Tibor LM, Naal FD, Ganz R, Steinwachs MR. Surgical technique: Second-generation bone marrow stimulation via surgical dislocation to treat hip cartilage lesions. Clinical Orthopaedics and Related Research 470 (12) ()(pp 3421-3431), 2012 Date of Publication: December 2012 2012;(12):3421-3431. Ref ID: 328 Abstract: Background: Compared to knees, hips have more bony constraint and soft tissue coverage. Thus, repair of focal cartilage defects in hips requires more invasive and technically complex surgeries than simple arthroscopy or arthrotomy. Autologous matrix-induced chondrogenesis (AMIC) is a second-generation bone marrow stimulation technique. Improvement in Tegner, Lysholm, International Cartilage Repair Society (ICRS), and Cincinnati scores has been reported at 1 and 2 years after AMIC in knees. AMIC is potentially useful to repair defects in hips, but it is unknown whether it relieves symptoms or results in a durable construct. Description of Technique A surgical hip dislocation is used to access the defect. This is debrided to stable cartilage shoulders, necrotic bone is removed, and the lesion base is drilled. Autogenous bone graft is used for lesions with bony defects to create a level surface. Fibrin gel and a collagen membrane are placed to stabilize the superclot for fibrocartilage formation. Methods: We treated six patients with AMIC in the hip between 2009 and 2010. We obtained Oxford Hip and UCLA Activity Scores. Repair quality was assessed on 6-month postoperative MRI using the modified magnetic resonance observation of cartilage repair tissue (MOCART) system. Minimum 1-year followup data were available for four patients (range, 1-2.5 years). Results: Postoperative Oxford Hip Scores ranged from 13 to 17, UCLA Activity Scores ranged from 5 to 10, and MOCART scores ranged from 55 to 75. No complications occurred. Conclusions: We describe AMIC in the hip. Although these patients had pain relief and improved function, longterm followup is necessary to assess the duration of improvement, durability of repair, and potential for arthrosis. Level of Evidence: Level IV, therapeutic study. See Instructions for Authors for a complete description of levels of evidence. Â© The Association of Bone and Joint Surgeons 2012 Notes: DB - Embase UI - 2012754564 IN - (Leunig, Tibor, Naal, Steinwachs) Department of Orthopaedic Surgery, Schulthess Clinic, Lengghalde 2, 8008 Zurich, Switzerland (Leunig, Ganz) University of Bern, Bern, Switzerland (Steinwachs) University of Freiburg, Freiburg, Germany CP - United States LG - English PT - Journal: Conference Paper EM - 201302 DD - 20130109

(313) Leunig M, Mast NH, Impellizerri FM, Ganz R, Panaro C. Arthroscopic appearance and treatment of impingement cysts at femoral head-neck junction. Arthroscopy 2012; 28(1):66-73. Ref ID: 653 Abstract: PURPOSE: To study the arthroscopic appearance and treatment of impingement cysts and to propose their potential intraoperative value for correct femoral osteochondroplasty in femoroacetabular impingement (FAI). METHODS: We performed a single-surgeon, retrospective study of 152 consecutive hip arthroscopies in 141 patients treated for FAI due to cam, localized pincer, or mixed FAI. Radiographic (conventional radiographs and magnetic resonance arthrography) cyst sizes and locations as well as the arthroscopic appearance were recorded. RESULTS: On the preoperative radiographs, impingement cysts were radiographically visible in 18% of treated FAI patients (26 of 141); 15% of these patients (4 of 26) had more than 1 cyst. Age was the only independent predictor of cysts, with a 7-year shift to a mean age of 42 years. The majority of cysts were located in the anterosuperior quadrant of the femoral head-neck junction (93%), the mean diameter of cysts was 7.0 mm, with a range from 3.7 to 15.1 mm. During surgery, only a few were arthroscopically identifiable, with a pit-like (3 of 26) or crater-like appearance (3 of 26) (i.e., surface alterations) for the larger cysts. The majority of cysts (20 of 26) became evident, however, after unroofing of the area of cam FAI. Cysts were associated with labral (25 of 26) and/or chondral lesions (23 of 26). Small cysts were completely removed during femoral osteochondroplasty, whereas larger cysts were only resected until impingement-free range of motion was reached. No neck fractures occurred in this series. CONCLUSIONS: Impingement cysts were present on 1 in 6 radiographs in patients undergoing hip arthroscopy for FAI and were found most commonly in older patients. The cysts predictably occur within the epicenter of the femoral-induced impingement. Whereas surface alterations are rare (6 of 26), the content and base of the unroofed cyst are consistent. Most cysts are completely excised as part of the femoral impingement correction and may be used as a confirmation that arthroscopic cam resection has been performed at the correct site. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20111226 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(314) Leunig M, Juni P, Werlen S, Limacher A, Nuesch E, Pfirrmann CW et al. Prevalence of cam and pincer-type deformities on hip MRI in an asymptomatic young Swiss female population: a cross-sectional study. Osteoarthritis Cartilage 2013; 21(4):544-550. Ref ID: 617 Abstract: OBJECTIVES: Femoroacetabular impingement is proposed to cause early osteoarthritis (OA) in the non-dysplastic hip. We previously reported on the prevalence of femoral deformities in a young asymptomatic male population. The aim of this study was to determine the prevalence of both femoral and acetabular types of impingement in young females. METHODS: We conducted a population-based cross-sectional study of asymptomatic young females. All participants completed a set of questionnaires and underwent clinical examination of the hip. A random sample was subsequently invited to obtain magnetic resonance images (MRI) of the hip. All MRIs were read for cam-type deformities, increased acetabular depths, labral lesions, and impingement pits. Prevalence estimates of cam-type deformities and increased acetabular depths were estimated, and relationships between deformities and signs of joint damage were examined using logistic regression models. RESULTS: The study included 283 subjects, and 80 asymptomatic females with a mean age of 19.3 years attended MRI. Fifteen showed some evidence of cam-type deformities, but none were scored to be definite. The overall prevalence was therefore 0% [95% confidence interval (95% CI) 0-5%]. The prevalence of increased acetabular depth was 10% (95% CI 5-19). No association was found between increased acetabular depth and decreased internal rotation of the hip. Increased acetabular depth was not associated with signs of labral damage. CONCLUSIONS: Definite cam-type deformities in women are rare compared to men, whereas the prevalence of increased acetabular depth is higher, suggesting that femoroacetabular impingement has different gender-related biomechanical mechanisms Notes: DA - 20130318 IS - 1522-9653 (Electronic) IS - 1063-4584 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(315) Levy BA, Yuan B, Bartlet RB, Trousdale RT, Sierra RJ. 1st place winner of the scientific research award screening for femoroacetabular impingement in asymptomatic adolescent athletes. Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: 8th Biennial Congress of International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine, ISAKOS 2011 Rio de Janeiro Brazil Conference Start: 20110515 Conference E 2011;(var.pagings):e190. Ref ID: 330 Abstract: The prevalence of femoroacetabular impingement (FAI) in the general population is not known. Screening exams for young patients, similar to those used for scoliosis, are not currently available. The purpose of this study was to determine the prevalence of abnormal hip examinations indicative of FAI in a population of young, asymptomatic athletes and to correlate physical exam findings with radiographic signs of FAI. We examined 226 high school athletes age 12 to 18 presenting for state-mandated pre-participation athletic physicals. Nineteen patients (37 hips, 8 percent) had internal rotation of less than 10 degrees with the hip in 90 degrees of flexion (Group 1). Six of these patients (10 hips, 2 percent) had a positive anterior impingement sign. A repeat examination was scheduled with a surgeon and patients underwent standard radiographs and MRI of both hips. MRI findings were compared to age-matched asymptomatic controls with normal range of motion, also recruited from the screening (Group 2). A blinded musculoskeletal radiologist reviewed all MRIs. Twenty-one patients (11 in Group 1, 10 in Group 2) have returned for clinical and radiographic examination. In Group 1, 4 patients (7 hips, 32 percent) had positive radiographic crossover sign and 7 patients (14 hips, 64 percent) had cam lesions on plain radiographs. The mean alpha angle measured from radial MRI sequences was 58.1 degrees versus 45.1 degrees in Group 2 (p-value = 0.0003). Signal changes were also noted within the labrum on MRI in 13 hips from Group 1 (59%) and 10 hips from Group 2 (50%). Eight percent of normal teens had abnormal hip exams, and 64 percent had radiographic abnormalities consistent with FAI. Labral pathology was evident on MRI in both groups, however analysis is ongoing to determine the clinical relevance of these findings. Screening for FAI may help detect patients at risk for early hip damage and provide recommendations regarding activity modification or sports participation Notes: DB - Embase UI - 70555690 IN - (Levy, Yuan, Bartlet, Trousdale, Sierra) Mayo Clinic, Rochester, MN, United States LG - English PT - Journal: Conference Abstract EM - 201300 DD - 20111015

(316) Lewis CL, Sahrmann SA. Acetabular labral tears. Physical Therapy 86 (1) ()(pp 110-121), 2006 Date of Publication: January 2006 2006;(1):110-121. Ref ID: 500 Abstract: Acetabular labral tears are a recently recognized source of hip pain, particularly in the anterior hip or groin region. Except in cases of specific trauma, the etiology of labral tears is often difficult to determine. Labral tears often evade detection by noninvasive means. Once they are diagnosed, conservative medical treatment has not proven to be effective, and the appropriate physical therapy intervention has yet to be established. Surgical treatment results in short-term improvement, but the long-term outcomes are still unknown. Because labral tears have been associated with a higher risk for joint degeneration, including osteoarthritis, this area warrants further investigation, especially with regard to prevention, early detection, and appropriate physical therapy and medical treatment. In general, a physical therapist should suspect an acetabular labral tear when a patient with normal radiographs complains of a long duration of anterior hip or groin pain and clicking, pain with passive hip flexion combined with adduction and medial rotation, and pain with an active straight leg raise and has minimal to no restriction in ROM Notes: DB - Embase UI - 2006010681 IN - (Lewis) Movement Science Program, Washington University, St Louis, MO, United States (Sahrmann) Department of Physical Therapy/Neurology/Cell Biology and Physiology, Program in Physical Therapy, Washington University School of Medicine, St Louis, MO, United States (Sahrmann) Program in Physical Therapy, Washington University, Campus Box 8502, 4444 Forest Park Blvd, St Louis, MO 63108-2212, United States CP - United States LG - English PT - Journal: Review EM - 200600 DD - 20060124

(317) Lidder S, Ranawat VS, Ranawat NS, Thomas TL. Chronic asymptomatic dislocation of a total hip replacement: a case report. J Med Case Rep 2009; 3:8956. Ref ID: 696 Abstract: INTRODUCTION: Dislocation of a prosthetic hip is the second most common complication after thromboembolic disease in patients undergoing total hip arthroplasty, with an incidence reported as 0.5 to 20%. Although the period of greatest risk for dislocation has been reported to be within the first few months after surgery, late dislocation occurs more commonly then previously thought. CASE PRESENTATION: A 60-year-old man underwent a right Exeter cemented total hip replacement and was subsequently discharged after appropriate follow-up. He next presented 8 years later complaining of pain in the left groin. An anterioposterior radiograph of the pelvis revealed degenerative changes in the left hip and a dislocated right total hip replacement. The dislocated femoral component had formed a neoacetabulum within the ilium, in which it was freely articulating. He remained pain-free on this side, had 5 cm of true leg length shortening with a good range of movement and was very pleased with his hip replacement. He was later placed on the waiting list for a left total hip replacement. CONCLUSION: This case illustrates that a dislocated total hip replacement may occasionally not cause symptoms that cause significant discomfort or reduction in range of movement. The prosthetic femoral head can form a neoacetabulum allowing a full range of pain-free movement. Furthermore it emphasises that with an increased trend to earlier hospital discharge and shorter follow-up, potential complications may be missed. We urge a low index of suspicion for potential complications and suggest that regular review with radiographic follow-up should be made Notes: DA - 20091117 IS - 1752-1947 (Electronic) IS - 1752-1947 (Linking) LA - eng PT - Journal Article

(318) Lin H-C, Chi W-M, Ho Y-J, Chen J-H. Effects of design parameters of total hip components on the impingement angle and determination of the preferred liner skirt shape with an adequate oscillation angle. Medical and Biological Engineering and Computing 51 (4) ()(pp 397-404), 2013 Date of Publication: April 2013 2013;(4):397-404. Ref ID: 212 Abstract: The oscillation angle (OsA), which is the sum of the impingement angles on the two sides when the prosthetic neck sways from the neutral axis of the acetabular cup to the liner rim, is one of the most important factors that can affect the range of motion of an artificial hip joint. The aim of this study was to determine the influence of total hip component design on the impingement angle. Our findings show that an increase in cup depth of the liner restricts the motion of the neck and results in a reduced impingement angle, while an increase in chamfer angle increases the impingement angle until it reaches a critical value when a further increase no longer results in an increase in impingement angle. The impingement angle is not only dependent on the head/neck ratio, but also on the head size itself. For most arbitrarily chosen cup depths and chamfer angles, the neck only impacts at one point on the liner. This study proposes a suitable combination of cup depth and chamfer angle and a preferred impact mode, which, if impingement does occur, enables the neck to impinge on the liner rim over a large area. Cup-neck combinations that have an adequate OsA with maximum femoral head coverage are presented. Â© 2012 International Federation for Medical and Biological Engineering Notes: DB - Embase UI - 2014145809 IN - (Lin) Gshine Wellteck Corporation, Taichung, Taiwan (Republic of China) (Chi) Graduate School of Gerontic Technology and Service Management, Nan Kai University of Technology, Nantou, Taiwan (Republic of China) (Ho) School of Psychology, Chung Shan Medical University, Taichung, Taiwan (Republic of China) (Chen) School of Physical Therapy, Chung Shan Medical University, No 110, Sec. 1, Jianguo N. Rd., 402 Taichung, Taiwan (Republic of China) (Chen) Department of Orthopedics, Chung Shan Medical University Hospital, Taichung, Taiwan (Republic of China) CP - Germany LG - English PT - Journal: Article EM - 201449 DD - 20140311

(319) Lincoln M, Johnston K, Muldoon M, Santore R. Combined arthroscopic and modified open approach for cam femoroacetabular impingement: a preliminary experience. Arthroscopy 2009; 25(4):392-399. Ref ID: 708 Abstract: PURPOSE: We report our case series of patients undergoing surgical treatment (femoral osteoplasty) for symptomatic cam femoroacetabular impingement (FAI). Clinical results using a modified Heuter anterior approach combined with adjunctive hip arthroscopy are presented. METHODS: A chart review of 16 hips (14 consecutive patients) was conducted. Radiographic parameters (alpha angle, head-neck offset, and Tonnis grade) were compared preoperatively and postoperatively. Clinical features (range of motion, provocative testing, and Harris hip score) were assessed. RESULTS: At 2.0 years, mean hip flexion improved from 94.1 degrees to 110.0 degrees (P < .01) and internal rotation from 7.1 degrees to 12.3 degrees (P = .02). The mean alpha angle improved from 64.5 degrees to 43.3 degrees (P < .01), whereas the mean femoral head-neck offset improved from 1.9 to 9.6 mm (P < .01). The mean Harris hip score improved from 63.8 to 76.1 (P = .01). No deterioration in overall radiographic Tonnis grades was present at last follow-up. CONCLUSIONS: The combination of hip arthroscopy with a limited anterior approach (Heuter) is a useful technique for patients with cam or cam-dominant FAI lesions. We believe the limited anterior approach with open osteoplasty presents a reasonable alternative to arthroscopic methods of osteoplasty with minimal drawbacks in the event that total hip arthroplasty is indicated in the future. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20090403 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(320) Lindner D, El Bitar YF, Jackson TJ, Sadik AY, Stake CE, Domb BG. Sex-Based Differences in the Clinical Presentation of Patients With Symptomatic Hip Labral Tears. American Journal of Sports Medicine 2014; 42(6):1365-1369. Ref ID: 103 Notes: ID - 103987713 IS - 6 CY - Thousand Oaks, California

(321) Ling XF, Peng X, Samman N. Donor-site morbidity of free fibula and DCIA flaps. Journal of Oral and Maxillofacial Surgery 71 (9) ()(pp 1604-1612), 2013 Date of Publication: September 2013 2013;(9):1604-1612. Ref ID: 282 Abstract: Purpose: This study evaluated and compared the long-term donor-site morbidity of the free fibula flap with the deep circumflex iliac artery (DCIA) flap in maxillofacial reconstruction. Materials and Methods: Thirty-four patients (19 in the fibula group and 15 in the DCIA group) were evaluated for long-term morbidity. All clinical data were analyzed, including primary disease, type of defect, type of flap, length of bone harvested, total blood loss, operating time, length of hospitalization, and postoperative unaided gait. Subjective evaluation included cosmesis, function, and pain. Objective evaluation included physical examination, neurosensory assessment, Stony Brook Scar Evaluation, gait assessment, and goniometric measurement of range of movement. Results: In the subjective evaluation, no significant differences in cosmetic outcome, functional loss, wound healing, or pain between the 2 groups were noted (P >.05). However, neurosensory deficit was worse in the DCIA group (P <.05). In the objective evaluation, 4 patients (27%) in the DCIA group had neurosensory deficit in the lateral thigh region. The DCIA group had a better Stony Brook Scar score (median, 5) than the fibula group (median, 4; P <.05). However, there was no difference in walking ability between the 2 groups (P >.05). Goniometric measurement showed a significant difference between the operated and unoperated sites in the 2 groups; however, it was not severe enough in either group to affect patients' function. In the fibula group, 7 patients (38.9%) had claw toe deformity and 2 patients (12.1%) had weakness of the great toe, and the mean American Orthopedic Foot and Ankle Society score was 96.89. In the DCIA group, 1 patient (8.3%) had a hernia and the mean Harris Hip score was 98.33. Conclusion: Given that these 2 options present donor-site concerns, the authors consider the fibula free flap the first choice for maxillofacial reconstruction in most cases and the DCIA free flap a reliable complementary flap in selected patients. Â© 2013 American Association of Oral and Maxillofacial Surgeons Notes: DB - Embase UI - 2013522067 IN - (Ling) Hospital Kulim, Ministry of Health Malaysia, Kedah, Malaysia (Ling, Samman) Faculty of Dentistry, University of Hong Kong, Hong Kong, Hong Kong (Peng) Department of Oral and Maxillofacial Surgery, Peking University School of Stomatology, 22 South Avenue Zhongguancun, Haidian District, Beijing 100081, China CP - United States LG - English PT - Journal: Article EM - 201336 DD - 20130903

(322) Lo E, Guanche CA. Retrospective evaluation of femoral osteoplasty and labral debridement in cam-type femoroacetabular impingement patientsdan average followup of 5 years. Arthroscopy - Journal of Arthroscopic and Related Surgery Conference: 32nd Annual Meeting of the Arthroscopy Association of North America San Antonio, TX United States Conference Start: 20130425 Conference End: 20130427 Conference Publication: (var pag 2013;(var.pagings):e18-e19. Ref ID: 270 Abstract: Introduction: Femoroacetabular impingement (FAI) has been increasingly recognized as a source of primary hip pathology and has been associated with early onset degenerative hip disease. Cam-type impingement can create shear stress at the acetabular rim, causing chondral delamination and articular-sided labral degeneration. The purpose of this study is to evaluate the clinical outcomes of arthroscopic treatment of cam-type femoroacetabular impingement. Methods: Ninety-four consecutive patients (100 hips) with cam impingement underwent arthroscopic femoral neck osteoplasty and labral debridement. Eighty-two hips (82%) were contacted and available for followup at a mean of 60 months (range, 40-74). Patients were assessed with preoperative and postoperative physical examination, nonarthritic hip score (NAHS), Western Ontario and McMasters Universities (WOMAC) score, and radiographs to assess the Tonnis Grade for osteoarthritis and alpha-angle. Postoperative evaluation included pain score assessment with a visual analog scale and satisfaction assessment. Results: Eighty-two hips were contacted for followup evaluation. There were 54 patients who had not undergone additional surgeries. Six patients required revision hip arthroscopies. Twenty-two patients underwent hip arthroplasty, summing up to an overall revision rate of 28%. Of the patients who had not undergone revision surgeries, the mean NAHS rose from 48.9 to 78 and the WOMAC increased from 66.8 to 77. Patient satisfaction was 70 percent. Twenty-five of the 54 hips were available for clinical evaluation. Presence of internal rotation impingement sign decreased from 92.6 to 37.5 percent. Repeat radiograph showed improved alpha angles from 76.8 to 61.6 degrees. Of the patients with pre-existing osteoarthritis (Tonnis Grade 2-3), 84.6% went on to require hip arthroplasty. Of the patients with minimal to no pre-existing osteoarthritis (Tonnis Grade 0-1), 16.4% went on to require hip arthroplasty. Conclusion: Arthroscopic femoral neck resection in patients with cam-type FAI results in improved clinical outcomes, decreased physical symptoms, and a high patient satisfaction at a mean followup of 5 years. In the subset of patients with pre-existing osteoarthritis, there is high risk of needing an arthroplasty procedure within 5 years Notes: DB - Embase UI - 71255296 LG - English PT - Journal: Conference Abstract EM - 201351 DD - 20131216

(323) Lubowitz JH. Editorial Commentary: Femoroacetabular Impingement Under-resection Is the Primary Indication for Revision Arthroscopy. Arthroscopy - Journal of Arthroscopic and Related Surgery 31 (10) ()(pp 2056), 2015 Date of Publication: October 2015 2015;(10):2056. Ref ID: 150 Abstract: Complications indicating revision after hip arthroscopy generally manifest within 24 months. Femoroacetabular cam or pincher impingement deformity under-resection is the primary indication for revision arthroscopy. Revision results in decreased pain and improved function, and primary and revision hip femoroacetabular impingement arthroscopic surgeons must be mindful of femoral cam lesion over resection, which could result in iatrogenic femoral neck fracture Notes: DB - Embase UI - 2015441337 CP - United States LG - English PT - Journal: Note EM - 201544 DD - 20151026

(324) Magu NK, Mukhopadhyay R, Gogna P, Singh A, Singla R, Rohilla R. Atraumatic myositis ossificans of iliopsoas excised through an asis osteotomy case report and description of a novel technique. Bulletin of the Hospital for Joint Diseases 73 (1) ()(pp 57-60), 2015 Date of Publication: March 2015 2015;(1):57-60. Ref ID: 146 Abstract: With a well-established incidence of 15% to 20% following a spinal injury, the occurrence of neurogenic myositis ossifi-cans of the hip is quite rare. The most widely accepted theory supporting its occurrence is the repeated microtrauma by forceful passive mobilization during rehabilitation. An extensive involvement around the hip is quite disabling to the patient. We present the case of a 41-year-old man with an extensive involvement of the right iliopsoas following an incident of head injury with no primary injury to the hip, with a disabling restriction of movement. Computed tomography images and its 3D reconstruction were used to define the exact extent of involvement. The mass was excised piece meal using the iliofemoral approach with an osteotomy of the anterior superior iliac spine, which allowed us to have a better visualization to the extensive mass. Postoperatively the patient regained a good range of motion. In addition to adding a rare case of atraumatic myositis ossificans of the iliopsoas to literature, this reports describes a novel approach for its excision Notes: DB - Embase UI - 2015502108 IN - (Magu, Mukhopadhyay, Gogna, Singh, Singla, Rohilla) Department of Orthopaedics, Pt. B.D. Sharma PGIMS, Haryana, India CP - United States LG - English PT - Journal: Article EM - 201547 DD - 20151115

(325) Malliaras P, Hogan A, Nawrocki A, Crossley K, Schache A. Hip flexibility and strength measures: reliability and association with athletic groin pain. Br J Sports Med 2009; 43(10):739-744. Ref ID: 712 Abstract: OBJECTIVE: Groin pain commonly affects football players and can be associated with prolonged recovery periods. Understanding the relationship between groin pain and reliable measures of hip flexibility and strength may facilitate the development of optimal rehabilitation and prevention strategies. In this study, the reliability and association with athletic groin pain of hip flexibility and strength measures were investigated. METHODS: A cohort of 29 football players (15-21 years) participating in junior elite competitions (Australian Rules football and soccer) were recruited. The intra-rater reliability (n=13) and inter-rater reliability (n=12) of various hip flexibility (bent knee fall out test, hip internal rotation, hip external rotation) and strength (hip abduction, hip internal rotation, hip external rotation, hip adduction (squeeze test)) measures were investigated using intraclass correlation coefficients (ICC). Reliable hip flexibility and strength measures were compared between football players with (n=10) and without (n=19) groin pain. RESULTS: The bent knee fall out test, hip internal rotation flexibility and the squeeze test demonstrated acceptable (ICC>0.75) intra-rater and inter-rater reliability, while hip external rotation flexibility and hip abduction strength demonstrated acceptable intra-rater but not inter-rater reliability. Hip internal and external rotation strength tests were not found to be reliable. Football players with groin pain had significantly reduced force production on the squeeze test (p>0.05). CONCLUSION: Several hip flexibility and strength measures were found to be reliable. Only the squeeze test discriminated between football players with and without groin pain Notes: DA - 20091007 IS - 1473-0480 (Electronic) IS - 0306-3674 (Linking) LA - eng PT - Evaluation Studies PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(326) Mamisch TC, Kim YJ, Richolt JA, Millis MB, Kordelle J. Femoral morphology due to impingement influences the range of motion in slipped capital femoral epiphysis. Clin Orthop Relat Res 2009; 467(3):692-698. Ref ID: 725 Abstract: Femoroacetabular impingement due to metaphyseal prominence is associated with the slippage in patients with slipped capital femoral epiphysis (SCFE), but it is unclear whether the changes in femoral metaphysis morphology are associated with range of motion (ROM) changes or type of impingement. We asked whether the femoral head-neck junction morphology influences ROM analysis and type of impingement in addition to the slip angle and the acetabular version. We analyzed in 31 patients with SCFE the relationship between the proximal femoral morphology and limitation in ROM due to impingement based on simulated ROM of preoperative CT data. The ROM was analyzed in relation to degree of slippage, femoral metaphysis morphology, acetabular version, and pathomechanical terms of "impaction" and "inclusion." The ROM in the affected hips was comparable to that in the unaffected hips for mild slippage and decreased for slippage of more than 30 degrees. The limitation correlated with changes in the metaphysic morphology and changed acetabular version. Decreased head-neck offset in hips with slip angles between 30 degrees and 50 degrees had restricted ROM to nearly the same degree as in severe SCFE. Therefore, in addition to the slip angle, the femoral metaphysis morphology should be used as criteria for reconstructive surgery Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(327) Mannion AF, Impellizzeri FM, Naal FD, Leunig M. Fulfilment of patient-rated expectations predicts the outcome of surgery for femoroacetabular impingement. Osteoarthritis and Cartilage 21 (1) ()(pp 44-50), 2013 Date of Publication: January 2013 2013;(1):44-50. Ref ID: 324 Abstract: Objective: The aim of this study was to explore the role of expectations in relation to patient-rated global treatment outcome in patients undergoing hip preservation surgery for femoroacetabular impingement (FAI). Method: Pre-operatively, 86 patients completed the Oxford Hip Score (OHS), a question about the motivation for undergoing surgery, and Likert-scales rating the improvement expected in various domains (pain, general function, sport, walking capacity, independence, social function, mental well-being). 12-months post-operatively, they rated the actual perceived improvement in each domain and the global outcome of surgery (GTO, 5-point Likert-scale: operation " helped a lot" through to " made things worse" ), and completed the OHS again. Results: The most frequent " top reason" for surgery was " alleviation of pain" , being indicated by 33% patients; 20% patients chose " fear of worsening" , 16% " improvement in everyday activities" , 11% " other therapies failed" , 10% " improvement in sporting activities" and 10% other. The 12-month data revealed prior expectations had been overly optimistic in more than 50% patients for hip pain, sport, and general physical capacity, and in 33-45% patients for independence, mental well-being, and walking capacity. Multiple regression revealed significant (P<0.05) unique associations between GTO and " fulfilled expectations" for pain and sport (explaining 47% and 12% variance, respectively). Conclusion: Expectations of surgery were overly optimistic. Having one's expectations fulfilled, especially in relation to pain, was important for a good outcome. The results emphasise the benefit of assessing patient-orientated outcome in routine practice and the factors that might influence it, such that realistic expectations can be established for patients prior to surgery. Â© 2012 Osteoarthritis Research Society International Notes: DB - Embase UI - 2013014619 IN - (Mannion, Impellizzeri) Department of Research and Development, Schulthess Clinic, Zurich, Switzerland (Naal, Leunig) Department of Orthopaedic Surgery, Schulthess Clinic, Zurich, Switzerland CP - United Kingdom LG - English PT - Journal: Article EM - 201303 DD - 20130114

(328) Marchetti E, Krantz N, Berton C, Bocquet D, Fouilleron N, Migaud H et al. Component impingement in total hip arthroplasty: Frequency and risk factors. A continuous retrieval analysis series of 416 cup. Orthopaedics and Traumatology: Surgery and Research 97 (2) ()(pp 127-133), 2011 Date of Publication: April 2011 2011;(2):127-133. Ref ID: 410 Abstract: Introduction: Impingement is a factor of failure in total hip replacement (THR), causing instability and early wear. Its true frequency is not known; cup-retrieval series reported rates varying from 27 to 84%. Hypothesis: The hypothesis was that a large continuous series of THR cup removals would help determine the frequency of component impingement. Objectives: The hypothesis was tested on a continuous retrospective series of cups removed in a single center, with a secondary objective of identifying risk factors. Materiel and methods: Macroscopic examination looked for component impingement signs in 416 cups retrieved by a single operator between 1989 and 2004. Risk factors were investigated by uni- and multivariate analyses in the 311 cases for which there were complete demographic data. In these 311 cases, removal was for aseptic loosening (131 cases), infection (43 cases), instability (56 cases), osteolysis (28 cases) or unexplained pain (48 cases); impingement was explicitly implicated in only five cases (1.6%), always with hard-on-hard bearing components. Results: Impingement was found in 214 of the 416 cups (51.4%) and was severe (notch > 1. mm) in 130 (31.3%). In the subpopulation of 311 cups, impingement was found in 184 cases (59.2%) and was severe in 109 (35%). Neither duration of implant use nor cup diameter or frontal orientation emerged as risk factors. On univariate analysis, impingement was more frequently associated with revision for instability, young patient age at THR, global hip range of motion >200degree or use of an extended femoral head flange (or of an elevated antidislocation rim liner), and was more severe in case of head/neck ratio < 2. On multivariate analysis, only use of an extended head flange (RR 3.2) and revision for instability (RR 4.2) remained as independent risk factors for impingement. Discussion: Component impingement is frequently observed in cups after removal, but is rarely found as a direct indication for revision, except in case of hard-on-hard friction couples (polyethylene being the most impingement-tolerant material). Systematic use of extended head flanges and elevated antidislocation rims is not to be recommended, especially in case of excessive ROM. A good head/neck ratio should be sought, notably by increasing the head diameter in less impingement-tolerant hard-on-hard friction couples. Although not identified as a risk factor in the present study, implant orientation should be checked; computer-assisted surgery can be useful in this regard, for adaptation to the patient's individual range-of-motion cone. Level of evidence: Level IV, retrospective observational study. Â© 2011 Elsevier Masson SAS Notes: DB - Embase UI - 2011195197 IN - (Marchetti, Krantz, Berton, Bocquet, Fouilleron, Migaud, Girard) Lille-Nord-de-France University, 59000 Lille, France (Marchetti, Krantz, Berton, Bocquet, Fouilleron, Migaud, Girard) Orthopaedic department, Roger-Salengro Hospital, Lille University Hospital, Place de Verdun, 59037 Lille, France CP - France LG - English PT - Journal: Article EM - 201100 DD - 20110420

(329) Marchini C, Acler M, Bolognari MA, Causero A, Volpe D, Regis D et al. Efficacy of botulinum toxin type A treatment of functional impairment of degenerative hip joint: Preliminary results. J Rehabil Med 2010; 42(7):691-693. Ref ID: 685 Abstract: OBJECTIVE: The aim of this study was to investigate the effect of botulinum toxin type A injection into the adductor muscles in reducing pain and improving joint mobility and quality of life in patients affected by hip osteoarthritis. METHODS: A total of 39 outpatients, mean age 68 years (age range 41-82 years), were evaluated using the Harris Hip Score to test hip function, a visual analogue scale to measure pain intensity and the Short Form 36 (SF-36) questionnaire to assess patient well-being and quality of life at baseline, 2, 4 and 12 weeks after treatment with botulinum toxin type A. A total of 400 U of botulinum toxin type A (Dysport) was injected into the adductor longus muscle and the adductor magnus muscle. RESULTS: The Harris Hip Score increased significantly after 2, 4 and 12 weeks (df 3, chi2 = 45.1; p < 0.0001). A significant decrease in pain intensity was detected at all the follow-up visits, after 2, 4 and 12 weeks (df 3; chi2 = 27.8; p < 0.001). The SF-36 score was significantly higher 4 and 12 weeks after treatment. At each evaluation visit a significant correlation was detected between decreased pain and improved hip mobility. CONCLUSION: Botulinum toxin type A induced a reduction in pain, indicating that this might be an innovative, less invasive treatment in patients affected by severe hip osteoarthritis, with remarkable effects on the clinical management of this disease Notes: DA - 20100706 IS - 1651-2081 (Electronic) IS - 1650-1977 (Linking) LA - eng PT - Journal Article PT - Multicenter Study RN - 0 (Neuromuscular Agents) RN - EC 3.4.24.69 (Botulinum Toxins, Type A) SB - IM

(330) Mardones RM, Gonzalez C, Chen Q, Zobitz M, Kaufman KR, Trousdale RT. Surgical treatment of femoroacetabular impingement: evaluation of the effect of the size of the resection. J Bone Joint Surg Am 2005; 87(2):273-279. Ref ID: 757 Abstract: BACKGROUND: In patients with symptomatic hip impingement, surgical resection of the femoral head-neck junction may improve the range of motion and relieve pain. A risk of this procedure is fracture. We evaluated the amount of resection of the anterolateral aspect of the femoral head-neck junction that can be done safely. METHODS: Cadaveric proximal femoral specimens (fifteen matched pairs) were divided into three groups: 10%, 30%, or 50% of the diameter of one femoral neck was removed, and the contralateral femoral neck was left intact to serve as the control. A compressive load was applied directly to the femoral head. Peak load, stiffness, and energy to fracture were compared among the groups. RESULTS: The energy to fracture differed significantly (p = 0.0015) among the 10%, 30%, and 50% resection groups. The peak load after the 50% resection was significantly less (p = 0.0025) than that after the 10% or 30% resection. With the numbers available, there was no significant difference in peak load between the 10% and 30% resections. CONCLUSIONS: Resection of up to 30% of the anterolateral quadrant of the head-neck junction did not significantly alter the load-bearing capacity of the proximal part of the femur. However, a 30% resection significantly decreased the amount of energy required to produce a fracture. Thirty percent should be considered to be the greatest feasible amount of resection because of the change in the pattern of the femoral head-neck response to axial loads that we observed Notes: DA - 20050202 IS - 0021-9355 (Print) LA - eng PT - Clinical Trial PT - Journal Article PT - Randomized Controlled Trial SB - AIM SB - IM

(331) Mardones RM, Gonzalez C, Chen Q, Zobitz M, Kaufman KR, Trousdale RT. Surgical treatment of femoroacetabular impingement: evaluation of the effect of the size of the resection. Surgical technique. J Bone Joint Surg Am 2006; 88 Suppl 1 Pt 1:84-91. Ref ID: 745 Abstract: BACKGROUND: In patients with symptomatic hip impingement, surgical resection of the femoral head-neck junction may improve the range of motion and relieve pain. A risk of this procedure is fracture. We evaluated the amount of resection of the anterolateral aspect of the femoral head-neck junction that can be done safely. METHODS: Cadaveric proximal femoral specimens (fifteen matched pairs) were divided into three groups: 10%, 30%, or 50% of the diameter of one femoral neck was removed, and the contralateral femoral neck was left intact to serve as the control. A compressive load was applied directly to the femoral head. Peak load, stiffness, and energy to fracture were compared among the groups. RESULTS: The energy to fracture differed significantly (p = 0.0015) among the 10%, 30%, and 50% resection groups. The peak load after the 50% resection was significantly less (p = 0.0025) than that after the 10% or 30% resection. With the numbers available, there was no significant difference in peak load between the 10% and 30% resections. CONCLUSIONS: Resection of up to 30% of the anterolateral quadrant of the head-neck junction did not significantly alter the load-bearing capacity of the proximal part of the femur. However, a 30% resection significantly decreased the amount of energy required to produce a fracture. Thirty percent should be considered to be the greatest feasible amount of resection because of the change in the pattern of the femoral head-neck response to axial loads that we observed Notes: DA - 20060302 IS - 0021-9355 (Print) LA - eng PT - Journal Article PT - Review SB - IM

(332) Marin-Pena O, Horna L, Montoya J, Arce JG, Villalon JM, Chamorro M et al. Prevention of hip injury in high level soccer players. HIP International Conference: 10th Congress of the European Hip Society, EHS 2012 Milan Italy Conference Start: 20120920 Conference End: 20120922 Conference Publication: (var pagings) 22 (4) ()(pp 417), 2012 Date of Publication: July-August 2012 2012;(var.pagings):417-August. Ref ID: 161 Abstract: Introduction: Femoroacetabular impingement (FAI) is an increasing pathology that is relative common in young athletes. High level sports are at high risk of developing this problem. Some publications have reported that early detection is an important factor. Objectives: The aim of the study is to establish an easy screening manoeuver to detect young athletes at risk of developing hip injuries secondary to FAI in high level soccer players. Methods: We present a prospective study of 49 high level soccer players (Professional First Division Teams of National Soccer League). All players were 14-15 years and practice soccer frequently (at least 5 times a week). We collected data from the physical exam at the beginning of the soccer season. We registered results from Impingent test, Apprehension test, Dial Test, Roll test, FABER test, internal rotation (decubito prono, supine and sitting position) and flexion. At the end of the season, all medical reports were collected. SPS 15.0 software was used for the statistical analysis of the data. Non-parametric tests were used. Results: During the whole season, 32% of the players had an injury around the hip that required medical treatment with stop soccer practice for a period longer than 1 week. Medical reports described adductor lesions (24%), pubalgia (4%) and sartorius injury. 86% of these players presented a limitation of internal rotation, asymmetry in dial test and FABER test at the beginning of the study. Only 26% of the remaining players who did not develop any lesion around the hip, presented same physical exam at the beginning of the season (p<0.05). We took AP Pelvis, axial and cross table view in this hip injured players and all but one presented any radiological sign of Pincer or Cam type of FAI. Conclusions: Internal rotation limitation, asymmetry in dial test and asymmetry in FABER test detected at the initial physical exam of the season in high level soccer players, should be considered as a high risk factor for developing an injury around the hip during the season. Special training protocols should be considered in these high risk athletes to avoid hip injuries Notes: DB - Embase UI - 71960071 IN - (Marin-Pena, Horna, Montoya, Larrainzar) Orthopaedic and Traumatology Department, University Hospital Infanta Leonor, Madrid, Spain (Arce) University Hospital Infanta Leonor, Madrid, Spain (Villalon) Atletico Madrid F.C. Medical Department, Madrid, Spain (Chamorro, Serratosa) Real Madrid F.C. Medical Department, Madrid, Spain (Ribas) Orthopedic Department, Hip Unit, University Institute Dexeus, Barcelona, Spain LG - English PT - Journal: Conference Abstract EM - 201532 DD - 20150728

(333) Markh A, Stern M. A case of postpartum pubic symphysis diastasis and the role of physiatry in restoring function. American Journal of Physical Medicine & Rehabilitation 2014; 63(suppl). Ref ID: 2

(334) Marshall P, Murphy B. The Effect of Sacroiliac Joint Manipulation on Feed-Forward Activation Times of the Deep Abdominal Musculature. Journal of Manipulative and Physiological Therapeutics 29 (3) ()(pp 196-202), 2006 Date of Publication: March/April 2006 2006;(3):196-202. Ref ID: 497 Abstract: Objectives: To determine the incidence of delayed feed-forward activation (FFA) times in a group of healthy young males; to retest those subjects who showed delayed FFA after 6 months to determine the reliability of the measure in the absence of treatment or injury in the intervening period; and to determine the effect of sacroiliac joint manipulation on delayed FFA times. Methods: Ninety young males were assessed for the FFA of their deep abdominal muscles in relation to rapid upper limb movements. Those who met the criteria for delayed FFA (failure of deep abdominal activation within 50 milliseconds of deltoid activation) were then reassessed 6 months later. These subjects then underwent sacroiliac joint manipulation on the side demonstrating decreased joint movement during hip flexion and lateral flexion. Feed-forward activation times were then reassessed after joint manipulation. Results: Seventeen (18.9%) of 90 subjects met the criteria of impaired FFA. Thirteen of 17 were available to be remeasured at 6-month follow-up. The intraclass correlation coefficient for FFA at this time was greater than 0.70 for all movement directions. There was a significant improvement (38.4%) in FFA times for this group when remeasured immediately after the sacroiliac joint manipulation. Conclusions: Delayed FFA is a highly reproducible measure at long-term follow-up. This technique appears to be a sensitive marker of the neural effects of sacroiliac joint manipulation. Future prospective studies are needed to determine if delayed FFA times are a marker for those at risk for developing back pain. Â© 2006 National University of Health Sciences Notes: DB - Embase UI - 2006180751 IN - (Marshall) Department of Sport and Exercise Science, The University of Auckland, New Zealand (Murphy) Department of Sport and Exercise Science, The University of Auckland, New Zealand CP - United States LG - English PT - Journal: Article EM - 200600 DD - 20060605

(335) Martin DE, Tashman S. The biomechanics of femoroacetabular impingement. Operative Techniques in Orthopaedics 20 (4) ()(pp 248-254), 2010 Date of Publication: December 2010 2010;(4):248-254. Ref ID: 428 Abstract: Femoroacetabular impingement (FAI) is proposed as a possible biomechanical etiology of early, idiopathic hip osteoarthritis (OA). Two primary mechanisms are proposed: cam impingement and pincer impingement. In cam impingement, an abnormally shaped or excessively large femoral head or neck abuts against the anterosuperior acetabulum. In pincer impingement, overcoverage of the proximal femur by the acetabulum results in impingement. In severe cases, a contre-coup mechanism results in an anterosuperior contact point that functions as a fulcrum and produces posteroinferior impingement as the femoral head is levered out of the acetabulum. However, these proposed mechanisms are made on the basis of surgical observation rather than in vivo documentation of FAI, and controversy exists as to whether surgical interventions should be made on the basis of these theories alone. In this review of FAI biomechanics we discuss the proposed biomechanical mechanisms of FAI, the analytical methods currently available to study FAI biomechanics, and the topics that future biomechanical studies of FAI will need to address. Ultimately, a better understanding the biomechanics of FAI may help physicians design interventions that decrease the risk of progression to hip OA. Â© 2010 Elsevier Inc Notes: DB - Embase UI - 2010687655 IN - (Martin, Tashman) University of Pittsburgh School of Medicine, Department of Orthopaedic Surgery, Pittsburgh, PA, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101223

(336) Martin HD, Kelly BT, Leunig M, Philippon MJ, Clohisy JC, Martin RL et al. The Pattern and Technique in the Clinical Evaluation of the Adult Hip: The Common Physical Examination Tests of Hip Specialists. Arthroscopy - Journal of Arthroscopic and Related Surgery 26 (2) ()(pp 161-172), 2010 Date of Publication: February 2010 2010;(2):161-172. Ref ID: 438 Abstract: Purpose: The purpose of this study was to systematically evaluate the technique and tests used in the physical examination of the adult hip performed by multiple clinicians who regularly treat patients with hip problems and identify common physical examination patterns. Methods: The subjects included 5 men and 6 women with a mean age (+/-SD) of 29.8 +/- 9.4 years. They underwent physical examination of the hip by 6 hip specialists with a strong interest in hip-related problems. All examiners were blind to patient radiographs and diagnoses. Patient examinations were video recorded and reviewed. Results: It was determined that 18 tests were most frequently performed (>40%) by the examiners, 3 standing, 11 supine, 3 lateral, and 1 prone. Of the most frequently performed tests, 10 were performed more than 50% of the time. The tests performed in the supine position were as follows: flexion range of motion (ROM) (percentage of use, 98%), flexion internal rotation ROM (98%), flexion external rotation ROM (86%), passive supine rotation test (76%), flexion/adduction/internal rotation test (70%), straight leg raise against resistance test (61%), and flexion/abduction/external rotation test (52%). The tests performed in the standing position were the gait test (86%) and the single-leg stance phase test (77%). The 1 test in the prone position was the femoral anteversion test (58%). Conclusions: There are variations in the testing that hip specialists perform to examine and evaluate their patients, but there is enough commonality to form the basis to recommend a battery of physical examination maneuvers that should be considered for use in evaluating the hip. Clinical Relevance: Patients presenting with groin, abdominal, back, and/or hip pain need to have a basic examination to ensure that the hip is not overlooked. A comprehensive physical examination of the hip will benefit the patient and the physician and serve as the foundation for future multicenter clinical studies. Â© 2010 Arthroscopy Association of North America Notes: DB - Embase UI - 2010070221 IN - (Martin) Oklahoma Sports Science and Orthopaedics, Oklahoma City, OK, United States (Kelly) Hospital for Special Surgery, New York, NY, United States (Leunig) Schulthess Clinic, Zurich, Switzerland (Philippon) Steadman-Hawkins Research Foundation, Vail, CO, United States (Clohisy) Washington University, St Louis, MO, United States (Martin) University of Pittsburgh Medical Center, Duquesne University, Pittsburgh, PA, United States (Sekiya) MedSport-Department of Orthopaedic Surgery, University of Michigan, Ann Arbor, MI, United States (Pietrobon) Department of Surgery, Duke University Medical Center, Durham, NC, United States (Mohtadi) University of Calgary, Calgary, Alta., Canada (Sampson) Post Street Surgery Center, Total Joint Center, St Francis Memorial Hospital, San Francisco, CA, United States (Safran) Stanford University, Stanford, CA, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100617

(337) Martin RL, Enseki KR, Draovitch P, Trapuzzano T, Philippon MJ. Acetabular labral tears of the hip: examination and diagnostic challenges. J Orthop Sports Phys Ther 2006; 36(7):503-515. Ref ID: 744 Abstract: The purpose of this clinical commentary is to provide an evidence-based review of the examination process and diagnostic challenges associated with acetabular labral tears of the hip. Once considered an uncommon entity, labral tears have recently received wider recognition as a source of symptoms and functional limitation. Information regarding acetabular labral tears and their association to capsular laxity, femoral acetabular impingement (FAI), dysplasia of the acetabulum, and chondral lesions is emerging. Physical therapists should understand the anatomical structures of the hip and recognize how the clinical presentation of labral tears is difficult to view isolated from other hip articular pathologies. Clinical examination should consider lumbopelvic and extra-articular pathologies in addition to intra-articular pathologies when assessing for the source of symptoms and functional limitation. If a labral tear is suspected, further diagnostic testing may be indicated. Although up-and-coming evidence suggests that information obtained from patient history and clinical examination can be useful, continued research is warranted to determine the diagnostic accuracy of our examination techniques Notes: DA - 20060802 IS - 0190-6011 (Print) IS - 0190-6011 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(338) Masse-Alarie H, Beaulieu LD, Preuss R, Schneider C. Task-specificity of bilateral anticipatory activation of the deep abdominal muscles in healthy and chronic low back pain populations. Gait Posture 2015; 41(2):440-447. Ref ID: 549 Abstract: STUDY DESIGN: Cross-sectional study of lumbopelvic muscle activation during rapid limb movements in chronic low back pain (CLBP) patients and healthy controls. INTRODUCTION: Controversy exists over whether bilateral anticipatory activation of the deep abdominal muscles represents a normal motor control strategy prior to all rapid limb movements, or if this is simply a task-specific strategy appropriate for only certain movement conditions. OBJECTIVE: To assess the onset timing of the transversus abdominis/internal oblique muscles (TrA/IO) during two rapid limb movement tasks with different postural demands - bilateral shoulder flexion in standing, unilateral hip extension in prone lying - as well as differences between CLBP and controls. METHODS: Twelve CLBP and 13 controls performed the two tasks in response to an auditory cue. Surface EMG was acquired bilaterally from five muscles, including TrA/IO. RESULTS: In both groups, 50% of bilateral shoulder flexion trials showed bilateral anticipatory TrA/IO activation. This was rare, however, in unilateral hip extension for which only the TrA/IO contralateral to the moving leg showed anticipatory activation. The only significant difference in lumbo-pelvic muscle onset timing between CLBP and controls was a delay in semitendinosus activation during bilateral shoulder flexion in standing. CONCLUSION: Our data suggest that bilateral anticipatory TrA/IO activation is a task-specific motor control strategy, appropriate for only certain rapid limb movement conditions. Furthermore, the presence of altered semitendinosus onset timing in the CLBP group during bilateral shoulder flexion may be reflective of other possible lumbo-pelvic motor control alterations among this population Notes: DA - 20150403 IS - 1879-2219 (Electronic) IS - 0966-6362 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(339) Matava MJ, Patton CM, Luhmann S, Gordon JE, Schoenecker PL. Knee pain as the initial symptom of slipped capital femoral epiphysis: an analysis of initial presentation and treatment. J Pediatr Orthop 1999; 19(4):455-460. Ref ID: 780 Abstract: A retrospective review was performed of 106 patients to determine the effect of knee pain as the initial complaint of slipped capital femoral epiphysis (SCFE). Sixteen (15%) patients had a primary complaint of distal thigh or knee pain or both at initial presentation to our institution or to a referring physician. Ninety (85%) patients described primarily hip, groin, or proximal thigh discomfort. Of the 106 patients with SCFE, 65 patients received no operative treatment before being evaluated at our institution and were the subject of the remainder of the study. Of these, 15 (23%) patients had distal thigh or knee pain or both as their chief complaint (group I), and 50 (77%) patients had hip, groin, or proximal thigh pain (group II). There was no difference between the groups with respect to age, gender, or slip stability. Group I patients were more likely to receive a misdiagnosis (p < 0.05) and undergo unnecessary or uninformative radiographs (p < 0.05). Additionally, patients in group I were found to have slips of greater radiographic severity (p < 0.05). Although not statistically significant, there was a trend for group I patients to experience a longer delay to diagnosis and to require a proximal femoral osteotomy as treatment for their slips. We conclude that isolated distal thigh or knee pain or both is a common presentation of SCFE. Furthermore, this symptom complex, when compared with the more classic presentation of SCFE, leads to higher rates of unnecessary radiographs, misdiagnoses, and severe slips, potentially increasing long-term morbidity Notes: DA - 19990914 IS - 0271-6798 (Print) IS - 0271-6798 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(340) Matheney T, Kim YJ, Zurakowski D, Matero C, Millis M. Intermediate to long-term results following the bernese periacetabular osteotomy and predictors of clinical outcome: surgical technique. J Bone Joint Surg Am 2010; 92 Suppl 1 Pt 2:115-129. Ref ID: 679 Abstract: BACKGROUND: The Bernese periacetabular osteotomy is a commonly used non-arthroplasty option to treat developmental hip dysplasia in symptomatic younger patients. Predicting which hips will remain preserved and which hips will go on to require arthroplasty following periacetabular osteotomy is a major challenge. In the present study, we assessed the intermediate to long-term results following periacetabular osteotomy to demonstrate the clinical outcomes for patients with varying amounts of dysplasia and arthritis. From these results, a probability-of-failure analysis was conducted to predict the likelihood of hip preservation and to improve surgical decision-making. METHODS: Of the 189 hips (in 157 patients) that were treated with periacetabular osteotomy by a single surgeon from May 1991 to September 1998, thirty-one had diagnoses other than developmental hip dysplasia and twenty-three were lost to follow-up. The remaining 135 hips (in 109 patients) were retrospectively reviewed at an average of nine years. Hips were evaluated with use of the pain subscale of the Western Ontario and McMaster Universities Osteoarthritis Index postoperatively as well as with radiographs that were made preoperatively and at one and more than five years postoperatively. Osteotomy failure was defined as a pain score of >/=10 or the need for total hip arthroplasty. RESULTS: One hundred and two hips (76%) remained preserved at an average of nine years, with an average Western Ontario and McMaster Universities pain score of 2.4 of 20. Thirty-three hips (24%) met the failure criteria: seventeen underwent arthroplasty at an average of 6.1 years after the osteotomy, and sixteen had a postoperative pain score of >/=10. Kaplan-Meier analysis with arthroplasty as the end point revealed a survival rate of 96% (95% confidence interval, 93% to 99%) at five years and 84% (95% confidence interval, 77% to 90%) at ten years. Complications occurred in twenty hips. Fifteen hips (11%) were treated with a subsequent arthroscopy because of chondral and/or labral lesions at an average of 6.8 years after the osteotomy. Two independent predictors of failure (defined as arthroplasty or a high pain score) were identified: (1) an age of more than thirty-five years and (2) poor or fair preoperative joint congruency. The probability of failure requiring arthroplasty was 14% for hips with no predictors of failure, 36% for those with one predictor (either an age of more than thirty-five years or poor or fair joint congruency), and 95% for those with both predictors. CONCLUSIONS: The Bernese periacetabular osteotomy can be effective for the treatment of painful hip dysplasia, but complications may be expected in as many as 15% of cases. The ideal candidate is the patient who is less than thirty-five years of age and who has good or excellent hip joint congruency Notes: DA - 20100916 IS - 1535-1386 (Electronic) LA - eng PT - Journal Article SB - AIM SB - IM

(341) Matsuda DK. Acute Iatrogenic Dislocation Following Hip Impingement Arthroscopic Surgery. Arthroscopy - Journal of Arthroscopic and Related Surgery 25 (4) ()(pp 400-404), 2009 Date of Publication: April 2009 2009;(4):400-404. Ref ID: 468 Abstract: This is the first case report of an iatrogenic anterior hip dislocation after arthroscopic surgery for femoroacetabular impingement with over 1 year of follow-up. This case report describes the clinical course of a patient with symptomatic cam-pincer femoroacetabular impingement. She underwent arthroscopic rim trimming, labral debridement after a failed attempt at labral refixation from suture cut-through, and femoral head-neck resection osteoplasty. The procedure involved supranormal hip distraction for extraction of an iatrogenic loose body (detached metallic radiofrequency probe tip). The patient had an anterior hip dislocation in the recovery room. Immediate closed reduction under general anesthesia and bracing were performed but failed despite the ability to obtain a concentric but grossly unstable reduction. After 3 failed attempts, a mini-open capsulorrhaphy was performed that successfully restored stability. Her postoperative management and outcome are presented. All of the major static stabilizers of the hip (osseous, labral, and capsuloligamentous) were surgically altered, and a multifactorial causation is proposed. Lessons learned are discussed in hopes of minimizing the occurrence of this rare but dramatic complication. Â© 2009 Arthroscopy Association of North America Notes: DB - Embase UI - 2009149984 IN - (Matsuda) Department of Orthopedics, Southern California Permanente Group, Kaiser West Los Angeles Medical Center, Los Angeles, CA, United States CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20090416

(342) Matsuda DK. Endoscopic pubic symphysectomy for reclacitrant osteitis pubis associated with bilateral femoroacetabular impingement. Orthopedics 33 (3) , 2010 Date of Publication: 01 Mar 2010 2010;(3). Ref ID: 433 Abstract: This is the first reported case of the completely endoscopic management of osteitis pubis with pubic symphysectomy. A 31-year-old woman suffered from recalcitrant osteitis pubis that had progressed to an end-stage auto-fused condition. Ossified pubic symphyseal fibrocartilage and adjacent heterotopic bone were endoscopically removed as part of a comprehensive surgery that also involved bilateral arthroscopic surgery for symptomatic femoroacetabular impingement. An innovative dual-portal (anterior and supra-pubic) endoscopic technique is presented along with the rationale for the preservation of the inferior (arcuate) pubic ligament and the posterior pubic ligament. Twelve months following this single-stage surgery, the patient reported high satisfaction with decreased pain, improved function, and resolution of a classic waddling gait. The association of intra-articular hip pathology with osteitis pubis is noted. We believe that this minimally invasive bone-conserving surgery may be useful in the management of recalcitrant osteitis pubis and perhaps find broader application in the outpatient endoscopic treatment of athletes afflicted with this condition Notes: DB - Embase UI - 2010163760 IN - (Matsuda) Department of Orthopedics, Southern California Permanente Medical Group, 6041 Cadillac Ave, Los Angeles, CA 90034, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100422

(343) Matsuda DK. The case for cam surveillance: The arthroscopic detection of cam femoroacetabular impingement missed on preoperative imaging and its significance. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (6) ()(pp 870-876), 2011 Date of Publication: June 2011 2011;(6):870-876. Ref ID: 401 Abstract: Classification of femoroacetabular impingement is typically determined by preoperative imaging. Despite measurements such as the alpha angle and anterior offset ratio, cam dysmorphisms may be missed. We present 2 cases of femoroacetabular impingement classified as pincer subtypes where significant cam lesions were not detected until surgery. Arthroscopic cam surveillance includes the intentional visualization of the anterior and lateral proximal head-neck junctional region from the peripheral compartment performed with capsular retraction and/or partial capsulectomy. Static and dynamic cam surveillance of the proximal femur is recommended before the termination of surgery for hip chondrolabral dysfunction and has even greater significance in the arthroscopic management of these patients. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011302830 IN - (Matsuda) Kaiser West Los Angeles Medical Center, 6041 Cadillac Ave, Los Angeles, CA 90034, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110609

(344) Matsuda DK, Carlisle JC, Arthurs SC, Wierks CH, Philippon MJ. Comparative systematic review of the open dislocation, mini-open, and arthroscopic surgeries for femoroacetabular impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 27 (2) ()(pp 252-269), 2011 Date of Publication: February 2011 2011;(2):252-269. Ref ID: 409 Abstract: Purpose: To analyze the current approaches to the surgical management of symptomatic femoroacetabular impingement (FAI). Methods: Thirteen relevant queries were used in four search engines (PubMed, EMBASE, Ovid, and the Cochrane Review) with a resultant 5,856 articles. Eighteen peer-reviewed treatment outcome studies met the inclusion criteria with minimum 1-year follow-up of the surgical treatment of skeletal pathoanatomy and associated chondrolabral pathology in skeletally mature patients with FAI. Results: There were 6 open surgical dislocation, 4 mini-open, and 8 arthroscopic studies, all with Levels of Evidence III or IV. The only prospective studies were in the arthroscopic category. Outcome data were extracted and analyzed with respect to surgical efficacy, failure rates, and complications. Conclusions: The open dislocation, mini-open, and arthroscopic methods for treating symptomatic FAI are effective in improving pain and function in short-term to midterm studies and are relatively safe procedures. The historical gold standard of open dislocation surgery had a comparatively high major complication rate primarily because of trochanteric osteotomyrelated issues. The mini-open method showed comparable efficacy but a significant incidence of iatrogenic injury to the lateral femoral cutaneous nerve in some studies. The arthroscopic method had surgical outcomes equal to or better than the other methods with a lower rate of major complications when performed by experienced surgeons. Level of Evidence Level IV, systematic review of Level III and IV studies. Â© 2011 Arthroscopy Association of North America Notes: DB - Embase UI - 2011054344 IN - (Matsuda) Southern California Permanente Medical Group, Department of Orthopedic Surgery, Kaiser Permanente West Los Angeles Medical Center, 6041 Cadillac Ave, Los Angeles, CA 90045, United States (Carlisle, Wierks, Philippon) Steadman Philippon Research Institute, Vail, CO, United States (Arthurs) Permanente Federation, Oakland, CA, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110214

(345) Matsuda DK, Salvo J, Kelly IV JD. Groin pain in a young man. Orthopedics 35 (9) ()(pp 796-797), 2012 Date of Publication: September 2012 2012;(9):796-797. Ref ID: 341 Notes: DB - Embase UI - 2012544160 IN - (Matsuda) Kaiser Permanente West Los Angeles Medical Center, Los Angeles, CA, United States (Salvo) Rothman Institute, Thomas Jefferson University Hospital, Philadelphia, PA, United States CP - United States LG - English PT - Journal: Article EM - 201241 DD - 20121005

(346) Matsuda DK. Protrusio acetabuli: Contraindication or indication for hip arthroscopy? and the case for arthroscopic treatment of global pincer impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 28 (6) ()(pp 882-888), 2012 Date of Publication: June 2012 2012;(6):882-888. Ref ID: 371 Abstract: Protrusio acetabuli has been considered a contraindication for hip arthroscopy. We present the case of a 33-year-old man with bilateral symptomatic protrusio acetabuli - the most extreme form of global pincer femoroacetabular impingement - and cam femoroacetabular impingement. We demonstrate the feasibility of the arthroscopic correction of severe deformities and describe key surgical steps permitting central compartment access, subtotal acetabuloplasty, labral reconstruction, and femoroplasty of the right hip, followed by later subtotal acetabuloplasty, labral refixation, and femoroplasty of the left hip, with improved outcomes at 2 and 1 years, respectively, as measured by the nonarthritic hip score. Though challenging, global pincer impingement, even acetabular protrusion, may be successfully treated with dual-portal outpatient hip arthroscopy. The modified midanterior portal enables central compartment access and extended posterior "reach" in the arthroscopic treatment of major global pincer femoroacetabular impingement, potentially making this contraindication a historical one while respectfully challenging the "global" recommendation for open surgery in this setting. Â© 2012 Arthroscopy Association of North America Notes: DB - Embase UI - 2012308346 IN - (Matsuda) Kaiser West Los Angeles Medical Center, 6041 Cadillac Ave, Los Angeles, CA 90034, United States CP - United States LG - English PT - Journal: Article EM - 201224 DD - 20120611

(347) Matsuda DK, Safran MR. Arthroscopic internal fixation of osteochondritis dissecans of the femoral head. Orthopedics 36 (5) ()(pp e683-e686), 2013 Date of Publication: May 2013 2013;(5):e683-e686. Ref ID: 307 Abstract: Osteochondritis dessicans of the femoral head is an uncommon problem. Limited literature reports the incidence of osteochondritis dessicans and its treatment. The surgical technique used and outcomes for a 40-year-old man with symptomatic femoral head osteochonditis dissecans who was treated 11 years previously with retrograde drilling and hip arthroscopy are discussed. Despite temporary symptomatic improvement without subchondral collapse after his index procedure, increasing pain a decade later was thought to be caused by a large apical osteochondritic fragment and chondrolabral dysfunction from femoroacetabular impingement. Acetabuloplasty of acetabular overcoverage permitted arthroscopic internal fixation of the bone fragment by improving screw trajectory. Labral refixation and femoroplasty were subsequently performed. At 18-month follow-up, his nonarthritic hip score improved from 53 to 76 and his osteochondritic lesion had healed radiographically. Although clinical improvement with radiographic union has been reported following open screw fixation of femoral head osteochondritis dissecans, to the authors' knowledge this is the first published case with a similar outcome using arthroscopic techniques. Clinical improvement and union of even long-standing osteochondritis dissecans of the femoral head may occur with arthroscopic fragment fixation. Hip arthroscopy may play significant therapeutic and diagnostic roles in the treatment of this condition while offering a less invasive alternative to open osteosynthesis Notes: DB - Embase UI - 2013358222 IN - (Matsuda) Department of Orthopedic Surgery, Kaiser West Los Angeles Medical Center, 6941 Cadillac Ave, Los Angeles, CA 90034, United States (Safran) Department of Orthopedic Surgery, Stanford University, Redwood City, CA, United States CP - United States LG - English PT - Journal: Article EM - 201326 DD - 20130621

(348) Matsuda DK, Schnieder CP, Sehgal B. The critical corner of cam femoroacetabular impingement: Clinical support of an emerging concept. Arthroscopy - Journal of Arthroscopic and Related Surgery 30 (5) ()(pp 575-580), 2014 Date of Publication: May 2014 2014;(5):575-580. Ref ID: 248 Abstract: Purpose The purpose of this study was to evaluate the concept of cam femoroacetabular impingement (FAI) occurring medial to the classic anterolateral (AL) quadrant. Methods Forty-four patients met the inclusion criteria of cam FAI and underwent arthroscopic AL femoroplasty. Goniometric measurements of intraoperative hip internal rotation (HIR) in 90degree of hip flexion and 0degree of adduction were obtained. Thirty patients (14 male and 16 female), comprising the substance of this study, exhibited HIR of less than 40degree after AL femoroplasty and underwent further anteromedial (AM) femoroplasty with subsequent repeat measurement of HIR. Nonparametric statistical analysis was performed. Results Preoperative HIR averaged 20.8degree (range, 10degree to 29degree); intraoperative HIR averaged 29.5degree (range, 18degree to 39degree) after AL femoroplasty and 42.7degree (range, 32degree to 61degree) after additional AM femoroplasty. The gain in HIR after AL femoroplasty was 8.7degree (range, 2degree to 23degree) (P <.0001). The further gain in HIR after AM femoroplasty was 13.2degree (range, 2degree to 22degree) (P <.0001). The overall gain in HIR after AL and AM femoroplasty was 21.9degree (range, 13degree to 38degree) (P <.0001). A consistent landmark termed the resident's ridge of the hip accompanied all cases of AM cam impingement. Conclusions Femoroplasty of the AM "critical corner" may improve cam decompression and supports the concept of cam impingement extending beyond the classic AL quadrant of the proximal femur. Level of Evidence Level IV, therapeutic case series. Â© 2014 by the Arthroscopy Association of North America Notes: DB - Embase UI - 2014250702 IN - (Matsuda, Schnieder) Kaiser West Los Angeles Medical Center, 6041 Cadillac Ave, Los Angeles, CA 90034, United States (Sehgal) Essentia Health, Fargo, ND, United States CP - United States LG - English PT - Journal: Article EM - 201418 DD - 20140424

(349) Matsuda DK, Gupta N, Martin HD. Closed intramedullary derotational osteotomy and hip arthroscopy for cam femoroacetabular impingement from femoral retroversion. Arthroscopy Techniques 3 (1) ()(pp e83-e88), 2014 Date of Publication: February 2014 2014;(1):e83-e88. Ref ID: 252 Abstract: Femoral retroversion is an uncommon cause of cam femoroacetabular impingement that may require surgical treatment beyond arthroscopic or open femoroplasty. We present the case of a young adult with bilateral severe femoral retroversion in whom such treatment failed. We discuss the rationale, surgical technique, and outcome of this patient, who underwent bilateral closed intramedullary derotational proximal femoral osteotomies and interlocked nailing with adjunctive pre- and post-osteotomy hip arthroscopies. Clinical improvement with normal foot progression angles, radiographic union, and resolution of bilateral cam femoroacetabular impingement from femoral retroversion was achieved. This surgery permits rapid institution of weight-bearing ambulation and an early rehabilitative program. Femoral retroversion may be an underappreciated and insufficiently treated cause of cam femoroacetabular impingement that may be readily detected and successfully remedied with this less invasive procedure. Â© 2014 Arthroscopy Association of North America Notes: DB - Embase UI - 2014194809 IN - (Matsuda) Kaiser West Los Angeles Medical Center, Los Angeles, CA, United States (Gupta) Jefferson Medical College, Philadelphia, PA, United States (Martin) Baylor University Medical Campus, Dallas, TX, United States CP - France LG - English PT - Journal: Article EM - 201415 DD - 20140404

(350) Matsushita A, Nakashima Y, Fujii M, Sato T, Iwamoto Y. Modular necks improve the range of hip motion in cases with excessively anteverted or retroverted femurs in THA. Clinical Orthopaedics and Related Research 468 (12) ()(pp 3342-3347), 2010 Date of Publication: December 2010 2010;(12):3342-3347. Ref ID: 425 Abstract: Background: Anteversion of an acetabular component often is difficult to ascertain in patients with THA in whom excessively anteverted or retroverted femurs may result in limited ROM or risk of dislocation. Restriction of motion, however, is determined by the combination of version of both components. Questions/purposes: We therefore determined the combined anteversion values that provide adequate ROM. We varied acetabular version by differing implantations and varied femoral version with modular necks. Methods: ROM was tested by changing cup anteversion after setting the femoral version to 20degree or 60degree anteversion or 20degree retroversion. The angle of the modular neck was adjusted in 11 increments of 5degree each. Range of internal rotation (IR) at 90degree flexion, external rotation (ER) at 0degree extension, and flexion (Flex) were measured when any impingement occurred before dislocation. We defined a required ROM as having 40degree IR, 30degree ER, and 110degree Flex. Results: At 60degree anteversion, ER was less than 10degree even when the acetabular component was set at 10degree retroversion because of posterior impingement. When a modular neck with 25degree retroversion was used, ER improved to greater than 30degree. At 20degree retroversion, IR was 31degree even when the acetabular component was opened to 35degree anteversion. IR improved to 34degree and 40degree with 20degree and 25degree anteverted modular necks, respectively. Conclusions and Clinical Relevance: In cases with excessive femoral anteversion or retroversion, the required ROM could not be achieved by simply changing the version of acetabular components. The adjustment of femoral versions using the modular necks allowed additional improvement of ROM. Â© 2010 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2010641539 IN - (Matsushita, Nakashima, Fujii, Sato, Iwamoto) Department of Orthopedic Surgery, Graduate School of Medical Sciences, Kyushu University, 3-1-1 Maidashi, Higashi-ku, Fukuoka 812-8582, Japan CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101206

(351) Mauntel TC, Begalle RL, Cram TR, Frank BS, Hirth CJ, Blackburn T et al. The effects of lower extremity muscle activation and passive range of motion on single leg squat performance. Journal of Strength and Conditioning Research 27 (7) ()(pp 1813-1823), 2013 Date of Publication: July 2013 2013;(7):1813-1823. Ref ID: 253 Abstract: Knee valgus is a potential risk factor for lower extremity (LE) injuries. Clinical movement screenings and passive range of motion (PROM) measurements may help identify neuromuscular patterns, which contribute to knee valgus. The purpose of this study was to compare LE muscle activation and PROM between subjects who display visual medial knee displacement (MKD) during a single leg squat (SLS) and those who do not. We hypothesized that muscular activation and PROM would differ between the groups. Forty physically active adults (20 controls, 20 MKDs) participated in this study. Subjects completed 10 LE PROM assessments and performed 5 SLS trials while electromyography (EMG) data were collected from 8 LE muscles. Three separate multivariate analysis of variance were used to identify group differences in EMG data, muscle coactivation, and PROM. Results during the SLS indicated hip coactivation ratios revealed smaller gluteus medius to hip adductor (GMed:Hip Add) (p = 0.028) and gluteus maximus to hip adductor (GMax:Hip Add) coactivation ratios (p = 0.007) compared with the control group. Also, the MKD group displayed significantly less passive ankle dorsiflexion with the knee extended (p = 0.047) and flexed (p = 0.034), and greater talar glide motion (p = 0.012). The findings of this study indicate that MKD during a SLS seems to be influenced by decreased coactivation of the gluteal to the hip adductor muscles and restricted dorsiflexion. Therefore, conditioning, rehabilitation, and injury prevention programs should focus on decreasing hip adductor activity, increasing hip abductor and external rotator activity, and increasing ankle dorsiflexion in hopes to decrease the incidence of these injuries. Â© 2013 National Strength and Conditioning Association Notes: DB - Embase UI - 23096063 IN - (Mauntel, Begalle, Cram, Frank, Hirth, Blackburn, Padua) Sports Medicine Research Laboratory, Department of Exercise and Sport Science, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States LG - English PT - : Article EM - 201414 DD - 20140328

(352) Mayes S, Ferris AR, Smith P, Garnham A, Cook J. Similar Prevalence of Acetabular Labral Tear in Professional Ballet Dancers and Sporting Participants. Clin J Sport Med 2015. Ref ID: 535 Abstract: OBJECTIVE: To compare the prevalence of acetabular labral tear in male and female professional ballet dancers with age-matched and sex-matched sporting participants and to determine the relationship to clinical findings and cartilage defects. DESIGN: Case-control study. SETTING: Clinical and radiology practices. PARTICIPANTS: Forty-nine (98 hips) male and female professional ballet dancers (current and retired) with median age 30 years (range: 19-64 years) and 49 (98 hips) age-matched and sex-matched sporting participants. INDEPENDENT VARIABLES: Group (ballet or sports), sex, age, hip cartilage defects, history of hip pain, Hip and Groin Outcome Score, passive hip internal rotation (IR), and external rotation range of movement (ROM). MAIN OUTCOME MEASURES: Labral tear identified with 3T magnetic resonance imaging (MRI). RESULTS: Labral tears were identified in 51% of all 196 hips. The prevalence did not differ significantly between the ballet and sporting participants (P = 0.41) or between sexes (P = 0.34). Labral tear was not significantly associated with clinical measures, such as pain and function scores or rotation ROM (P > 0.01 for all). Pain provocation test using IR at 90 degrees of hip flexion had excellent specificity [96%, 95% confidence intervals (CIs), 0.77%-0.998%] but poor sensitivity (50%, 95% CI, 0.26%-0.74%) for identifying labral tear in participants reporting hip pain. Older age and cartilage defect presence were independently associated with an increased risk of labral tear (both P < 0.001). CONCLUSIONS: The prevalence of labral tear in male and female professional ballet dancers was similar to a sporting population. Labral tears were not associated with clinical findings but were related to cartilage defects, independent of aging. CLINICAL RELEVANCE: Caution is required when interpreting MRI findings as labral tear may not be the source of the ballet dancer's symptoms Notes: DA - 20151029 IS - 1536-3724 (Electronic) IS - 1050-642X (Linking) LA - ENG PT - JOURNAL ARTICLE

(353) McArthur JR, Costa M, Griffin DR, Krikler SJ, Parsons N, Foguet PR. Groin pain following hip resurfacing: a case-control study. Hip Int 2011; 21(5):602-609. Ref ID: 657 Abstract: We compared 47 patients with groin pain following hip resurfacing to a matched control group. Functional scores and plain radiographs were assessed along with measurement of whole blood cobalt and chromium by inductively coupled mass spectrometry. Symptomatic patients underwent ultrasound scan of the affected hip. Mean functional outcomes were poor in those with pain and good in the control group. Groin pain was associated with valgus stem positioning and lower neck:head ratio (relatively narrow neck) (p=0.03, p=0.04 respectively). We classified patients with groin pain into two groups: biological and mechanical. The biological group had soft tissue abnormalities on USS and higher levels of cobalt and chromium (p=0.04, p=0.05 respectively). The mechanical group had normal USS, lower metal ion levels and more retroverted femoral components (p=0.01) Notes: DA - 20111010 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Comparative Study PT - Journal Article RN - 0R0008Q3JB (Chromium) RN - 3G0H8C9362 (Cobalt) SB - IM

(354) McCarthy JC, Jarrett BT, Ojeifo O, Lee JA, Bragdon CR. What factors influence long-term survivorship after hip arthroscopy? Clin Orthop Relat Res 2011; 469(2):362-371. Ref ID: 678 Abstract: BACKGROUND: Hip arthroscopy is an evolving procedure. One small study suggested that a low modified Harris hip score and arthritis at the time of surgery were predictors of poor prognosis. QUESTIONS/PURPOSES: We therefore intended to confirm those findings with a large patient cohort to (1) determine the long-term nonarthritic hip score; (2) determine survivorship; (3) identify risk factors that increase the likelihood of THA; and (4) use those factors to create a usable risk assessment algorithm. PATIENTS AND METHODS: We retrospectively reviewed 324 patients (340 hips) who underwent arthroscopy for pain and/or catching. Of these, 106 patients (111 hips or 33%) had a minimum followup of 10 years (mean, 13 years; range, 10-20 years). The average age was 39 years (+/- 13) with 47 men and 59 women. We recorded patient age, gender, acetabular and femoral Outerbridge grade at surgery, and the presence of a labral tear. Followup consisted of a nonarthritic hip score or the date of a subsequent THA. We determined survivorship with the end point of THA for the acetabular and femoral Outerbridge grades. RESULTS: Overall survivorship among the 111 hips was 63% at 10 years. The average nonarthritic hip score for non-THA patients was 87.3 (+/- 12.1). Survivorship was greater for acetabular and femoral Outerbridge grades normal through II. Age at arthroscopy and Outerbridge grades independently predicted eventual THA. Gender and the presence of a labral tear did not influence long-term survivorship. CONCLUSIONS: The long-term survivorship of labral tears with low-grade cartilage damage indicates hip arthroscopy is reasonable for treating labral tears. LEVEL OF EVIDENCE: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence Notes: DA - 20110111 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(355) McDonnell LK, Hume PA, Nolte V. Rib stress fractures among rowers: definition, epidemiology, mechanisms, risk factors and effectiveness of injury prevention strategies. Sports Med 2011; 41(11):883-901. Ref ID: 655 Abstract: Rib stress fractures (RSFs) can have serious effects on rowing training and performance and accordingly represent an important topic for sports medicine practitioners. Therefore, the aim of this review is to outline the definition, epidemiology, mechanisms, intrinsic and extrinsic risk factors, injury management and injury prevention strategies for RSF in rowers. To this end, nine relevant books, 140 journal articles, the proceedings of five conferences and two unpublished presentations were reviewed after searches of electronic databases using the keywords 'rowing', 'rib', 'stress fracture', 'injury', 'mechanics' and 'kinetics'. The review showed that RSF is an incomplete fracture occurring from an imbalance between the rate of bone resorption and the rate of bone formation. RSF occurs in 8.1-16.4% of elite rowers, 2% of university rowers and 1% of junior elite rowers. Approximately 86% of rowing RSF cases with known locations occur in ribs four to eight, mostly along the anterolateral/lateral rib cage. Elite rowers are more likely to experience RSF than nonelite rowers. Injury occurrence is equal among sweep rowers and scullers, but the regional location of the injury differs. The mechanism of injury is multifactorial with numerous intrinsic and extrinsic risk factors contributing. Posterior-directed resultant forces arising from the forward directed force vector through the arms to the oar handle in combination with the force vector induced by the scapula retractors during mid-drive, or repetitive stress from the external obliques and rectus abdominis in the 'finish' position, may be responsible for RSF. Joint hypomobility, vertebral malalignment or low bone mineral density may be associated with RSF. Case studies have shown increased risk associated with amenorrhoea, low bone density or poor technique, in combination with increases in training volume. Training volume alone may have less effect on injury than other factors. Large differences in seat and handle velocity, sequential movement patterns, higher elbow-flexion to knee-extension strength ratios, higher seat-to-handle velocity during the initial drive, or higher shoulder angle excursion may result in RSF. Gearing may indirectly affect rib loading. Increased risk may be due to low calcium, low vitamin D, eating disorders, low testosterone or use of depot medroxyprogesterone injections. Injury management involves 1-2 weeks cessation of rowing with analgesic modalities followed by a slow return to rowing with low-impact intensity and modified pain-free training. Some evidence shows injury prevention strategies should focus on strengthening the serratus anterior, strengthening leg extensors, stretching the lumbar spine, increasing hip joint flexibility, reducing excessive protraction, training with ergometers on slides or floating-head ergometers, and calcium and vitamin D supplementation. Future research should focus on the epidemiology of RSF over 4-year Olympic cycles in elite rowers, the aetiology of the condition, and the effectiveness of RSF prevention strategies for injury incidence and performance in rowing Notes: DA - 20111011 IS - 1179-2035 (Electronic) IS - 0112-1642 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Review SB - IM

(356) Meding JB, Meding LK, Keating EM, Berend ME. Low incidence of groin pain and early failure with large metal articulation total hip arthroplasty. Clinical Orthopaedics and Related Research 470 (2) ()(pp 388-394), 2012 Date of Publication: February 2012 2012;(2):388-394. Ref ID: 377 Abstract: Background: Large-diameter metal-on-metal articulations reportedly improve stability and wear in THAs. However, some reports suggest some patients have unexplained hip and early failures with these implants. Thus, the potential benefits may be offset by these concerns. However, the incidence of these problems is not clearly established. Questions/purposes: We therefore assessed hip pain, function, osteolysis, and complications in patients with large-diameter metal-on-metal THA. Patients and Methods: We retrospectively reviewed 611 patients who had 681 large-diameter metal-on-metal THAs with the same cup and head design. The average age at operation was 62 years, 53% of the THAs were in men, and the average body mass index was 32 kg/m<sup>2</sup>. The diagnosis was osteoarthritis in 92% of the THAs. The minimum followup was 24 months (mean, 37 months; range, 24-60 months). Results: Nine of the 611 patients (1.5%) experienced moderate or severe pain in the hip region that we considered to be coming from an extraarticular source in each case. Harris hip scores for pain averaged 42 points. Total Harris hip scores averaged 93 points. Cup abduction averaged 42degree, and cup anteversion averaged 26degree. There were no infections. Three cups (0.4%) were considered radiographically loose. All were secondary to inadequate seating of the shell. Conclusion: Our observations suggest with this implant the concerns of higher incidences of groin pain, early failures, and adverse tissue reactions were not confirmed. Early successes or failures with large-diameter metal-on-metal articulations may be implant specific. Level of Evidence: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2011 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2012082676 IN - (Meding, Meding, Keating, Berend) Center for Hip and Knee Surgery, St Francis Hospital Mooresville, 1199 Hadley Road, Mooresville, IN 46158, United States CP - United States LG - English PT - Journal: Conference Paper EM - 201208 DD - 20120222

(357) Meeuwisse WH. Risk factors for groin strain injury in the National Hockey League. Clinical Journal of Sports Medicine 2002; 12(1):65-66. Ref ID: 57 Notes: IS - 1 CY - ;

(358) Mei-Dan O, McConkey MO, Young DA. Improved Limb Positioning and Hip Access During Hip Arthroscopy With Articulated Traction Device. Arthroscopy Techniques 2 (1) ()(pp e51-e54), 2013 Date of Publication: February 2013 2013;(1):e51-e54. Ref ID: 285 Abstract: Surgeons use hip arthroscopy to address intra-articular pathology of the hip. To access the central compartment, traction must be applied to the leg. Various types of equipment and techniques have been used, but many have limitations. Improved ability to assess the offending pathology is achieved with improved ability to move the hip joint in space during surgery. Dynamic assessment of femoroacetabular impingement allows the surgeon to gauge the adequacy of resection. We describe the use of an articulated traction device that allows complete surgeon control over the leg position, as well as the freedom to place the leg in virtually any position with ease, unencumbered by the mechanics of a standard traction table. This device provides the surgeon with an improved ability to dynamically assess the hip and removes some of the responsibility of the operating room staff for intraoperative leg positioning. Â© 2013 Arthroscopy Association of North America Notes: DB - Embase UI - 2013206440 IN - (Mei-Dan, McConkey) Department of Orthopaedics, Division of Sports Medicine and Hip Preservation, University of Colorado, Denver, CO, United States (Young) Melbourne Orthopaedic Group, Melbourne, Australia CP - France LG - English PT - Journal: Article EM - 201317 DD - 20130418

(359) Mei-Dan O, McConkey MO, Knudsen JS, Brick MJ. Bilateral hip arthroscopy under the same anesthetic for patients with symptomatic bilateral femoroacetabular impingement: 1-year outcomes. Arthroscopy 2014; 30(1):47-54. Ref ID: 592 Abstract: PURPOSE: The purpose of this study was to investigate whether, in patients with bilateral symptomatic femoroacetabular impingement, bilateral surgery under 1 anesthetic is safe and efficacious and allows a rapid return of function compared with staged procedures. METHODS: Three groups were evaluated: in group 1 both hips were treated simultaneously, in group 2 both hips were treated in a staged fashion, and in group 3 a single hip was addressed. The outcome measures were anesthesia and surgical times; time in the hospital; visual analog scale score for pain on postoperative days 1, 3, 7, and 30; analgesic use; and time until the patient could bike, drive, perform office work, perform gym activities, run, and return to play. Midterm evaluation was performed with the Non-Arthritic Hip Score and Western Ontario and McMaster Universities Osteoarthritis Index score at 6 and 12 months postoperatively. RESULTS: We enrolled 76 patients (122 hips) in this study. There were 42 male and 34 female patients. The mean age was 33 years (range, 14 to 50 years), and the mean body mass index was 24 (range, 18 to 35). Group 1 comprised 26 patients (52 hips, 16 male and 10 female patients). Group 2 comprised 20 patients (40 hips, 13 male and 7 female patients), with a mean time between surgeries of 14.56 weeks. Group 3 comprised 33 patients (30 hips, 13 male and 17 female patients). No preoperative differences were found between the groups. The surgical and anesthesia times in group 1 were significantly longer than those in groups 2 and 3. We found no significant differences in postoperative visual analog scale scores, analgesic use, or length of hospital stay. Group 1 required more time before patients were able to ride a stationary bicycle (14.7 days in group 1, 7.8 days in group 2, and 8.5 days in group 3; P < .05). We found no differences between the groups regarding when patients returned to driving, performing office work, or reporting a normal gait. Each group had significant improvements in the Western Ontario and McMaster Universities Osteoarthritis Index and Non-Arthritic Hip Score at 6 and 12 months compared with preoperatively (P < .05). No significant differences in outcome scores were found in the 3 groups before surgery and at 6 or 12 months after surgery. CONCLUSIONS: Simultaneous femoroacetabular impingement surgery does not lead to higher rates of complications, postoperative pain, analgesic use, or side effects. The return to daily activities is similar to a single-hip procedure with the advantage of a single rehabilitation. LEVEL OF EVIDENCE: Level III, retrospective comparative study Notes: DA - 20140103 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(360) Melville P, Engstrom C, Bailey D, Daley S. Femoroacetabular impingement in former high performance male Water Polo players. Journal of Science and Medicine in Sport Conference: Be Active 2012 Sydney, NSW Australia Conference Start: 20121031 Conference End: 20121103 Conference Publication: (var pagings) 15 ()(pp S243), 2012 Date of Publication: December 2012 2012;(var.pagings):S243. Ref ID: 323 Abstract: Introduction: Symptomatic femoroacetabular impingement (FAI) has been reported in athletes participating in sports such as ice hockey, AFL and martial arts that involve strenuous, repetitive end range hip flexion and internal rotation. The present study involves baseline magnetic resonance (MR) imaging analyses of male Water Polo players to examine the morphology of the femoral head neck region indicative of FAI status (cam lesion) and asymmetry of individual hip muscles. Methods: Bilateral 3D weDESS MR images of the femoral head neck region using a 3T system were obtained in former male high performance Water Polo players (30+4 years, 16+5 years playing history; N=9; self-reported "hip" or "groin" pain [N=5]). Images were processed in OSIRIX using multiplanar reconstruction (MPR) to visualise the circumference of the femoral head neck junction. Alpha angle (alpha degree) measures were performed on the femoral head neck junction in the superior-posterior, superior, anterior-superior, anterior and antero-inferior regions from the MPR images; alpha degree>60degree was deemed to indicate the presence of cam lesion morphology which was further qualitatively graded as a small (SHNO) or a large (LHNO) reduction in head neck offset. Results: Overall, 8/9 (89%) of the examined players had alpha degree >60degreeconsistent with the presence of cam lesion morphology in one or both hips, 5/8 (63%) players had a LHNO grading. The cam lesion deformities were primarily located in the anterosuperior region. All five players with a reported history of "hip" or "groin" pain had MR evidence of cam lesion morphology with 3/5 (60%) having a LHNO in the symptomatic hip/s. In the 4 players not reporting a history of hip or groin pain, 3 had alpha degree>60degree in one or both hips. A number of bilateral volume asymmetries were also identified in muscles such as the tensor fascia latae and gluteus maximus (inferior fibres) in the Water Polo players. Discussion: It is interesting to speculate that the high prevalence ofcamlesions,commonlynoted in athletes with symptomatic FAI, in this cohort of former male high performance Water Polo players maybe associated with the strenuous, repetitive hip flexion and internal rotation inherent in the eggbeater kick. The current study provides valuable baseline data for future MR investigations of FAI in Water Polo players Notes: DB - Embase UI - 70968686 IN - (Melville, Engstrom, Bailey) University of Queensland, Australia (Daley) QAS Centre of Excellence for Applied Sport Science Research, Australia LG - English PT - Journal: Conference Abstract EM - 201304 DD - 20130117

(361) Mendiguchia J, Brughelli M. A return-to-sport algorithm for acute hamstring injuries. Physical Therapy in Sport 2011; 12(1):2-13. Ref ID: 4 Notes: IS - 1

(362) Miller NJK, Duncan RDD, Huntley JS. The conservative management of primary pyomyositis abscess in children: Case series and review of the literature. Scottish Medical Journal 56 (3) ()(pp 1-4), 2011 Date of Publication: August 2011 2011;(3):1-4. Ref ID: 388 Abstract: Pyomyositis is a primary pyogenic infection in skeletal muscle, often progressing to abscess formation. It is rare in temperate climates and generally deep-seated within the pelvis with non-specific clinical features, making diagnosis difficult. Magnetic resonance imaging (MRI) is highly sensitive for muscle inflammation and fluid collection, and with its increasing availability is now the investigation of choice. Treatment of pyomyositis abscess has traditionally been with incision and drainage or guided aspiration followed by a prolonged course of antibiotics, although there are sporadic reports of cases treated successfully with antibiotics alone. Our aim was to describe our own experience with the treatment of pyomyositis abscess in children. From our 20-year database of over 16,000 paediatric orthopaedic admissions, we identified only three cases with MRI-confirmed pyomyositis abscess. These were all in boys (aged 2-12 years) and affected the gluteal, piriformis and adductor muscles. Despite the organisms not being identified, each patient was treated successfully with a short (4-7 days) course of intravenous antibiotics followed by 2-6 weeks of oral therapy. There were no recurrences or complications and all made a full recovery. In conclusion, we propose that uncomplicated pyomyositis abscess in children may usually be managed conservatively without the need for open or percutaneous drainage Notes: DB - Embase UI - 2011649565 IN - (Miller, Duncan, Huntley) Royal Hospital for Sick Children, Dalnair Street, Yorkhill, Glasgow G3 8SJ, United Kingdom CP - United Kingdom LG - English PT - Journal: Article EM - 201100 DD - 20111216

(363) Miric DM, Bumbasirevic MZ, Senohradski KK, Djordjevic ZP. Pelvifemoral external fixation for the treatment of open fractures of the proximal femur caused by firearms. Acta Orthop Belg 2002; 68(1):37-41. Ref ID: 771 Abstract: Seventeen patients with open fractures of the upper third of the femur were treated using a pelvifemoral external fixation device. All of them had grade III open fractures resulting from high-velocity missile and explosive injuries with massive foreign body contamination. Sciatic nerve injury was present in five (29.4%); abdominal viscera and thoracic wall injuries were present in two patients (11.8%). There were no major arterial injuries. Full weight bearing was allowed after clinical and radiological bone healing (average 11.5 months). Chronic osteitis with fistula and sequestra developed in two (11.8%) patients. There were no nonunions and no refractures. Minor painless limitation of hip motion persisted in all patients. Upper-third femoral open fractures due to firearms are a unique type of open fractures. They are usually highly comminuted; therefore, stable fixation is difficult or impossible to achieve using external fixation with transfixation of the fracture site. On the other hand, the risk of infection is high following intramedullary nailing. Pelvifemoral external fixation allows adequate management of the soft tissue wounds, provides stable bone fixation and allows early patient mobilization Notes: DA - 20020327 IS - 0001-6462 (Print) IS - 0001-6462 (Linking) LA - eng PT - Journal Article SB - IM

(364) Mladenovic D, Andjelkovic Z, Vukasinovic Z, Mitkovic M, Milenkovic S, Micic I et al. Early clinical results of surgical treatment of patients with femoroacetabular impingement. Srp Arh Celok Lek 2014; 142(5-6):325-329. Ref ID: 572 Abstract: INTRODUCTION: Surgical treatment is the treatment of choice in patients with symptoms and radiological signs of femoroacetabular impingement. OBJECTIVE: Our experience and early results of surgical treatment of patients with signs of femoroacetabular impingement and early hip osteoarthritis are reported. METHODS: The results of treatment of 21 patients aged 23-54 years with different types of femoroacetabular impingement are presented. Safe open surgical dislocation of the hip was performed in all patients. Before and after surgery, the WOMAC score was performed, clinical and radiographic data of the operated hips were evaluated and t-tests were used for statistical analyzes of data. RESULTS: The WOMAC score improved from 70.5 points (range 56.3 to 89.8 points) to 90.3 points (range 70.3 to 100 points) at one year of follow-up (p < 0.0001), anterior impingement test was negative in all operated cases, average hip internal rotation improved significantly, no complications were found, except trochanteric nonunion at the site of osteotomy, which was reaffixed. CONCLUSION: Postoperative results have shown that the surgical approach to treating patients with femoroacetabular impingement is the method of choice. Three operated patients, with advanced osteoarthritis of the hip, had to be converted to total hip replacement Notes: DA - 20140718 IS - 0370-8179 (Print) IS - 0370-8179 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(365) Monazzam S, Bomar JD, Agashe M, Hosalkar HS. Does femoral rotation influence anteroposterior alpha angle, lateral center-edge angle, and medial proximal femoral angle? A pilot study hip. Clinical Orthopaedics and Related Research 471 (5) ()(pp 1639-1645), 2013 Date of Publication: May 2013 2013;(5):1639-1645. Ref ID: 314 Abstract: Background: Femoral rotation on AP radiographs affects several parameters used to assess morphologic features of the proximal femur but its effect on femoroacetabular impingement parameters remains unknown. Question/purposes: We therefore evaluated and characterized the potential effect of femoral rotation on (1) AP alpha angle, (2) lateral-center edge angle (LCEA), and (3) medial proximal femoral angle (MPFA) on AP hip radiographs. Methods: We took seven AP hip radiographs at intervals of successive femoral rotation on a single dry, cadaveric specimen: 60, 40, and 20 internal rotation; 0 neutral/anatomic rotation; and 20, 40, and 50 external rotation. The AP alpha angle, LCEA, and MPFA were measured on all radiographs by two independent evaluators. Results: Within the range of femoral rotation studied, the AP alpha angle ranged from 39 to 62, the LCEA from 25 to 35, and the MPFA from 70 to 115. MPFA and AP alpha angle showed a linear relationship with femoral rotation. Each additional degree of internal rotation produced a reciprocal reduction of the MPFA by 0.36 and the AP alpha angle by 0.18 and vice versa in external rotation. The LCEA, especially within the internal rotation range, showed minimal variation. Conclusions: These changes in radiographic parameters emphasize the importance of femoral rotation and patient positioning. We recommend radiographs be evaluated for excessive femoral rotation or nonstandardized positioning before interpretation for diagnostic and treatment implications. It may be prudent to repeat radiographs in these circumstances or, when standardized positioning is not feasible, proceed toward advance imaging. Â© 2012 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2013258766 IN - (Monazzam, Bomar, Agashe, Hosalkar) Department of Orthopedic Surgery, Rady Children's Hospital, Health Center, 3030 Children's Way, San Diego, CA 92123, United States CP - United States LG - English PT - Journal: Article EM - 201320 DD - 20130510

(366) Monazzam S, Krishnamoorthy V, Bittersohl B, Bomar JD, Hosalkar HS. Is the acetabulum retroverted in slipped capital femoral epiphysis? Clin Orthop Relat Res 2013; 471(7):2145-2150. Ref ID: 622 Abstract: BACKGROUND: Recent biplanar radiographic studies have demonstrated acetabular retroversion and increased superolateral femoral head coverage in hips with slipped capital femoral epiphysis (SCFE), seemingly divergent from earlier CT-based studies suggesting normal acetabular version. QUESTION/PURPOSES: We therefore asked: Are there differences in (1) acetabular version at the superior (1/4) of the acetabular dome (AV(sup)), (2) acetabular version at the center of the femoral head (AV(cen)), and (3) superolateral femoral head coverage (lateral center-edge angle [LCEA]) among affected SCFE hips, unaffected hips, and normal controls? METHODS: We identified 32 patients with SCFE who underwent CT between 2007 and 2012. Twenty-three met our inclusion criteria. Seventy-six age- and sex-matched normal patients comprised the control group. Pelvic rotation, tilt, and inclination were corrected on each CT. AV(sup), AV(cen), and LCEA were measured. RESULTS: The mean AV(sup) of the affected hips (-1.71 degrees ) demonstrated retroversion compared to the unaffected hips and the control group; the mean AV(sup) of the unaffected hips was similar to that of the normal controls. Mean AVcen was similar among the three groups. The LCEA was higher in affected and unaffected SCFE hips than in the control group (34.3 degrees versus 34.5 degrees versus 28.9 degrees , respectively), but we found no difference between affected and unaffected hips. CONCLUSIONS: Our data suggest an association of superior acetabular retroversion and increased superolateral femoral head coverage in SCFE. Whether this represents a primary abnormal morphology or a secondary pathologic response remains unclear. Further studies investigating the role of acetabular morphology in SCFE and its implications for development of symptomatic femoroacetabular impingement are warranted Notes: DA - 20130610 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(367) Morrison L, Hinman R, Dobson F, Nicolson P, Wrigley T, Bennell K. Biomechanical and neuromuscular impairments in FAI patients: A systematic review. Journal of Science and Medicine in Sport Conference: 2013 ASICS Conference of Science and Medicine in Sport Phuket Thailand Conference Start: 20131022 Conference End: 20131025 Conference Publication: (var pagings) 16 ()(pp e73-e74), 2013 Date of Publ 2013;(var.pagings):e73-e74. Ref ID: 262 Abstract: Introduction: Femoroacetabular impingement (FAI) is a common condition that can cause hip and/or groin pain in young active adults, plus give rise to stiffness, muscle weakness, reduced physical function and lower quality of life. It has also been proposed as a risk factor for early onset of hip osteoarthritis. Understanding the musculoskeletal impairments associated with FAI is critical in improving conservative management strategies. The purpose of the present study was to systematically review the literature to establish whether people with FAI demonstrate impairments and/or activity limitations compared to people without FAI. Methods: Three electronic databases (Pubmed, CINAHL and SportDISCUS) were searched until the end of January 2013. Studies were included if: the population had symptomatic FAI diagnosed by clinical and imaging features; the comparison was either healthy controls, the asymptomatic contralateral limb of participants with symptomatic FAI, or the study group post-intervention; and the reported outcomes included a measure of impairment and/or activity limitation. Methodological quality was assessed by two raters using the Newcastle-Ottawa Scale. Results: Eleven studies of moderate to high methodological quality fulfilled the eligibility criteria. Sample sizes varied between 10 and 37 participants. Seven studies were cross sectional with five of these including a comparison group of age and gender-matched controls and two using the contralateral hip in patients following total hip replacement. The remaining four studies used a pre/post design comparing thesamegroup post-operative or post treatment. Follow up varied between 8 and 32 months. Outcome measures included biomechanical and neuromuscular factors assessed during various activities. Five studies evaluated hip range of motion (ROM) - two via computed tomography, three examined gait and two evaluated squatting - both via 3-D motion analysis, and one calculated maximum strength of the rectus femoris and tensor fasciae latae. Decreased frontal plane range of motion (adduction/ abduction) at the hip was reported during the gait cycle. Other outcomes included a significant decrease in hip ROM in positions targeting impingement (flexion/internal rotation), and decreased strength in the hip adductor and flexor muscles. Discussion: Results reported were inconsistent and limited due to the paucity of studies in this area. The scarcity of other outcome measures suggests that further research is needed to better characterise the range of impairments in individuals with FAI. Understanding these potential deficiencies will assist in the development of novel conservative management programs, such as targeted muscle rehabilitation, in order to better manage the condition Notes: DB - Embase UI - 71305951 IN - (Morrison, Hinman, Dobson, Nicolson, Wrigley, Bennell) Centre for Health, Exercise and Sports Medicine, University of Melbourne, Australia LG - English PT - Journal: Conference Abstract EM - 201406 DD - 20140202

(368) Morrison L, Dobson F, Bennell K, Wrigley T, Hodges P, Hinman R. Impairments and activity limitations in people with femoroacetabular impingement: A systematic review. Osteoarthritis and Cartilage Conference: 2014 Osteoarthritis Research Society International World Congress, OARSI 2014 Paris France Conference Start: 20140424 Conference End: 20140427 Conference Publication: (var pagings) 22 ()(pp S113), 2014 Date of 2014;(var.pagings):S113. Ref ID: 243 Abstract: Purpose: Femoroacetabular impingement (FAI) is a common condition that can cause hip and/or groinpain inyoung active adults, plus give rise to stiffness,muscleweakness, reduced physical function and lower quality of life. It has also been proposed as a risk factor for early onset of hip osteoarthritis. This impingement is due either to abnormalities in the morphology of the femoral head (cam impingement) or excessive acetabular coverage of the femoral head (pincer impingement) or in some cases, a combination of the two. Typically, impingement occurs with the combinedmovements of hip flexion, adduction and internal rotation. The development of rehabilitation strategies hinges on an in-depth understanding of the musculoskeletal impairments (e.g., hip joint biomechanics, kinetics, neuromuscular activity, strength, range of motion) and activity limitations associated with FAI. Knowledge of these impairments and activity limitations will also lend itself to assessing the effectiveness of surgical intervention as a means to restore normal musculoskeletal function. The purpose of this studywas to systematically appraise the available literature with the aim of establishing (i) whether people with symptomatic FAI demonstrate performance-based impairments and/or activity limitations compared to people without; and (ii) the effect of treatment on these impairments and/or activity limitations. Methods: Four electronic databases (Pubmed, CINAHL, SportDISCUS, and Cochrane Library) were searched until the third week of June 2013. Key search terms and synonyms were combined using database-specific truncation terms into three main filters. Eligibility was assessed by two independent reviewers with disagreements resolved by consensus or a third reviewer when required. After removal of duplicates from the initial yield, titles and abstracts were assessed and full texts were obtained for final eligibility screening. Studies were included if: the population had symptomatic FAI diagnosed by clinical and imaging features; the comparisonwas either healthy controls, the asymptomatic contralateral limb of participants with symptomatic FAI, or the study group post-intervention; and the reported outcomes included a measure of impairment and/or activity limitation. Methodological quality was assessed using the Newcastle-Ottawa Scale. Results: Fifteen studies fulfilled the eligibility criteria. Ten used a crosssectional design and five used an observational within-subjects study designwith the FAI group evaluated pre- and post-intervention (3/5 also included a control group for comparison). Sample sizes varied between 10-37 participants. Seven of the 15 studies included participants with only cam type FAI, while the remainder included all FAI types. All studies utilized x-rays for radiographic diagnosis. The mean age of participants ranged from 24.7 years to 35.5 years across all cohorts. Only two studies had more female than male participants (64%, 60%). Outcome measures included range of motion (ROM) - measured via CT, 3-D motion analysis during gait, squatting, stair climbing; muscle strength, fatigue, neuromuscular activity. The only activity limitation evaluated was squatting ability. The most commonly reported impairment found was decreased range of motion (ROM) in positions of hip impingement. Other impairments included altered sagittal and frontal plane hip ROM during gait, altered sagittal plane hip ROM during stair climbing, decreased strength of hip adductors and flexors, and reduced activity of the tensor fasciae latae. Effects of surgery on impairments are conflicting but suggest improved hip ROM during gait, but not during stair climbing. Squatting depth in people with FAI is improved following surgical intervention. Conclusions: People with symptomatic FAI demonstrate performancebased impairments and activity limitations. Surgical intervention may restore some deficiencies, but not all. Results reported are inconsistent and limited due to the paucity of studies in this area. Further studies of impairment and activity limitation prior to surgical intervention are needed to characterize the range of impairments in individuals with FAI. Understanding these potential deficiencies is necessary to inform appropriate rehabilitation programs, and to examine if these are a viable alternative to surgical intervention Notes: DB - Embase UI - 71463941 IN - (Morrison, Dobson, Bennell, Wrigley, Hinman) Univ. of Melbourne, Melbourne, Australia (Hodges) Univ. of Queensland, Brisbane, Australia LG - English PT - Journal: Conference Abstract EM - 201422 DD - 20140526

(369) Mosler AB, Agricola R, Weir A, Holmich P, Crossley KM. Which factors differentiate athletes with hip/groin pain from those without? A systematic review with meta-analysis. Br J Sports Med 2015; 49(12):810. Ref ID: 540 Abstract: BACKGROUND: Hip and groin injuries are common in many sports. Understanding the factors differentiating athletes with hip/groin pain from those without these injuries could facilitate management and prevention. OBJECTIVE: Conduct a systematic review and meta-analysis of the literature on factors differentiating athletes with and without hip/groin pain. METHODS: The review was registered as PROSPERO CRD42014007416 and a comprehensive, systematic search was conducted in June 2014. Inclusion criteria were: cross-sectional, cohort or case-control study designs of n>10 that examined outcome measures differentiating athletes with and without hip/groin pain. Two authors independently screened search results, assessed study quality, and performed data extraction. Methodological heterogeneity was determined and data pooled for meta-analysis when appropriate. A best evidence synthesis was performed on the remaining outcome measures. RESULTS: Of 2251 titles identified, 17 articles were included of which 10 were high quality. Sixty two different outcome measures were examined, 8 underwent meta-analysis. Pooled data showed strong evidence that athletes with hip/groin pain demonstrated: pain and lower strength on the adductor squeeze test, reduced range of motion in hip internal rotation and bent knee fall out; however, hip external rotation range was equivalent to controls. Strong evidence was found that lower patient-reported outcome (PRO) scores, altered trunk muscle function, and moderate evidence of bone oedema and secondary cleft sign were associated with hip/groin pain. CONCLUSIONS: PROs, pain and reduced strength on the adductor squeeze test, reduced range of motion in internal rotation and bent knee fall out are the outcome measures that best differentiate athletes with hip/groin pain from those without this pain Notes: DA - 20150602 IS - 1473-0480 (Electronic) IS - 0306-3674 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(370) Mulligan EP, Middleton EF, Brunette M. Evaluation and management of greater trochanter pain syndrome. Physical Therapy in Sport 16 (3) ()(pp 205-214), 2015 Date of Publication: 01 Aug 2015 2015;(3):205-214. Ref ID: 157 Abstract: Greater trochanteric pain syndrome is an enigmatic but common cause of lateral hip symptoms in middle-aged active women. The most common manifestation of this syndrome is a degenerative tendinopathy of the hip abductors similar to the intrinsic changes seen with rotator cuff pathology in the shoulder. There are no definitive tests to isolate the underlying pathology and palpation is a non-specific means by which to differentiate the source of the pain generator. The physical examination must comprehensively evaluate for a cluster of potential impairments and contributing factors that will need to be addressed to effectively manage the likely functional limitations and activity challenges the syndrome presents to the patient. Compressive forces through increased tension in the iliotibial band should be avoided. Intervention strategies should include education regarding postural avoidance, activity modifications, improvement of lumbopelvic control, and a patient approach to resolving hip joint restrictions and restoring the tensile capabilities of the deep rotators and abductors of the hip. A number of reliable and validated hip-specific self-report outcome tools are available to baseline a patient's status and monitor their progress. Further investigations to identify the epidemiological risk factors, establish effective treatment strategies, and predict prognosis are warranted Notes: DB - Embase UI - 2014984494 IN - (Mulligan, Middleton, Brunette) UT Southwestern Medical Center School of Health Professions, Department of Physical Therapy, 5323 Harry Hines Blvd, Dallas, TX 75390-8876, United States CP - United Kingdom LG - English PT - Journal: Short Survey EM - 201532 DD - 20150730

(371) Munegato D, Bigoni M, Gridavilla G, Olmi S, Cesana G, Zatti G. Sports hernia and femoroacetabular impingement in athletes: A systematic review. World J Clin Cases 2015; 3(9):823-830. Ref ID: 537 Abstract: AIM: To investigate the association between sports hernias and femoroacetabular impingement (FAI) in athletes. METHODS: PubMed, MEDLINE, CINAHL, Embase, Cochrane Controlled Trials Register, and Google Scholar databases were electronically searched for articles relating to sports hernia, athletic pubalgia, groin pain, long-standing adductor-related groin pain, Gilmore groin, adductor pain syndrome, and FAI. The initial search identified 196 studies, of which only articles reporting on the association of sports hernia and FAI or laparoscopic treatment of sports hernia were selected for systematic review. Finally, 24 studies were reviewed to evaluate the prevalence of FAI in cases of sports hernia and examine treatment outcomes and evidence for a common underlying pathogenic mechanism. RESULTS: FAI has been reported in as few as 12% to as high as 94% of patients with sports hernias, athletic pubalgia or adductor-related groin pain. Cam-type impingement is proposed to lead to increased symphyseal motion with overload on the surrounding extra-articular structures and muscle, which can result in the development of sports hernia and athletic pubalgia. Laparoscopic repair of sports hernias, via either the transabdominal preperitoneal or extraperitoneal approach, has a high success rate and earlier recovery of full sports activity compared to open surgery or conservative treatment. For patients with FAI and sports hernia, the surgical management of both pathologies is more effective than sports pubalgia treatment or hip arthroscopy alone (89% vs 33% of cases). As sports hernias and FAI are typically treated by general and orthopedic surgeons, respectively, a multidisciplinary approach for diagnosis and treatment is recommended for optimal treatment of patients with these injuries. CONCLUSION: The restriction in range of motion due to FAI likely contributes to sports hernias; therefore, surgical treatment of both pathologies represents an optimal therapy Notes: DA - 20150918 IS - 2307-8960 (Electronic) IS - 2307-8960 (Linking) LA - eng PT - Journal Article

(372) Muraoka N, Baima JA. Spontaneous bilateral quadratus femoris tears: A case report. PM and R Conference: 2013 Annual Assembly of the American Academy of Physical Medicine and Rehabilitation National Harbor, MD United States Conference Start: 20131003 Conference End: 20131006 Conference Publication: (var pagings) 5 (9 SUPPL 1) ()(pp 2013;(var.pagings):S226. Ref ID: 274 Abstract: Case Description: A 57-year-old man with history of Hodgkin's lymphomatreated with radiation 20+years ago presented to our clinic for evaluation of intractable left hip pain that started a week prior without inciting event and is made worse with activity. It did not radiate and no associated numbness or tingling. Exam revealed mildly painful and reduced range of motion of the left hip (30degree internal and 40degreeexternal) and tenderness over the left greater trochanter and left gluteal muscles. Sensation and reflexes intact. There is reduced bulk of the trunk and gluteal muscles without weakness on manual muscle testing. He walks with a Trendelenburg gait. Setting: Tertiary care hospital outpatient clinic. Results or Clinical Course: Left hip MRI showed a partial tear of the left quadratus femoris muscle with 9 x 9 x 3 cm hematoma and full thickness tear of the left quadratus femoris tendon, iliopsoas bursitis, atrophy and fatty infiltration of gluteus maximus, medius, and minimus muscles and hamstrings and edema in left adductor compartment. Patient was referred for aquatic therapy. Follow-up visit was 6 weeks later and in the interim, he developed similar atraumatic right-sided hip pain. Second MRI showed new right quadratus femoris tear with hematoma (7 x 3 x 5 cm), edema in the right adductor compartment, interval improvement of the left hematoma (3 x 2 cm). Discussion: Radiation fibrosis is a pathologic change in any tissue that can result as a late complication of radiation therapy. Radiation exposure can affect the vas vasorum and cause infarction of nerve, with atrophy of the innervated. The muscle fibers themselves can undergo fibrotic changes, leading to structural failure under tension. This patient had spontaneous bilateral quadratus femoris tears inside of six weeks without risk factors like steroids or fluoroquinolones and highlights the significant morbidity that can be a late consequence of radiation therapy. The quadratus femoris muscle acts as an adductor and external rotator of the hip and its failure likely contributed to the adductor strains seen on MRI imaging. Conclusions: Radiation fibrosis can be an early or late consequence of radiation therapy that can result in significant morbidity and functional impairment Notes: DB - Embase UI - 71205945 IN - (Muraoka) Spaulding Rehab/Harvard Med, Boston, MA, United States LG - English PT - Journal: Conference Abstract EM - 201345 DD - 20131030

(373) Murgier J, Reina N, Cavaignac E, Espie A, Bayle-Iniguez X, Chiron P. The frequency of sequelae of slipped upper femoral epiphysis in cam-type femoroacetabular impingement. Bone Joint J 2014; 96-B(6):724-729. Ref ID: 575 Abstract: Slipped upper femoral epiphysis (SUFE) is one of the known causes of cam-type femoroacetabular impingement (FAI). The aim of this study was to determine the proportion of FAI cases considered to be secondary to SUFE-like deformities. We performed a case-control study on 96 hips (75 patients: mean age 38 years (15.4 to 63.5)) that had been surgically treated for FAI between July 2005 and May 2011. Three independent observers measured the lateral view head-neck index (LVHNI) to detect any SUFE-like deformity on lateral hip radiographs taken in 45 degrees flexion, 45 degrees abduction and 30 degrees external rotation. A control group of 108 healthy hips in 54 patients was included for comparison (mean age 36.5 years (24.3 to 53.9). The impingement group had a mean LVHNI of 7.6% (16.7% to -2%) versus 3.2% in the control group (10.8% to -3%) (p < 0.001). A total of 42 hips (43.7%) had an index value > 9% in the impingement group versus only six hips (5.5%) in the control group (p < 0.001). The impingement group had a mean alpha angle of 73.9 degrees (96.2 degrees to 53.4 degrees ) versus 48.2 degrees (65 degrees to 37 degrees ) in the control group (p < 0.001). Our results suggest that SUFE is one of the primary aetiological factors for cam-type FAI Notes: DA - 20140603 IS - 2049-4408 (Electronic) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(374) Murphy S, Tannast M, Kim YJ, Buly R, Millis MB. Debridement of the adult hip for femoroacetabular impingement: indications and preliminary clinical results. Clin Orthop Relat Res 2004;(429):178-181. Ref ID: 759 Abstract: Untreated femoro-acetabular impingement is a common cause of osteoarthrosis of the hip. Surgical debridement of the adult hip with femoro-acetabular impingement recently has been advocated with the aim of relieving symptoms and slowing or halting progression of the arthrosis. At surgery, femoral sources of impingement are relieved by debriding the aspheric peripheral portion of the femoral head and the adjacent femoral neck. Acetabular sources of impingement can be relieved by debridement of the anterior rim. The most fundamental questions concerning these procedures relate to the preoperative and postoperative function, postoperative survivorship of these hips and the incidence of osteonecrosis. The current study assesses a group of 23 hips in 23 patients treated by surgical debridement for impingement. Twenty-two patients were treated by full surgical dislocation and one patient was treated by relief of impingement without dislocation. Followup ranged from a minimum of 2 years to 12 years. At most recent evaluation, seven patients had been converted to total hip arthroplasty, one had arthroscopic debridement of a recurrent labral tear, and 15 patients have had no further surgery. No hips developed osteonecrosis. Of the seven patients who had to have their procedure converted to total hip arthroplasty, three of these hips failed early and four patients' hips recovered and functioned well and subsequently deteriorated with total hip arthroplasty done between 6.4 and 9.5 years after debridement. Hips at greatest risk of failure have advanced arthrosis or a combination of impingement and instability preoperatively. The procedure effectively treats hips with impingement and without considerable secondary arthrosis or instability Notes: DA - 20041203 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(375) Murray MP, Gore DR, Brewer BJ, Zuege RC, Gardner GM. Comparison of functional performance after McKee-Farrar, Charnley, and Muller total hip replacement. A six-month follow-up of one hundred sixty-five cases. Clin Orthop Relat Res 1976;(121):33-43. Ref ID: 794 Abstract: Measurements of functional performance were compared before and at 6 months after 58 McKee-Farrar, 50 Charnley, and 57 Muller total hip replacements in 143 patients. The measurment included: range of motion of the hip, hip abductor and adductor-muscle torque, weight-bearing activity during standing, forces applied to canes or crutches, and multiple components of walking performance. Each group of patients improved significantly after surgery in all of the components measured. Early postoperative differences among the 3 groups were found with respect to pain ratings, impressions of hip status, hip motions, muscle torque, the number of patients using assistive devices, and certain components of walking performance. There is nothing to suggest that the performance of any 1 group is distinctly better or worse than that of any other group 6 months after surgery. On the basis of average values, each group improved in every component of function and it is gratifying that, except for a few patients who developed postoperative infection, each patient could be considered to have successful reconstruction Notes: DA - 19770128 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, U.S. Gov't, P.H.S SB - IM

(376) Myer GD, Chu DA, Brent JL, Hewett TE. Trunk and hip control neuromuscular training for the prevention of knee joint injury. Clin Sports Med 2008; 27(3):425-48, ix. Ref ID: 726 Abstract: This article provide evidences to outline a novel theory used to define the mechanisms related to increased risk of ACL injury in female athletes. In addition, this discussion will include theoretical constructs for the description of the mechanisms that lead to increased risk. Finally, a clinical application section will outline novel neuromuscular training techniques designed to target deficits that underlie the proposed mechanism of increased risk of knee injury in female athletes Notes: DA - 20080527 IS - 1556-228X (Electronic) IS - 0278-5919 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(377) Myers SR, Eijer H, Ganz R. Anterior femoroacetabular impingement after periacetabular osteotomy. Clin Orthop Relat Res 1999;(363):93-99. Ref ID: 781 Abstract: As experience with the Bernese periacetabular osteotomy has grown, an unexpected observation in a group of patients has alerted the authors to the risk of a secondary impingement syndrome that may occur some time after the periacetabular osteotomy. This possibly may explain residual pain and limited range of motion in a larger group of patients. The impingement is produced by abutment of the femoral head or head to neck junction on the anterior rim of the properly aligned acetabulum. The symptoms are those of restricted flexion, and limited or absent internal rotation in flexion, with variable groin pain. Magnetic resonance imaging studies may reveal acetabular labral disease and adjacent cartilage damage associated with the impingement. Lack of anterior or anterolateral offset between the femoral neck and head results in neck to rim contact when the hip is flexed and/or internally rotated. Before the periacetabular osteotomy this is compensated by the lack of anterior acetabular coverage, but after proper correction the mismatch becomes apparent. The authors recently have devised a routine during the periacetabular osteotomy procedure whereby after the acetabular fragment is corrected into the desired position, the joint is opened, visually inspected, and palpated for impingement with the hip flexed and internally rotated. When necessary, a resection osteoplasty of the femoral neck to head junction is performed to improve the head and neck offset and reduce the anterior contact. This, in the short term, has provided satisfactory prevention of postoperative impingement Notes: DA - 19990708 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Case Reports PT - Journal Article SB - AIM SB - IM

(378) Naal FD, Pilz R, Munzinger U, Hersche O, Leunig M. High revision rate at 5 years after hip resurfacing with the durom implant. Clinical Orthopaedics and Related Research 469 (9) ()(pp 2598-2604), 2011 Date of Publication: September 2011 2011;(9):2598-2604. Ref ID: 403 Abstract: Background/rationale There is growing evidence that different resurfacing implants are associated with variable survival and revision rates. A registry analysis indicated the Durom resurfacing implant had high revision rates at 5 years, whereas three original studies reported low revision rates at short-term followups. Thus, the revision rates appear controversial. Questions/purposes We therefore assessed (1) the survivorship including differences between women and men at a mean of 5 years after resurfacing with the Durom implant, and (2) clinical scores and radiographic parameters. Patients and Methods We prospectively followed all 100 Durom hip resurfacings implanted in 91 patients (25 women and 66 men; mean age, 52 years) between 2003 and 2004. Survivorship analysis was performed with pending revision or revision for any reason as the endpoint. The minimum followup was 47 months (mean, 60 months; range, 47-72 months). Results At a mean of 5 years, 11 hips were revised for various reasons. Cumulative survival was 88.2% for all patients and 81.5% for women. The mean Oxford (OHS) and Harris hip (HHS) scores were 14.6 and 94.7, respectively. The mean UCLA activity level was 7.9. Sclerotic changes around the short femoral stem (pedestal sign) were detected in 40% of the hips. We observed considerable femoral neck thinning with component-to-neck ratios of 0.85 preoperatively and 0.82 at 5 years. Conclusions Our study highlights a high revision rate 5 years after hip resurfacing with the Durom implant. This observation underlines previous findings from registry data and suggests that revision rates increase with time. Level of Evidence Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2011 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2011576401 IN - (Naal, Pilz, Munzinger, Hersche) Department of Orthopaedic Surgery, Schulthess Clinic, Lengghalde 2, 8008 Zurich, Switzerland (Leunig) University of Berne, Berne, Switzerland CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20111031

(379) Naal FD, Miozzari HH, Schar M, Hesper T, Notzli HP. Midterm results of surgical hip dislocation for the treatment of femoroacetabular impingement. Am J Sports Med 2012; 40(7):1501-1510. Ref ID: 638 Abstract: BACKGROUND: Surgical treatment of femoroacetabular impingement (FAI) includes both open and arthroscopic procedures. Encouraging results have been reported for the majority of patients after surgical hip dislocation; however, most of these reports were short term and included only small cohorts. PURPOSE: To determine the results of surgical hip dislocation in a large cohort of FAI patients at a midterm follow-up. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: A retrospective study including 185 consecutive patients (mean age, 30 years; 40% female) with 233 hips treated was conducted. We determined clinical outcomes in terms of range of motion and analyzed radiographs for several criteria including the alpha angle preoperatively and at 1 year postoperatively. At latest follow-up, on average 61 months postoperatively, patient satisfaction, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Hip Outcome Score, SF-12, and University of California, Los Angeles (UCLA) activity scale scores were determined. All revisions and conversions to total hip arthroplasty (THA) were recorded. RESULTS: Both hip flexion and internal rotation improved from preoperatively to postoperatively. Alpha angles decreased from 65.1 degrees +/- 14.2 degrees to 42.4 degrees +/- 4.9 degrees . At 5 years, 82% of the patients were satisfied or very satisfied with the results of surgery, and 81% would undergo the same surgery again. There were 83% who rated their overall hip function as normal or nearly normal. Mean scores for the WOMAC pain, stiffness, and function subscales were 10.3 +/- 15.8, 15.9 +/- 17.4, and 9.6 +/- 13.0 points; for Hip Outcome Score activities of daily living and sport subscales were 89.0 +/- 13.1 and 75.6 +/- 23.0 points; and for the SF-12 Physical Component Scale and Mental Component Scale were 47.4 +/- 6.3 and 52.3 +/- 7.4 points, respectively. The mean UCLA activity level was 7.7 +/- 1.9. Conversion to THA was performed in 7 hips (3%). Seven hips (3%) underwent other major revisions, and 11 (4.7%) underwent minor revisions. Female patients had a significantly increased risk for conversion to THA (odds ratio, 13.3; 95% confidence interval [CI], 1.3-92.6) and major revision (odds ratio, 19.2; 95% CI, 2.4-152.9). The mean body mass index was significantly lower in those patients who underwent conversion to THA. The need for microfracture because of residual full-thickness cartilage defects after rim trimming was a significant (P = .04) predictor of subjective dissatisfaction. CONCLUSION: This study demonstrates that surgical hip dislocation is a successful procedure for the treatment of FAI. A majority of patients were satisfied with the results of surgery at a midterm follow-up. Older and slim female patients were at an increased risk for a less successful outcome in terms of conversion to THA and revision surgery Notes: DA - 20120703 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(380) Narvani AA, Tsiridis E, Kendall S, Chaudhuri R, Thomas P. A preliminary report on prevalence of acetabular labrum tears in sports patients with groin pain. Knee Surgery, Sports Traumatology, Arthroscopy 11 (6) ()(pp 403-408), 2003 Date of Publication: November 2003 2003;(6):403-408. Ref ID: 512 Abstract: To the best of our knowledge, this prospective study is the first to investigate the prevalence of acetabular labrum tears in athletes presenting with groin pain. Eighteen athletes who presented to our sports clinic with groin pain, underwent clinical assessment and magnetic resonance arthrography (MRa) to detect presence or absence of acetabular labrum tears. Ethical committee approval and informed consent was obtained from each patient. In four out of these eighteen athletes (22%) the MRa demonstrated the presence of acetabular labrum tear. Three of them underwent arthroscopic debridement of their acetabular labrum tears and returned to their sporting activities within 8 months. Clicking sensation of the hip was a sensitive (100%) and specific (85%) clinical symptom to predict labral tears. The internal rotation-flexion-axial compression manoeuvre was sensitive (75%) but not specific (43%). The Thomas test was neither sensitive nor specific. The conclusion of the study is that acetabular labrum tears can be a common cause of groin pain in athletes. Sports clinicians managing athletes with groin pain have to be well aware of the condition Notes: DB - Embase UI - 12897984 IN - (Narvani) 69A Frognal, London, NW3 6YA, United Kingdom (Tsiridis, Chaudhuri, Thomas) Department of Orthopaedics, Whittington Hospital, Highgate Hill, London, N19 5NF, United Kingdom (Kendall) Roy. Natl. Orthopaedics Hosp. Trust, Brockley Hill, Stanmore, Middlesex, HA7 4LP, United Kingdom CP - Germany LG - English PT - Journal: Article EM - 200400 DD - 20040511

(381) Nawabi DH, Bedi A, Tibor LM, Magennis E, Kelly BT. The demographic characteristics of high-level and recreational athletes undergoing hip arthroscopy for femoroacetabular impingement: a sports-specific analysis. Arthroscopy 2014; 30(3):398-405. Ref ID: 585 Abstract: PURPOSE: The purpose of this study was to determine differences in age, gender, and the need for bilateral surgery between high-level athletes grouped by sports with similar mechanical demands on the hip and recreational athletes undergoing hip arthroscopy for femoroacetabular impingement (FAI). METHODS: By use of a hip-preservation center registry, a retrospective review of patients undergoing hip arthroscopy for FAI between March 2010 and April 2012 was performed. Athletes were categorized as high level (high school, collegiate, or professional) or recreational. We performed a subgroup analysis for high-level athletes, looking at differences among contact, cutting, impingement, overhead/asymmetric, endurance, and flexibility sports. RESULTS: The study included 288 high-level athletes and 334 recreational athletes. Being a high-level athlete was associated with a younger age (mean age, 20.2 years v 33.0 years; odds ratio, 0.69; P < .001) and male gender (61.5% v 53.6%; odds ratio, 1.75; P = .03). The percentage of high-level athletes undergoing bilateral surgery was higher than that of recreational athletes (28.4% v 15.9%); however, this association was found to be confounded by age on multivariate analysis. The most common sports for high-level athletes were soccer, hockey, and football. Athletes participating in cutting sports were significantly younger than athletes participating flexibility, contact, or impingement sports. CONCLUSIONS: When compared with recreational athletes undergoing arthroscopic treatment for FAI, high-level athletes are more likely to be younger, to be male, and to undergo bilateral surgery. When high-level athletes are grouped by the mechanical demands placed on the hip by their sport, athletes participating in cutting sports are more likely to be younger than those in the other groups. LEVEL OF EVIDENCE: Level IV, case series Notes: DA - 20140303 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article PT - Review SB - IM

(382) Nelson AE, Stiller JL, Shi XA, Renner JB, Schwartz TA, Arden NK et al. Variations in hip morphology are associated with hip symptoms: Preliminary results from a large community-based cohort. Arthritis and Rheumatology Conference: American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting, ACR/ARHP 2015 San Francisco, CA United States Conference Start: 20151106 Conference End: 20151111 Confer 2015;(var.pagings). Ref ID: 143 Abstract: Background/Purpose: Alterations in hip morphology, such as femoroacetabular impingement, have been associated with incident hip OA and total hip replacement (THR), but associations of these morphologic variations with hip symptoms are less clear, and have not been studied in a community-based sample including participants with and without OA. Methods: This preliminary analysis was performed as part of our ongoing work to determine the prevalence of morphologic features at the hip at the baseline visit for the Johnston County OA project, a large community-based cohort. At the time of this analysis, 2612 hips had been read, 120 were excluded based on excessive tilt/rotation, and 2492 hips (from 1252 individuals) were included. The outcome of hip symptoms was assessed in 3 ways: 1) response to the question "On MOST days do you have pain, aching or stiffness in your right left hip?" (graded none, mild, moderate, or severe); 2) pain on internal rotation during clinical exam (graded none, mild, or moderate/severe); 3) self-reported groin pain (present or absent). Validated software (Oxmorf) was used to assess 27 aspects of hip morphology, and differences in means among categories of the symptom variables were assessed using GEE to account for within-person correlation (but no adjustment for any covariates in these preliminary analyses). P values <=0.05 for any difference between groups were considered significant. Results: Of the included individuals, 37% were men, 36% were African American, with a mean age of 63.8 +/- 9.8 years and BMI 28.8 +/- 5.9 kg/m<sup>2</sup>. Kellgren-Lawrence grade was 0 or 1 in 72% of hips. Reliability for all measures was acceptable (intra- [ICC 0.7-1.00] and inter-reader ICC 0.5-1.00). We focused on 10 continuous measures of hip morphology (Table). None of these was statistically significantly associated with hip pain, aching, or stiffness on most days (p>0.2 for all). However, several of the morphologic indicators (increased acetabular depth/width ratio, AP alpha angle, extrusion index, femoral shaft angle, and Gosvig ratio, as well as decreased minimum joint space width [JSW] and proximal femoral angle) were significantly associated with pain on internal rotation (Table). All but extrusion index, femoral shaft angle, and proximal femoral angle were also associated with groin pain. Conclusion: Indicators of femoral morphology, including measures of acetabular dimension, acetabular coverage (extrusion index), femoral angles, and indicators of cam-type lesions (AP alpha angle and Gosvig ratio), were associated with pain on internal rotation and with groin pain, but not with self-reported pain, aching and stiffness. These preliminary findings are supportive of an association between femoral morphology such as that seen in FAI and symptoms at the hip in the general population. Further study in a larger number of hips will assess differences by race, gender, and other key covariates. (Table Presented) Notes: DB - Embase UI - 72096266 IN - (Nelson, Stiller, Shi, Jordan) Thurston Arthritis Research Center, University of North Carolina, Chapel Hill, NC, United States (Shi) SAS Institute, Inc, Cary, NC, United States (Renner) Radiology, University of North Carolina, Chapel Hill, NC, United States (Schwartz) School of Nursing, University of North Carolina, Chapel Hill, NC, United States (Arden) Oxford NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, Oxford, United Kingdom LG - English PT - Journal: Conference Abstract EM - 201549 DD - 20151128

(383) Neogi T. Clinical significance of bone changes in osteoarthritis. Therapeutic Advances in Musculoskeletal Disease 4 (4) ()(pp 259-267), 2012 Date of Publication: August 2012 2012;(4):259-267. Ref ID: 332 Abstract: Osteoarthritis (OA), the most common form of arthritis, is now understood to involve all joint tissues, with active anabolic and catabolic processes. Knee OA in particular is considered to be a largely mechanically-driven disease. As bone adapts to loads by remodeling to meet its mechanical demands, bone alterations likely play an important role in OA development. Subchondral bone changes in bone turnover, mineralization, and volume result in altered apparent and material density of bone that may adversely affect the joint's biomechanical environment. Subchondral bone alterations such as bone marrow lesions (BMLs) and subchondral bone attrition (SBA) both tend to occur more frequently in the more loaded knee compartments, and are associated with cartilage loss in the same region. Recently, MRI-based 3D bone shape has been shown to track concurrently with and predict OA onset.The contributions of structural abnormalities to the clinical manifestations of knee OA are becoming better understood as well. While a structure-symptom discordance in knee OA is thought to exist, such observations do not take into account all potential factors that can contribute to between-person differences in the pain experience. Using novel methodology, pain fluctuation has been associated with changes in BMLs, synovitis and effusion. SBA has also been associated with knee pain, but the relationship of osteophytes to pain has been conflicting.Understanding the pathophysiologic sequences and consequences of OA pathology will guide rational therapeutic targeting. Importantly, rational treatment targets require understanding what structures contribute to pain as pain is the reason patients seek medical care. Â© The Author(s), 2012 Notes: DB - Embase UI - 2012658299 IN - (Neogi) Sections of Clinical Epidemiology Research and Training Unit, and Rheumatology, Department of Medicine, Boston University School of Medicine, 650 Albany Street, Suite X200, Clin Epi Unit, Boston, MA 02118, United States CP - United Kingdom LG - English PT - Journal: Article EM - 201248 DD - 20121121

(384) Nepple JJ, Zebala LP, Clohisy JC. Labral disease associated with femoroacetabular impingement: do we need to correct the structural deformity? J Arthroplasty 2009; 24(6 Suppl):114-119. Ref ID: 704 Abstract: In this study, we compared the clinical results of arthroscopic partial labral resection to augmentation of this procedure with limited open osteochondroplasty for the treatment of symptomatic femoroacetabular impingement. Two consecutive cohorts were evaluated: (a) group I, arthroscopic treatment of labrum and articular cartilage, and (b) group II, hip arthroscopy augmented with limited osteochondroplasty of the femoral head-neck junction. Group I (23 hips) and group II (25 hips) patients had no difference in age, labral disease patterns, osteoarthritis grade, or chondromalacia. Mean follow-up was slightly longer in group I. The modified Harris Hip Score showed a trend toward higher values in group II. A 10-point improvement was more common in group II, and fewer group II patients required subsequent surgery. These preliminary data suggest that patients with cam femoroacetabular impingement may have improved clinical outcomes when the impingement deformity is corrected Notes: DA - 20090824 IS - 1532-8406 (Electronic) IS - 0883-5403 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(385) Nepple JJ, Carlisle JC, Nunley RM, Clohisy JC. Clinical and radiographic predictors of intra-articular hip disease in arthroscopy. American Journal of Sports Medicine 2011; 39(2):296-304. Ref ID: 14 Notes: IS - 2

(386) Nepple JJ, Riggs CN, Ross JR, Clohisy JC. Clinical presentation and disease characteristics of femoroacetabular impingement are sex-dependent. Journal of Bone and Joint Surgery - American Volume 96 (20) ()(pp 1683-1689), 2014 Date of Publication: 15 Oct 2014 2014;(20):1683-1689. Ref ID: 199 Abstract: Background: Cam-type femoroacetabular impingement (FAI) is generally described as being more common in males, with pincer-type FAI being more common in females. The purpose of this study was to determine the effect of sex on FAI subtype, clinical presentation, radiographic findings, and intraoperative findings in patients with symptomatic FAI. Methods: We compared cohorts of fifty consecutive male and fifty consecutive female patients who were undergoing surgery for symptomatic FAI. Detailed information regarding clinical presentation, radiographic findings, and intraoperative pathology was recorded prospectively and analyzed. FAI subtype was classified on the basis of clinical diagnosis and radiographic evaluation. Results: Female patients had significantly greater disability at presentation, as measured with use of the modified Harris hip score (mHHS), the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), the Hip Disability and Osteoarthritis Outcome Score (HOOS), and the SF-12 (12-Item Short Form Health Survey) physical function subscore (all p < 0.02), despite a significantly lower UCLA (University of California at Los Angeles) activity score (p = 0.03). Female patients had greater hip motion (flexion and internal rotation and external rotation in 90degree of flexion; all p < 0.003) and less severe cam-type morphologies (a mean maximum alpha angle of 57.6degree compared with 70.8degree for males; p < 0.001). Males were significantly more likely to have advanced acetabular cartilage lesions (56% of males compared with 24% of females; p = 0.001) and larger labral tears with more posterior extension of these abnormalities (p < 0.02). Males were more likely than females to have mixed-type FAI and thus a component of pincer-type FAI (combined-type FAI) (62% of males compared with 32% of females; p = 0.003). Conclusions: We found distinct, sex-dependent disease patterns in patients with symptomatic FAI. Females had more profound symptomatology and milder morphologic abnormalities, while males had a higher activity level, larger morphologic abnormalities, more common combined-type FAI morphologies, and more extensive intra-articular disease Notes: DB - Embase UI - 2014850072 IN - (Nepple, Riggs, Ross, Clohisy) Department of Orthopaedic Surgery, Washington University School of Medicine, One Barnes-Jewish Hospital Plaza, Campus Box 8233, St. Louis, MO 63110, United States CP - United States LG - English PT - Journal: Article EM - 201591 DD - 20141106

(387) Nepple JJ, Clohisy JC. The Dysplastic and Unstable Hip: A Responsible Balance of Arthroscopic and Open Approaches. Sports Medicine & Arthroscopy Review 2015; 23(4):180-187. Ref ID: 71 Notes: IS - 4

(388) Neumann M, Cui Q, Siebenrock KA, Beck M. Impingement-free hip motion: The 'normal' angle alpha after Osteochondroplasty. Clinical Orthopaedics and Related Research 467 (3) ()(pp 699-703), 2009 Date of Publication: March 2009 2009;(3):699-703. Ref ID: 471 Abstract: Femoroacetabular impingement is considered a cause of hip osteoarthrosis. In cam impingement, an aspherical head-neck junction is squeezed into the joint and causes acetabular cartilage damage. The anterior offset angle alpha, observed on a lateral crosstable radiograph, reflects the location where the femoral head becomes aspheric. Previous studies reported a mean angle alpha of 42degree in asymptomatic patients. Currently, it is believed an angle alpha of 50degree to 55degree is normal. The aim of this study was to identify that angle alpha which allows impingement-free motion. In 45 patients who underwent surgical treatment for femoroacetabular impingement, we measured the angle alpha preoperatively, immediately postoperatively, and 1 year postoperatively. All hips underwent femoral correction and, if necessary, acetabular correction. The correction was considered sufficient when, in 90degree hip flexion, an internal rotation of 20degree to 25degree was possible. The angle alpha was corrected from a preoperative mean of 66degree (range, 45degree-79degree) to 43degree (range, 34degree-60degree) postoperatively. Because the acetabulum is corrected to normal first, the femoral correction is tested against a normal acetabulum. We therefore concluded an angle alpha of 43degree achieved surgically and with impingement-free motion, represents the normal angle alpha, an angle lower than that currently considered sufficient. Â© 2008 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2009304426 IN - (Neumann, Siebenrock, Beck) Department of Orthopaedic Surgery, University of Bern, Inselspital, Bern, Switzerland (Cui) Department of Orthopaedic Surgery, University of Virginia, Charlottesville, VA, United States (Beck) Department of Orthopaedics, Luzerner Kantonsspital, Luzern 6000, Switzerland CP - United States LG - English PT - Journal: Conference Paper EM - 200900 DD - 20090720

(389) Nevin F, Delahunt E. Adductor squeeze test values and hip joint range of motion in Gaelic football athletes with longstanding groin pain. J Sci Med Sport 2014; 17(2):155-159. Ref ID: 608 Abstract: OBJECTIVES: The objective of the present study was to investigate whether differences exist in adductor squeeze test values and hip joint range of motion between athletes with longstanding groin pain and injury-free controls. DESIGN: Observational study with a case control design. METHODS: Eighteen Gaelic football players with current longstanding groin pain and 18 matched injury-free controls were assessed on their performance of the adductor squeeze test. Adductor squeeze test values were quantified using a sphygmomanometer. A fluid-filled inclinometer was used to assess hip joint internal and external rotation range of motion. A bent knee fall-out test was also utilised to examine hip joint range of motion. RESULTS: A significant difference in adductor squeeze test values was observed between the control group (269 +/- 25 mmHg) and longstanding groin pain group (202 +/- 36 mmHg; p<0.01). Furthermore the longstanding groin pain group had a decreased bent knee fall-out (p<0.01) bilaterally, as well as decreased hip joint internal rotation (p<0.05) and hip joint external rotation (p<0.05) range of motion bilaterally when compared to the control group. CONCLUSIONS: Gaelic football players with longstanding groin pain exhibit decreased adductor squeeze test values and hip joint range of motion when compared to non-injured players. These findings have implications for assessment and rehabilitation practices, as well as return to play criteria Notes: DA - 20140226 IS - 1878-1861 (Electronic) LA - eng PT - Journal Article PT - Observational Study SB - IM

(390) Ng KC, Lamontagne M, Adamczyk AP, Rakhra KS, Beaule PE. Patient-specific anatomical and functional parameters provide new insights into the pathomechanism of cam FAI. Clin Orthop Relat Res 2015; 473(4):1289-1296. Ref ID: 570 Abstract: BACKGROUND: Femoroacetabular impingement (FAI) represents a constellation of anatomical and clinical features, but definitive diagnosis is often difficult. The high prevalence of cam deformity of the femoral head in the asymptomatic population as well as clinical factors leading to the onset of symptoms raises questions as to what other factors increase the risk of cartilage damage and hip pain. QUESTIONS/PURPOSES: The purpose was to identify any differences in anatomical parameters and squat kinematics among symptomatic, asymptomatic, and control individuals and if these parameters can determine individuals at risk of developing symptoms of cam FAI. METHODS: Forty-three participants (n = 43) were recruited and divided into three groups: symptomatic (12), asymptomatic (17), and control (14). Symptomatic participants presented a cam deformity (identified by an elevated alpha angle on CT images), pain symptoms, clinical signs, and were scheduled for surgery. The other recruited volunteers were blinded and unaware whether they had a cam deformity. After the CT data were assessed for an elevated alpha angle, participants with a cam deformity but who did not demonstrate any clinical signs or symptoms were considered asymptomatic, whereas participants without a cam deformity and without clinical signs or symptoms were considered healthy control subjects. For each participant, anatomical CT parameters (axial alpha angle, radial alpha angle, femoral head-neck offset, femoral neck-shaft angle, medial proximal femoral angle, femoral torsion, acetabular version) were evaluated. Functional squat parameters (maximal squat depth, pelvic range of motion) were determined using a motion capture system. A stepwise discriminant function analysis was used to determine which of the parameters were most suitable to classify each participant with their respective subgroup. RESULTS: The symptomatic group showed elevated alpha angles and lower femoral neck-shaft angles, whereas the asymptomatic group showed elevated alpha angles in comparison with the control group. The best discriminating parameters to determine symptoms were radial alpha angle, femoral neck-shaft angle, and pelvic range of motion (p < 0.001). CONCLUSIONS: In the presence of a cam deformity, indications of a decreased femoral neck-shaft angle and reduced pelvic range of motion can identify those at risk of symptomatic FAI Notes: DA - 20150306 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(391) Nho SJ, Magennis EM, Singh CK, Kelly BT. Outcomes After the Arthroscopic Treatment of Femoroacetabular Impingement in a Mixed Group of High-Level Athletes. American Journal of Sports Medicine 2011; 39(suppl):14. Ref ID: 119 Notes: ID - 104651661 CY - Thousand Oaks, California

(392) Nourbakhsh MR, Arab AM. Relationship between mechanical factors and incidence of low back pain. Journal of Orthopaedic and Sports Physical Therapy 32 (9) ()(pp 447-460), 2002 Date of Publication: September 2002 2002;(9):447-460. Ref ID: 518 Abstract: Study Design: A multifactorial cross-sectional nonexperimental design. Objectives: To collectively investigate the association among 17 mechanical factors and occurrence of low back pain (LBP). Background: Several physical characteristics, based on assumptions, clinical findings, and scientific experiments, have been associated with the development of LBP. Controversy exists regarding the degree of association between some of these physical characteristics and LBP. Information regarding the degree of association of each factor to LBP is needed for effective prevention and appropriate treatment strategies. Methods and Measures: A total of 600 subjects participated in this study. Subjects were categorized into 4 groups: asymptomatic men (n= 150, age [mean +/- SD] = 43 +/- 15 years), asymptomatic women (n= 150, age [mean +/- SD] = 43 +/- 13 years), men with LBP (n = 150, age [mean +/- SD] = 43 +/- 14 years), and women with LBP (n = 150, age [mean +/- SD] = 43 +/- 13 years). Seventeen physical characteristics were measured in each group and the relative association of each characteristic with LBP was assessed. Results: Among all the factors tested, endurance of the back extensor muscles had the highest association with LBP. Other factors such as the length of the back extensor muscles, and the strength of the hip flexor, hip adductor, and abdominal muscles also had a significant association with LBP. Conclusion: It appears that muscle endurance and weakness are associated with LBP and that structural factors such as the size of the lumbar lordosis, pelvic tilt, leg length discrepancy, and the length of abdominal, hamstring, and iliopsoas muscles are not associated with the occurrence of LBP Notes: DB - Embase UI - 2002328618 IN - (Nourbakhsh, Arab) Dr. Chamran Highway, Tehran 14417, Iran, Islamic Republic of CP - United States LG - English PT - Journal: Article EM - 200200 DD - 20020926

(393) Nourbakhsh MR, Arabloo AM, Salavati M. The relationship between pelvic cross syndrome and chronic low back pain. Journal of Back and Musculoskeletal Rehabilitation 19 (4) ()(pp 119-128), 2006 Date of Publication: 2006 2006;(4):119-128. Ref ID: 491 Abstract: Objective: Specific patterns of muscle impairments, known as Pelvic Cross Syndrome (PCS), in the lumbo-pelvic region have been attributed to causing chronic Low Back Pain (LBP). In PCS, based on their primary functions, muscles are categorized as "postural" or "phasic", and it has been assumed that phasic (abdominal and gluteal muscle weakness) or postural (decreased flexibility in the hip flexor and back extensor) muscle impairments could lead to an exaggerated Lumbar Lordosis (LL), which in turn might cause chronic low back pain. PCS theory also indicates that exaggerated lordosis in impaired subjects is controlled by hamstring muscle shortening. The purpose of this study was to examine the relationship among Pelvic Cross Syndrome, degree of lumbar lordosis and chronic low back pain. Design: A total of 600 subjects between the ages of 20 and 65 were selected. Subjects were categorized into four groups of males and females with and without low back pain. The degree of LL, the strength of abdominal and gluteal muscles and the extensibility of iliopsoas, erector spine, and hamstring muscles were measured in each group. The cut-off values obtained from Receiver Operating Characteristic (ROC) curve analysis were used to categorize subjects as having weak or short muscles in accordance with the PCS assumptions. The degree of lumbar lordosis in subjects with and without patterns of muscle impairments, and the association between lumbar lordosis and low back pain and the effects of hamstring muscle length on lordosis were assessed. Results: The results of this study showed no significant difference in the degree of LL in subjects with and without patterns of muscle impairment, or in subjects with and without LBP, or in those with and without short hamstring muscles. However, a significant difference in the strength of abdominal and gluteal; and in the length of hip flexor and hamstring muscles was found between subjects with and without LBP. Conclusions: The findings of this study did not support the assumptions of the PCS theory that certain patterns of muscle impairment would lead to exaggerated LL and LBP. Our data indicated that certain muscle impairments could contribute to chronic LBP, but probably not via changing the degree of lumbar lordosis as has been proposed in PCS theory. Â© 2006 IOS Press. All rights reserved Notes: DB - Embase UI - 2007191828 IN - (Nourbakhsh) North Georgia College and State University, Department of Physical Therapy, 155 Sunset Drive, Dahlonega, GA 30597, United States (Arabloo, Salavati) Department of Physical Therapy, University of Social Welfare and Rehabilitation Sciences, Evin, Tehran, Iran, Islamic Republic of CP - Netherlands LG - English PT - Journal: Article EM - 200700 DD - 20070601

(394) Novais EN, Hill MK, Carry PM, Heare TC, Sink EL. Modified Dunn Procedure is Superior to In Situ Pinning for Short-term Clinical and Radiographic Improvement in Severe Stable SCFE. Clin Orthop Relat Res 2015; 473(6):2108-2117. Ref ID: 546 Abstract: BACKGROUND: In situ pinning is the conventional treatment for a stable slipped capital femoral epiphysis (SCFE). However, with a severe stable SCFE the residual deformity may lead to femoroacetabular impingement and articular cartilage damage. A modified Dunn subcapital realignment procedure has been developed to allow for correction at the level of the deformity while preserving the blood supply to the femoral head. QUESTIONS/PURPOSES: We compared children with severe stable SCFE treated with the modified Dunn procedure or in situ pinning in terms of (1) proximal femoral radiographic deformity; (2) Heyman and Herndon clinical outcome; (3) complication rate; and (4) number of reoperations performed after the initial procedure. METHODS: In this nonmatched retrospective study, 15 patients treated with the modified Dunn procedure (between 2007 and 2012) and 15 treated with in situ pinning (between 2001 and 2009) for severe but stable SCFE were followed for a mean of 2.5 years (range, 1-6 years). During the period in question, the decision regarding which procedure to use was based on the on-call surgeon's discretion; six surgeons performed in situ pinning and three surgeons performed the modified Dunn procedure. A total of 15 other patients were treated for the same diagnosis during the study period but were lost to followup before 1 year; of those, 12 were in the in situ pinning group. Radiographs were reviewed to measure the AP and lateral alpha angles, femoral head-neck offset, and Southwick angle preoperatively and at the latest clinical visit. The Heyman and Herndon clinical outcome, complications, and subsequent hip surgeries were recorded. RESULTS: At latest followup, the median AP alpha angle (52 degrees , range 41 degrees -59 degrees versus 76 degrees , interquartile range [IQR]: 68 degrees -88 degrees ; p = 0.0017), median lateral alpha angle (44 degrees , IQR: 40 degrees -51 degrees versus 87 degrees , IQR: 74 degrees -96 degrees ; p < 0.001), median head-neck offset (7 mm, IQR: 5-9 mm versus -5, IQR: -11 to -4 mm; p < 0.001), and median Southwick angle (16 degrees , IQR: 6 degrees -23 degrees versus 58 degrees , IQR: 47 degrees -66 degrees ; p < 0.001) revealed better deformity correction with the modified Dunn procedure compared with in situ pinning. Nine patients had good or excellent results in the modified Dunn group compared with four of 15 in the in situ pinning group (p = 0.0343; odds ratio, 5.86; 95% CI, 1.13-40.43). With the numbers available, there were no differences in the numbers of complications in each group (five versus three complications in the in situ and modified Dunn groups, respectively; p = 0.66), but there were more reoperations in the in situ pinning group (three versus seven; p = 0.0230). CONCLUSIONS: The modified Dunn procedure results in better morphologic features of the femur, a higher rate of good and excellent Heyman and Herndon clinical outcome, a lower reoperation rate, and a similar occurrence of complications when compared with in situ pinning for treatment of severe stable SCFE. LEVEL OF EVIDENCE: Level III, therapeutic study Notes: DA - 20150505 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(395) O'Connor D. Groin injuries in professional rugby league players: a prospective study. J Sports Sci 2004; 22(7):629-636. Ref ID: 761 Abstract: Altogether, 100 uninjured professional rugby league players were evaluated over a 2-year period. Their height, body mass, sum of skinfolds, girths and bone diameters were recorded. A Cybex 340 isokinetic dynamometer was used to determine peak torque, work, power, endurance ratios and peak torque ratios of the hip abductors and adductors (5 repetitions at 0.52 and 2.08 rad. s(- 1); 20 repetitions at 3.66 rad. s(- 1)) and knee flexors and extensors (4 repetitions at 1.04 and 3.14 rad. s(- 1); 30 repetitions at 5.22 rad. s(- 1)). Hip abduction and adduction were also assessed with the hip in external rotation. Discriminant function analysis was conducted on all predictor variables to develop a multivariate predictive model capable of classifying players with a high degree of accuracy into groups with and without a groin injury. The model consisted of eight variables and correctly classified 91.7% of the non-injured players and 90.5% of the injured players. The correct classification for the model as a whole was 91.4%. The aetiological factors identified as being related to injury of the groin musculotendinous unit included abduction and adduction-with-rotation peak torque, angle of adduction and abduction-with-rotation peak torque, strength ratio of hip muscle groups, bilateral difference in extension peak torque, femur diameter and body mass Notes: DA - 20040916 IS - 0264-0414 (Print) IS - 0264-0414 (Linking) LA - eng PT - Journal Article SB - IM

(396) O'Donnell J, Economopoulos K, Singh P, Bates D, Pritchard M. The ligamentum teres test: a novel and effective test in diagnosing tears of the ligamentum teres. Am J Sports Med 2014; 42(1):138-143. Ref ID: 591 Abstract: BACKGROUND: A ligamentum teres (LT) injury is a common finding at the time of hip arthroscopic surgery in patients with chronic groin and hip pain; however, LT tears have been difficult to identify before surgery. There have been no unique features identified on history assessment, physical examination, or imaging that reliably identify injuries of the LT preoperatively. PURPOSE: To report a new clinical examination to assess the presence of an LT tear: the LT test. STUDY DESIGN: Cohort study (diagnosis); Level of evidence, 2. METHODS: The study consisted of 75 patients undergoing hip arthroscopic surgery for multiple lesions. Each patient was evaluated by 2 independent examiners using the LT test, leading to a total of 150 tests being performed. The LT test is conducted with the hip flexed at 70 degrees and 30 degrees short of full abduction; the hip is then internally and externally rotated to its limits of motion. Pain on either internal or external rotation is consistent with a positive LT test result. Hip arthroscopic surgery was then performed and all intra-articular abnormalities noted. Arthroscopic images were taken of each LT and examined by a third independent examiner who determined the presence or absence of a tear. Clinical examination findings were compared with the arthroscopic findings to determine the sensitivity, specificity, and positive and negative predictive values. In addition, the presence of intra-articular pathological lesions was compared with the test results to determine if there was a correlation between the presence of an intra-articular pathological abnormality and a positive LT test result. RESULTS: Of the 150 examinations performed, the test result was positive 55% of the time (77 examinations). The sensitivity and specificity of the test were 90% and 85%, respectively. The positive predictive value was 84%, and the negative predictive value was 91%. The presence of an LT tear, pincer lesion, and labral tear that required repair was associated with a positive LT test result. The kappa coefficient for interobserver reliability was .80. CONCLUSION: The LT test is an effective way of assessing the presence of LT tears with moderate to high interobserver reliability. In addition to an LT tear, the presence of a pincer lesion or labral tear requiring repair are also associated with a positive LT test result Notes: DA - 20140103 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(397) O'Keeffe AB, Terris J, Hormbrey P. A sinister cause of back pain in a young man. BMJ (Online) 345 (7873) , 2012 Article Number: e3015 Date of Publication: 08 Sep 2012 2012;(Online). Ref ID: 354 Notes: DB - Embase UI - 2012535597 IN - (O'Keeffe) National Hospital for Neurology and Neurosurgery, London WC1N 3BG, United Kingdom (Terris, Hormbrey) Emergency Department, John Radcliffe Hospital, Oxford, United Kingdom CP - United Kingdom LG - English PT - Journal: Article EM - 201239 DD - 20120921

(398) Oksanen A, Salminen JJ. Tests of spinal mobility and muscle strength in the young: reliability and normative values. Physiotherapy Theory & Practice 1996; 12(3):151-160. Ref ID: 91 Abstract: The inter-rater reliability of 11 tests of spinal mobility and trunk muscle strength commonly used by physiotherapists was determined in 15-year-old schoolchildren with or without low back pain (LBP) identified via questionnaire. The inter-rater correlation in eight tests was strong. In the test measuring lumbar flexion with flexicurve and in the side-bending test based on skin distraction, the correlation was weaker. The inter-rater agreement in testing the dynamic strength of the abdominal muscles was also very strong; the inter-rater reliability was similar for the pupils with and without LBP. A difference was found between the examiners in testing flexibility of the hamstrings. Immediate repetition of the testing procedure improved performance in testing lumbar extension with flexicurve, in the forward- and side-bending tests, and in testing flexibility of the hip flexors and endurance strength of the abdominals. In addition, spinal mobility and strength were examined in a random sample of 14- and 17-year-old healthy schoolchildren. Sagittal mobility increased and trunk muscle strength diminished with age. In girls, endurance strength of the abdominals was diminished and in most of the tests mobility was increased compared with the boys. There was wide variation of mobility and strength by both age and gender among the schoolchildren, which complicates the interpretation of test results in clinical practice Notes: ID - 107318536 IS - 3 CY - Philadelphia, Pennsylvania

(399) Onimus M, Allamel G, Manzone P, Laurain JM. Prevention of hip dislocation in cerebral palsy by early psoas and adductors tenotomies. J Pediatr Orthop 1991; 11(4):432-435. Ref ID: 788 Abstract: The effectiveness of psoas and adductor tenotomies for the prevention of hip dislocation was investigated in 40 hips of 24 total-body-involved children. Age at operation ranged from 1.6 to 10 years. Results were evaluated by the Reimers migration percentage (MP). Average follow-up was 3 years. An overall good result was observed in 67% of cases. Results were correlated with age and MP at operation. Successful results were obtained in 90% of patients under age 4 who had an MP less than 33%. Preventive surgery should be performed at 2 or 3 years of age, before the onset of hip dysplasia Notes: DA - 19910905 IS - 0271-6798 (Print) IS - 0271-6798 (Linking) LA - eng PT - Journal Article SB - IM

(400) Owiny JR, Vandewoude S, Painter JT, Norrdin RW, Rao Veeramachaneni DN. Hip dysplasia in rabbits: Association with nest box flooring. Comparative Medicine 51 (1) ()(pp 85-88), 2001 Date of Publication: 2001 2001;(1):85-88. Ref ID: 524 Abstract: Purpose: To study etiologic aspects of hip dysplasia in a colony of Dutch-belted rabbits. Methods: Rabbits used in the study were part of a reproductive toxicologic study. Incidence of hip dysplasia among 296 Dutch-Belted rabbit kits raised on waxed cardboard, smooth Plexiglas, or Plexiglas covered with textured adhesive strips was recorded. All animals were examined at 2 to 4 weeks of age for inability to adduct one or more limbs, then were classified as normal or dysplastic. A subset of 16 juvenile male rabbits (4 normal, 12 affected) raised on Plexiglas flooring were given a physical examination at 12 weeks of age followed by complete necropsy. In four animals (one normal, three affected), pelvic radiography and neurologic examination were performed. Results: Seven percent of the rabbits kits reared on waxed cardboard flooring and 22% of those reared on smooth Plexiglas flooring developed hip dysplasia. Animals reared on Plexiglas floor with traction strips did not have evidence of hip dysplasia. Among the animals selected for detailed analysis, body weight was similar between rabbits with or without splay leg. Affected animals had splaying of one or both hind limbs, various degrees of flattening and reduction of the size of the femoral head, subluxation of the hip, valgus deformity, and patellar luxation. Histologically, there was marked thickening of the hip joint capsule with fibrocartilage formation, mild trabecular bone loss, and bony sclerosis of the proximal portion of the femur and adductor muscle hypoplasia. Conclusions: Provision of non-slippery flooring during the postnatal period is critical in preventing development of hip dysplasia in rabbits. Hip dysplasia resulted in significant musculoskeletal changes, but not abnormal neurologic development Notes: DB - Embase UI - 2001126229 IN - (Owiny, Vandewoude, Painter, Norrdin, Rao Veeramachaneni) Johns Hopkins University, 459 Ross Research Building, 720 Rutland Avenue, Baltimore, MD 21208, United States CP - United States LG - English PT - Journal: Article EM - 200100 DD - 20010417

(401) Pace T, Finley S, Snider R, Looper J, Tanner S. Short-Term Results of Novel Constrained Total Hip Arthroplasty. Orthop Rev (Pavia) 2015; 7(2):5779. Ref ID: 538 Abstract: Constrained acetabular components have only been recommended as a salvage option for the persistently unstable total hip arthroplasty (THA), due to limited range of motion and less than satisfactory component failure rates. This is a retrospective review of 137 patients with 154 consecutive primary constrained THAs performed between November 2003 and August 2007. We reviewed serial radiographs, postoperative complications, groin/thigh pain, and compared preoperative and postoperative Harris Hip Scores. With a mean follow-up of 6 years, there was 1.9% dislocation rate, 0% component failure rate, and 2.6% infection rate. Seven patients reported continued groin pain, and three had continued thigh pain. One patient showed radiographic evidence of 1 mm polyethylene wear. Radiographic review showed no evidence of osteolysis or stem subsidence. Harris Hip Scores improved from a mean of 68.8 (range 58-87) preoperatively to 98.9 (range 65-100) at final clinical assessment. This constrained acetabular prosthesis had a dislocation rate of less than 2%, with 0% component failure rate at a minimum of 2 years of follow-up suggesting this prosthesis may be a viable alternative for patients at risk for instability or those known to have recurrent instability Notes: DA - 20150902 IS - 2035-8237 (Print) IS - 2035-8164 (Linking) LA - eng PT - Journal Article

(402) Padhy D, Park S-W, Jeong W-K, Lee D-H, Park JH, Han S-B. Femoroacetabular impingement due to synovial chondromatosis of the hip joint. Orthopedics 32 (12) ()(pp 921), 2009 Date of Publication: December 2009 2009;(12):921. Ref ID: 456 Abstract: This article describes a rare case of primary synovial chondromatosis of the hip associated with classical femoroacetabular impingement. A 38-year-old man presented with left hip pain of 3 years' duration and range of motion (ROM) limitations. Flexion abduction external rotation and impingement tests were positive and preoperative Harris Hip Score was 68. Radiographs showed multiple loose bodies, a calcified labrum, and a bump at the head-neck junction. Computed tomography (CT) confirmed the findings. Acetabular overcoverage and the crossing over sign were present. The lateral center edge angle was 48degree , acetabular roof angle was +2degree , alpha angle was 80degree , triangular index was 2 mm more than the radius of the femoral head, and anterior offset was 4.5 mm. Magnetic resonance imaging (MRI) revealed an acetabular labral tear, impaction on the femoral head-neck junction, and mild synovial hypertrophy with no acetabular cartilage damage. Loose body removal along with a total synovectomy, excision of the calcified labrum, and osteochondroplasty of the head-neck junction were performed after safe surgical dislocation. At 6-month follow-up, the patient was doing well with a Harris Hip Score of 96, improved ROM, and negative flexion abduction external rotation and impingement tests. Early diagnosis of synovial chondromatosis and impingement can be made by MRI and CT. Clinically, flexion abduction external rotation and impingement tests are positive in 99% and 97% of cases, respectively. Although arthroscopy management has been described for both the entities separately, it has drawbacks. With an open procedure, debridement of the hip joint and excision of femoral and acetabular impingement deformities are possible at the same time. Copyright Â© 2009 SLACK Incorporated. All rights reserved Notes: DB - Embase UI - 2010064610 IN - (Padhy, Park, Jeong, Lee, Park, Han) Department of Orthopedic Surgery, Korea University Medical Center, 126-1, Anamdong 5-Ga, SeongBuk-Gu, Seoul, South Korea CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100521

(403) Padua DA, Bell DR, Clark MA. Neuromuscular characteristics of individuals displaying excessive medial knee displacement. J Athl Train 2012; 47(5):525-536. Ref ID: 624 Abstract: CONTEXT: Knee-valgus motion is a potential risk factor for certain lower extremity injuries, including anterior cruciate ligament injury and patellofemoral pain. Identifying neuromuscular characteristics associated with knee-valgus motion, such as hip and lower leg muscle activation, may improve our ability to prevent lower extremity injuries. OBJECTIVE: We hypothesized that hip and lower leg muscle-activation amplitude would differ among individuals displaying knee valgus (medial knee displacement) during a double-legged squat compared with those who did not display knee valgus. We further suggested that the use of a heel lift would alter lower leg muscle activation and frontal-plane knee motion in those demonstrating medial knee displacement. DESIGN: Descriptive laboratory study. SETTING: Research laboratory. PATIENTS OR OTHER PARTICIPANTS: A total of 37 healthy participants were assigned to the control (n = 19) or medial-knee-displacement (n = 18) group based on their double-legged squat performance. MAIN OUTCOME MEASURE(S): Muscle-activation amplitude for the gluteus maximus, gluteus medius, adductor magnus, medial and lateral gastrocnemius, and tibialis anterior was measured during 2 double-legged squat tasks. The first task consisted of performing a double-legged squat without a heel lift; the second consisted of performing a double-legged squat task with a 2-in (5.08-cm) lift under the heels. RESULTS: Muscle-activation amplitude for the hip adductor, gastrocnemius, and tibialis anterior was greater in those who displayed knee valgus than in those who did not (P < .05). Also, use of heel lifts resulted in decreased activation of the gluteus maximus, hip adductor, gastrocnemius, and tibialis anterior muscles (P < .05). Use of heel lifts also eliminated medially directed frontal-plane knee motion in those displaying medial knee displacement. CONCLUSIONS: Medial knee displacement during squatting tasks appears to be associated with increased hip-adductor activation and increased co-activation of the gastrocnemius and tibialis anterior muscles Notes: DA - 20121016 IS - 1938-162X (Electronic) IS - 1062-6050 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(404) Paik NC. Acute calcific tendinitis of the gluteus medius: an uncommon source for back, buttock, and thigh pain. Semin Arthritis Rheum 2014; 43(6):824-829. Ref ID: 589 Abstract: OBJECTIVE: This study was conducted to describe the imaging features and clinical manifestations in acute calcific tendinitis (CaT) of the gluteus medius muscle (GMe). METHODS: A retrospective analysis was conducted, aimed at six patients with acute calcific tendinitis of the gluteus medius muscle (CaT-GMe), who were seen between January 2011 and December 2012. Clinical presentations, radiologic data (radiography, CT, and MRI), and laboratory reports were all subject to review. RESULTS: All patients presented with pain and decreased range of motion (ROM) at the hip. Two of the six patients experienced pain in the anterolateral thigh and groin, with antalgic gait (anterior group). The other four complained of low back, buttock, and posterolateral thigh pain, accompanied by difficulty in standing and antalgic gait (posterior group). Edema within the GMe or effusion surrounding the muscle was regularly identified on MRIs. Calcific deposits were conspicuous in the gluteus medius tendon attachments to the lateral (anterior group) and superoposterior (posterior group) facets of the greater trochanter on radiography, CT, or MRI. Complete resolution of symptoms was uniformly achieved in 5-10 days with conservative management. CONCLUSIONS: Acute CaT-GMe should be considered in any patient suffering lateral hip pain (with either groin or low back pain) and ROM limitation. Images of the hip characteristically show edema of the gluteus medius and calcifications lateral or superior to the greater trochanter Notes: DA - 20140620 IS - 1532-866X (Electronic) IS - 0049-0172 (Linking) LA - eng PT - Journal Article SB - IM

(405) Pajaczkowski JA. The stubborn hip: idiopathic avascular necrosis of the hip. J Manipulative Physiol Ther 2003; 26(2):107. Ref ID: 768 Abstract: OBJECTIVE: To highlight the unusually indolent course of avascular necrosis in this patient, the risk factors of which chiropractors should be aware, the necessity of and means to an early diagnosis, the limitations of plain film radiographs, as well as the current medical treatments. CLINICAL FEATURES: A 27-year-old male professional soccer player had a tight and achy right hip for approximately 6 years, a condition that increased with physical activity. His active range of motion was limited by 25% in extension and abduction, and all resisted ranges of motion produced pain. After an equivocal radiograph and bone scan, magnetic resonance imaging revealed a subchondral defect located on the superior aspect of the right femoral head, consistent with avascular necrosis of the femoral head. INTERVENTION AND OUTCOME: Presurgical management included Cybex testing, massage, myofascial release, interferential current, muscle strengthening, and muscle balancing exercises 3-5 times per week for 5 months. The patient underwent a curette procedure. Six weeks later, he returned to the chiropractic office for postsurgical rehabilitation, in which he is still involved today. He has made progress with respect to flexibility, strength, and muscle coordination. CONCLUSIONS: Idiopathic avascular necrosis of the hip is a clinical entity characterized by pain in the hip made worse with activity and at night, which may radiate to the groin, back, or thigh. Often, physical exam and radiographic findings are equivocal, at which point advanced imaging such as magnetic resonance imaging should be ordered to identify the disease in its earliest stages Notes: DA - 20030213 IS - 0161-4754 (Print) IS - 0161-4754 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(406) Palmer AJ, Folkard S, Gimpel M, Broomfield J, Newton J, McNally E et al. Pathogenesis of cam morphology in english premiership footballers. Osteoarthritis and Cartilage Conference: 2015 Osteoarthritis Research Society International World Congress, OARSI 2015 Seattle, WA United States Conference Start: 20150430 Conference End: 20150503 Conference Publication: (var pagings) 23 ()(pp A57-A58 2015;(var.pagings):A57-A58. Ref ID: 170 Abstract: Purpose: Femoroacetabular impingement (FAI) is a cause of pain and osteoarthritis. The pathogenesis of this condition remains poorly understood and this limits the ability to develop treatment strategies. Cam morphology is thought to develop during adolescence, often in association with intense sporting activity. Postulated mechanisms include a subclinical slipped upper femoral epiphysis (SUFE) or extension of the epiphysis along the anterosuperior femoral neck. Cam morphology has an extremely high prevalence amongst professional footballers making them an ideal cohort to study disease pathogenesis. Methods: Players at an English Premiership Football (Soccer) Club Academy were invited to participate using a randomisation algorithm within each age group. The cross-sectional cohort was loaded towards the youngest age groups to enhance a future longitudinal study. 20 players were selected from the U10 and U11 teams, and 10 players from the U12, U13, U14, U15, U16, and U18 teams (n=100). Assessments were performed mid-season and included morphological MRI of both hips at 3T (in addition to a questionnaire, clinical examination, urine collection and physiological MRI). Morphological measurements were performed on 30 degree radial slices using Hipmorf software and included i) alpha angle measuring outline of bone ii) alpha angle measuring outline of cartilage iii) anterosuperior physeal extension (distance from medial femoral head to lateral extent of physis parallel with neck axis and divided by femoral head diameter) iv) metaphysis-neck offset (distance from metaphysis to outer border of femoral head perpendicular to neck axis and divided by femoral head diameter). Results: Maximum alpha angle measured on all radial slices increased with age (bone alpha angle r = 0.47 p<0.0001, cartilage alpha angle r=0.63 p<0.0001) and was higher in players with any degree of physeal closure (mean 78.6 degrees) compared with players with an open physis (mean 64.0 degrees) (p<0.0001). Alpha angle was highest at the 1 O'Clock position. Using a threshold of 60 degrees at this position, alpha angles were first raised for cartilage at 10 years of age and bone at 13 years of age. In the youngest age groups, raised cartilage alpha angles were secondary to hypertrophy of the outer border of the physis. Beyond 13 years of age, alpha angles were raised secondary to epiphyseal extension at the same site. The prevalence of cam morphology in participants aged over 16 years of age was 75% for bone alpha angle (mean 73.3) and 82% for cartilage alpha angle (mean 77.3). Cam morphology was bilateral in 91% cases and there was no statistically significant difference in the alpha angle between left and right hips. Alpha angle correlated with anterosuperior epiphyseal extension (cartilage r=0.702 p<0.0001, bone r=0.500 p<0.0001) but not metaphysis-neck offset (cartilage r=0.040 p=0.569, bone r=0.041 p=0.564). Absolute offset increased linearly with age at every radial slice (r = 0.88 p<0.0001) and there was no evidence of SUFE. Conclusions: Cartilaginous hypertrophy at the femoral head-neck junction precedes the appearance of an ossified cam lesion. This is consistent with findings from studies that show internal rotation is lost prior to radiographic evidence of FAI. Early morphological changes appear to represent the novel finding of hypertrophy at the groove of Ranvier and perichondral ring of LaCroix that is followed by epiphyseal migration along the anterosuperior femoral neck. It is this mechanism that gives rise to cam morphology within this cohort and not SUFE. We hypothesise that this represents a physiological response to loading and this is compatible with the bilateral nature of the condition. We have now finished recruitment of an age-matched local population control group that will give further insight into cam lesion development Notes: DB - Embase UI - 71906629 IN - (Palmer, Folkard, Broomfield, Newton, McNally, Taylor, Javaid, Carr, Glyn-Jones) Univ. of Oxford, Oxford, United Kingdom (Gimpel) Southampton Football Club, Southampton, United Kingdom LG - English PT - Journal: Conference Abstract EM - 201525 DD - 20150609

(407) Palmer DH, Ganesh V, Comfort T, Tatman P. Midterm outcomes in patients with cam femoroacetabular impingement treated arthroscopically. Arthroscopy 2012; 28(11):1671-1681. Ref ID: 627 Abstract: PURPOSE: The purpose of this study was to evaluate the midterm outcomes of patients with cam-type femoroacetabular impingement treated arthroscopically. METHODS: Outcomes were measured with the Nonarthritic Hip Score (NAHS), visual analog scale pain scores, and satisfaction levels preoperatively; at 6 weeks and 3, 6, 12, and 24 months postoperatively; and at final follow-up. Two hundred one procedures were available for final assessment with a minimum follow-up of 36 months (mean, 46 months). Ninety-nine percent of hips had a preoperative Tonnis grade of 1 or less. RESULTS: The NAHS significantly improved from a mean of 56.1 to 78.2 (P < .001). Visual analog scale pain scores improved from a mean of 6.8 to 2.7 (P < .001). Preoperative to postoperative satisfaction levels improved from 0.5% to 75% of procedures. Twelve patients required hip arthroplasty during the follow-up period and had a higher incidence of grade 4 acetabular chondral defects versus those without arthroplasty (P < .03). Patients with pincer resections had significantly poorer results versus the remainder of the cohort (P < .01). CONCLUSIONS: We have shown satisfactory results using a validated hip scoring system, showing improvement in NAHS, pain scores, and satisfaction levels in a large cohort of patients with cam-type femoroacetabular impingement followed up for a mean of 46 months. The results have shown improvement and stability throughout a range of 36 to 70 months' follow-up. There was no difference in preoperative to postoperative NAHS between age groups. There was a larger percentage of grade 4 acetabular chondral defects in those patients who needed conversion to hip arthroplasty. Patients with associated pincer pathology had poorer results after acetabular rim resection. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20121030 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Evaluation Studies PT - Journal Article SB - IM

(408) Paluska SA. An overview of hip injuries in running. Sports Medicine 2005; 35(11):991-1014. Ref ID: 83 Abstract: Running has steadily gained in worldwide popularity and is the primary exercise modality for many individuals of all ages. Its low cost, versatility, convenience and related health benefits appeal to men and women of broad cultural, ethnic and economic backgrounds. With more children and adults participating in recreational and competitive running, the incidence of injuries has steadily increased. Most running-related injuries affecting the lower extremities are due to preventable training errors, and some may necessitate medical evaluation or a significant reduction in training. Hip injuries in runners are due to interactions of intrinsic and extrinsic factors that adversely affect the complex regional anatomy. Acute or chronic hip pain presents a diagnostic and therapeutic challenge because the vague, nonspecific symptoms and signs may originate from local, regional or distant foci. Muscle strains and tendonitis are the most common aetiologies of hip pain and typically result from sudden acceleration/deceleration manoeuvres, direction changes or eccentric contractions. Apophysitis and avulsion fractures may affect younger runners and produce localised pain at muscle attachment sites. Iliotibial band syndrome is a common cause of lateral hip and knee symptoms characterised by sharp or burning pain that is exacerbated by activity. Bursitis, due to repetitive activity or acute trauma, may affect the trochanteric, ischial or iliopectineal bursae. Hip osteoarthritis may also produce persistent pain that worsens with running. Stress fractures are potentially serious conditions that affect women more frequently than men. Snapping hip syndrome is a benign condition that results from tight connective tissues' passing repeatedly over the greater trochanter, anterior hip capsule, lesser trochanter, femoral head or iliopectineal eminence. Acetabular labral tears, sports hernias and nerve entrapment syndromes are also potential causes of persistent hip pain in runners. Treatment of hip pain in running should focus not only on addressing the symptoms but also identifying the underlying conditions that precipitated the injury. Injury prevention and comprehensive rehabilitation are essential, since prior hip injuries increase the risk of subsequent ones. Coaches, trainers and medical personal who care for runners should advocate running regimens, surfaces, shoes, technique and individualised conditioning programmes that minimise the risk of initial or recurrent hip injuries Notes: ID - 106384804 IS - 11

(409) Papadopoulos K, Noyes J, Jones JG, Thom JM, Stasinopoulos D. Clinical tests for differentiating between patients with and without patellofemoral pain syndrome. Hong Kong Physiotherapy Journal 32 (1) ()(pp 35-43), 2014 Date of Publication: June 2014 2014;(1):35-43. Ref ID: 247 Abstract: Patellofemoral pain syndrome (PFPS) is a very common knee condition with various aetiologies. Because of the nebulous factors of the syndrome, physiotherapists often find it difficult to assess and treat these patients. The aim of this study was to identify the clinical assessment tool that can differentiate PFPS patients from patients with other lower limb conditions. Fifty-two patients from the National Health System (26 with PFPS and 26 with other lower limb conditions) took part in this study. They underwent a series of strength, flexibility, and stress tests. Their pain levels were also recorded. The results showed that among the various clinical tests, only the hip flexion component of the Thomas test was able to differentiate between the two groups. In addition, the stress test showed that the PFPS group could not recover their gluteal muscle strength in the same way the group with the other lower limb conditions did. The Lower Extremity Functional Scale was found to be more able to differentiate between the two groups than the Anterior Knee Pain Scale. This study has shown that it is difficult to find specific clinical tests to diagnose PFPS. More research is needed in this important area. Â© 2013 Notes: DB - Embase UI - 2014266605 IN - (Papadopoulos, Noyes) School of Healthcare Sciences, Bangor University, Bangor, Gwynedd, United Kingdom (Papadopoulos, Stasinopoulos) School of Sciences, European University of Cyprus, Nicosia, Cyprus (Papadopoulos, Jones, Thom) School of Sports Health and Exercise Sciences, Bangor University, Bangor, Gwynedd, United Kingdom (Jones) Department of Rheumatology, Ysbyty Gwynedd, Bangor, Gwynedd, United Kingdom CP - Singapore LG - English PT - Journal: Article EM - 201418 DD - 20140430

(410) Park M-S, Yoon S-J, Kim Y-J, Chung W-C. Hip arthroscopy for femoroacetabular impingement: The changing nature and severity of associated complications over time. Arthroscopy - Journal of Arthroscopic and Related Surgery 30 (8) ()(pp 957-963), 2014 Date of Publication: August 2014 2014;(8):957-963. Ref ID: 200 Abstract: Purpose The aim of this study was to assess complications related to arthroscopy for femoroacetabular impingement (FAI) and how these complications have changed as we have gained more experience with this procedure. Methods The authors reviewed 200 hips (197 patients). The average patient age was 44.64 years and the mean follow-up time was 28.2 months. All patients underwent hip arthroscopy in the supine position. Clinically, Modified Harris Hip Scores (MHHS) and patient satisfaction with outcome were used. We divided complications into 3 groups: Group 1 related to traction, group 2 related to surgical technique or implant failure, and group 3 related to outcomes. Results Clinically, the MHHS improved from 69.96 (+/-6.10) to 80.45 (+/-7.00), and patient satisfaction with the achieved outcome increased to 8.87 (+/-0.76). The overall complication rate was 15% (30 of 200 hips). Group 1 consisted of 4 patients with pudendal neuropraxia and 2 patients with ankle joint pain (P =.013). Group 2 consisted of 2 patients with lateral femoral cutaneous neuropraxia, 2 patients with iatrogenic labral perforations, one patient with a labral tear, and 4 patients with femoral head scuffs. There were 4 incidents of instrument breakage. Furthermore, 3 suture anchors failed, a second-degree burn occurred in one patient, and there was incomplete reshaping in 5 hips (P =.045). Group 3 included one patient with a snapping sound and heterotopic ossification. Second-look arthroscopy was performed for 5 hips. All the complications outlined in groups 1 and 2 are related to the learning curve and have statistical significance (P <.05). Conclusions Complications relating to hip arthroscopy took different forms during the early learning period, but overall complication rates decreased along the learning curve. Surgical technique-related complications such as problems with suture anchors and the reshaping of cam impingements were also considered during the later stage. Â© 2014 by the Arthroscopy Association of North America Notes: DB - Embase UI - 2014522357 IN - (Park, Yoon, Kim) Department of Orthopedic Surgery, Chonbuk National University Hospital, Research Institute of Clinical Medicine, Jeonju, 561-712, South Korea (Chung) Department of Orthopedic Surgery, Carollo Hospital, Sunchun, South Korea CP - United States LG - English PT - Journal: Article EM - 201591 DD - 20140818

(411) Park RJ, TSAO HENR, CLAUS ANDR, CRESSWELL AG, HODGES PW. Recruitment of Discrete Regions of the Psoas Major and Quadratus Lumborum Muscles Is Changed in Specific Sitting Postures in Individuals With Recurrent Low Back Pain. Journal of Orthopaedic & Sports Physical Therapy 2013; 43(11):833-841. Ref ID: 52 Notes: IS - 11

(412) Park SE, Ko Y. Use of the Quadriceps Tendon in Arthroscopic Acetabular Labral Reconstruction: Potential and Benefits as an Autograft Option. Arthroscopy Techniques 2 (3) ()(pp e217-e219), 2013 Date of Publication: August 2013 2013;(3):e217-e219. Ref ID: 280 Abstract: The acetabular labrum serves many integral functions within the hip joint. As a result, novel surgical techniques that aim to preserve or reconstruct the labrum have entered the spotlight. We have performed labral reconstruction using the quadriceps tendon as an autograft for a patient with a moderate labral defect. The purpose of this report is to propose this novel donor site as a viable alternative for labral reconstruction using an autograft; the potential benefits over currently popular methods are discussed. Â© 2013 Arthroscopy Association of North America Notes: DB - Embase UI - 2013599942 IN - (Park) Department of Orthopaedic Surgery, Dongguk University International Hospital, Ilsan, South Korea (Ko) School of Medicine, University of Queensland, St. Lucia, Australia CP - France LG - English PT - Journal: Article EM - 201342 DD - 20131014

(413) Patricelli AJ, Dueland RT, Adams WM, Fialkowski JP, Linn KA, Nordheim EV. Juvenile pubic symphysiodesis in dysplastic puppies at 15 and 20 weeks of age. Vet Surg 2002; 31(5):435-444. Ref ID: 770 Abstract: OBJECTIVE: To examine the effects of juvenile pubic symphysiodesis (JPS) on hip joint conformation, hip laxity, gait, and the development of degenerative joint disease (DJD) in dysplastic puppies operated at 15 and 20 weeks of age. STUDY DESIGN: Randomized controlled prospective study. ANIMALS-Eighteen female hound puppies with increased hip laxity. METHODS: Puppies were randomized to 1 of 4 treatment groups: JPS at 15 weeks of age (n = 6), sham-operated control at 15 weeks of age (n = 3), JPS at 20 weeks of age (n = 6), and sham-operated control at 20 weeks of age (n = 3). Hip extension with pain scoring, Ortolani palpation, hip reduction angle measurement (HRA), PennHIP radiography (University of Pennsylvania) with measurement of distraction index, Norberg angle measurement, and transverse computed tomographic imaging to measure acetabular angle (AA) and dorsal acetabular rim angle (DARA), were tested preoperatively, and at 1 and 2 years of age. RESULTS: JPS resulted in significant changes in AA, HRA, DARA, and conversion to Ortolani negative status. Larger and more rapid changes in hip conformation were seen when surgery was performed at 15 weeks of age. No significant changes were identified in control dogs. Twenty-five percent of JPS dogs developed DJD whereas 83% of control dogs developed DJD. CONCLUSIONS: JPS resulted in significant improvements in hip joint conformation and hip laxity in dysplastic puppies treated at 15 and 20 weeks of age. Improvements in conformation were significantly greater when surgery was performed at 15 weeks of age. CLINICAL RELEVANCE: JPS appears to be a promising treatment for hip dysplasia and is a safe and technically simple procedure to perform Notes: DA - 20020904 IS - 0161-3499 (Print) IS - 0161-3499 (Linking) LA - eng PT - Clinical Trial PT - Journal Article PT - Randomized Controlled Trial PT - Research Support, Non-U.S. Gov't SB - IM

(414) Paul DJ, Nassis GP, Whiteley R, Marques JB, Kenneally D, Chalabi H. Acute responses of soccer match play on hip strength and flexibility measures: potential measure of injury risk. Journal of Sports Sciences 2014; 32(13):1318-1323. Ref ID: 102 Abstract: Regular measurements of groin risk factors may offer a preventive measure against injury. Therefore, the aim of this study was to (1) determine minimal detectable change (MDC) and reliability of hip flexibility and strength measures and to (2) identify the effect soccer match play load has on these measures. Reliability was determined for bent knee fall out test, hip abduction and adduction (hand-held dynamometry (HHD)) in 20 trained youth male soccer players. Reliability was evaluated with the intra-class correlation coefficient (ICC[2,1]), 95% confidence intervals (CI). Hip strength and flexibility measures were taken before and after an international friendly match. Intra-rater reliability ICC ranges were bent knee fall out (0.75â€“0.90), abduction (0.83â€“0.90) and adduction (0.72â€“0.96). Inter-rater ICCs (95% CI) were bent knee fall out test [0.75 (0.39â€“0.90) right, 0.71 (0.27â€“0.89) left hip]; abduction [0.80 (0.50â€“0.92) right, 0.81 (0.53â€“0.92) left hip] and adduction [0.72 (0.31â€“0.89) right, 0.70 (0.26â€“0.88) left hip]. MDCs were as low as 20.7% of the mean for hip flexibility and 12.5% for strength. In conclusion, HHD and the bent knee fall out test are reliable tools to measure changes in hip strength and flexibility. Finally, a threshold may exist in which match play load negatively impacts hip flexibility Notes: ID - 103971484 IS - 13 CY - Philadelphia, Pennsylvania

(415) Pavelka K, Gatterova J, Olejarova M, Machacek S, Giacovelli G, Rovati LC. Glucosamine sulfate use and delay of progression of knee osteoarthritis: A 3-year, randomized, placebo-controlled, double-blind study. Archives of Internal Medicine 162 (18) ()(pp 2113-2123), 2002 Date of Publication: 14 Oct 2002 2002;(18):2113-2123. Ref ID: 515 Abstract: Background: Conventional symptomatic treatments for osteoarthritis do not favorably affect disease progression. The aim of this randomized, placebo-controlled trial was to determine whether long-term (3-year) treatment with glucosamine sulfate can modify the progression of joint structure and symptom changes in knee osteoarthritis, as previously suggested. Methods: Two hundred two patients with knee osteoarthritis (using American College of Rheumatology criteria) were randomized to receive oral glucosamine sulfate, 1500 mg once a day, or placebo. Changes in radiographic minimum joint space width were measured in the medial compartment of the tibiofemoral joint, and symptoms were assessed using the algo-functional indexes of Lequesne and WOMAC (Western Ontario and McMaster Universities). Results: Osteoarthritis was of mild to moderate severity at enrollment, with average joint space widths of slightly less than 4 mm and a Lequesne index score of less than 9 points. Progressive joint space narrowing with placebo use was -0.19 mm (95% confidence interval, -0.29 to -0.09 mm) after 3 years. Conversely, there was no average change with glucosamine sulfate use (0.04 mm; 95% confidence interval, -0.06 to 0.14 mm), with a significant difference between groups (P=.001). Fewer patients treated with glucosamine sulfate experienced predefined severe narrowings (>0.5 mm): 5% vs 14% (P=.05). Symptoms improved modestly with placebo use but as much as 20% to 25% with glucosamine sulfate use, with significant final differences on the Lequesne index and the WOMAC total index and pain, function, and stiffness subscales. Safety was good and without differences between groups. Conclusion: Long-term treatment with glucosamine sulfate retarded the progression of knee osteoarthritis, possibly determining disease modification Notes: DB - Embase UI - 2002366915 IN - (Pavelka) Department of Medicine and Rheumatology, Charles University, Prague, Czech Republic (Pavelka, Gatterova, Olejarova, Machacek) Institute of Rheumatology, Prague, Czech Republic (Giacovelli, Rovati) Department of Clinical Pharmacology, Rotta Research Laboratorium, Monza, Italy CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20021030

(416) Peck D. Slipped capital femoral epiphysis: diagnosis and management. Am Fam Physician 2010; 82(3):258-262. Ref ID: 683 Abstract: Slipped capital femoral epiphysis is the most common hip disorder in adolescents, and it has a prevalence of 10.8 cases per 100,000 children. It usually occurs in children eight to 15 years of age, and it is one of the most commonly missed diagnoses in children. Slipped capital femoral epiphysis is classified as stable or unstable based on the stability of the physis. The condition is associated with obesity and growth surges, and it is occasionally associated with endocrine disorders such as hypothyroidism, growth hormone supplementation, hypogonadism, and panhypopituitarism. Patients usually present with limping and poorly localized pain in the hip, groin, thigh, or knee. Diagnosis is confirmed by bilateral hip radiography, which needs to include anteroposterior and frog-leg lateral views in patients with stable slipped capital femoral epiphysis, and anteroposterior and cross-table lateral views in patients with the unstable form. The goals of treatment are to prevent slip progression and avoid complications such as avascular necrosis and chondrolysis. Stable slipped capital femoral epiphysis is usually treated using in situ screw fixation. Treatment of unstable slipped capital femoral epiphysis usually involves in situ fixation, but there is controversy about the timing of surgery, value of reduction, and whether traction should be used Notes: DA - 20100802 IS - 1532-0650 (Electronic) IS - 0002-838X (Linking) LA - eng PT - Journal Article PT - Review SB - AIM SB - IM

(417) Pedrinelli A, e Almeida AM. Selections From Recent Portuguese Language Journals. American Journal of Sports Medicine 2012; 40(11):2645-2648. Ref ID: 60 Notes: IS - 11

(418) Perrott MA, Pizzari T, Cook J. Lumbopelvic exercise reduces lower limb muscle strain injury in recreational athletes. Physical Therapy Reviews 2013; 18(1):24-33. Ref ID: 111 Abstract: Background: Lower limb muscle strain injury (LLMSI) has a high incidence in sport. Reports of injury reduction after lower limb stretching and strengthening interventions have been inconsistent; however, it has been proposed that poor proximal control may predispose athletes to LLMSI. Deficits in lumbopelvic stabilizers, reduced trunk control, pelvic strength imbalance, poor balance and reduced hip flexibility have been reported as risk factors for leg muscle injuries including hamstring, groin and thigh strain. Exercise interventions targeting the lumbopelvic region may be effective in preventing LLMSI. Objective: To determine if lumbopelvic exercise interventions reduce the incidence of LLMSI. Methods: Databases were searched for exercise trials that targeted the lower back, abdomen, pelvis and hip. The search included a range of interventions: lumbopelvic stability, resistance training, muscle stretching and posture or balance exercise. Quality of included trials was assessed using the PEDro scale. Results: Six studies were identified that compared lumbopelvic exercise with other interventions or usual training and reported the incidence of LLMSI. Lumbopelvic exercise intervention was favoured with a significant effect size both in a meta-analysis (OR = 0Â·40, 95% CI 0Â·17-0Â·94, P = 0Â·03) and in a sensitivity analysis based on one high quality study (OR = 0Â·27, 95% CI 0Â·09-0Â·75, P = 0Â·01). Sub-group analysis of three balance studies did not show a significant effect in reducing LLMSI. Conclusions: Lumbopelvic exercise reduces the incidence of LLMSI. Stabilization, agility and neuromuscular were the most successful interventions Notes: ID - 104302999 IS - 1

(419) Peters CL, Anderson LA, Erickson JA, Anderson AE, Weiss JA. An algorithmic approach to surgical decision making in acetabular retroversion. Orthopedics 2011; 34(1):10. Ref ID: 673 Abstract: The optimum treatment for the young adult patient with symptomatic femoroacetabular impingement due predominately to acetabular retroversion remains unknown. The retroversion deformity can be associated with a volumetrically deficient or sufficient acetabulum based on the adequacy of lateral and posterior coverage. We prospectively collected clinical data from 2001 to 2006 on 60 hips with symptomatic femoroacetabular impingement that had radiographic evidence of acetabular retroversion defined as a crossover sign on an adequate anteroposterior radiograph or retroversion on magnetic resonance imaging or computed tomography. Our treatment algorithm for acetabular retroversion used measurements of acetabular coverage (lateral center edge angle and the posterior wall sign) and condition of acetabular cartilage to direct treatment of acetabular retroversion. The algorithm directed the surgeon to perform a periacetabular osteotomy in 30 hips and a surgical dislocation and osteochondroplasty of the femoral head-neck junction and acetabular rim in 30 hips. Harris Hip Score improved from 52 to 90 in the hips treated with surgical dislocation and osteochondroplasty and 72 to 91 in the hips treated with periacetabular osteotomy, with an overall survivorship of 96% at 4 years. Patient follow-up averaged 46 months (range, 24-75 months). Elimination of the crossover sign and correction of the posterior wall sign occurred in >90% of all patients when present. The results indicate that hips with acetabular retroversion, deficient posterior and/or lateral acetabular coverage, and intact hyaline cartilage can be effectively treated with acetabular reorientation, while retroverted hips with anterior overcoverage but sufficient posterior coverage are effectively treated with osteochondroplasty of the acetabulum and proximal femur Notes: DA - 20110107 IS - 1938-2367 (Electronic) IS - 0147-7447 (Linking) LA - eng PT - Journal Article SB - IM

(420) Petropoulos AS, Sferopoulos NK. [Post traumatic myositis ossificans of the iliopsoas muscle. Apropos of a case with review of the literature]. Rev Chir Orthop Reparatrice Appar Mot 1997; 83(8):747-751. Ref ID: 785 Abstract: A case of traumatic myositis ossificans of the iliopsoas muscle in a 13 year old ballet dancer is presented. A history of multiple minor injuries to the region of the left hip in addition to the radiographic appearance of calcification were indicative of ectopic bone formation. The lesion was explored surgically because of the clinical symptoms of the coexistant femoral hernia as well as to obtain biopsy material to exclude a soft tissue tumor. Histological examination demonstrated the zoning effect of myositis ossificans with patterns varying from a cellular central zone to a peripheral one of fairly well oriented bone. The patient remains symptom-free and no radiographic evidence of recurrence was observed four years postoperatively Notes: DA - 19980616 IS - 0035-1040 (Print) IS - 0035-1040 (Linking) LA - fre PT - English Abstract PT - Journal Article PT - Review SB - IM

(421) Philippon M, Schenker M, Briggs K, Kuppersmith D. Femoroacetabular impingement in 45 professional athletes: associated pathologies and return to sport following arthroscopic decompression. Knee Surg Sports Traumatol Arthrosc 2007; 15(7):908-914. Ref ID: 738 Abstract: Femoroacetabular impingement (FAI) occurs when an osseous abnormality of the proximal femur (cam) or acetabulum (pincer) triggers damage to the acetabular labrum and articular cartilage in the hip. Although the precise etiology of FAI is not well understood, both types of FAI are common in athletes presenting with hip pain, loss of range-of-motion, and disability in athletics. An open surgical approach to decompressing FAI has shown good clinical outcomes; however, this highly invasive approach inherently may delay or preclude a high level athlete's return to play. The purpose of this study was to define associated pathologies and determine if an arthroscopic approach to treating FAI can allow professional athletes to return to high-level sport. Hip arthroscopy for the treatment of FAI allows professional athletes to return to professional sport. Between October 2000 and September 2005, 45 professional athletes underwent hip arthroscopy for the decompression of FAI. Operative and return-to-play data were obtained from patient records. Average time to follow-up was 1.6 years (range: 6 months to 5.5 years). Forty two (93%) athletes returned to professional competition following arthroscopic decompression of FAI. Three athletes did not return to play; however, all had diffuse osteoarthritis at the time of arthroscopy. Thirty-five athletes (78%) remain active in professional sport at an average follow-up of 1.6 years. Arthroscopic treatment of FAI allows professional athletes to return to professional sport Notes: DA - 20070720 IS - 0942-2056 (Print) IS - 0942-2056 (Linking) LA - eng PT - Journal Article SB - IM

(422) Philippon MJ, Schenker ML, Briggs KK, Kuppersmith DA, Maxwell RB, Stubbs AJ. Revision hip arthroscopy. Am J Sports Med 2007; 35(11):1918-1921. Ref ID: 734 Abstract: BACKGROUND: Hip arthroscopy has become increasingly popular; however, little is known about revision hip arthroscopy. HYPOTHESIS: Revision hip arthroscopy is associated with unaddressed femoroacetabular impingement. The purpose of this study was to describe reasons for revision hip arthroscopy. STUDY DESIGN: Case series; Level of evidence, 4. METHODS: Between March 2005 and March 2006, 37 revision hip arthroscopies were performed by the senior author. Data were collected through retrospective review of clinical and operative notes. RESULTS: All patients required revision surgery because of persistent hip pain. There were 25 women and 12 men with an average age of 33 years (range, 16-53 years). The average time from prior surgery to revision was 20.5 months (range, 2.9-84 months). Common findings among patients needing revision were hip pain, decreased range of motion, and functional disability. The average modified Harris Hip Score was 53 (range, 22-99). Thirty-six patients had radiographic evidence of femoroacetabular impingement at the time of revision. Revision procedures included 34 (95%) for femoroacetabular impingement, 32 (87%) for labral lesions, 26 (70%) for a chondral defect, 23 (62%) for lysis of adhesions, and 13 (35%) for previously unaddressed instability. Two patients had total hip arthroplasty after revision, and 3 patients required further revision. Of the remaining 32 patients, early follow-up was obtained on 27 (84%) at an average of 12.7 months postoperatively (range, 6-19 months). Outcomes showed patients regained some of their lost function within the first year. CONCLUSION: Patients commonly required revision hip arthroscopy because of persistent impingement Notes: DA - 20071023 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article PT - Multicenter Study SB - IM

(423) Philippon MJ, Briggs KK, Yen YM, Kuppersmith DA. Outcomes following hip arthroscopy for femoroacetabular impingement with associated chondrolabral dysfunction: minimum two-year follow-up. J Bone Joint Surg Br 2009; 91(1):16-23. Ref ID: 716 Abstract: Over an eight-month period we prospectively enrolled 122 patients who underwent arthroscopic surgery of the hip for femoroacetabular impingement and met the inclusion criteria for this study. Patients with bilateral hip arthroscopy, avascular necrosis and previous hip surgery were excluded. Ten patients refused to participate leaving 112 in the study. There were 62 women and 50 men. The mean age of the patients was 40.6 yrs (95% confidence interval (CI) 37.7 to 43.5). At arthroscopy, 23 patients underwent osteoplasty only for cam impingement, three underwent rim trimming only for pincer impingement, and 86 underwent both procedures for mixed-type impingement. The mean follow-up was 2.3 years (2.0 to 2.9). The mean modified Harris hip score (HHS) improved from 58 to 84 (mean difference = 24 (95% CI 19 to 28)) and the median patient satisfaction was 9 (1 to 10). Ten patients underwent total hip replacement at a mean of 16 months (8 to 26) after arthroscopy. The predictors of a better outcome were the pre-operative modified HHS (p = 0.018), joint space narrowing >or= 2 mm (p = 0.005), and repair of labral pathology instead of debridement (p = 0.032). Hip arthroscopy for femoroacetabular impingement, accompanied by suitable rehabilitation, gives a good short-term outcome and high patient satisfaction Notes: DA - 20081218 IS - 0301-620X (Print) IS - 0301-620X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(424) Philippon MJ, Schroder E Souza, Briggs KK. Labrum: Resection, repair and reconstruction sports medicine and arthroscopy review. Sports Medicine and Arthroscopy Review 18 (2) ()(pp 76-82), 2010 Date of Publication: June 2010 2010;(2):76-82. Ref ID: 423 Abstract: The incidence of labral tears has been increasing as techniques to diagnose labral tears have improved. The most common cause of labrum tears is abnormal joint morphology. To treat labral tears, you must also correct any abnormal joint morphology, such as femoroacetabular impingement, at the same time. We describe techniques for labral repair with suture anchors for the torn labrum. When the labrum cannot be repaired owing to lack of adequate or quality tissue, we describe a technique for labral reconstruction using an iliotibial band autograft. Early outcomes for these procedures show patients regain function and are very satisfied with the outcome after surgery. Â© 2010 by Lippincott Williams & Wilkins Notes: DB - Embase UI - 2010289269 IN - (Philippon, Schroder E Souza, Briggs) Steadman Philippon Research Institute, Attn: Clinical Research, 181 W Meadow Drive, Vail, CO 81657, United States CP - United States LG - English PT - Journal: Review EM - 201000 DD - 20100610

(425) Philippon MJ, LaPrade RF, Briggs KK, Stull JD. Association of strength and range of motion with alpha angles in elite youth hockey players. British Journal of Sports Medicine 2011; 45(4):368-369. Ref ID: 11 Notes: IS - 4

(426) Philippon MJ, LaPrade RF, Briggs KK, Stull JD. Screening of asymptomatic elite youth hockey players: clinical and MRI exam. British Journal of Sports Medicine 2011; 45(4):322-323. Ref ID: 59 Notes: IS - 4

(427) Philippon MJ, Schroder E Souza BG, Briggs KK. Hip arthroscopy for femoroacetabular impingement in patients aged 50 years or older. Arthroscopy 2012; 28(1):59-65. Ref ID: 656 Abstract: PURPOSE: The purpose of this study was to investigate outcomes after hip arthroscopy in a consecutive series of patients aged 50 years or older and determine how long patients avoided total hip replacement. METHODS: Between 2006 and 2008, prospectively collected data were retrieved from our database on 153 patients aged 50 years or older undergoing hip arthroscopy for femoroacetabular impingement. Data collected included range of motion, Modified Harris Hip Score (MHHS), Hip Outcome Score (HOS) for activities of daily living, HOS for sports, and Short Form 12 score. Survivors were defined as patients not requiring total hip replacement (THR). Survivorship was analyzed by use of the Kaplan-Meier method. RESULTS: THR was required after the arthroscopic treatment in 20% of patients (31 of 153). At 3 years (with data available in 64 patients), patients with greater than 2 mm of joint space had survivorship of 90% whereas those with 2 mm or less had survivorship of 57% (P = .001). In the patients who did not require THR, the MHHS improved from 58 to 84. The HOS for activities of daily living improved from 66 to 87 (P = .001), and the HOS for sports improved from 42 to 72 (P = .001). The physical component of the Short Form 12 improved from 38 to 49 (P = .001), whereas the mental component did not change (54 preoperatively v 53 postoperatively, P = .53). Median patient satisfaction was 9. CONCLUSIONS: On the basis of early results, patients with greater than 2 mm of joint space can expect improvement over preoperative status in pain and function after hip arthroscopy for femoroacetabular impingement. In patients aged 50 years or older with 2 mm of joint space or less and low preoperative MHHSs, early conversion to THR was seen. LEVEL OF EVIDENCE: Level IV, therapeutic case series Notes: DA - 20111226 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(428) Philippon MJ, Ho CP, Briggs KK, Stull J, LaPrade RF. Prevalence of Increased Alpha Angles as a Measure of Cam-Type Femoroacetabular Impingement in Youth Ice Hockey Players. American Journal of Sports Medicine 2013; 41(6):1357-1363. Ref ID: 49 Notes: IS - 6

(429) Philippon MJ, Patterson DC, Briggs KK. Hip arthroscopy and femoroacetabular impingement in the pediatric patient. Journal of Pediatric Orthopaedics 33 (SUPPL 1) ()(pp S126-S130), 2013 Date of Publication: July-August 2013 2013;(SUPPL. 1):S126-S130. Ref ID: 275 Abstract: Femoroacetabular impingement (FAI) is widely understood to be an underlying etiology of injuries to the acetabular labrum and cartilage in the adult hip, although somewhat less attention has previously been spent on its incidence in the pediatric and adolescent populations. Initially recognized as a consequence of periacetabular osteotomies performed for developmental dysplasia of the hip, it can also be because of a number of other disorders or to a developmental process causing irregular bony growth. The adolescent presenting with FAI is athletic, particularly in endeavors placing excessive stress on the hip and surrounding soft tissues. The pain is characterized as sharp, localized around the anatomic femoral head location, and may be associated with catching or popping. Complete physical examination includes full range of motion testing, as a hallmark of FAI is restriction and pain with internal rotation. Special tests include the anterior impingement test, the FABER test, and the dial test. Imaging includes anteroposterior pelvic and cross-table lateral radiographs and magnetic resonance imaging. Treatment in all patients is 6 weeks of conservative therapy. If patients see no improvement with conservative treatment, they may be candidates for hip arthroscopy. Arthroscopic treatment of FAI includes rim trimming for pincer lesions, osteoplasty for cam decompression and labral detachment, and repair or reconstruction for labral tears. Studies have shown improvements in the modified Harris Hip Score and the Hip Outcomes Score postoperatively. As FAI is diagnosed most frequently in athletes, and it is estimated that 30 to 45 million adolescents 6 and 18 years old are involved in sports, it is becoming imperative to identify factors that may predict its development, study treatments, and improve outcomes Notes: DB - Embase UI - 2013655101 IN - (Philippon, Patterson, Briggs) Steadman Philippon Research Institute, Vail, CO, United States CP - United States LG - English PT - Journal: Article EM - 201344 DD - 20131029

(430) Philippon MJ, Faucet SC, Briggs KK. Arthroscopic hip labral repair. Arthroscopy Techniques 2 (2) ()(pp e73-e76), 2013 Date of Publication: May 2013 2013;(2):e73-e76. Ref ID: 299 Abstract: Labral tears in the hip may cause painful clicking or locking of the hip, reduced range of motion, and disruption to sports and daily activities. The acetabular labrum aids stabilization of the hip joint, particularly during hip motion. The fibrocartilaginous structure extends the acetabular rim and provides a suction seal around the femoroacetabular interface. Treatment options for labral tears include debridement, repair, and reconstruction. Repair of the labrum has been shown to have better results than debridement. Labral refixation is achieved with sutures anchored into the acetabular rim. The acetabular rim is trimmed either to correct pincer impingement or to provide a bleeding bed to improve healing. Labral repair has shown excellent short-term to midterm outcomes and allows patients to return to activities and sports. Arthroscopic rim trimming and labral refixation comprise an effective treatment for labral tears with an underlying diagnosis of femoroacetabular impingement and are supported by the peer-reviewed literature. Â© 2013 Arthroscopy Association of North America Notes: DB - Embase UI - 2013410048 IN - (Philippon, Faucet, Briggs) Steadman Philippon Research Institute, Vail, CO, United States CP - France LG - English PT - Journal: Article EM - 201329 DD - 20130715

(431) Philippon MJ, Patterson DC, Briggs KK. Hip arthroscopy and femoroacetabular impingement in the pediatric patient. J Pediatr Orthop 2013; 33 Suppl 1:S126-S130. Ref ID: 606 Abstract: Femoroacetabular impingement (FAI) is widely understood to be an underlying etiology of injuries to the acetabular labrum and cartilage in the adult hip, although somewhat less attention has previously been spent on its incidence in the pediatric and adolescent populations. Initially recognized as a consequence of periacetabular osteotomies performed for developmental dysplasia of the hip, it can also be because of a number of other disorders or to a developmental process causing irregular bony growth. The adolescent presenting with FAI is athletic, particularly in endeavors placing excessive stress on the hip and surrounding soft tissues. The pain is characterized as sharp, localized around the anatomic femoral head location, and may be associated with catching or popping. Complete physical examination includes full range of motion testing, as a hallmark of FAI is restriction and pain with internal rotation. Special tests include the anterior impingement test, the FABER test, and the dial test. Imaging includes anteroposterior pelvic and cross-table lateral radiographs and magnetic resonance imaging. Treatment in all patients is 6 weeks of conservative therapy. If patients see no improvement with conservative treatment, they may be candidates for hip arthroscopy. Arthroscopic treatment of FAI includes rim trimming for pincer lesions, osteoplasty for cam decompression and labral detachment, and repair or reconstruction for labral tears. Studies have shown improvements in the modified Harris Hip Score and the Hip Outcomes Score postoperatively. As FAI is diagnosed most frequently in athletes, and it is estimated that 30 to 45 million adolescents 6 and 18 years old are involved in sports, it is becoming imperative to identify factors that may predict its development, study treatments, and improve outcomes Notes: DA - 20130614 IS - 1539-2570 (Electronic) IS - 0271-6798 (Linking) LA - eng PT - Journal Article SB - IM

(432) Philippon MJ, Ho C, Briggs KK, Ommen ND. Changes in the Hip of Youth Hockey Players over 3 Seasons as Seen on MRI and Physical Exam. Orthopaedic Journal of Sports Medicine 2 , 2014 Date of Publication: 03 Jul 2014 2014. Ref ID: 164 Abstract: Objectives: It has been reported that relative to other sports participants, ice hockey players suffer from cam femoroacetabular impingement (FAI) in higher numbers. Alpha angles have been reported to increase with the likelihood of symptomatic FAI. It is unclear how alpha angle and other factors related to FAI change over early childhood years. The objective of this study was to track youth hockey players over 3 years and determine if factors associated with FAI increased as they aged and increased skating time. Methods: 15 asymptomatic youth ice hockey players(ages 10 to 16 years) had pre-participation screening prior to starting youth hockey season. All players started in the peewee(ages 10 to 12) division and moved up in divisions over the 3 years. All players had a clinical hip examination consisting of the FABER test, impingement testing, and measurement of hip internal rotation. An limited screening MRI was taken and the hip alpha angle was measured and labral tears were documented. Results: These youth hockey players played an average of 42 weeks/year over 3 years. Four goalies were included. Players had significantly increased alpha angle by year 3 of screening. The average alpha angle at year 1 was 56(range 45 to 63), year 2 average was 59 (range 52 to 68) and year 3 average was 75 (range 64 to 88). By year 3, 12/15 had asymptomatic labral tears. The 3 players who did not have labral tears had alpha angles of 60, 62, and 64 degrees. There were no significant changes in internal rotation over the 3 years. There was a trend toward decreased internal rotation in goalies. One goalie reported symptoms after the completion of the 3 <sup>rd</sup> season when he was 16 years old. Conclusion: Young ice hockey players show increasing alpha angles and development of asymptomatic labral tears. Stresses inherent to ice hockey likely enhance the development of a bony overgrowth on the femoral neck contributing to cam FAI. Further study into the etiology of the increase in the alpha angle in ice hockey players is recommended to determine if preventative measures may be adapted to decrease the incidence of hip symptoms which decrease activity level Notes: DB - Embase UI - 2015174913 IN - (Philippon, Ho, Briggs, Ommen) Steadman Philippon Research Institute, Vail, CO, United States CP - United Kingdom LG - English PT - Journal: Article EM - 201528 DD - 20150707

(433) Pieler-Bruha E. News-screen orthopadie. [German]. Journal fur Mineralstoffwechsel 16 (1) ()(pp 35-36), 2009 Date of Publication: 2009 2009;(1):35-36. Ref ID: 464 Notes: DB - Embase UI - 2009166053 IN - (Pieler-Bruha) FA fur Orthopadie und Orthopadische Chirurgie, Member of CEOPS - Verein Zur Wissenschaftlichen, Des Bewegungs- und Stutzsystems, Speisingerstrase 109, A-1130 Wien CP - Austria OT - News-screen orthopadie LG - German PT - Journal: Note EM - 200900 DD - 20090414

(434) Pierannunzii L, Tramontana F, Gallazzi M. Case report: Calcific tendinitis of the rectus femoris: A rare cause of snapping hip. Clinical Orthopaedics and Related Research 468 (10) ()(pp 2814-2818), 2010 Date of Publication: 2010 2010;(10):2814-2818. Ref ID: 443 Abstract: Background: Internal snapping hip is a syndrome caused by recurrent subluxation of the iliopsoas tendon. There is little agreement regarding the impinging sites responsible for the jerky motion of the tendon. Thus far, the lesser trochanter, anterior capsule, and iliopectineal eminence are considered the most likely catching sites. Case Description: We report an unusual case in which a calcific tendinitis of the rectus femoris direct head impinged against the overlying iliacus muscle, resulting in a painful coxa saltans. The exclusive involvement of the direct head hid the calcium deposit on standard radiographs, whereas MRI suggested but poorly showed the tendon disease. Dynamic ultrasonography and CT scanning allowed a precise diagnosis and subsequent treatment with CT-guided steroid injection. Literature Review: Calcific tendinitis of the rectus anterior direct head has not been reported as a possible cause of snapping hip; involvement of the direct head in rectus anterior calcific tendinitis was described in one case. Purposes and Clinical Relevance: Our case shows the rectus anterior direct head may be involved in the etiology of coxa saltans. Theoretically any thickening of the tendon might activate the same pathomechanism. Physicians should consider this possible new cause of internal snapping hip when the most common ones have been excluded, especially as it may be managed easily with steroid injection. Â© 2010 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2010573961 IN - (Pierannunzii) III Division of Orthopaedics and Trauma, Gaetano Pini Orthopaedic Institute, Piazza C. Ferrari, 1, Milan, Italy (Tramontana, Gallazzi) Department of Radiodiagnostics, Gaetano Pini Orthopaedic Institute, Milan, Italy CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101028

(435) Pierannunzii L. Comment on: "The hip antero-superior labral tear with avulsion of rectus femoris (HALTAR) lesion: Does the SLAP equivalent in the hip exist?" by Hosalkar et al. HIP International 22 (6) ()(pp 690), 2012 Date of Publication: November/December 2012 2012;(6):690. Ref ID: 322 Notes: DB - Embase UI - 2013030298 IN - (Pierannunzii) Gaetano Pini Orthopaedic Institute, Milan, Italy CP - Italy LG - English PT - Journal: Letter EM - 201305 DD - 20130128

(436) Piza-Katzer H, Scholler T, Stichelberger M. Iatrogen femoral nerve lesions. [German]. Handchirurgie, Mikrochirurgie, plastische Chirurgie : Organ der Deutschsprachigen Arbeitsgemeinschaft fur Handchirurgie : Organ der Deutschsprachigen Arbeitsgemeinschaft fur Mikrochirurgie der Peripheren Nerven und Gefasse : Organ der Vereinigung der Deut 2009;(4):230-237. Ref ID: 451 Abstract: PURPOSE: With the increasing number of orthopaedic and gynaecologic operations also the number of iatrogenic nerve lesions has increased. The femoral nerve is especially at risk because of its anatomic course. In this study we take a look at the most frequent causes of iatrogenic femoral nerve lesions, their therapy and prevention. METHOD AND CLINICAL MATERIAL: From January 2000 to June 2008 13 patients (10 f, 3 m) with iatrogenic femoral nerve injuries underwent surgery. 7 (53.9 %) of the lesions were caused by the implantation of a hip prothesis, 2 (15.4 %) by the resection of a tumour and one each by an abdominal hysterectomy, spinal surgery, femoral block and by wearing a corsette because of scoliosis for more than one year. In femoral nerve lesions neurolysis was performed in 12 cases (92.3 %) and nerve transplantation in 1 case (7.7 %). RESULTS: Surgery results were excellent (M4, S4) to fair (M3, S2). The most important factor for a good result was the time period between injury and surgery. CONCLUSION: Femoral nerve lesions have a good prognosis if they are diagnosed in time and treated surgically when there are no signs of spontaneous recovery. Georg Thieme Verlag KG Stuttgart \* New York Notes: DB - Embase UI - 19255949 IN - (Piza-Katzer, Scholler, Stichelberger) Klinik fur Plastische und Wiederherstellungschirurgie, Medizinische Universitat Innsbruck, Innsbruck, Austria CP - Germany OT - Iatrogene N. femoralis-Lasionen LG - German PT - Journal: Article EM - 200900 DD - 20091110

(437) Plante M, Wallace R, Busconi BD. Clinical Diagnosis of Hip Pain. Clinics in Sports Medicine 30 (2) ()(pp 225-238), 2011 Date of Publication: April 2011 2011;(2):225-238. Ref ID: 407 Abstract: This article reviews the evaluation of the hip including the clinical history and physical examination. As our understanding of hip pathology evolves, and arthroscopic and other minimally invasive operative techniques improve, the focus is shifting toward earlier identification of hip pathology. Risk factors for the development of arthritis are now well established and include femoral acetabular impingement, labral tearing, developmental dysplasia, and slipped capital femoral epiphysis. Emerging treatment options may address these conditions in the early stages and prevent or slow the progression of hip degeneration. It is vitally important to elucidate intra-articular versus extra-articular pathology of hip pain in every step of the patient encounter: history, physical examination, and imaging. Â© 2011 Elsevier Inc Notes: DB - Embase UI - 2011151741 IN - (Plante) Foundry Orthopedics and Sports Medicine, 285 Promenade Street, Providence, RI 02908, United States (Wallace) Department of Sports Medicine, University of Massachusetts Memorial Medical Center, 281 Lincoln Street, Worcester, MA 01605, United States (Busconi) Department of Orthopedics and Physical Rehabilitation, University of Massachusetts Medical School, 281 Lincoln Street, Worcester, MA 01605-2192, United States CP - United States LG - English PT - Journal: Review EM - 201100 DD - 20110419

(438) Plichta P, Pawelec K. [Avascular necrosis of the femoral head in a patient with severe aplastic anaemia]. Med Wieku Rozwoj 2011; 15(1):101-105. Ref ID: 661 Abstract: Avascular necrosis (AVN) is a pathological condition associated with numerous processes. Most frequent causes of ischaemia of the femoral head include trauma, corticosteroid therapy, radiation therapy, alcoholism, Gaucher's disease, systemic lupus erythematosus, rheumatoid arthritis. Corticosteroid therapy is considered the most frequent risk factor for developing avascular necrosis. In this paper we report a case of a 19-year old female patient who developed avascular necrosis of the right femoral head following treatment of severe aplastic anaemia. Clinical symptoms included groin pain and fever, painful abduction and internal rotation, tenderness over the right hip joint. The plain X-ray was not specific. However magnetic resonance imaging of the hip revealed changes characteristic for avascular necrosis. Conservative treatment was administrated. Two years after the onset of first clinical symptoms the patient is able to walk without pain, although the range of motion of the right hip joint is partially diminished. We evaluated the possible risk factors of AVN, diagnostic methods and prognosis. The onset of avascular necrosis should be considered as one of the relevant complications in patients with severe aplastic anaemia following immunosuppressive treatment Notes: DA - 20110726 LA - pol PT - Case Reports PT - English Abstract PT - Journal Article RN - 0 (Immunosuppressive Agents) RN - 143011-72-7 (Granulocyte Colony-Stimulating Factor) SB - IM

(439) Polat G, Dikmen G, Erdil M, Asik M. Arthroscopic treatment of femoroacetabular impingement: early outcomes. Acta Orthop Traumatol Turc 2013; 47(5):311-317. Ref ID: 594 Abstract: OBJECTIVE: The aim of the study was to assess the early outcomes of the arthroscopic treatment of femoroacetabular impingement. METHODS: Forty-two femoroacetabular impingement (FAI) patients (mean age: 35.1 years, range: 16 to 52 years) treated arthroscopically between 2006 and 2011 in our clinic were retrospectively analyzed. Twenty-five patients had Cam, 6 Pincer and 11 combined femoroacetabular impingement. Mean follow-up time was 28.2 (range: 10 to 72) months. Patients were assessed clinically and functionally using the Non-Arthritic Hip Score (NAHS), modified Harris Hip Score (mHHS), Oxford Hip Score, WOMAC score, and Visual Analogue Scale (VAS) pain scores preoperatively and at the final follow-up. RESULTS: In clinical and functional assessments, there were increases of 24.8 points in mean NAHS, 23.3 in mHHS, 20.6 in WOMAC score and 9.6 in Oxford Hip Score. VAS pain score decreased by 4.9 points in comparison to the preoperative scores. There were no major complications. However, transient pudendal nerve neuropraxia was present in two patients, transient lateral femoral cutaneous nerve neuropraxia in one and asymptomatic heterotopic ossification in one patient. CONCLUSION: Short-term clinical results of the arthroscopic treatment of the FAI appear to be satisfactory Notes: DA - 20131029 IS - 1017-995X (Print) IS - 1017-995X (Linking) LA - eng PT - Journal Article SB - IM

(440) Polesello GC, Lima FR, Guimaraes RP, Ricioli W, Queiroz MC. Arthroscopic treatment of femoroacetabular impingement: minimum five-year follow-up. Hip Int 2014; 24(4):381-386. Ref ID: 573 Abstract: PURPOSE: To evaluate the clinical outcomes of an arthroscopic treatment of femoroacetabular impingement at a minimum of a five-year follow-up. METHODS: A case series with 24 subjects (26 hips) was conducted. Subjects that were submitted to an arthroscopic procedure for the treatment of femoroacetabular impingement, at a minimum of five years, were evaluated. Subjects completed the modified Harris Hip Score (mHHS), the pain numeric rating scale and a general questionnaire accessing sports practice and satisfaction. RESULTS: Twenty-one of the 24 subjects (87.5%) were male and the average age at the time of surgery was 34.6 +/- 9.5 years old (range 13-51). Of the 27 subjects submitted to hip arthroscopy, three (11.1%) could not be contacted. Follow-up was 6.1 +/- 0.8 years, and at this time the average mHHS was 90.6 +/- 11.6. Pain numeric rating scale was 2.6 +/- 1.9 and 11 hips (42.3%) reported no pain. Of the 14 subjects that complained of hip pain during sports activities prior to surgery, 10 (71.4%) returned to normal sports activities while four (28.6%) subjects could not return to preoperative activities. Three patients had to be submitted to a new surgical procedure. All 24 subjects were satisfied with their procedure and would repeat it if necessary. CONCLUSIONS: Arthroscopic treatment of femoroacetabular impingement, at five years follow-up, revealed good results in terms of improved function, pain relief and satisfaction Notes: DA - 20140729 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Journal Article SB - IM

(441) Pollard CD, Sigward SM, Powers CM. Limited hip and knee flexion during landing is associated with increased frontal plane knee motion and moments. Clinical Biomechanics 25 (2) ()(pp 142-146), 2010 Date of Publication: February 2010 2010;(2):142-146. Ref ID: 445 Abstract: Background: It has been proposed that female athletes who limit knee and hip flexion during athletic tasks rely more on the passive restraints in the frontal plane to deceleration their body center of mass. This biomechanical pattern is thought to increase the risk for anterior cruciate ligament injury. To date, the relationship between sagittal plane kinematics and frontal plane knee motion and moments has not been explored. Methods: Subjects consisted of 58 female club soccer players (age range: 11-20 years) with no history of knee injury. Kinematics, ground reaction forces, and surface electromyography were collected while each subject performed a drop landing task. Subjects were divided into two groups based on combined sagittal plane knee and hip flexion angles during the deceleration phase of landing (high flexion and low flexion). Findings: Subjects in the low flexion group demonstrated increased knee valgus angles (P = 0.02, effect size 0.27), increased knee adductor moments (P = 0.03, effect size 0.24), decreased energy absorption at the knee and hip (P = 0.02, effect size 0.25; and P < 0.001, effect size 0.59), and increased vastus lateralis EMG when compared to subjects in the high flexion group (P = 0.005, effect size 0.35). Interpretation: Female athletes with limited sagittal plane motion during landing exhibit a biomechanical profile that may put these individuals at greater risk for anterior cruciate ligament injury. Â© 2009 Elsevier Ltd. All rights reserved Notes: DB - Embase UI - 2010029944 IN - (Pollard, Sigward, Powers) Jacquelin Perry Musculoskeletal Biomechanics Research Laboratory, University of Southern California, Los Angeles, CA, United States CP - United Kingdom LG - English PT - Journal: Article EM - 200900 DD - 20100208

(442) Pollard TC, McNally EG, Wilson DC, Wilson DR, Madler B, Watson M et al. Localized cartilage assessment with three-dimensional dGEMRIC in asymptomatic hips with normal morphology and cam deformity. J Bone Joint Surg Am 2010; 92(15):2557-2569. Ref ID: 677 Abstract: BACKGROUND: Cam deformities cause femoroacetabular impingement and damage the acetabular labral-chondral complex. The aims of this study were to investigate the potential of delayed gadolinium-enhanced magnetic resonance imaging of cartilage (dGEMRIC) to detect cartilage disease in asymptomatic hips with cam deformities compared with morphologically normal hips, establish whether dGEMRIC could identify advanced disease in hips with positive clinical findings, and establish whether cartilage damage correlated with the severity of the cam deformity. METHODS: Subjects were recruited from a prospective study of individuals with a family history of osteoarthritis and their spouses who served as control subjects. Their symptoms and impingement test results were recorded. Asymptomatic hips with normal radiographic joint-space width were placed in a subgroup according to the presence of a cam deformity and the impingement test result. dGEMRIC was performed on a 3-T system, studying two regions of interest: the anterosuperior aspect of the acetabular cartilage (T1(acet)) and the total femoral and acetabular cartilage (T1(total)). The ratio T1(acet)/T1(total) gave the relative glycosaminoglycan content in the anterosuperior aspect of the acetabular cartilage. The cohort was placed in subgroups by joint morphology, impingement test status, and genetic predisposition; the mean T1 scores were compared, and the alpha angle and T1 were correlated. RESULTS: Of thirty-two subjects (mean age, fifty-two years), nineteen had cam deformities. Hips with a cam deformity had reduced acetabular glycosaminoglycan content compared with normal hips (mean T1(acet)/T1(total), 0.949 and 1.093, respectively; p = 0.0008). Hips with a positive impingement test result had global depletion of glycosaminoglycan compared with hips with a negative result (mean T1(total), 625 ms versus 710 ms; p = 0.0152). T1(acet) inversely correlated with the magnitude of the alpha angle (r = -0.483, p = 0.0038), suggesting that the severity of cartilage damage correlates with the magnitude of the cam deformity. All of these differences occurred irrespective of genetic predisposition. CONCLUSIONS: The dGEMRIC technique can detect cartilage damage in asymptomatic hips with cam deformities and no radiographic evidence of joint space narrowing. This damage correlates with cam deformity severity. Further study of the application of dGEMRIC as an imaging biomarker of early osteoarthritis is justified to validate its prognostic accuracy, identify subjects for clinical trials, and evaluate the effectiveness of surgical procedures Notes: DA - 20101104 IS - 1535-1386 (Electronic) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't RN - 0 (Contrast Media) RN - K2I13DR72L (Gadolinium DTPA) SB - AIM SB - IM

(443) Pollard TCB, Villar RN, Norton MR, Fern ED, Williams MR, Murray DW et al. Genetic influences in the aetiology of femoroacetabular impingement: A sibling study. Journal of Bone and Joint Surgery - Series B 92 (2) ()(pp 209-216), 2010 Date of Publication: February 2010 2010;(2):209-216. Ref ID: 435 Abstract: Femoroacetabular impingement causes pain in the hip in young adults and may predispose to the development of osteoarthritis. Genetic factors are important in the aetiology of osteoarthritis of the hip and may have a role in that of femoroacetabular impingement. We compared 96 siblings of 64 patients treated for primary impingement with a spouse control group of 77 individuals. All the subjects were screened clinically and radiologically using a standardised protocol for the presence of cam and pincer deformities and osteoarthritis. The siblings of those patients with a cam deformity had a relative risk of 2.8 of having the same deformity (66 of 160 siblings hips versus 23 of 154 control hips, p < 0.00001). The siblings of those patients with a pincer deformity had a relative risk of 2.0 of having the same deformity (43 of 116 sibling hips versus 29 of 154 control hips, p = 0.001). Bilateral deformity occurred more often in the siblings (42 of 96 siblings versus 13 of 77 control subjects, relative risk 2.6, p = 0.0002). The prevalence of clinical features in those hips with abnormal morphology was also greater in the sibling group compared with the control group (41 of 109 sibling hips versus 7 of 46 control hips, relative risk 2.5, p = 0.007). In 11 sibling hips there was grade-2 osteoarthritis according to Kellgren and Lawrence versus none in the control group (p = 0.002). Genetic influences are important in the aetiology of primary femoroacetabular impingement. This risk appears to be manifested through not only abnormal joint morphology, but also through other factors which may modulate progression of the disease. Â©2010 British Editorial Society of Bone and Joint Surgery Notes: DB - Embase UI - 2010095266 IN - (Pollard, Villar, Norton, Fern, Williams, Murray, Carr) University of Oxford, Oxford, United Kingdom (Pollard, Murray, Carr) Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Nuffield Orthopaedic Centre NHS Trust, Windmill Road, Headington, Oxford OX3 7LD, United Kingdom (Villar) Wellington Hospital, South Building, 8a Wellington Place, St John's Wood, London NW8 9LE, United Kingdom (Norton, Fern) Royal Cornwall Hospitals NHS Trust, Treliske, Truro, Cornwall TR1 3LJ, United Kingdom (Williams) Plymouth Hospitals NHS Trust, Derriford Hospital, Derriford Road, Crownhill, Plymouth, Devon PL6 8DH, United Kingdom CP - United Kingdom LG - English PT - Journal: Article EM - 201000 DD - 20100315

(444) Pouliot MA, Lee KB, Goodman SB. Retroperitoneal Hematoma. An Unusual Cause of Pain After Total Hip Arthroplasty. Journal of Arthroplasty 24 (7) ()(pp 1144 e9-1144 e12), 2009 Date of Publication: October 2009 2009;(7):1144. Ref ID: 472 Abstract: Pain following total hip arthroplasty due to impingement of the iliopsoas is a recognized complication of the procedure with a reported incidence as high as 4.3%. The pain is most often due to direct mechanical irritation of the iliopsoas due to a malpositioned or oversized acetabular cup. Definitive treatment of iliopsoas impingement often requires surgical revision or iliopsoas tenotomy, although many cases remain undiagnosed or are managed conservatively. We present an unusual case of pain after total hip arthroplasty due to a large retroperitoneal hematoma secondary to acetabular cup irritation of the iliopsoas tendon. This case represents a potentially important complication of undiagnosed or conservatively managed iliopsoas impingement, particularly in patients taking anticoagulants or antiplatelet medications. Â© 2009 Elsevier Inc. All rights reserved Notes: DB - Embase UI - 2009498048 IN - (Pouliot) Stanford University School of Medicine, Stanford, CA, United States (Lee, Goodman) Orthopaedic Surgery, Stanford University, Stanford, CA, United States CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20091029

(445) Pozo-Cruz B, Parraca JA, Pozo-Cruz J, Adsuar JC, Hill J, Gusi N. An occupational, internet-based intervention to prevent chronicity in subacute lower back pain: a randomised controlled trial. J Rehabil Med 2012; 44(7):581-587. Ref ID: 635 Abstract: OBJECTIVE: To investigate whether an online occupational postural and exercise intervention reduced patients' overall risk status for chronicity in subacute non-specific low back pain compared with conventional treatment, and to determine whether changes in risk of chronicity correlate with changes in specific outcomes (i.e. Functional Status and QoL) for low back pain. DESIGN: Prospective, single-blinded randomized intervention study. SUBJECTS: University office workers with subacute non-specific low back pain (n=100) were randomized 1:1 to an intervention group, who received an online occupational postural and exercise intervention, and a control group. METHODS: Exercise and education materials used in the intervention were developed as an online resource, and included video demonstrations recorded in a laboratory. All sessions included exercises combining postural stability (for abdominal, lumbar, hip and thigh muscles) strengthening, flexibility, mobility, and stretching. Outcome measures included STarT Back Screening Tool (SBST), Roland Morris score, and European Quality of Life Questionnaire -5 dimensions - 3 levels. At 9 months, SBST was analysed and compared with the baseline and controls. RESULTS: Significant positive effects were found on mean scores recorded in the online occupational exercise intervention group for risk of chronicity (p<0.019). A correlation between functional disability, health-related quality of life and risk of chronicity of low back pain was observed. CONCLUSION: This study supports the potential utility of a real-time occupational internet-based intervention for preventing progression to chronicity of subacute non-specific low back pain among office workers Notes: DA - 20120607 IS - 1651-2081 (Electronic) IS - 1650-1977 (Linking) LA - eng PT - Journal Article PT - Randomized Controlled Trial PT - Research Support, Non-U.S. Gov't SB - IM

(446) Puig PL, Trouve P, Savalli L. [Pubalgia: from diagnosis to return to the sports field]. Ann Readapt Med Phys 2004; 47(6):356-364. Ref ID: 762 Abstract: OBJECTIVES: To review reports of the diagnosis and treatment of groin pain (pubalgia) on the basis of anatomical considerations, epidemiology and pathogenicity. METHODS: We searched the Medline database using the key words groin injury, groin pain, and symphisis syndrome for information on groin pain. RESULTS: Despite the limitations of this study, athletic pubalgia appears to be a real diagnosis, with a long duration of symptoms and a therapeutic challenge. The pathophysiologic processes of this lower abdominal pain resulting from over use is unclear, but muscular imbalance might be involved in the pathogenicity. There is no consensus on the diagnostic criteria and the role of imaging (magnetic resonance imaging). Physicians should eliminate the diagnosis of hip and groin injuries in athletes. Specific rehabilitation should include eliminating the pain-triggering factors, increasing the limited flexibility, and strengthening the abdominal muscles and adductor muscles. The multidisciplinary team's goal is to restore function and prevent recurrence. Successful surgical repair is predictable in well-selected patients. CONCLUSION: Further studies are required for better assessment of incidence, the natural course of groin pain, and optimal clinical evaluation in screening patients. Overall, a large prospective randomized study of athletes with groin pain would help determine optimal treatment Notes: DA - 20040806 IS - 0168-6054 (Print) IS - 0168-6054 (Linking) LA - fre PT - English Abstract PT - Journal Article PT - Review SB - IM

(447) Radetzki F, Saul B, Hagel A, Mendel T, DÃ¶ring T, Delank K et al. Three-dimensional virtual simulation and evaluation of the femoroacetabular impingement based on 'black bone' MRA. Archives of Orthopaedic & Trauma Surgery 2015; 135(5):667-672. Ref ID: 77 Notes: IS - 5

(448) Raimann A, Saavedra C, Amestica G, De la FM. [Long-term follow-up of 166 surgically treated patients with congenital hip dislocation]. Z Orthop Ihre Grenzgeb 1988; 126(2):161-168. Ref ID: 792 Abstract: 166 patients with congenital dislocation of the hip, ranging from 10 months to 5 years old, were operated between 1958 and 1971. 140 patients were women (84%) and 26 patients were men (16%). 96 patients had unilateral and 70 patients had bilateral dislocation; that makes a total of 236 dislocated hips. 61 patients with bilateral hip dislocation were operated simultaneously on both hips. All the patients were treated with adductor tenotomy and open reduction through Smith Petersen incision with section or elongation of the psoas tendon. The postoperative immobilization consisted in a period of one month pelvic toecast followed by 2 plaster casts with abduction rod during 3 to 5 months. The postoperatory follow-up ranged from 9 years to 26 years, 2 months; average 14 years, 5 months. The clinical evaluation comprises pain, hip mobility, gait and muscle power. RESULTS: excellent 138 (59%); good 66 (28%); fair 29 (12%); and poor 3 (1%). The radiological evaluation considered: Mose; acetabular femoral head index; Wiberg's CD-angle; cervico-diaphysiary angle and radial quotient. RESULTS: normal 5 (2%); excellent 44 (19%); good 78 (33%); subtotal 54%; fair 90 (38%), and poor 19 (8%). Complications (hips); infections 12 (5%); 3 of them deep ones (1%); residual subluxation 19 (8%); reluxation 1 (0.5%). Isquemic necrosis Grade II of Tonnis 31 (13%); Grade III 2 (1%) and Grade IV 1 (0.5%) Notes: DA - 19880919 IS - 0044-3220 (Print) IS - 0044-3220 (Linking) LA - ger PT - English Abstract PT - Journal Article SB - IM

(449) Rajyaguru D. Denosumab: Friend or foe? Journal of the American Geriatrics Society Conference: 2015 Annual Scientific Meeting of the American Geriatrics Society National Harbor, MD United States Conference Start: 20150515 Conference End: 20150517 Conference Publication: (var pagings) 63 ()( 2015;(var.pagings):S237. Ref ID: 182 Abstract: Introduction: Denosumab is approved for the treatment of postmenopausal women with osteoporosis who have failed or are intolerant of other osteoporosis treatments. We report a case of atypical femoral fracture caused by denosumab. Case description: A 78-year-old female with past medical history of osteoporosis, rheumatoid arthritis, vertebral compression fractures presented with sudden onset of right thigh pain, which developed when she bent over to pick an object. Physical examination revealed large deformity over right proximal thigh with tenderness and restriction of active and passive range of motions in right hip region. Imaging showed a displaced transverse fracture of the right proximal femoral shaft. The patient had received a variety of treatments for her osteoporosis. She was initially treated with alendronate, but was unable to tolerate it due to gastrointestinal upset. Subsequently she was started on denosumab and received the treatment for a period of three and half years. Based on history and characteristic radiographic features she was diagnosed with atypical femoral fracture caused by denosumab. Discussion:The American Society for Bone and Mineral Research task force has described major and minor defining features of atypical femoral fractures. Our case had all of the major features: the location was subtrochanteric region, the fracture was transverse and noncomminuted, there was no trauma and there was a medial spike. Regarding the minor features, there was prodromal pain, presence of a comorbid condition (Rheumatoid Arthritis) and concurrent use of agents such as glucocorticoids and proton pump inhibitors.Interestingly, more than half of patients reported with atypical femoral fracture have had a prodrome of thigh or groin pain before suffering an overt break. Thus it is important to educate physicians and patients about this symptom and for physicians to ask patients on antiresorptive agents about thigh or groin pain. Complains of thigh or groin pain in a patient on denosumab or bisphosphonates require urgent radiographic evaluation of both femurs. In conclusion, atypical femoral fracture remain of concern in patients receiving denosumab and more information is needed, both to assist in identifying patient at particular risk and to guide decision-making about duration of denosumab Notes: DB - Embase UI - 71856413 IN - (Rajyaguru) UPMC Mercy, Pittsburgh, PA, United States LG - English PT - Journal: Conference Abstract EM - 201518 DD - 20150421

(450) Rakhra KS, Sheikh AM, Allen D, Beaule PE. Comparison of MRI alpha angle measurement planes in femoroacetabular impingement. Clin Orthop Relat Res 2009; 467(3):660-665. Ref ID: 721 Abstract: Insufficient femoral head-neck offset is common in femoroacetabular impingement (FAI) and reflected by the alpha angle, a validated measurement for quantifying this anatomic deformity in patients with FAI. We compared the alpha angle determined on magnetic resonance imaging (MRI) oblique axial plane images with the maximal alpha angle value obtained using radial images. The MRIs of 41 subjects with clinically suspected FAI were reviewed and alpha angle measurements were performed on both oblique axial plane images parallel to the long axis of the femoral neck and radial images obtained using the center of the femoral neck as the axis of rotation. The mean oblique axial plane and mean maximal radial alpha angle values were 53.4 degrees and 70.5 degrees, respectively. In 54% of subjects, the alpha angle was less than 55 degrees on the conventional oblique axial plane image but 55 degrees or greater on the radial plane images. Radial images yielded higher alpha angle values than oblique axial images. Patients with clinically suspected FAI may have a substantial contour abnormality that can be underestimated or missed if only oblique axial plane images are reviewed. Radial plane imaging should be considered in the MRI investigation of FAI Notes: DA - 20090204 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(451) Rambani R, Hackney R. Loss of range of motion of the hip joint: a hypothesis for etiology of sports hernia. Muscles Ligaments Tendons J 2015; 5(1):29-32. Ref ID: 542 Abstract: BACKGROUND: sports hernia is a well-recognized cause of groin pain in athletes involved in sports, especially football and rugby. Loss of range of motion of the hip joint is a possible contributory factor to stress across the symphysis pubis leading to the instability. METHODS: twenty-five athletes presenting with sports hernia were matched to age, sex, physical/sports activity and co-morbidities with twenty-five athletes without sports hernia. The range of movement of both the hips was compared in athletes of both the groups. RESULTS: there was marked restriction of internal rotation with the hip flexed to 90 degrees (average 17 degrees) and external rotation (average 26 degrees) in sports hernia group compared to the control group. Other movements of the hip were comparable in both the groups. CONCLUSION: the study highlights observation of limitation of hip rotation with the hip flexed to 90 degrees as a possible factor in the aetiology of sports hernia. There may be an association with other pathologies of the hip such as impingement that requires further investigation. Though this study has its limitation in being a small number and a case control study, it does helps in understanding the possible mechanism of development of this condition Notes: DA - 20150416 IS - 2240-4554 (Electronic) IS - 2240-4554 (Linking) LA - eng PT - Journal Article

(452) Rantanen P, Nykvist F. Optimal sagittal motion axis for trunk extension and flexion tests in chronic low back trouble. Clin Biomech (Bristol , Avon ) 2000; 15(9):665-671. Ref ID: 777 Abstract: OBJECTIVE: To find the optimal height for sagittal motion axis for trunk strength test in chronic low back trouble. DESIGN: Cross-sectional study. BACKGROUND: The strength of trunk muscles of low back pain patients is decreased. The measured strength depends on the height of the sagittal motion axis but the differences between patients and controls are not known. METHODS: 114 (67 female) patients with chronic low back trouble are classified according to Quebec Task Force, 50 (31 female) patients with rheumatic disorder, but without low back trouble, and 33 (22 female) healthy controls, no appreciable physical differences but clear differences in Oswestry score. Isometric trunk extension-flexion test with different heights for the pelvic fulcrum. RESULTS: Force decreased in extension, increased in flexion, and torque increased both in flexion and extension in every group (P<0.001) as the fulcrum was moved caudally. The male controls were stronger than patients with low back trouble (P<0.01). The female controls were stronger only if the fulcrum was set at the hip joint level (P<0.05). There were no differences between patients with rheumatic disorder and low back trouble, except in extension if the fulcrum was at the hip joint level (P<0.02). CONCLUSIONS: The rotation axis in trunk extension-flexion strength test should be set at the level of the hip joint. RELEVANCE: Trunk muscle weakness is a common sign of different rheumatic disorders. Proper setting of sagittal motion axis and concomitant measurement of trunk and hip extensor or flexor muscles increases the specificity of the strength test for low back trouble Notes: DA - 20001018 IS - 0268-0033 (Print) IS - 0268-0033 (Linking) LA - eng PT - Clinical Trial PT - Controlled Clinical Trial PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(453) Rawal N. Refresher course: Infiltrative techniques-the way forward inpostoperative pain management? Regional Anesthesia and Pain Medicine Conference: 34th Annual European Society of Regional Anaesthesia and Pain Therapy Congress, ESRA 2015 Ljubljana Slovenia Conference Start: 20150902 Conference End: 20150905 Conference Publication: (var pagings) 40 2015;(var.pagings):e18-e20. Ref ID: 151 Abstract: Postoperative pain continues to be a major medical challenge. In spite of many recent advances in our understanding of pain mechanisms, recent surveys from USA and Europe show that postoperative pain is common and remains undertreated (1,2). Opioidmonotherapy remains the foundation of postoperative pain management in spite of strong evidence of it's drawbacks, indeed the use of opioids has increased(3). A recent review based on 300,000 patients across 380 US hospitals showed that about 95% patients were treated with opioids (4). Multimodal analgesia using more than one class of analgesic drug or technique to target different mechanisms of pain relief, has been advocated to improve analgesia and reduce opioid-related side effects. However, a recent review showed that the 24-hour morphine-sparing by non-opioids is rather modest, ranging from 6.3 mg for paracetamol, 10.2 mg for NSAIDs and 13.0 mg for gabapentin(5). This has to be balanced against the risk of anastomotic leakage with NSAIDs and of sedation, diziness and visual disturbances with gabapentinoids, especially pregabalin (6,7). A recent review by one of the originators of the concept concluded that the evidence for multimodal analgesia is modest and that many patients may be at an increased risk of side effects(8). It is time that we shift our focus to evaluate the role of simple local anaesthetic- based infiltrative techniques (mostly delivered by surgeons) as a primary component of multimodal analgesia. Regional anaesthesia techniques are the most effective methods to treat postoperative pain. Current evidence shows that the role of epidural technique is decreasing, it can no longer be considered the gold standard for most major surgical procedures(9,10). Perineural techniques are very effective but remain underused. US-guided blocks have reduced failure rates and encouraged more anaesthesiologists to use such techniques but that is from a low base. For example a 2014 US report from over 400 acute care hospitals with 191,570 patients undergoing TKA showed that only 12.1% of patients received peripheral blocks for analgesia(11). Although epidural and perineural techniques are very effective they require anaesthesiologist expertise, have documented failure rates and catheter management can be labour intensive because of monitoring requirements. Infiltrative techniques are much simpler and less invasive alternatives as stand-alone or as a part of multimodal regimens. Wound infiltration techniques. The simplicity and safety of local anaesthetic infiltration technique is well recognized. Local anaesthetics act directly on the tissues and block pain transmission from afferent nociceptive barrage. Local anaesthetics also inhibit the inflammatory response to injury and may reduce the risk of hyperalgesia. There is evidence that the risk of persistent postoperative pain is reduced when wound infiltration techniques are used in surgeries for hernia repair, iliac crest bone grafting and vasectomy(12). The technique is inexpensive and has a good safety profile. Depending on the severity of postoperative pain it can be used alone or as part of multimodal analgesia. In the opinion of this author, there is no reason for not using wound infiltration with a long-acting local anaesthetic as a routine method for most surgical procedures. Since 1991, every surgical patient at our institution receives a combination of paracetamol and wound infiltration with bupivacaine(at the end of surgery by surgeon) as part of our standard protocol. Other regional techniques, NSAIDs, opioids, or i.v morphine PCA are added as necessary (13). Nearly 25 years of this multimodal regimen, in tens of thousands of patients, and results of repeated audits testify to the remakable safety of this regimen. Wound infiltration is recommended as part of multimodal regimens by several national and international anaesthesia organizations (14,15,16). Wound catheter infusion(WCI) techniques. These techniques should preferably be called surgical-site catheter infusions (SSCI) because the catheters are not always strictly in the surgical wound. In the literature, catheters have been placed in several sites such as subcutaneous, subfascial, preperitoneal, intraperitoneal, subacromial, intraosseous, intraarticular, "TAP space"(for TAP block). A systematic review of 44 RCTs showed thatWCI techniques provided effective analgesia at rest and movement, reduced opioid consumption, improved patient satisfaction and sometimes reduced hospital stay. There were no major adverse effects, wound infection rates (0.7%) were similar to controls. The impressive finding was that the technique was effective across a variety of major surgical procedures such as abdominal, cardiothoracic, orthopaedic (17). A more recent metaanalysis of 14 RCTs focused on ropivacaine, there was consistent evidence of effective pain relief and opioid-sparing across a wide range of procedures (TKA, THA, major abdominal, cardiac), again, no major adverse effects were noted. In spite of 8-20 mg/h ropivacaine infusion for 48h, plasma concentration was below toxic levels(18). Another metaanalysis of infiltrative techniques (WCI, TAP, intraperitoneal) versus placebo or routine analgesia for colorectal surgery concluded that infiltrative techniques were associated with lower pain scores, opioidsparing, reduced hospital stay and no increase in complications(19) Local Infiltration Analgesia (LIA) technique for TKA and THA In spite of it's name, the original LIA technique is not just infiltration of local anaesthetic, it is a multi-component optimization package described elsewhere(20), an important component is the placement of intraarticular catheter for analgesic top-up. LIA technique has achieved widespread acceptance by orthopaedic surgeons especially in Scandinavia, UK and Australia. The 2014 report of Swedish Knee Arthroplasty Register showed that 97.3% patients received LIA for TKA(21). LIA technique has shown favourable results when compared with other regional techniques such as epidural analgesia (22,23,24) and intrathecal morphine (25,26,27)for TKA and THA and with femoral block for TKA (28,29). LIA was superior to epidural in terms of analgesia, opioid use, joint function, mobilization and hospital stay for TKA(22,23) and THA(24). Literature review supports the use of LIA for TKA(30), however the reviews for using LIA for THA are conflicting. One review favours LIA for THA (31) while another does not(30). There is no evidence that LIA is inferior to multimodal analgesia that has been proposed as an alternative for THA(32). In conclusion, LIA is a major recent development in lower extremity joint replacement surgery. In some institutions and in countries like Sweden, it has been a game changer. Although controlled trials are necessary to address the many unanswered questions such as the role of intraarticular catheter and most appropriate drug combinations, the technique is here to stay. The results of ongoing studies with ultralong acting local anaesthetics are eagerly awaited. Intraperitoneal local anaesthetics A metaanalysis of 30 RCTs showed that intraperitoneal local anaesthetics for laparoscopic cholecystectomy reduced postoperative pain and opioid use. There were no adverse effects in spite of potentially toxic serum levels in two patients(33). Similar results have been reported in previous reviews. With increasing literature it is becoming clearer that the position of catheter tip is important. This was demonstrated in studies in patients undergoing colorectal surgery(34,35,36). Preperitoneal catheter placement is not only effective, it is superior to epidural technique as regards analgesia and hospital stay(35,36). For C. Section the most appropriate catheter position is subfascial rather than subcutaneous, this subfascial position has been shown to be as effective as epidural(37) or even superior to epidural(38). It is recommended by PROSPECT(15). Transversus Abdominis Plane (TAP) blocks This block can be clinically useful in bowel surgery, appendectomy, hernia repair, umbilical surgery, and gynaecological surgery(39). There is a large body of efficacy and safety data which has allowed several metaanalyses (40,41) and a Cochrane review (42). A recent metaanalysis recommended the technique for laparoscopic surgical procedures(43) and another metaanalysis recommended it for C. Section(44). The evidence-based PROSPECT recommendations also include TAP blocks as an effective method for this surgery(15) To summarize, the ease of use and safety of local anaesthetics is well recognized. Collectively, they serve as one of the most important classes of drugs in perioperative pain management. The main advantage of local anaesthetics is that they act directly on the tissue they are applied to and do not have the side effects of opioids. Simple surgeon-administered techniques such as wound infiltration, pre-or-intraperitoneal administartion, TAP blocks, LIA as a single administration or with catheters placed under direct vision and in collaboration with anaesthesiologists and Acute Pain Services (APS) can play a significant role in improvement of postoperative care. There is increasing evidence from several metaanalyses and systematic reviews that these techniques can be good alternatives to epidural and perineural catheters. WCI can be used for a variety of surgical procedures such as abdominal, cardiothoracic, vascular and major orthopaedic, LIA technique for hip and knee replacement, intraperitoneal and TAP blocks for many abdominal surgical procedures. Since most of these techniques are relatively new, there is a need for further studies to address the many unanswered questions Notes: DB - Embase UI - 72027043 IN - (Rawal) Orebro University, Orebo, Sweden LG - English PT - Journal: Conference Abstract EM - 201542 DD - 20151001

(454) Reichenbach S, Juni P, Werlen S, Nuesch E, Pfirrmann CW, Trelle S et al. Prevalence of femoral neck protuberance on hip MRI in a swiss male population: A cross-sectional study. Arthritis and Rheumatism Conference: American College of Rheumatology/Association of Rheumatology Health Professionals Annual Scientific Meeting, ACR/ARHP 09 Atlanta, GA United States Conference Start: 20101106 Conference End: 20101111 Conference Publi 2009;(var.pagings):225. Ref ID: 474 Abstract: Purpose: Based on experimental and clinical studies, femoro-acetabular impingement was proposed to cause early osteoarthritis (OA) in the non-dysplastic hip. Femoro-acetabular impingement usually occurs as one of two different types, either 'cam' or 'pincer'. Cam impingement is predominantly seen in males, and is caused by the presence of a femoral neck protuberance (FNP) with a non-spherical femoral head and/or a decreased anterior head-neck offset. The increased radius of the femur entering the acetabulum results in decreased joint clearance with repeated shearing forces occurring between the femoral neck and the acetabular rim during flexion and internal rotation. The aim of this study was to determine the prevalence of FNP as a potential risk factor for hip OA in a population-based inception cohort study of young males.Method: Study subjects were consecutively recruited young males undergoing conscription for the Swiss army, which is required for all citizens regardless of their health status. Participants completed a set of questionnaires pertaining to pain, stiffness, and physical function, and internal rotation was measured reliably using a newly developed examination chair. A random sample of the examined participants was subsequently invited to obtain magnetic resonance images (MRI) of the hip. FNP was assessed semiquantitatively using scores from grade 0 to grade 3: 0=normal, 1=mild, 2=moderate, 3= severe FNP. Overall prevalence estimates with 95% confidence intervals (95% CI) accounted for the oversampling of participants with decreased (<30degree) and increased (>=40degree) internal rotation using posts-stratification weights. Prevalence of different grades of FNP was calculated separately for participants with decreased, normal (>=30degree and <40degree) and increased internal rotation. Results: Subjects who underwent imaging included 244 asymptomatic participants with a mean age of 19.9 years and a mean body mass index of 23.1 kg/m<sup>2</sup>. Grade 1 FNP was found in 112 MRIs, grade 2 in 54 MRIs, and grade 3 in 13 MRIs. The prevalence of definite FNP (grade >= 2) was 0.24 (95% CI 0.19 to 0.30). FNP was more prevalent in participants with decreased internal rotation compared to normal or increased internal rotation (table 1, p-value for trend < 0.001). (Table presented) Conclusion: Definite femoral neck protuberance on MRI can be found in every fourth young asymptomatic male individual, and in every second participant with decreased internal rotation Notes: DB - Embase UI - 70374279 IN - (Reichenbach, Juni, Werlen, Nuesch, Pfirrmann, Trelle, Ganz) University of Bern, Bern, Switzerland (Reichenbach, Juni, Werlen, Nuesch, Pfirrmann, Trelle, Ganz) Hospital Sonnenhof, Bern, Switzerland (Reichenbach, Juni, Werlen, Nuesch, Pfirrmann, Trelle, Ganz) University Hospital Balgrist, Zurich, Switzerland (Reichenbach, Juni, Werlen, Nuesch, Pfirrmann, Trelle, Ganz) Schulthess Clinic, Zurich, Switzerland LG - English PT - Journal: Conference Abstract EM - 200900 DD - 20110404

(455) Reichenbach S, Juni P, Nuesch E, Frey F, Ganz R, Leunig M. An examination chair to measure internal rotation of the hip in routine settings: a validation study. Osteoarthritis and Cartilage 18 (3) ()(pp 365-371), 2010 Date of Publication: March 2010 2010;(3):365-371. Ref ID: 446 Abstract: Objective: To determine the performance of a newly developed examination chair as compared with the clinical standard of assessing internal rotation (IR) of the flexed hip with a goniometer. Methods: The examination chair allowed measurement of IR in a sitting position simultaneously in both hips, with hips and knees flexed 90degree, lower legs hanging unsupported and a standardized load of 5 kg applied to both ankles using a bilateral pulley system. Clinical assessment of IR was performed in supine position with hips and knees flexed 90degree using a goniometer. Within the framework of a population-based inception cohort study, we calculated inter-observer agreement in two samples of 84 and 64 consecutive, unselected young asymptomatic males using intra-class correlation coefficients (ICC) and determined the correlation between IR assessed with examination chair and clinical assessment. Results: Inter-observer agreement was excellent for the examination chair (ICC right hip, 0.92, 95% confidence interval [CI] 0.89-0.95; ICC left hip, 0.90, 95% CI 0.86-0.94), and considerably higher than that seen with clinical assessment (ICC right hip, 0.65, 95% CI 0.49-0.77; ICC left hip, 0.69, 95% CI 0.54-0.80, P for difference in ICC between examination chair and clinical assessment <0.001). The average range of motion (ROM) obtained with examination chair and clinical assessment were similar (difference 1.1degree, 95% CI - 0.7-2.8degree, P = 0.23), and the correlation was strong (Pearson's coefficient, 0.75, 95% CI 0.62-0.84). Conclusions: The use of the examination chair resulted in a precise assessment of hip IR in our population-based inception cohort study of young asymptomatic males. It was strongly correlated with standard clinical assessment of IR but was considerably more reliable. Â© 2009 Osteoarthritis Research Society International Notes: DB - Embase UI - 2010109717 IN - (Reichenbach, Juni, Nuesch) Division of Clinical Epidemiology and Biostatistics, Institute of Social and Preventive Medicine (ISPM), University of Bern, Switzerland (Reichenbach) Department of Rheumatology, Clinical Immunology and Allergology, Inselspital, University of Bern, Switzerland (Reichenbach, Juni, Nuesch) CTU Bern, Inselspital, University of Bern, Switzerland (Frey) Military Medical Branch, Armed Forces Logistics Organisation (AFLO), Switzerland (Ganz) Department of Orthopaedic Surgery, University of Bern, Switzerland (Leunig) Hip Service, Schulthess Clinic, Switzerland and University of Bern, Zurich, Switzerland CP - United Kingdom LG - English PT - Journal: Article EM - 200900 DD - 20100309

(456) Reichenbach S, Leunig M, Werlen S, Pfirrmann C, Trelle S, Ganz R et al. Association between cam-type deformities and labral tears on hip MRI in young males: A cross-sectional study. Osteoarthritis and Cartilage Conference: 2010 Osteoarthritis Research Society International, OARSI World Congress Brussels Belgium Conference Start: 20100923 Conference End: 20100926 Conference Publication: (var pagings) 18 ()(pp S176-S177), 2010 Dat 2010;(var.pagings):S176-S177. Ref ID: 448 Abstract: Purpose: Based on experimental and clinical studies, femoroacetabular impingement was proposed to cause early osteoarthritis (OA) in the nondysplastic hip. Femoroacetabular impingement usually occurs as one of two different types, either 'cam' or 'pincer'. Cam impingement is predominantly seen in males, and is caused by the presence of a cam-type deformity with a non-spherical femoral head and/or a decreased anterior head-neck offset. The increased radius of the femur entering the acetabulum results in decreased joint clearance with repeated shearing forces occurring between the femoral neck and the acetabular rim during flexion and internal rotation. We previously reported the prevalence of cam-type deformities in a young asymptomatic male population to be 24% (95% CI 19 to 30%). The aim of this study was to examine the association between cam-type deformities and labral tears as a potential pre-osteoarthritic feature of OA in the same cohort. Methods: This was a population-based cross-sectional study in which study subjects were consecutively recruited young males undergoing conscription for the Swiss army, a compulsory requirement for male citizens. Participants completed a set of questionnaires pertaining to pain, stiffness, and physical function. A random sample of the examined participants was subsequently invited to obtain magnetic resonance images (MRI) of the hip. Cam-type deformities were graded on radial sequences using grades from 0 to 3: 0=normal, 1=mild, 2=moderate, and 3=severe deformity. Definite cam-type deformities were grade 2 or 3. We defined labral tears as linear bands of high-signal intensity within the labrum, at the transition between the labrum and acetabular cartilage. They were scored from 0 to 2: 0=no tear, 1=partial tear, and 2=complete tear. Association between complete labral tears and the presence of cam-type deformities were determined using univariable logistic regression models, adjusted for age and body mass index. Results: Subjects who underwent imaging included 244 asymptomatic male participants with a mean age of 19.9 years. Sixty-seven subjects had a definite cam-type deformity. These individuals had a higher body mass index compared to those without a deformity (24.3 kg/m<sup>2</sup> versus 22.6 kg/m<sup>2</sup>, p<0.002). Complete tears were found in 48% of individuals with a definite cam-type deformity, compared to 31% in those without: crude odds ratio 2.08 (95% CI 1.17 to 3.71). The adjusted odds ratio was 2.13 (95% CI 1.18 to 3.86). Results were robust when restricting the analysis to the deformities located in an antero-superior position. Conclusions: Cam-type deformities were associated with labral tears in an asymptomatic young male population, supporting the hypothesis that this type of deformity may be a risk-factor for OA Notes: DB - Embase UI - 70312427 IN - (Reichenbach, Trelle, Juni) Inst. of Social, Preventive Med., Bern, Switzerland (Ganz) Bern Univ. Hosp., Bern, Switzerland (Reichenbach, Leunig) Schulthess Clinic, Zurich, Switzerland (Werlen) Hosp. Sonnenhof, Bern, Switzerland (Pfirrmann) Univ. Hosp. Balgrist, Zurich, Switzerland LG - English PT - Journal: Conference Abstract EM - 200900 DD - 20101210

(457) Reichenbach S, Juni P, Werlen S, Limacher A, Pfirrmann CW, Ganz R et al. Prevalence of cam and pincer-type deformities on hip MRI in a swiss female population: A cross-sectional study. Arthritis and Rheumatism Conference: Annual Scientific Meeting of the American College of Rheumatology and Association of Rheumatology Health Professionals 2011 Chicago, IL United States Conference Start: 20111104 Conference End: 20111109 Conference Pu 2011;(var.pagings). Ref ID: 370 Abstract: Background/Purpose: Femoroacetabular impingement (FAI) has been proposed to cause early osteoarthritis (OA) in the non-dysplastic hip. FAI usually occurs as one of two different types, either "cam" or "pincer". Cam impingement is caused by the presence of a cam-type deformity with a non-spherical femoral head and/or a decreased anterior head-neck offset. Pincer impingement results from increased acetabular depth with over-coverage of the femoral head, while the head-neck configuration may be normal. We previously reported the prevalence of cam-type deformities in a young asymptomatic male population to be 24%. The prevalence of increased acetabular depth was 6%. The aim of this study was to determine the prevalences of both types of impingement as potential risk factors for hip OA in a quasi population-based cross-sectional cohort study of young females. Methods: Study subjects were young females aged 18 to 19 attending grammar school or selected vocational schools for manual or non-manual occupations. Participants completed a set of questionnaires pertaining to pain, stiffness, and physical function, and internal rotation was measured reliably using a validated examination chair. A random sample of the examined participants was subsequently invited to obtain magnetic resonance images (MRI) of the hip. Cam-type deformities were assessed semiquantitatively using scores from grades 0 to 3: 0=normal, 1=mild, 2=moderate, 3=severe. The depth of the acetabulum was defined as the distance (in mm) between the center of the femoral neck and the line connecting the anterior acetabular rim to the posterior acetabular rim. The value was positive if the center of the femoral neck was lateral to the line connecting the acetabular rim. Values <=3 mm were considered to represent increased acetabular depth. Overall prevalence estimates with 95% confidence intervals (95% CI) accounted for the oversampling of participants with decreased (<40degree) and increased (>=50degree) internal rotation using post-stratification weights. Prevalences were calculated separately for participants with decreased, normal, and increased internal rotation. Results: Subjects who underwent imaging included 80 asymptomatic participants with a mean age of 19.3 years and a mean body mass index of 21.2 kg/m2. Grade 1 cam-type deformities were found in 22% (95% CI 13 to 34). No MRI showed evidence of a definite cam-type deformity (grade >=2). The prevalence of increased acetabular depth was 10% (95% CI 5 to 19). This prevalence did not differ between participants with decreased internal rotation and those with normal or increased internal rotation (Table 1, p-value for trend 0.71). (Table presented) Conclusion: Definite cam-type deformities on MRI in young women are rare compared to men, whereas the prevalence of increased acetabular depth is higher, suggesting that FAI has different gender-related biomechanical mechanisms Notes: DB - Embase UI - 70786479 IN - (Reichenbach, Juni, Werlen, Limacher, Pfirrmann, Ganz, Leunig) University of Bern, Bern, Switzerland (Reichenbach, Juni, Werlen, Limacher, Pfirrmann, Ganz, Leunig) Hospital Sonnenhof, Bern, Switzerland (Reichenbach, Juni, Werlen, Limacher, Pfirrmann, Ganz, Leunig) Balgrist University Hospital, Zurich, Switzerland (Reichenbach, Juni, Werlen, Limacher, Pfirrmann, Ganz, Leunig) Schulthess Clinic, Zurich, Switzerland LG - English PT - Journal: Conference Abstract EM - 201226 DD - 20120624

(458) Retchford T, Crossley KM, Grimaldi A, Kemp JL, Cowan SM. Can local muscles augment stability in the hip? A narrative literature review. Journal of Musculoskeletal Neuronal Interactions 13 (1) ()(pp 1-12), 2013 Date of Publication: March 2013 2013;(1):1-12. Ref ID: 317 Abstract: Hip pain and dysfunction are increasingly recognised as important causes of morbidity in younger and older adults. Pathology compromising the passive stability of the hip joint, including acetabular labral injury, may lead to increased femoral head translation, greater joint contact pressures and ultimately degenerative hip disease. Activation of hip muscles may play an important role in augmenting the stability in the normal and the passively unstable hip. Research at other joints suggests that the local, rather than global, muscles are well suited to provide subtle joint compression, limiting translation, with minimal metabolic cost. Based on the known characteristics of local muscles and the limited research available on hip muscles, it is proposed that the local hip muscles; quadratus femoris, gluteus minimus, gemelli, obturator internus and externus, iliocapsularis and the deep fibres of iliopsoas, may be primary stabilisers of the hip joint. Interventions aimed at restoring isolated neuromuscular function of the primary hip stabilisers may be considered when treating people with passive hip instability prior to commencing global muscle rehabilitation. Finally, further research is needed to investigate the potential association between function of the hip muscles (including muscles likely to have a role in stabilising the hip) and hip pathology affecting hip stability such as acetabular labral lesions. Â© McGraw-Hill Education Australia, 2012 Notes: DB - Embase UI - 2013152842 IN - (Retchford, Cowan) Melbourne Physiotherapy School, University of Melbourne, Melbourne, VIC, Australia (Retchford) School of Community Health, Charles Sturt University, Albury, NSW, Australia (Crossley, Kemp) Division of Physiotherapy, School of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, Australia (Grimaldi) Physiotec Physiotherapy, Brisbane, QLD, Australia CP - Greece LG - English PT - Journal: Review EM - 201315 DD - 20130409

(459) Rho GG, Rho M. Post-partum non-displaced ramus stress fracture in a runner: A case report. PM and R Conference: 2012 American Academy of Physical Medicine and Rehabilitation, AAPM&R Annual Assembly Atlanta, GA United States Conference Start: 20121115 Conference End: 20121118 Conference Publication: (var pagings) 4 (10 SUPPL 1) ()(pp S250-S 2012;(var.pagings):S250-S251. Ref ID: 336 Abstract: Case Description: Patient presented with severe left buttock pain and mild left groin pain for 2 months. She initially saw a chiropractor who initiated McKenzie type extension-based exercises. After one session of repetitive extension-based exercises she had a severe flare of left anterior groin pain that slowly improved after a week. The pain was exacerbated with walking and relieved with sitting. Notable examination findings included tenderness over the left ischial tuberosity, pubic symphysis and bilateral pubic rami, buttock pain with resisted left knee flexion, and anterior pelvic pain with resisted hip adduction bilaterally. Setting: Outpatient Musculoskeletal Clinic. Results or Clinical Course: MRI of pelvis showed bone marrow edema about the pubic symphysis extending into the left inferior pubic ramus, consistent with a nondisplaced stress fracture. Treatment consisted of nonweightbearing with crutches <1 week and partial weightbearing <1 week until patient could ambulate without pain. Women's health physical therapy was initiated after 1 week to work on pelvic girdle strengthening exercises. Discussion: Pelvic stress fractures make up only 1-2% of all stress fractures. Transient osteoporosis of the hip is a rare condition mainly seen in pregnant women in their third trimester; characterized by sudden onset of disabling hip pain without precedent trauma, limited osteopenia on radiographs and diffuse bone marrow edema on MRI. The diagnosis is most often made during pregnancy and not after. In the case of our patient, her risk factors for stress included running and pregnancy but with an atypical presentation of severe left buttock pain that began post-partum. Conclusions: A non-displaced pubic rami stress fracture can cause enough pelvic instability in a post-partum active female to present as buttock pain Notes: DB - Embase UI - 70909939 IN - (Rho) Rehabilitation Institute of Chicago, Chicago, IL, United States LG - English PT - Journal: Conference Abstract EM - 201245 DD - 20121102

(460) Ribas M, Ledesma R, Cardenas C, Marin-Pena O, Toro J, Caceres E. Clinical results after anterior mini-open approach for femoroacetabular impingement in early degenerative stage. Hip Int 2010; 20 Suppl 7:S36-S42. Ref ID: 687 Abstract: We describe our modified anterior mini-invasive technique and results obtained in our first consecutive 117 cases in 105 patients. To assess the influence of preoperative Tonnis degenerative stage, cases were divided into group A (Tonnis 0, 32 hips), B (Tonnis 1, 61 hips), and C (Tonnis 2, 24 hips). The clinical score Dexeus combined score (DCS) was used preoperatively, 3 months, 6 months, and every year after operation. At 3-month follow-up, impingement test results improved significantly in 30 hips of group A (94%; p<0.001) and in 58 of group B (95%; p<0.001), whereas in group C, improvement was observed in only 14 cases (58%; p>0.05). No statistical difference was observed at 3-year visit in all groups. Merle d'Aubigne-Postel and WOMAC scores improved significantly in group A (p<0.001) and B (p<0.001) after 1 year and remained unchanged at subsequent yearly follow-ups. For group C, clinical outcomes scores did not show any significant improvement overall (p>0.05). We concluded that anterior mini-invasive technique is an effective method to treat femoroacetabular impingement, and results are highly influenced by preoperative degenerative state, especially in stage Tonnis 2. Therefore, it seems to be a reasonable early surgical treatment in symptomatic patients Notes: DA - 20130626 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(461) Ricciardi BF, Fabricant PD, Fields KG, Poultsides L, Zaltz I, Sink EL. What are the demographic and radiographic characteristics of patients with symptomatic extraarticular femoroacetabular impingement? Clin Orthop Relat Res 2015; 473(4):1299-1308. Ref ID: 555 Abstract: BACKGROUND: Extraarticular femoroacetabular impingement (FAI) can result in symptomatic hip pain, but preoperative demographic, radiographic, and physical examination findings have not been well characterized. QUESTIONS/PURPOSES: The purposes of this study were to (1) define the demographic characteristics of patients with symptomatic extraarticular FAI; and (2) identify relevant radiographic and physical examination findings that are associated with intraoperative locations of extraarticular FAI. METHODS: For purposes of this study, we defined extraarticular FAI as abnormal contact between the extraarticular regions of the proximal femur (greater trochanter, lesser trochanter, extracapsular femoral neck) and the ilium or ischium. The diagnosis was suspected preoperatively, but it was confirmed at the time of surgery by direct visualization of extraarticular impingement after surgical hip dislocation. A prospective single-center hip preservation registry was used to retrospectively characterize patients presenting between October 2010 and November 2013 with symptomatic hip pain and intraoperative findings of extraarticular FAI (N = 75 patients, 86 hips). Detailed demographic data were recorded. Radiographs, CT, and MRI scans were reviewed for all patients by two of the authors (BFR, ELS). Outcome instruments including modified Harris hip score (mHHS), Hip Outcome Score (HOS), and International Hip Outcome Tool (iHOT-33) were assessed preoperatively. A comparison group of all patients (N = 1690 patients, 1989 hips) undergoing surgery for intraarticular FAI over the study period were included for demographic comparisons. Cases with extraarticular FAI accounted for 4% (75 of 1765 patients) of our cohort over the study time period. RESULTS: Patients with extraarticular FAI were more likely to be younger (mean +/- SD, 24 +/- 7 years versus 30 +/- 11 years; difference [95% confidence interval {CI}], -7 [-9 to -4]; p < 0.001), female (85% versus 49%; odds ratio [95% CI], 6 [3 to 12]; p < 0.001), to have undergone prior hip surgery (44% versus 10%; odds ratio [95% CI], 9 (6 to 15); p < 0.001), and have lower preoperative outcome scores after adjustment for age, sex, and revision status (mHHS 55 +/- 15 versus 63 +/- 15; adjusted difference [95% CI], -4 (-8 to -1); p = 0.017; HOS ADL 64 +/- 19 versus 73 +/- 18; adjusted difference [95% CI], -7 (-11 to -3); p = 0.002) than patients undergoing surgery for intraarticular FAI. Within the extraarticular FAI group, preoperative femoral version on CT was different among patients with anterior versus posterior extraarticular impingement (median [first quartile, third quartile], 8 degrees [2, 18] versus 21 degrees [20, 30], respectively; p = 0.005) and anterior versus complex extraarticular impingement (median [first quartile, third quartile], 8 degrees [2, 18] versus 20 degrees [10, 30], respectively; p = 0.007]. Preoperative external rotation in extension was increased in patients with anterior versus complex extraarticular FAI (median [first quartile, third quartile], 70 degrees [55, 75] versus 40 degrees [20, 60]; p < 0.001). CONCLUSIONS: Extraarticular FAI is an uncommon source of impingement symptoms. We suspect the diagnosis often is missed, because many of these patients had prior hip surgery before the procedure that diagnosed the extraarticular impingement source. This diagnosis seems more common in younger, female patients. Radiographic and physical examination findings correspond to locations of intraoperative extraarticular impingement. Future studies will need to determine whether surgical treatment of extraarticular impingement pathology improves pain and function in this subset of patients Notes: DA - 20150306 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(462) Richardson JK, Demott T, Allet L, Kim H, Ashton-Miller JA. Hip strength: Ankle proprioceptive threshold ratio predicts falls and injury in diabetic neuropathy. Muscle and Nerve 50 (3) ()(pp 437-442), 2014 Date of Publication: September 2014 2014;(3):437-442. Ref ID: 235 Abstract: Introduction: We determined lower limb neuromuscular capacities associated with falls and fall-related injuries in older people with declining peripheral nerve function. Methods: Thirty-two subjects (67.4+/-13.4 years; 19 with type 2 diabetes), representing a spectrum of peripheral neurologic function, were evaluated with frontal plane proprioceptive thresholds at the ankle, frontal plane motor function at the ankle and hip, and prospective follow-up for 1 year. Results: Falls and fall-related injuries were reported by 20 (62.5%) and 14 (43.8%) subjects, respectively. The ratio of hip adductor rate of torque development to ankle proprioceptive threshold (Hip<sup>STR</sup>/Ank<sub>PRO</sub>) predicted falls (pseudo-R<sup>2</sup>=.726) and injury (pseudo-R<sup>2</sup>=.382). No other variable maintained significance in the presence of Hip<sup>STR</sup>/Ank<sub>PRO</sub>. Conclusions: Fall and injury risk in the population studied is related inversely to Hip<sup>STR</sup>/Ank<sub>PRO</sub>. Increasing rapidly available hip strength in patients with neuropathic ankle sensory impairment may decrease risk of falls and related injuries. Â© 2013 Wiley Periodicals, Inc Notes: DB - Embase UI - 2014549751 IN - (Richardson, Demott, Kim, Ashton-miller) University of Michigan, Physical Medicine and Rehabilitation, 325 E. Eisenhower Pkwy, Suite 400, Ann Arbor, MI, United States (Allet) Hopitaux Universitairies de Geneve, Geneva, Switzerland LG - English PT - Journal: Article EM - 201436 DD - 20140901

(463) Richter C, Marshall B, Franklin-Miller A, King E, Falvey E, Moran K. Kinematic and kinetic changes in a hurdle hop task following athletic groin pain rehabilitation. Journal of Science and Medicine in Sport Conference: Be Active 2014 Conference Canberra, ACT Australia Conference Start: 20141015 Conference End: 20141018 Conference Publication: (var pagings) 18 ()(pp e33), 2014 Date of Publication: December 2014 2014;(var.pagings):e33. Ref ID: 203 Abstract: Groin pain is a frequent injury of the lower extremities in sports, such as rugby or football that involve dynamic movements (e.g. acceleration, deceleration, and sudden direction change). A possible source of groin pain is an overload on tissues, which may be caused by an inappropriate movement strategy of unilateral activities. Unilateral movement tasks are common in most sports and tend to place greater loads on the lower extremity. Among unilateral movements, the hurdle hop is a high-speed movement that requires both strength and neuromuscular control. Hence, understanding the underlining biomechanical mechanics of the hurdle hop might provide a better understanding of the factors that cause groin pain. The aim of this study is to examine biomechanical changes in the hurdle hop after groin pain rehabilitation. This study recruited 40 recreational field sports players diagnosed with chronic groin pain (mean+/-SD: age, 24.6+/-5.1 years; height, 181.1+/-5.4 cm; mass, 81.9+/-9.1 kg; time with groin pain, 63.5+/-10.6 weeks). Each subject performed three hurdle hops using their symptomatic side, before and after a rehabilitation intervention. The hurdle hops were recorded using a motion analysis system. Analysis of Characterising Phases was adopted to identify significant differences, pre and post the intervention. Following rehabilitation, participants changed their movement strategy by using: greater hip abduction (51-63%), less anterior pelvis tilt (1-13, 33-41 and 87-99%), greater ipsilateral pelvis drop (27-33 and 55-66%), less thorax flexion (97-100%) and less trunk rotation towards the ipsilateral side (55-64%). Regarding kinetic changes, participants produced significantly greater impact forces (11-14%), smaller concentric hip abductor (54-57 and 69-73%) and internal rotation moments (47-63%). Largest effect sizes were found for pelvis kinematic variables (Cohen's d approx. 0.5). Groin pain rehabilitation had the largest effect on the kinematics of the pelvis. It can be assumed that the smaller anterior pelvis tilt and the greater ipsilateral pelvis drop, which were observed over the whole movement cycle, have a large impact on the hip abduction and consequently hip kinetics. The decrease in abduction and internal rotation moments may be directly linked to the painfree condition of the subjects. Findings indicate that altering pelvis kinematics during hurdle hops might lower the risk of developing groin pain as it reduces the loading of the hip joint Notes: DB - Embase UI - 71772733 IN - (Richter, Marshall, Moran) Insight Centre for Data Analytics, Ireland (Richter, Marshall, Franklin-Miller, King, Falvey) Sports Medicine Department, Sports Surgery Clinic, Santry Demesne, Dublin, Ireland (Richter, Marshall, Moran) School of Health and Human Performance, Dublin City University, Dublin, Ireland (Falvey) Centre for Health, Exercise and Sports Medicine, University of Melbourne, Melbourne, Australia LG - English PT - Journal: Conference Abstract EM - 201507 DD - 20150205

(464) Richter C, Marshall B, Franklin-Miller A, King E, Falvey E, Moran K. Kinematic and kinetic changes in a single leg drop landing task following athletic groin pain rehabilitation. Journal of Science and Medicine in Sport Conference: Be Active 2014 Conference Canberra, ACT Australia Conference Start: 20141015 Conference End: 20141018 Conference Publication: (var pagings) 18 ()(pp e31), 2014 Date of Publication: December 2014 2014;(var.pagings):e31. Ref ID: 204 Abstract: Groin pain is common in sports that involve dynamic movements (e.g. acceleration, deceleration, and sudden direction change), which are often unilateral and consequently place large loads on tissues. Amongst the unilateral movements, landing tasks have been associated with lower extremity injury and are often included in screening protocols. Hence, examining a single leg drop landing might provide a better insight into the biomechanical factors that cause groin pain. The aim of this study is to examine biomechanical changes in the single leg drop landing after groin pain rehabilitation. This study recruited 40 recreational field sports players diagnosed with chronic groin pain (mean+/-SD: age, 24.6+/-5.1 years; height, 181.1+/-5.4 cm; mass, 81.9+/-9.1 kg; time with groin pain, 63.5+/-10.6 weeks). Each subject performed three single leg drop landings using their symptomatic side, before and after rehabilitation. The end of the task was defined when maximum knee flexion occurred. Analysis of Characterising Phases was performed to identify differences after rehabilitation. Following rehabilitation, participants changed their movement strategy over various phases of the landing cycle, by using: greater ankle plantar flexion (12-14%), greater knee flexion (26-30, 48-53 and 85-100%), greater hip flexion (51-100%), greater anterior pelvis tilt (75-100%), greater ipsilateral pelvis drop (44-50%) and less contra pelvis rotation (61-68 and 98-100%). Kinetic changes showed less ankle plantar and internal rotation moments, less knee extensor and valgus moments, and less abductor moments over multiple phases within 30-100% of the cycle. Hip extensor moments increased (22-100%), knee and ankle power decreased, while hip power increased. Subjects demonstrated less anterior-posterior forces (35-100%) and less vertical forces over multiple phases. Largest effect sizes were found in the ankle and hip joint (Cohen's d > 0.5). Rehabilitation had the largest effect on the ankle and hip joint. These changes, in combination with changes in knee and pelvis, lowered moments in every joint and plane except for the hip extensors. Consequently, the altered movement strategy seems to be more effective in avoiding large hip abductor and rotation moments, which stress the tissues in the groin pain area. It can be hypothesized that greater ankle plantar flexion at the start and hip flexion towards the end of the single leg drop landing might lower the risk of developing groin pain Notes: DB - Embase UI - 71772729 IN - (Richter, Marshall, Moran) Insight Centre for Data Analytics, Ireland (Marshall, King, Falvey, Moran) Sports Medicine Department, Sports Surgery Clinic, Santry Demesne, Dublin, Ireland (Marshall, Franklin-Miller, Moran) School of Health and Human Performance, Dublin City University, Dublin, Ireland (Franklin-Miller, Falvey, Moran) Centre for Health, Exercise and Sports Medicine, University of Melbourne, Melbourne, Australia LG - English PT - Journal: Conference Abstract EM - 201507 DD - 20150205

(465) Richter D, Wascher DC, Schenck RC, Jr. A novel posteromedial approach for tibial inlay PCL reconstruction in KDIIIM injuries: avoiding prone patient positioning. Clin Orthop Relat Res 2014; 472(9):2680-2690. Ref ID: 583 Abstract: BACKGROUND: Treatment of traumatic knee dislocations remains controversial and challenging. Current techniques for PCL reconstruction utilize either a transtibial approach with potential risk of vascular injury from drilling toward the popliteal artery or a tibial inlay technique with prone patient positioning, which is cumbersome and adds operative time. We therefore developed a surgical technique using a supine posteromedial approach for PCL tibial inlay reconstruction for the treatment of Schenck KDIIIM (ACL/PCL/medial collateral ligament) knee dislocations. In patients undergoing this technique, we evaluated patient-reported outcome scores, ROM, stability, and complications. DESCRIPTION OF TECHNIQUE: Tibial inlay PCL reconstructions were performed through a posteromedial approach with the patient supine, knee flexed, and hip externally rotated, thus avoiding prone patient positioning. The inlay approach uses the interval between the medial head of the gastrocnemius and the pes anserinus (gracilis and semitendinosus), with release of the semimembranosus tendon approximately 1 cm from its insertion on the tibia. Retraction of the medial gastrocnemius and semimembranosus allows access to the posteromedial aspect of the proximal tibia while protecting the neurovascular bundle. METHODS: All 11 patients sustaining a KDIIIM multiligamentous knee injury treated between 2002 and 2011 with a three-ligament reconstruction received this posteromedial approach. Seven patients were available for complete evaluation, and one completed telephone followup only. Mean followup was 6.0 years (range, 2.0-11.2 years). Clinical evaluation included Lysholm and Tegner activity scores and measurements of ROM and knee laxity. We also recorded complications. RESULTS: Mean Lysholm and Tegner activity scores were 81 and 4.9, respectively, with three patients returning to recreational or competitive sports. Mean knee flexion was 120 degrees (range, 106 degrees -137 degrees ); however, two patients had stiffness in flexion, lacking greater than 20 degrees of flexion compared to the contralateral side. Five had less than 3 mm of translation. Three returned to the operating room, two for arthrofibrosis or painful hardware and a third for ACL reinjury requiring revision reconstruction; there were no vascular injuries. CONCLUSIONS: Outcome scores, stability, and complications using this surgical technique were comparable to those found in other studies. The posteromedial approach for tibial inlay avoids prone positioning and the incisions are minimized, allowing safe exposure for combined medial and posterior ligament reconstruction. Further studies are needed to compare this method with others in the treatment of KDIIIM knee dislocations Notes: DA - 20140801 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Video-Audio Media SB - AIM SB - IM

(466) Rolauffs B, Bahrs C, Ochs GB, Aurich M, Weise K, Stuby F. [Bilateral hip dislocation in cerebral palsy children: conservative therapy of the less affected hip and adductor tenotomy of the opposite hip]. Z Orthop Unfall 2007; 145(6):782-789. Ref ID: 730 Abstract: AIM: In cerebral palsy children with bilateral hip dislocation, a new therapeutic concept was established that treated the less affected hip conservatively and the more affected hip simultaneously with an adductor tenotomy. The current study assessed whether the clinical and radiological outcome was equal to that of established bilateral surgical treatments. We also examined whether this approach leads to an adequate motor function improvement of the affected children. METHOD: In 41 children with cerebral palsy and bilateral hip dislocation, a prospective study assessed the hip abduction, migration percentage (MP) and the motor function (Rancho los Amigos scale). Depending on the pretherapeutic status, all patients were grouped into 3 abduction and 3 MP groups. The less affected hip was treated with a hip abduction splint whereas the more affected hip of the same child was simultaneously treated with a subcutaneous adductor tenotomy. All patients were assessed annually for 4 years. RESULTS: The hip abduction of the conservatively treated hips was pretherapeutically 41.8 +/- 2.6 degrees and improved significantly after 1 year. Patients with a pretherapeutic hip abduction < or = 20 degrees showed the most improvement. After 4 years, a significant deterioration of abduction was avoided in 49%. The pretherapeutic MP of the conservatively treated hips was 31.6 +/- 3.4% and was significantly but only slightly improved. The 4 year MP was significantly improved and the largest improvement was observed when the pretherapeutic MP was larger than 50%. A significant MP improvement after 4 years was achieved in 54%. After 4 years, 34% had undergone a motor function improvement. In 7% a motor function deterioration was observed. Posttherapeutically, the conservatively treated hips showed abduction and MP values that were comparable to those of surgically treated hip joints. CONCLUSION: In cerebral palsy children with bilateral hip dislocation, the conservative treatment of the less affected hip is suitable to achieve clinical and radiological results that are equal to the surgical treatment of the more affected hip. The concept of a combined conservative and surgical treatment of bilateral hip dislocation leads to an adequate motor function improvement that is comparable to established bilateral treatments Notes: DA - 20071211 IS - 1864-6697 (Print) IS - 1864-6697 (Linking) LA - ger PT - English Abstract PT - Journal Article SB - IM

(467) Ross JR, Nepple JJ, Philippon MJ, Kelly BT, Larson CM, Bedi A. Effect of changes in pelvic tilt on range of motion to impingement and radiographic parameters of acetabular morphologic characteristics. Am J Sports Med 2014; 42(10):2402-2409. Ref ID: 568 Abstract: BACKGROUND: The current understanding of the effect of dynamic changes in pelvic tilt on the functional acetabular orientation and occurrence of femoroacetabular impingement (FAI) is limited. PURPOSE: To determine the effect of changes in pelvic tilt on (1) terminal hip range of motion and (2) measurements of acetabular version as assessed on 2- and 3-dimensional imaging. STUDY DESIGN: Controlled laboratory study. METHODS: Preoperative pelvic computed tomographic scans of 48 patients (50 hips) who underwent arthroscopic surgery for the treatment of FAI were analyzed. The mean age of the study population was 25.7 years (range, 14-56 years), and 56% were male. Three-dimensional models of the hips were created, allowing manipulation of the pelvic tilt and simulation of hip range of motion to osseous contact. Acetabular version was measured and the presence of the crossover sign, prominent ischial spine sign, and posterior wall sign was recorded on simulated plain radiographs. Measurements of range of motion to bony impingement during (1) hip flexion, (2) internal rotation in 90 degrees of flexion, and (3) internal rotation in 90 degrees of flexion and 15 degrees adduction were performed, and the location of bony contact between the proximal femur and acetabular rim was defined. These measurements were calculated for -10 degrees (posterior), 0 degrees (native), and +10 degrees (anterior) pelvic orientations. RESULTS: In native tilt, mean cranial acetabular version was 3.3 degrees , while central version averaged 16.2 degrees . Anterior pelvic tilt (10 degrees change) resulted in significant retroversion, with mean decreases in cranial and central version of 5.9 degrees and 5.8 degrees , respectively (P < .0001 for both). Additionally, this resulted in a significantly increased proportion of positive crossover, posterior wall, and prominent ischial spine signs (P < .001 for all). Anterior pelvic tilt (10 degrees change) resulted in a decrease in internal rotation in 90 degrees of flexion of 5.9 degrees (P < .0001) and internal rotation in 90 degrees of flexion and 15 degrees adduction of 8.5 degrees (P < .0001), with a shift in the location of osseous impingement more anteriorly. Posterior pelvic tilt (10 degrees change) resulted in an increase in internal rotation in 90 degrees of flexion of 5.1 degrees (P < .0001) and internal rotation in 90 degrees of flexion and 15 degrees adduction of 7.4 degrees (P < .0001), with a superolateral shift in the location of osseous impingement. CONCLUSION/CLINICAL RELEVANCE: Dynamic changes in pelvic tilt significantly influence the functional orientation of the acetabulum and must be considered. Dynamic anterior pelvic tilt is predicted to result in earlier occurrence of FAI in the arc of motion, whereas dynamic posterior pelvic tilt results in later occurrence of FAI, which may have implications regarding nonsurgical treatments for FAI Notes: DA - 20141002 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(468) Ross JR, Stone RM, Larson CM. Subspine Impingement. Operative Techniques in Sports Medicine 23 (3) ()(pp 190-194), 2015 Date of Publication: 01 Sep 2015 2015;(3):190-194. Ref ID: 152 Abstract: Femoroacetabular impingement is typically described as occurring between the femoral head-neck junction and the acetabular rim and secondary to pathomorphologic osseous changes in these areas. Extra-articular sources of femoroacetabular impingement have been increasingly recognized and treated. One of the more commonly described sources has been subspine impingement, the mechanical conflict between the anterior inferior iliac spine (AIIS) and the distal femoral neck. The etiologies of AIIS pathomorphology include apophyseal avulsions of the AIIS, rectus femoris avulusions with ossification, overcorrection after periacetabular osteotomy, and developmental. Patients often present with groin pain with deep hip flexion. Cadaveric studies have noted a reproducible bare area on the inferior aspect of the AIIS, and a corresponding footprint of the direct head of the rectus femoris measuring 2.2 x 1.6 cm on average. Arthroscopic decompression of the AIIS has been performed with good short-term outcomes and significant improvement in end terminal range of motion Notes: DB - Embase UI - 2015301239 IN - (Ross) Boca Care Orthopedics-Boca Raton Regional Hospital, Florida Atlantic University College of Medicine Boca Raton, Deerfield Beach, FL, United States (Stone, Larson) Minnesota Orthopedic Sports Medicine Institute Twin Cities Orthopedics, Edina, MN, United States CP - United States LG - English PT - Journal: Article EM - 201539 DD - 20150923

(469) Ross JR, Bedi A, Stone RM, Sibilsky EE, Kelly BT, Larson CM. Characterization of symptomatic hip impingement in butterfly ice hockey goalies. Arthroscopy 2015; 31(4):635-642. Ref ID: 548 Abstract: PURPOSE: This study aimed to characterize the radiographic deformity observed in a consecutive series of butterfly goalies with symptomatic mechanical hip pain and to use computer-based software analysis to identify the location of impingement and terminal range of motion. We also compared these analyses to a matched group of positional hockey players with symptomatic femoroacetabular impingement (FAI). METHODS: A consecutive series of 68 hips in 44 butterfly-style hockey goalies and a matched group of 34 hips in 26 positional hockey players who underwent arthroscopic correction for symptomatic FAI were retrospectively analyzed. Each patient underwent preoperative anteroposterior (AP) and modified Dunn lateral radiographs and computed tomography (CT) of the affected hips. Common FAI measurements were assessed on plain radiographs. Patient-specific, CT-based 3-dimensional (3D) models of the hip joint were developed, and the femoral version, alpha angles at each radial clock face position, and femoral head coverage were calculated. Maximum hip flexion, abduction, internal rotation in 90 degrees flexion (IRF), flexion/adduction/internal rotation (FADIR), and butterfly position were determined, and the areas of bony collision were defined. RESULTS: Butterfly goalies had an elevated mean alpha angle on both AP (61.3 degrees ) and lateral radiographs (63.4 degrees ) and a diminished beta angle (26.0 degrees ). The mean lateral center-edge angle (LCEA) measured 27.3 degrees and acetabular inclination was 6.1 degrees . A crossover sign was present in 59% of the hips. The maximum alpha angle on the radial reformatted computed tomographic scan was significantly higher among the butterfly goalies (80.9 degrees v 68.6 degrees ; P < .0001) and was located in a more lateral position (1:00 o'clock v. 1:45 o'clock; P < .0001) compared with positional players. CONCLUSIONS: Symptomatic butterfly hockey goalies have a high prevalence of FAI, characterized by a unique femoral cam-type deformity and noted by an elevated alpha angle and loss of offset, which is greater in magnitude and more lateral when compared with that in positional hockey players. Associated acetabular dysplasia is also common among hockey goalies. LEVEL OF EVIDENCE: Level IV, prognostic case series Notes: DA - 20150406 IS - 1526-3231 (Electronic) IS - 0749-8063 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(470) Ross JR, Larson CM, Adeoye O, Kelly BT, Bedi A. Residual deformity is the most common reason for revision hip arthroscopy: a three-dimensional CT study. Clin Orthop Relat Res 2015; 473(4):1388-1395. Ref ID: 550 Abstract: BACKGROUND: Previous studies have reported residual deformity to be the most common reason for revision hip arthroscopy. An awareness of the most frequent locations of the residual deformities may be critical to minimize these failures. QUESTIONS/PURPOSES: The purposes of this study were to (1) define the three-dimensional (3-D) morphology of hips with residual symptoms before revision femoroacetabular impingement (FAI) surgery; (2) determine the limitation in range of motion (ROM) in these patients using dynamic, computer-assisted, 3-D analysis; and (3) compare these measures with a cohort of patients who underwent successful arthroscopic surgery for FAI by a high-volume hip arthroscopist. METHODS: Between 2008 and 2013, one senior surgeon (BTK) performed revision arthroscopic FAI procedures on patients with residual FAI deformity and symptoms after prior unsuccessful arthroscopic surgery; all of these 47 patients (50 hips) had preoperative CT scans. Mean patient age was 29 +/- 9 years (range, 16-52 years). Three-dimensional models of the hips were created to allow measurements of femoral and acetabular morphology and ROM to bony impingement using a validated, computer-based dynamic imaging software. During the same time period, 65 patients with successful primary arthroscopic treatment of FAI by the same surgeon underwent preoperative CT scans for the symptomatic contralateral hip; this group of 65 patients thus fortuitously provided postoperative evaluation of the originally operated hip and served as a control group. A comparison of the virtual correction with the actual correction in the primary successful FAI treatment cohort was performed. Correspondingly, a comparison of the recommended virtual correction with the correction evident at the time of presentation after failed primary surgery in the revision cohort was performed. Analysis was performed by two independent observers (JRR, OA) and a paired t-test was used for comparison of continuous variables, whereas chi-square testing was used for categorical variables with p < 0.05 defined as significant. RESULTS: Ninety percent (45 of 50) of patients undergoing revision surgery for symptomatic FAI had residual deformities; the mean maximal alpha angle in revision hips was 68 degrees +/- 16 degrees and was most often located at 1:15, considering the acetabulum as a clockface and 1 to 5 o'clock as anterior independent of side. Twenty-six percent (13 of 50) of hips had signs of overcoverage with a lateral center-edge angle greater than or equal to 40 degrees . Dynamic analysis revealed mean direct hip flexion of 114 degrees +/- 11 degrees to osseous impingement. Internal rotation in 90 degrees of hip flexion and flexion, adduction, internal rotation to osseous contact were 28 degrees +/- 12 degrees and 20 degrees +/- 10 degrees , respectively, which were less than those in hips that had underwent hip arthroscopy by a high-volume hip arthroscopist (all p < 0.001). CONCLUSIONS: We found marked radiographic evidence of incomplete correction of deformity in patients with residual symptoms compared with patients with successful results with residual deformity present in the large majority of patients (45 of 50 [90%]) undergoing residual FAI surgery. We recommend careful attention to full 3-D resection of impinging structures Notes: DA - 20150306 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(471) Roye DP, Jr., Chorney GS, Deutsch LE, Mahon JH. Femoral varus and acetabular osteotomies in cerebral palsy. Orthopedics 1990; 13(11):1239-1243. Ref ID: 790 Abstract: Sixty-three patients with cerebral palsy underwent proximal femoral varus derotation osteotomy for 86 subluxing or dislocating hips. Eleven hips underwent concomitant pelvic osteotomy. Adductor tenotomy was performed in all patients. The average preoperative femoral neck shaft angle was 158.2 degrees, with a center edge angle of -2 degrees. Femoral osteotomy effected an average femoral neck shaft angle of 132.2 degrees, with a center edge angle of +8 degrees. A Chiari osteotomy was performed when the acetabular index was greater than 35 degrees. This preoperative acetabular index of 46 degrees improved to 28 degrees postoperatively, and proved to be the most reliable indicator for need of an added pelvic osteotomy Notes: DA - 19910131 IS - 0147-7447 (Print) IS - 0147-7447 (Linking) LA - eng PT - Journal Article SB - IM

(472) Rubin DA. Femoroacetabular impingement: Fact, fiction, or fantasy? American Journal of Roentgenology 201 (3) ()(pp 526-534), 2013 Date of Publication: September 2013 2013;(3):526-534. Ref ID: 271 Abstract: OBJECTIVE. Proponents of femoroacetabular impingement (FAI) now claim that FAI is an important risk factor for hip osteoarthritis and argue that early, aggressive treatment is indicated to stave off long-term complications. The result is more young patients undergoing corrective surgery; does the literature support these claims or has hype trumped reality? This article critically reviews these assertions together with the current scientific evidence that defends (or refutes) them. CONCLUSION. Each reader will need to weigh the evidence carefully when interpreting images or planning management for patients with possible FAI. Â© American Roentgen Ray Society Notes: DB - Embase UI - 2013607559 IN - (Rubin) Mallinckrodt Institute of Radiology, 510 S Kingshighway, St. Louis, MO 63110, United States CP - United States LG - English PT - Journal: Review EM - 201348 DD - 20131121

(473) Rudert M, Holzapfel BM, Pilge H, Rechl H, Gradinger R. Partial pelvic resection (internal hemipelvectomy) and endoprosthetic replacement in periacetabular tumors. [German]. Operative Orthopadie und Traumatologie 24 (3) ()(pp 196-214), 2012 Date of Publication: July 2012 2012;(3):196-214. Ref ID: 355 Abstract: Objective. Treatment of tumors of the pelvic girdle by resection of part or all of the innominate bone with preservation of the extremity. Implantation and stable fixation using a custom-made megaprosthesis to restore painless joint function and loading capacity. The surgical goal is to obtain a wide surgical margin and local tumor control.Indications. Primary bone and soft tissue sarcomas, benign or semi-malignant aggressive lesions, metastatic disease (radiation resistance and/or good prognosis).Contraindications. Limited life expectancy and poor physical status, extensive metastatic disease, persistent deep infection or recalcitrant osteomyelitis, poor therapeutic compliance, local recurrence following a previous limb-sparing resection, extensive infiltration of the neurovascular structures and the intra- and extrapelvic soft tissues.Surgical technique. Levels of osteotomy are defined preoperatively by a CT-controlled manufactured three-dimensional 1:1 model of the pelvis. Using these data, the custom-made prosthesis and osteotomy templates are then constructed by the manufacturer. The anterior (internal, retroperitoneal) and posterior (extrapelvic, retrogluteal) aspects of the pelvis are exposed using the utilitarian incision surgical approach. The external iliac and femoral vessels are mobilized as they cross the superior pubic ramus. The adductor muscles, the rectus femoris and sartorius muscle are released from their insertions on the pelvis and the obturator vessels and nerve are transected. If the tumor extends to the hip joint, the femur is transected at a level distal to the intertrochanteric line to ensure hip joint integrity and to prevent tumor contamination. A large myocutaneous flap with the gluteus maximus muscle is retracted posteriorly. The pelvitrochanteric and small gluteal muscles are divided near their insertion in the upper border of the femur. To release the hamstrings and the attachment of the sacrotuberous ligament, the ischial tuberosity is exposed. After osteotomy using the prefabricated templates, the pelvis is released and the specimen is removed en bloc. The custom made prosthesis can either be fixed to the remaining iliac bone or to the massa lateralis of the sacrum. The released muscles are refixated on the remaining bone or the implant.Postoperative management. Time of mobilization and degree of weight-bearing depends on the extent of muscle resection. Usually partial loading of the operated limb with 10 kg for a period of 6-12 weeks, then increased loading with 10 kg per week. Thrombosis prophylaxis until full weight bearing. Physiotherapy and gait training. At follow-up, patients are monitored for local recurrence and metastases using history, physical examination, and radiographic studies.Results. Between 1994 and 2008, 38 consecutive patients with periacetabular tumors were treated by resection and reconstruction with a custom-made pelvic megaprosthesis. The overall survival of the patients was 58% at 5 years and 30% at 10 years. One or more operative revisions were performed in 52.6% of the patients. The rate of local recurrence was 15.8%. Deep infection (21%) was the most common reason for revision. In two of these cases (5.3%), a secondary external hemipelvectomy had to be performed. There were four cases of aseptic loosening (10.5%) in which the prosthesis had to be revised. Six patients had recurrent hip dislocation (15.8%). In four of them a modification of the inserted inlay and an implantation of a trevira tube had to be performed respectively. Peroneal palsy occurred in 6 patients (15.8%) with recovery in only two. There were 4 operative interventions because of postoperative bleeding (10.5%). The mean MSTS score for 12 of the 18 living patients was 43.7%. In particular, gait was classified as poor and almost all patients were reliant on walking aids. However, most patients showed good emotional acceptance. Â© Springer-Verlag 2012 Notes: DB - Embase UI - 2012516189 IN - (Rudert, Holzapfel) Orthopadische Klinik Konig-Ludwig-Haus, Julius-Maximilians-Universitat Wurzburg, Brettreichstr. 11, 97074 Wurzburg, Germany (Pilge, Rechl, Gradinger) Klinik fur Orthopadie und Unfallchirurgie, Klinikum Rechts der Isar, Technische Universitat Munchen, Germany CP - Germany OT - Beckenteilresektion (innere Hemipelvektomie) und endoprothetischer Ersatz bei huftgelenksnahen Tumoren LG - German PT - Journal: Article EM - 201238 DD - 20120913

(474) Rylander JH, Shu B, Andriacchi TP, Safran MR. Preoperative and Postoperative Sagittal Plane Hip Kinematics in Patients With Femoroacetabular Impingement During Level Walking. American Journal of Sports Medicine 2011; 39(suppl):36-42. Ref ID: 120 Notes: ID - 104651670 CY - Thousand Oaks, California

(475) Sahin N, Atici T, Ozturk A, Ozkaya G, Avcu B, Ozkan Y. [The relationship between chronic hip pain and femoroacetabular impingement: an evaluation with clinical signs and radiography]. Eklem Hastalik Cerrahisi 2011; 22(3):129-133. Ref ID: 649 Abstract: OBJECTIVES: In this study, we investigated the rate of the clinical and radiographic findings of femoroacetabular impingement (FAI) in patients with chronic hip pain and compared the findings with those of a control group. PATIENTS AND METHODS: The clinical and radiographic findings of FAI in 38 patients (group 1) having hip pain for more than three months were analyzed and compared with 42 controls (group 2). Internal rotation degrees were measured while the hips were at 90 degrees flexion and impingement test was performed by rotating the hips internally at 90 degrees flexion and adduction. The FAI findings were investigated on anteroposterior pelvis radiographs and cross-table lateral radiographs of the hip joint in both groups. The collum-diaphyseal angle, alpha angle and anterior offset ratio on the femoral side and the center-edge angle, acetabular index, extrusion index and crossover sign on the acetabular side were evaluated. RESULTS: The internal rotation degree of the painful hips were less than 20 degree in 18 (47.4%) patients in group 1 and in one (2.4%) patient in group 2 (p<0.001). The impingement sign was positive in 15 (39.5%) patients in group 1 and in one (2.4%) patient in group 2 (p<0.001). While the rate of radiographic findings that can cause pincer type FAI were same in both groups, the rate of patients with radiographic findings that can cause cam type FAI was 76.3% (n=29) in group 1 and 42.9% (n=18) in group 2 (p=0.002). CONCLUSION: Femoroacetabular impingement is one of the causes of chronic hip pain and if evaluated with suitable clinical and radiographic parameters, the rates of diagnosis may increase Notes: DA - 20111117 IS - 1309-0313 (Electronic) LA - tur PT - English Abstract PT - Journal Article SB - IM

(476) Sahin N, Atici T, Ozturk A, Ozkaya G, Ozkan Y, Avcu B. Prevalence of femoroacetabular impingement in asymptomatic contralateral hips in patients with unilateral idiopathic osteoarthritis. J Int Med Res 2011; 39(3):790-797. Ref ID: 660 Abstract: Radiographic findings of femoroace tabular impingement in the contralateral asymptomatic hip of patients who had undergone total hip arthroplasty because of primary osteoarthritis (n = 44) were compared with controls (n = 40). The centre-edge angle and caput-collum-diaphyseal angle were measured and the presence of crossover sign and a prominent ischial spine noted on anteroposterior radiographs of the pelvis. The alpha-angle and offset ratio were measured on cross-table lateral radiographs of the hip. The centre-edge angle and offset ratio were significantly lower and the alpha-angle significantly higher in the study group compared with controls. While the number of cases with an abnormal centre-edge angle was similar in both groups, the numbers with an alpha-angle > 50 degrees and the number with an offset ratio </= 15 were significantly higher in the study group. It was concluded that morphological anomalies associated with femoroacetabular impingement are seen more frequently in the asymptomatic contralateral hip of patients who have undergone hip replacement for primary osteoarthritis than in controls Notes: DA - 20110808 IS - 1473-2300 (Electronic) IS - 0300-0605 (Linking) LA - eng PT - Journal Article SB - IM

(477) Sandell LJ. Etiology of osteoarthritis: Genetics and synovial joint development. Nature Reviews Rheumatology 8 (2) ()(pp 77-89), 2012 Date of Publication: February 2012 2012;(2):77-89. Ref ID: 378 Abstract: Osteoarthritis (OA) has a considerable hereditary component and is considered to be a polygenic disease. Data derived from genetic analyses and genome-wide screening of individuals with this disease have revealed a surprising trend: genes associated with OA tend to be related to the process of synovial joint development. Mutations in these genes might directly cause OA. In addition, they could also determine the age at which OA becomes apparent, the joint sites involved, the severity of the disease and how rapidly it progresses. In this Review, I propose that genetic mutations associated with OA can be placed on a continuum. Early-onset OA is caused by mutations in matrix molecules often associated with chondrodysplasias, whereas less destructive structural abnormalities or mutations confer increased susceptibility to injury or malalignment that can result in middle-age onset. Finally, mutations in molecules that regulate subtle aspects of joint development and structure lead to late-onset OA. In this Review, I discuss the genetics of OA in general, but focus on the potential effect of genetic mutations associated with OA on joint structure, the role of joint structure in the development of OA-using hip abnormalities as a model-and how understanding the etiology of the disease could influence treatment. Â© 2012 Macmillan Publishers Limited. All rights reserved Notes: DB - Embase UI - 2012074926 IN - (Sandell) Department of Orthopedic Surgery, Washington University School of Medicine, 660 S. Euclid Avenue, St Louis, MO 63108, United States CP - United Kingdom LG - English PT - Journal: Review EM - 201208 DD - 20120220

(478) Sankar WN, Spiegel DA, Gregg JR, Sennett BJ. Long-term follow-up after one-stage reconstruction of dislocated hips in patients with cerebral palsy. J Pediatr Orthop 2006; 26(1):1-7. Ref ID: 746 Abstract: Twelve consecutive patients (average age 10.6 years) with 14 dislocated hips underwent one-stage hip reconstruction between 1973 and 1981. The procedure consisted of (1) adductor myotomy and anterior obturator neurectomy, (2) circumferential capsulotomy, iliopsoas and external rotator tenotomies, and ligamentum teres and pulvinar excision, (3) shortening femoral varus derotational osteotomy, (4) acetabuloplasty, and (5) spica immobilization for 4 weeks. All patients were followed clinically and radiographically at an average of 16.7 (range 12.4-19.5) years. No patients were lost to follow-up. Long-term results revealed complete stability in 13 of 14 hips, with no redislocations or subluxations. The one patient with "instability" had undergone bilateral proximal femoral resections for severe arthritis 12 years after left hip reconstruction; at the time of resection, the left hip was stable and reduced. Pain was absent in 13 of 14 hips. There were no problems with perineal care, decubitus formation, or sitting tolerance. Extension and abduction improved an average of 23 degrees and 10 degrees, respectively. Two patients' ambulatory status improved; none deteriorated. The mean center-edge angle was 35 degrees (range 22-50 degrees), and the mean migration percentage was 10.6% (range 0-31%). Complications included one case of degenerative arthritis, one case of painless coxa vara, and three episodes of supracondylar femur fractures. None of these patients developed radiographic evidence of avascular necrosis. In the authors' experience, one-stage hip reconstruction consisting of soft tissue lengthening, open reduction, femoral osteotomy, and pericapsular acetabuloplasty results in a painless, mobile, and stable hip at long-term follow-up that greatly improves the patient's quality of life Notes: DA - 20060127 IS - 0271-6798 (Print) IS - 0271-6798 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(479) Sansone M, Ahlden M, Jonasson P, Thomee C, Sward L, Baranto A et al. Good results after hip arthroscopy for femoroacetabular impingement in top-level athletes. Orthopaedic Journal of Sports Medicine 3 (2) ()(pp 1-8), 2015 Date of Publication: 2015 2015;(2):1-8. Ref ID: 183 Abstract: Background: Femoroacetabular impingement (FAI) is a common cause of hip pain and dysfunction among athletes. Although arthroscopic surgery is an established treatment option for FAI, there are few studies reporting detailed outcomes using validated outcome measurements specifically designed for young and active athletes. Purpose: To report outcomes 1 year after arthroscopic treatment of FAI in top-level athletes using validated outcome measurements adapted for a young and active population. Study Design: Case series; Level of evidence, 4. Methods: A total of 85 top-level athletes (68 males, 17 females) with a mean (+/-SD) age of 25 +/- 5 years underwent arthroscopic surgery for FAI. All athletes who reported Hip Sports Activity Scale (HSAS) levels 7 or 8 (range, 0-8) prior to symptom onset were included. The cohort was prospectively evaluated using online web-based validated health-related patient-reported outcomes measures (HR-PROMs), including the short version of the International Hip Outcome Tool (iHOT-12), the Copenhagen Hip and Groin Outcome Score (HAGOS; 6 subscales), the EuroQOL 5 dimensions questionnaire (EQ-5D; 2 subscales), the Hip Sports Activity Scale (HSAS) for physical activity level, and a visual analog scale (VAS) for overall hip function. Furthermore, patients reported their overall satisfaction with treatment. Results: The mean follow-up time was 12.3 +/- 0.6 months. Preoperative scores compared with those obtained at the 12-month follow-up revealed statistically and clinically significant improvements (P < .0001) for all measured outcomes: iHOT-12 (42 vs 73), VAS for global hip function (52 vs 77), HSAS (4.3 vs 5.7), EQ-5D index (0.60 vs 0.83), EQ-VAS (68 vs 82), and HAGOS subscales (60 vs 83, 50 vs 73, 66 vs 86, 39 vs 75, 27 vs 70, and 34 vs 67). At the 12-month follow-up, 79 athletes (93%) reported that they were satisfied with the outcome of surgery. At follow-up, 62 athletes (73%) had returned to competitive sports (HSAS levels 5-8) and 44 (52%) to their previous HSAS level of activity (HSAS level 7 or 8). Twenty-three athletes (27%) did not return to competitive sports (HSAS level <4). Significantly lower levels of return to sports were seen with longer symptom duration (P < .05). Conclusion: Twelve months after surgery, arthroscopic treatment for FAI in top-level athletes resulted in statistically and clinically significant improvements at the group level in all outcome parameters for pain, symptoms, function, physical activity level, quality of life, and general health. One year after surgery, approximately 3 of 4 top-level athletes had returned to sports Notes: DB - Embase UI - 2015931980 IN - (Sansone, Ahlden, Jonasson, Thomee, Sward, Baranto, Karlsson, Thomee) Investigation performed at Orthocenter/IFK-Kliniken, Gothenburg, Sweden (Sansone, Ahlden, Jonasson, Thomee, Sward, Baranto, Karlsson) Department of Orthopaedics, Institute of Clinical Sciences, Sahlgrenska Academy, Gothenburg University, Sahlgrenska University Hospital/Molndal, Molndal, Sweden (Sward) Orthocenter/IFK-Kliniken, Gothenburg, Sweden (Thomee) Section of Physiotherapy, Department of Clinical Neuroscience and Rehabilitation, Institute of Neuroscience and Physiology, Sahlgrenska Academy, University of Gothenburg, Goteborg, Sweden CP - United Kingdom LG - English PT - Journal: Article EM - 201517 DD - 20150421

(480) Sariyilmaz K, Gulenc B, Ozkunt O, Dikici F, Yazicioglu O. Bilateral femoral neck fractures secondary to chronic carbamazepine use treated by bilateral dynamic hip screw: A case report. International Journal of Surgery Case Reports 6 ()(pp 111-113), 2015 Date of Publication: 2015 2015;111-113. Ref ID: 214 Abstract: Introduction: Bilateral femoral neck fractures without major trauma are rare and related to several conditions. Insufficiency fractures due to the use of anti-epileptic drug are one of the rare causes. This case study is about bilateral femoral neck insufficiency fractures resulting from chronic use of anti-epileptic drug. Presentation of case: A 26-year-old woman was referred to our emergency department with a complaint of bilateral groin pain and a 12-year history of irregular carbamazepine use. The diagnosis was bilateral femoral neck insufficiency fractures due to irregular long-term carbamazepine use. One-stage bilateral dynamic hip screw osteosynthesis was performed. After 2 years of follow up, good result was obtained. Discussion: There are several risk factors for insufficiency fracture, and antiepileptic drug related osteoporosis is one of the reason. These drugs have negative effect on bone methabolism and bone mineral density. Conclusion: To our knowledge, this is the first case in the literature of bilateral femoral neck insufficiency fracture due to chronic carbamazepine use. Joint and bone pain with a history of long-term use of anti-epileptic drug should be investigated carefully, and insufficiency fractures should be kept in mind Notes: DB - Embase UI - 2014620198 IN - (Sariyilmaz, Ozkunt, Dikici) Department of Orthopedics and Traumatology, Acibadem Atakent Hospital, Halkali Merkez Mahallesi, Turgut Ozal Bulvari, No: 16, Halkali, Istanbul 34303, Turkey (Gulenc, Yazicioglu) Department of Orthopedics and Traumatology, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey CP - United Kingdom LG - English PT - Journal: Article EM - 201502 DD - 20150107

(481) Sawyer JR, Kapoor M. The limping child: A systematic approach to diagnosis. American Family Physician 79 (3) ()(pp 215-224), 2009 Date of Publication: 01 Feb 2009 2009;(3):215-224. Ref ID: 462 Abstract: Deviations from a normal age-appropriate gait pattern can be caused by a wide variety of conditions. In most children, limping is caused by a mild, self-limiting event, such as a contusion, strain, or sprain. In some cases, however, a limp can be a sign of a serious or even life-threatening condition. Delays in diagnosis and treatment can result in significant morbidity and mortality. Examination of a limping child should begin with a thorough history, focusing on the presence of pain, any history of trauma, and any associated systemic symptoms. The presence of fever, night sweats, weight loss, and anorexia suggests the possibility of infection, inflammation, or malignancy. Physical examination should focus on identifying the type of limp and localizing the site of pathology by direct palpation and by examining the range of motion of individual joints. Localized tenderness may indicate contusions, fractures, osteomyelitis, or malignancy. A palpable mass raises the concern of malignancy. The child should be carefully examined because nonmusculoskeletal conditions can cause limping. Based on the most probable diagnoses suggested by the history and physical examination, the appropriate use of laboratory tests and imaging studies can help confirm the diagnosis. Copyright Â© 2009 American Academy of Family Physicians Notes: DB - Embase UI - 2009308400 IN - (Sawyer) University of Tennessee-Campbell Clinic, 1211 Union Ave., Memphis, TN 38104, United States (Kapoor) Advocate Lutheran General Hospital, Park Ridge, IL, United States CP - United States LG - English PT - Journal: Review EM - 200900 DD - 20090724

(482) Scheerlinck T, De Boeck H. Bilateral stress fractures of the femoral neck complicated by unilateral displacement in a child. J Pediatr Orthop B 1998; 7(3):246-248. Ref ID: 784 Abstract: Stress fractures of the femoral neck with an open capital femoral epiphysis in children are very rare. Up to the time of this writing, 12 cases have been described in children between the ages of 5 and 16 years (2, 4, 10-12, 14). The differential diagnosis from other hip diseases causing pain, a limp, and limited movement can be difficult when standard radiographs are normal. In this situation, tomography, isotope bone scanning, and magnetic resonance imaging (MRI) have proved to be very useful in both adults and children (2, 3, 5-8, 10-12). Complications such as nonunion or severe displacement are uncommon in children and have occurred only after they have resumed or continued the causal activity (12). As far as we are aware, bilateral development of a fatigue fracture of the femoral neck in a child has never been reported. We describe the case of an 8-year-old girl who sustained first a right then later a left femoral neck stress fracture. Displacement of the left fracture occurred after a minor but significant injury and required surgical treatment Notes: DA - 19981030 IS - 1060-152X (Print) IS - 1060-152X (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(483) Scheidt RB, Galia CR, Diesel CV, Rosito R, Macedo CA. Prevalence of radiographic markers of femoroacetabular impingement in asymptomatic adults. Rev Col Bras Cir 2014; 41(1):36-42. Ref ID: 581 Abstract: OBJECTIVE: to determine the prevalence of radiographic signs of femoroacetabular impingement (FAI) in asymptomatic adults and correlate them with data from physical examinations. METHODS: We conducted a cross-sectional study with 82 asymptomatic volunteers, 164 hips, between 40 and 60 years of age, selected by convenience. They were submitted to anamnesis and clinical examination of the hip, anteroposterior (AP) pelvis radiographs with three incidences, Dunn 45 degrees and Lequesne false profile of each hip, to measure the variables. We measured the alpha angle, anterior offset of the femoral neck, cervical diaphyseal angle, CE angle of Wiberg, acetabular index, Sharp angle, and the crossing, ischial spine and posterior wall signs. RESULTS: our sample consisted of 66% women, mean age of 50.4 years. The average alpha angle was 45.10 degrees , SD=8.6. One quarter of the hips showed alpha angle greater than or equal to 50 degrees ; among men the prevalence was 34%, and among women, 11%. We found indicative radiographic signs of femoroacetabular impingement in 42.6% of hips, whether femoral or acetabular, and the increased alpha angle was related to the decrease in hip internal rotation (p<0.001). CONCLUSION: the radiographic findings of femoroacetabular impingement in asymptomatic patients were frequent in the studied sample. The increase in alpha angle was associated with decreased internal rotation Notes: DA - 20140428 IS - 1809-4546 (Electronic) IS - 0100-6991 (Linking) LA - eng PT - Journal Article SB - IM

(484) Scher DL, Belmont PJ, Jr., Owens BD. Case report: Osteonecrosis of the femoral head after hip arthroscopy. Clin Orthop Relat Res 2010; 468(11):3121-3125. Ref ID: 692 Abstract: BACKGROUND: Hip arthroscopy is a common orthopaedic procedure used as a diagnostic and therapeutic tool with a multitude of surgical indications. The complication rate is reportedly between 1.3% and 23.3%. Major complications are related to traction, fluid extravasation, and iatrogenic chondral injury. Although osteonecrosis is a concern with any surgical procedure about the hip, this complication has been primarily a theoretical concern with hip arthroscopy. CASE DESCRIPTION: We report the case of a 24-year-old man who presented with a 2-year history of left hip pain. He underwent hip arthroscopy to include debridement of a torn labrum and removal of a prominent pincer lesion for femoroacetabular impingement. Traction was initiated by applying manual traction to the traction bar until 10 mm of joint distraction was obtained. Traction was removed at 90 minutes. At the 3-month followup, MRI showed osteonecrosis in the subcapital region of the left femoral head. LITERATURE REVIEW: It generally is agreed the magnitude and duration of traction during hip arthroscopy increase the risk of traction-related injuries. Only one previous case of femoral head osteonecrosis associated with hip arthroscopy has been reported, and this may have resulted from the initial traumatic event. Based on anatomic studies, the use of standard arthroscopic portals would not put at risk any dominant normal vascular structures supplying the femoral head. In contrast, the literature shows that femoral head osteonecrosis may develop secondary to a combination of increased intraarticular pressure and traction. PURPOSES AND CLINICAL RELEVANCE: We suspect this case of femoral head osteonecrosis after hip arthroscopy was caused by traction used in the procedure Notes: DA - 20100930 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Case Reports PT - Journal Article PT - Review SB - AIM SB - IM

(485) Schmalzried TP. The Importance of Proper Acetabular Component Positioning and the Challenges to Achieving It. Operative Techniques in Orthopaedics 19 (3) ()(pp 132-136), 2009 Date of Publication: July 2009 2009;(3):132-136. Ref ID: 457 Abstract: The importance of proper cup placement cannot be overemphasized, regardless of the bearing material or diameter. Unsatisfactory acetabular component position has been associated with instability, increased wear, and pain. Pelvic, acetabular, and femoral anatomy are all variable, so it is illogical to have the same fixed target position for all patients. The hip arthroplasty surgeon actually faces 2 challenges: (1) determining the desired acetabular component position for each patient (the target), and (2) how to reasonably obtain that position in surgery (hitting the target). An abduction angle of 40degree +/- 10degree is generally satisfactory. Anteversion is more complex. The desired amount of anteversion is influenced by (a) the amount of femoral anteversion and (b) the cup abduction angle. A combined anteversion of 25degree +/- 10degree is generally satisfactory. A combination of internal and external landmarks can be used to assess the relative component position. Routine evaluation of intraoperative range of motion is an additional check. When in doubt, we try to obtain a quality intraoperative image. Â© 2009 Elsevier Inc. All rights reserved Notes: DB - Embase UI - 2009630426 IN - (Schmalzried) Joint Replacement Institute, St Vincent Medical Center, Los Angeles, CA, United States CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20100113

(486) Sheean G. Botulinum toxin treatment of adult spasticity: A benefit-risk assessment. Drug Safety 29 (1) ()(pp 31-48), 2006 Date of Publication: 2006 2006;(1):31-48. Ref ID: 499 Abstract: Injections of botulinum toxin have revolutionised the treatment of focal spasticity. Before their advent, the medical treatment for focal spasticity involved oral antispasticity drugs, which had decidedly non-focal adverse effects, and phenol injections. Phenol injections could be difficult to perform, could cause sensory complications and had effects that were of uncertain duration and magnitude. Furthermore, few neurologists knew how to perform them as they were mostly the province of rehabilitation specialists. Botulinum toxin can produce focal, controllable muscle weakness of predictable duration, without sensory adverse effects. Randomised clinical trials (RCTs) involving patients with spasticity resulting from a variety of diseases (mainly stroke and multiple sclerosis) have clearly shown that botulinum toxin type A (Dysport and Botox) can temporarily (for approximately 3 months) reduce spastic hypertonia in the elbow, wrist and finger flexors of the upper limbs, and the hip adductors and ankle plantarflexors in the lower limbs. The clinical benefits from this reduction of neurological impairment are best shown in the upper limb, with less disability of passive function and reduced caregiver burden. In the lower limbs, there is improved perineal hygiene from hip adductor injections. The benefits of reducing ankle plantarflexor tone are less well established. Pain is also reduced, possibly by mechanisms other than muscle weakness. Improved active function has not yet been clearly demonstrated in RCTs, only in open-label trials. The safety of botulinum toxin-A is impressive, with minimal (mainly local) adverse effects. There are little data on the use of botulinum toxin type B (Myobloc or Neurobloc) in spasticity and the only RCT that has examined this did not show tone reduction; dry mouth appeared to be a very common adverse effect. There are also very little data to allow a benefit-risk comparison of phenol and botulinum toxin injections; each have their clinical and technical advantages and disadvantages, and phenol is much less costly than botulinum toxin. Â© 2006 Adis Data Information BV. All rights reserved Notes: DB - Embase UI - 2006074306 IN - (Sheean) University of California, San Diego, CA, United States (Sheean) University of California, 402 Dickinson Street, San Diego, CA 92103-8465, United States CP - New Zealand LG - English PT - Journal: Review EM - 200600 DD - 20060302

(487) Shimmin AJ, Bare JV. Comparison of functional results of hip resurfacing and total hip replacement: a review of the literature. Orthop Clin North Am 2011; 42(2):143-51, vii. Ref ID: 669 Abstract: Total hip arthroplasty (THA) results in good outcomes in function and risk for revision in older patients. However, in young, active patients, it results in an increased rate of revision and poorer outcomes. Modern metal-on-metal hip resurfacing arthroplasty (HRA) is described as an appropriate treatment of hip osteoarthritis in young, active patients. The selection of an appropriate prosthesis is critical for this patient demographic. This review compares the functional results of THA and HRA and focuses on range of motion, activity level, groin pain, patient satisfaction, restoration of normal hip anatomy, and gait Notes: DA - 20110325 IS - 1558-1373 (Electronic) IS - 0030-5898 (Linking) LA - eng PT - Comparative Study PT - Journal Article PT - Review SB - AIM SB - IM

(488) Shore B, Spence D, Graham HK. The role for hip surveillance in children with cerebral palsy. Current Reviews in Musculoskeletal Medicine 5 (2) ()(pp 126-134), 2012 Date of Publication: June 2012 2012;(2):126-134. Ref ID: 362 Abstract: Spastic hip displacement is the second most common deformity seen in children with cerebral palsy (CP), and the long-term effects can be debilitating. Progressive hip displacement leading to dislocation can result in severe pain as well as impaired function and quality of life. Recent population-based studies have demonstrated that a child's Gross Motor Functional Classification System (GMFCS) level is most predictive for identifying hips "at-risk" for progressive lateral displacement. As a result, in many developed countries, hip surveillance has now been adopted as an integral piece of the comprehensive care puzzle for the management of children with spastic hip displacement. This paper reviews the spectrum of treatments available for progressive hip displacement, examines the current literature on the success of hip surveillance, and illustrates an example of a current hip surveillance program stratified by the GMFCS level. Â© Springer Science+Business Media, LLC 2012 Notes: DB - Embase UI - 2012471674 IN - (Shore, Spence) Department of Orthopaedic Surgery, Children's Hospital Boston, Harvard Medical School, 300 Longwood Avenue, Hunnewell 221, Boston, MA 02115, United States (Graham) Department of Orthopaedic Surgery, Royal Children's Hospital, Flemmington Road, Parkville, VIC 3052, Australia CP - United States LG - English PT - Journal: Article EM - 201234 DD - 20120820

(489) Shore BJ, Novais EN, Millis MB, Kim YJ. Low early failure rates using a surgical dislocation approach in healed Legg-Calve-Perthes disease. Clin Orthop Relat Res 2012; 470(9):2441-2449. Ref ID: 648 Abstract: BACKGROUND: Hip deformity secondary to Legg-Calve Perthes disease (LCPD) may result in femoroacetabular impingement (FAI) and ultimately osteoarthritis. Observations made with the surgical hip dislocation approach have improved our understanding of the pathologic mechanics of FAI. However, owing to concerns about complications related to the vascularity, the role of surgical hip dislocation in the treatment of healed LCPD remains controversial. QUESTIONS/PURPOSES: We present an algorithm to treat deformities associated with healed LCPD and asked (1) whether femoral head-neck osteochondroplasty and other procedures performed with the surgical hip dislocation approach provide short-term clinical improvement; and (2) is the complication rate low enough to be acceptable. METHODS: We retrospectively reviewed 29 patients (19 males, 10 females; mean age, 17 years; range, 9-35 years) with symptomatic LCPD between 2001 and 2009. All patients underwent a surgical hip dislocation approach and femoral head-neck osteochondroplasty and 26 patients had 37 additional procedures performed. Clinical improvement was assessed using the WOMAC index. The minimum followup was 12 months (mean, 3 years; range, 12-70 months). RESULTS: WOMAC scores improved at final followup (8 to 4 for pain, 21 to 13 for function, and 4 to 2 for the stiffness subscales). No patients had osteonecrosis, implant failure, deep infection, or nonunion. Three patients underwent THA at 1, 3, and 6 years after their index procedure. CONCLUSIONS: Using the surgical hip dislocation approach as a tool to dynamically inspect the hip for causes of FAI, we were able to perform a variety of procedures to treat the complex deformities of healed LCPD. In the short term, we found improvement in WOMAC scores with a low complication rate Notes: DA - 20120809 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(490) Siebenrock KA, Steppacher SD, Albers CE, Haefeli PC, Tannast M. Diagnosis and management of developmental dysplasia of the hip from triradiate closure through young adulthood. Journal of Bone and Joint Surgery - Series A 95 (8) ()(pp 749-755), 2013 Date of Publication: 17 Apr 2013 2013;(8):749-755. Ref ID: 254 Notes: DB - Embase UI - 2014188031 IN - (Siebenrock, Steppacher, Albers, Haefeli, Tannast) Department of Orthopaedic Surgery, Inselspital, Bern University Hospital, Freiburgstrasse, Bern 3010, Switzerland CP - United States LG - English PT - Journal: Review EM - 201413 DD - 20140326

(491) Siebenrock KA, Schwab JM. The cam-type deformity-What is it: SCFE, osteophyte, or a new disease? Journal of Pediatric Orthopaedics 33 (SUPPL 1) ()(pp S121-S125), 2013 Date of Publication: July-August 2013 2013;(SUPPL. 1):S121-S125. Ref ID: 276 Abstract: Cam-type deformity of the proximal femur is a risk factor for the development of cam-type femoroacetabular impingement and a prearthrotic condition of the hip. The etiology of cam-type deformity remains unclear. There are a number of causes of cam-type deformity including sequellae of slipped capital femoral epiphysis, Legg-Calve-Perthes disease or Perthes-like deformities, postinfectious, and traumatic. However, the majority of cam-type deformities arise without any apparent preexisting hip disease. These "idiopathic" cam-type deformities likely represent a majority of cases, and show clear racial and sex differences, as well as developmental and genetic influences. Idiopathic cam-type deformity also seems to be a distinct entity from residual or silent slipped capital femoral epiphysis, as well as osteoarthritis-induced osteophytes. In this paper we examine the different pathogenetic aspects of the proximal femur that contribute to cam-type deformity and/or symptomatic cam-type femoroacetabular impingement Notes: DB - Embase UI - 2013655100 IN - (Siebenrock, Schwab) Department of Orthopaedic Surgery, University of Bern, Bern, Switzerland CP - United States LG - English PT - Journal: Article EM - 201344 DD - 20131029

(492) Siebenrock KA, Steppacher SD, Haefeli PC, Schwab JM, Tannast M. Valgus hip with high antetorsion causes pain through posterior extraarticular FAI. Clin Orthop Relat Res 2013; 471(12):3774-3780. Ref ID: 613 Abstract: BACKGROUND: Valgus hips with increased antetorsion present with lack of external rotation and posterior hip pain that is aggravated with hip extension and external rotation. This may be the result of posterior femoroacetabular impingement (FAI). QUESTIONS/PURPOSES: We asked whether (1) the range of motion (ROM); (2) the location of anterior and posterior bony collision zones; and (3) the prevalence of extraarticular impingement differ between valgus hips with increased antetorsion compared with normal hips and hips with idiopathic FAI. METHODS: Surface models based on CT scan reconstructions of 13 valgus hips with increased antetorsion, 22 hips with FAI, and 27 normal hips were included. Validated three-dimensional collision detection software was used to quantify the simulated hip ROM and the location of impingement on the acetabular and the femoral sides. RESULTS: Hips with coxa valga and antetorsion showed decreased extension, external rotation, and adduction, whereas internal rotation in 90 degrees of flexion was increased. Impingement zones were more anteroinferior on the femur and posteroinferior on the acetabular (pelvic) side; and the zones were more frequently extraarticular, posterior, or to a lesser degree anterior against the inferior iliac spine. We found a higher prevalence of extraarticular impingement for valgus hips with increased antetorsion. CONCLUSIONS: Valgus hips with increased antetorsion predispose to posterior extraarticular FAI and to a lesser degree anteroinferior spine impingement Notes: DA - 20131113 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - AIM SB - IM

(493) Sink EL, Gralla J, Ryba A, Dayton M. Clinical presentation of femoroacetabular impingement in adolescents. J Pediatr Orthop 2008; 28(8):806-811. Ref ID: 723 Abstract: Femoroacetabular impingement (FAI) is a recently recognized hip disorder resulting from an abnormal morphology of the proximal femur and acetabulum. This morphology results in increased hip contact forces with hip motion, specifically flexion. This may lead to labral-cartilage injury and pain. The purpose of this study is to describe the clinical presentation and diagnosis of FAI as a cause of hip pain in adolescents.Thirty-five patients with FAI as the etiology of chronic hip pain from one institution were reviewed. The common symptoms, physical examination, and radiographic findings were analyzed.The age range was 13 to 18 years. There were 30 girls and 5 boys. All patients complained of anterior groin pain. All patients performed a sport/activity that contributed to the symptoms such as dancing. Patients had decreased flexion and limited internal rotation on physical examination. All patients had a positive impingement test. Fifteen patients (43%) had primarily pincer impingement with a crossover sign or acetabular retroversion. Cam impingement was the primary type in 2 patients (6%). There were findings of cam and pincer in 18 patients (51%). Sixteen of 28 patients had a positive labral tear on magnetic resonance imaging (57%). Femoroacetabular impingement is a cause of hip pain in the adolescent population. The diagnosis can be derived from reproducible history, physical examination, and radiographic findings. It is more common in female adolescents, and pincer type is more prevalent Notes: DA - 20081126 IS - 1539-2570 (Electronic) IS - 0271-6798 (Linking) LA - eng PT - Journal Article SB - IM

(494) Sink EL, Fabricant PD, Pan Z, Dayton MR, Novais E. Results of treatment of femoroacetabular impingement in adolescents with a surgical hip dislocation approach. Clin Orthop Relat Res 2013; 471(8):2563-2569. Ref ID: 609 Abstract: BACKGROUND: The literature contains few studies of open treatment with an open surgical hip dislocation approach for treatment of femoroacetabular impingement (FAI) in adolescents. The average age and associated disorders in adolescents with FAI reveal a critical need to study younger patients whose hip disorder has not had time to progress. QUESTIONS: We assessed (1) how validated measures of patient-oriented assessment of hip function and quality of life change after surgical hip dislocation; (2) whether any patient-related or technique variables correlated with changes in the outcome scores; and (3) what the complications of treatment are and how many reoperations we performed on these patients. METHODS: We retrospectively reviewed a consecutive series of 71 hips in adolescents younger than 21 years who underwent surgical hip dislocation for FAI. The final cohort consisted of 44 patients (52 hips) with a mean age of 16 years. We analyzed changes in outcome variables after surgical hip dislocation and recorded reoperations during the study period. RESULTS: The minimum followup was 12 months (average, 27 months; range, 12-60 months). Modified Harris hip scores increased from a mean of 57.7 preoperatively to a mean of 85.8 postoperatively. Mean SF-12 scores increased from 42.3 to 50.6. Mean preoperative hip flexion increased from 97.5 degrees to 106.2 degrees . Mean internal rotation of the affected hip at 90 degrees flexion increased from 18.19 degrees to 34 degrees . CONCLUSIONS: Early results revealed improvements in hip function, patient quality of life, and ROM after surgical hip dislocation for the majority of this group of adolescents with FAI. However, 10% of the patients did not improve, and an additional 15% improved but still did not consider their hips good or excellent. This points toward the need for further studies in this population of patients Notes: DA - 20130709 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(495) Sitterlee F, Kirschbaum S, Wassilew G, Perka C-F, Muller M. The surgical hip dislocation for the treatment of femoralacetabular impingement. A case study after a mean follow-up of 53 months. HIP International Conference: 11th Congress of the European Hip Society, EHS 2014 Stockholm Sweden Conference Start: 20141009 Conference End: 20141011 Conference Publication: (var pagings) 24 (5) ()(pp 512-513), 2014 Date of Publication: September-Oc 2014;(var.pagings):512-513. Ref ID: 158 Abstract: Introduction: The surgical hip dislocation (SHD) is an established surgical technique for the treatment of femoroacetabular impingement (FAI). The benefits are the full visualisation of the hip joint and therefore the modulation of any bony deformities of the femoral neck and the acetabulum even in areas of the joint difficult to access. The potential disadvantages are the increased time for recovering full joint function and the higher risk for femoral head necrosis and pseudarthrosis. The aim of the study is to evaluate the surgical success, risks and complications of the SHD for the treatment of FAI in a mid-term follow-up. Methods: There were 36 patients available for follow-up evaluation. All these underwent SHD for the treatment of FAI (Cam n = 3, Pincer n = 1, combined n = 32) between the years 2006 to 2011. The postoperative care involved sufficient analgesia, physical therapy and partial weight bearing with 15 kg for 6 weeks with increased bearing after radiological evaluation. The analysis included objective parameters (pre- and postoperative function, scores, range of motion, activity and pain levels, the need for re-operation and conversion to total hip arthroplasty) and the individual estimation of the surgical success by the patients (individual satisfaction, improvements in hip function and symptoms). Additionally the pre- and postoperative radiological images were evaluated. Results: The mean follow-up was 53 months (range 20-87). The mean age was 49 years (range 35-74). Improvements were made in internal rotation from a mean of 5degree pre- to 13degree postoperatively (p<0.05) and abduction from a mean of 28degree pre- to 34degree postoperatively (p<0.05). The mean HHS changed from 71 pts. +/- 11 to 84 pts. +/- 17. In 56% of the cases (n = 20) a postoperative pain-free episode was present with a mean of 1.5 years (0-5), a relieve of pain was possible in 28% (n = 10). After recovery 64% (n = 23) returned to an active lifestyle, but the spectrum of sport activities changed to more joint preserving activities. The hip function improved distinctively, 74% of the patients we have seen declared their actual hip function as normal to nearly normal. The individual satisfaction with the surgical success was 47% (n = 17) and the same number of people would undergo surgery again. The mean alpha angle decreased significantly from 70degree to 44degree (p<0.05). In 36% (n = 13) the conversion to total hip arthroplasty was necessary after a mean of 33 months. About 40% (n = 5) of these patients had an arthrosis grade >1. The complication rate was 13% (2x femoral head necrosis, 2x pseudarthrosis, 1x screw breakage.) Conclusions: The surgical hip dislocation is a successful surgical technique for the treatment of femoral acetabular impingement in a mid-term follow-up. It enables to relieve the pain as well as to improve the overall hip function. However, a full restoration by the means of a physiological hip function is limited, particularly in patients with preoperative arthrosis >1degree. Therefore a thorough medical briefing of the patients regarding the odds of surgical success, relief of symptoms, patient's expectations, risks and possible residual symptoms is essential Notes: DB - Embase UI - 71959893 IN - (Sitterlee, Kirschbaum, Wassilew, Perka, Muller) Charite Universitatsmedizin Berlin, Centrum fur Muskuloskeletale Chirurgie, Klinik fur Orthopadie, Berlin, Germany LG - English PT - Journal: Conference Abstract EM - 201532 DD - 20150729

(496) Skendzel JG, Philippon MJ. Management of labral tears of the hip in young patients. Orthopedic Clinics of North America 44 (4) ()(pp 477-487), 2013 Date of Publication: October 2013 2013;(4):477-487. Ref ID: 279 Abstract: Our understanding of labral tears in young patients has evolved significantly in recent years. Successful outcome depends on addressing all bony impingement to improve the intra-articular environment, and prevent further damage to the labrum and articular cartilage. Improved clinical outcomes are associated with labral repair; in cases of a deficient labrum, arthroscopic reconstruction techniques have been developed, with promising clinical outcomes. This article reviews the anatomy of the acetabular labrum, and discusses the pathogenesis of labral tears as well as various treatment options, including arthroscopic labral repair and reconstruction. Â© 2013 Elsevier Inc Notes: DB - Embase UI - 2013623072 IN - (Skendzel, Philippon) Steadman Philippon Research Institute, Center for Outcomes-Based Orthopaedic Research, 181 West Meadow Drive, Suite 1000, Vail, CO 81657, United States CP - United States LG - English PT - Journal: Review EM - 201344 DD - 20131028

(497) Slongo T, Kakaty D, Krause F, Ziebarth K. Treatment of Slipped Capital Femoral Epiphysis with a Modified Dunn Procedure. Journal of Bone & Joint Surgery 2010; 92-A(18):2898-2909. Ref ID: 78 Notes: IS - 18

(498) Stahelin L, Stahelin T, Jolles BM, Herzog RF. Arthroscopic Offset Restoration in Femoroacetabular Cam Impingement: Accuracy and Early Clinical Outcome. Arthroscopy - Journal of Arthroscopic and Related Surgery 24 (1) ()(pp 51-57 e1), 2008 Date of Publication: January 2008 2008;(1):51-57. Ref ID: 479 Abstract: Purpose: The purpose of this study was to determine the accuracy of arthroscopic restoration of femoral offset as well as the early clinical outcome of arthroscopic debridement and femoral offset restoration and whether there is a correlation between accuracy and outcome. Methods: Twenty-two patients with symptomatic femoroacetabular cam impingement underwent arthroscopic correction of the femoral offset and debridement. The alpha angle was measured with magnetic resonance imaging preoperatively and postoperatively for quantification of the offset, and the clinical status was determined by documenting the impingement sign, range of motion, intensity of pain on a visual analog scale, Nonarthritic Hip Score, and complications preoperatively and 6 months postoperatively. Results: The alpha angle improved from a mean of 75degree to 54degree. Internal rotation increased from a mean of 5degree to 22degree, flexion increased from a mean of 107degree to 124degree, and the pain score decreased from a mean of 5.8 to 1.4. The Nonarthritic Hip Score increased from a mean of 49 to 74 points. No major complications were encountered. Patients with early osteoarthritis did substantially worse than those without it. The alpha angle did not correlate with any clinical outcome measure. Conclusions: The femoral offset can be precisely restored via an arthroscopic technique in the treatment of femoroacetabular cam impingement. The early clinical outcome of arthroscopic offset restoration and debridement is good in patients with no or only mild osteoarthritis. The accuracy of correction is not correlated with the early clinical outcome. Level of Evidence: Level IV, therapeutic case series. Â© 2008 Arthroscopy Association of North America Notes: DB - Embase UI - 2008005956 IN - (Stahelin, Stahelin, Jolles) Hopital Orthopedique de la Suisse Romande, University of Lausanne, Lausanne, Switzerland (Herzog) Kantonales Spital Sursee Wolhusen, Wolhusen, Switzerland CP - United States LG - English PT - Journal: Article EM - 200800 DD - 20080123

(499) Steppacher SD, Albers CE, Siebenrock KA, Tannast M, Ganz R. Femoroacetabular impingement predisposes to traumatic posterior hip dislocation. Clinical Orthopaedics and Related Research 471 (6) ()(pp 1937-1943), 2013 Date of Publication: June 2013 2013;(6):1937-1943. Ref ID: 278 Abstract: Background: Traumatic posterior hip dislocation in adults is generally understood to be the result of a high-energy trauma. Aside from reduced femoral antetorsion, morphologic risk factors for dislocation are unknown. We previously noticed that some hips with traumatic posterior dislocations had evidence of morphologic features of femoroacetabular impingement (FAI), therefore, we sought to evaluate that possibility more formally. Questions/purposes: We asked whether hips with a traumatic posterior hip dislocation present with (1) a cam-type deformity and/or (2) a retroverted acetabulum. Methods: We retrospectively compared the morphologic features of 53 consecutive hips (53 patients) after traumatic posterior hip dislocation with 85 normal hips (44 patients) based on AP pelvic and crosstable axial radiographs. We measured the axial and the lateral alpha angle for detection of a cam deformity and the crossover sign, ischial spine sign, posterior wall sign, retroversion index, and ratio of anterior to posterior acetabular coverage to describe the acetabular orientation. Results: Hips with traumatic posterior traumatic dislocation were more likely to have cam deformities than were normal hips, in that the hips with dislocation had increased axial and lateral alpha angles. Hips with posterior dislocation also were more likely to be retroverted; dislocated hips had a higher prevalence of a positive crossover sign, ischial spine sign, and posterior wall sign, and they had a higher retroversion index and increased ratio of anterior to posterior acetabular coverage. Conclusions: Hips with posterior traumatic dislocation typically present with morphologic features of anterior FAI, including a cam-type deformity and retroverted acetabulum. An explanation for these findings could be that the early interaction between the aspherical femoral head and the prominent acetabular rim acts as a fulcrum, perhaps making these hips more susceptible to traumatic dislocation. Level of Evidence: Level III, prognostic study. See Guidelines for Authors for a complete description of levels of evidence. Â© 2013 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2013626076 IN - (Steppacher, Albers, Siebenrock, Tannast) Department of Orthopaedic Surgery, Inselspital, University of Bern, Freiburgstrasse, 3010 Bern, Switzerland (Ganz) Faculty of Medicine, University of Bern, Walchstrasse 10, 3073 Guemligen, Switzerland CP - United States LG - English PT - Journal: Article EM - 201344 DD - 20131029

(500) Steppacher SD, Huemmer C, Schwab JM, Tannast M, Siebenrock KA. Surgical hip dislocation for treatment of femoroacetabular impingement: factors predicting 5-year survivorship. Clin Orthop Relat Res 2014; 472(1):337-348. Ref ID: 599 Abstract: BACKGROUND: Patients with femoroacetabular impingement (FAI) often develop pain, impaired function, and progression of osteoarthritis (OA); this is commonly treated using surgical hip dislocation, femoral neck and acetabular rim osteoplasty, and labral reattachment. However, results with these approaches, in particular risk factors for OA progression and conversion to THA, have varied. QUESTIONS/PURPOSES: We asked if patients undergoing surgical hip dislocation with labral reattachment to treat FAI experienced (1) improved hip pain and function; and (2) prevention of OA progression; we then determined (3) the survival of the hip at 5-year followup with the end points defined as the need for conversion to THA, progression of OA by at least one Tonnis grade, and/or a Merle d'Aubigne-Postel score less than 15; and calculated (4) factors predicting these end points. METHODS: Between July 2001 and March 2003, we performed 146 of these procedures in 121 patients. After excluding 35 patients (37 hips) who had prior open surgery and 11 patients (12 hips) who had a diagnosis of Perthes disease, this study evaluated the 75 patients (97 hips, 66% of the procedures we performed during that time) who had a mean followup of 6 years (range, 5-7 years). We used the anterior impingement test to assess pain, the Merle d'Aubigne-Postel score to assess function, and the Tonnis grade to assess OA. Survival and predictive factors were calculated using the method of Kaplan and Meier and Cox regression, respectively. RESULTS: The proportion of patients with anterior impingement decreased from 95% to 17% (p < 0.001); the Merle d'Aubigne-Postel score improved from a mean of 15 to 17 (p < 0.001). Seven hips (7%) showed progression of OA and another seven hips (7%) converted to THA Survival free from any end point (THA, progression of OA, or a Merle d'Aubigne-Postel < 15) of well-functioning joints at 5 years was 91%; and excessive acetabular rim trimming, preoperative OA, increased age at operation, and weight were predictive factors for the end points. CONCLUSIONS: At 5-year followup, 91% of patients with FAI treated with surgical hip dislocation, osteoplasty, and labral reattachment showed no THA, progression of OA, or an insufficient clinical result, but excessive acetabular trimming, OA, increased age, and weight were associated with early failure. To prevent early deterioration of the joint, excessive rim trimming or trimming of borderline dysplastic hips has to be avoided Notes: DA - 20131218 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(501) Steppacher SD, Anwander H, Zurmuhle CA, Tannast M, Siebenrock KA. Eighty Percent of Patients With Surgical Hip Dislocation for Femoroacetabular Impingement Have a Good Clinical Result Without Osteoarthritis Progression at 10 Years. Clinical Orthopaedics and Related Research 473 (4) ()(pp 1333-1341), 2015 Date of Publication: 2015 2015;(4):1333-1341. Ref ID: 167 Abstract: Background: We previously reported the 5-year followup of hips with femoroacetabular impingement (FAI) that underwent surgical hip dislocation with trimming of the head-neck junction and/or acetabulum including reattachment of the labrum. The goal of this study was to report a concise followup of these patients at a minimum 10 years. Questions/purposes: We asked if these patients had (1) improved hip pain and function; we then determined (2) the 10-year survival rate and (3) calculated factors predicting failure. Methods: Between July 2001 and March 2003, we performed surgical hip dislocation and femoral neck osteoplasty and/or acetabular rim trimming with labral reattachment in 75 patients (97 hips). Of those, 72 patients (93 hips [96%]) were available for followup at a minimum of 10 years (mean, 11 years; range, 10-13 years). We used the anterior impingement test to assess pain and the Merle d'Aubigne-Postel score to assess function. Survivorship calculation was performed using the method of Kaplan and Meier and any of the following factors as a definition of failure: conversion to total hip arthroplasty (THA), radiographic evidence of worsening osteoarthritis (OA), or a Merle d'Aubigne-Postel score less than 15. Predictive factors for any of these failures were calculated using the Cox regression analysis. Results: At 10-year followup, the prevalence of a positive impingement test decreased from preoperative 95% to 38% (p < 0.001) and the Merle d'Aubigne-Postel score increased from preoperative 15.3 +/- 1.4 (range, 9-17) to 16.9 +/- 1.3 (12-18; p < 0.001). Survivorship of these procedures for any of the defined failures was 80% (95% confidence interval, 72%-88%). The strongest predictors of failure were age > 40 years (hazard ratio with 95% confidence interval, 5.9 [4.8-7.1], p = 0.002), body mass index > 30 kg/m<sup>2</sup> (5.5 [3.9-7.2], p = 0.041), a lateral center-edge angle < 22degree or > 32degree (5.4 [4.2-6.6], p = 0.006), and a posterior acetabular coverage < 34% (4.8 [3.7-5.6], p = 0.006). Conclusions: At 10-year followup, 80% of patients with FAI treated with surgical hip dislocation, osteoplasty, and labral reattachment had not progressed to THA, developed worsening OA, or had a Merle d'Aubigne-Postel score of less than 15. Radiographic predictors for failure were related to over- and undertreatment of acetabular rim trimming. Level of Evidence: Level IV, therapeutic study Notes: DB - Embase UI - 2014869882 IN - (Steppacher, Anwander, Zurmuhle, Tannast, Siebenrock) Department of Orthopaedic Surgery, Inselspital, University of Bern, Freiburgstrasse, Bern 3010, Switzerland CP - United States LG - English PT - Journal: Article EM - 201526 DD - 20150624

(502) Stuby FM, Doebele S, Agarwal Y, Windolf M, Gueorguiev B, Ochs BG. Influence of flexible fixation for open book injury after pelvic trauma -- A biomechanical study. Clinical Biomechanics 2014; 29(6):657-664. Ref ID: 38 Notes: IS - 6

(503) Stulberg SD. Dual Mobility for Chronic Instability. Seminars in Arthroplasty 22 (2) ()(pp 90-94), 2011 Date of Publication: June 2011 2011;(2):90-94. Ref ID: 393 Abstract: A dual mobility cup consists of a large, fixed, porous coated acetabular component and a bipolar femoral component (a "tripolar" implant). The cup was developed to reduce the incidence of dislocation in patients at risk of instability who required primary or revision total hip replacement. The currently available long term clinical results indicate that the cup provides stability and is durable in this patient population. Recent new developments of the concept include: 1) an anatomically shaped shell; 2) use of highly crosslinked polyethylene; and 3) a modular shell. Â© 2011 Elsevier Inc Notes: DB - Embase UI - 2011359993 IN - (Stulberg) Department of Orthopaedic Surgery, Northwestern University, Feinberg School of Medicine, Chicago, IL, United States CP - United States LG - English PT - Journal: Article EM - 201100 DD - 20110718

(504) Stull JD, Philippon MJ, LaPrade RF. "At-Risk" Positioning and Hip Biomechanics of the Peewee Ice Hockey Sprint Start. American Journal of Sports Medicine 2011; 39:29. Ref ID: 1

(505) Subirats BE, Subirats VG, Soteras M, I. Exercise prescription: Indications, dosage and side effects. [Spanish]. Medicina Clinica 138 (1) ()(pp 18-24), 2012 Date of Publication: 21 Jan 2012 2012;(1):18-24. Ref ID: 382 Abstract: The prescription of exercise is particularly useful for preventing premature death from all causes, ischemic heart disease, stroke, hypertension, colon and breast cancer, type 2 diabetes, metabolic syndrome, obesity, osteoporosis, sarcopenia, functional dependence and falls in the elderly, cognitive impairment, anxiety and depression. This benefit is observed in both sexes and increases with the volume or intensity of exercise. These benefits are obtained through moderate aerobic exercise for at least 30 minutes 5 days per week or vigorous exercise for at least 20 minutes 3 days a week. It is recommended to add a minimum of 2 nonconsecutive days, each week, to practice 8-10 exercises that develop the strength of most muscle groups (arms, shoulders, chest, abdomen, back, hips and legs). It is also advisable to spend 2 sessions of 10 minutes per week to practice 8-10 exercises that maintain the flexibility of most groups of muscles and tendons. The exercise may involve musculoskeletal injuries and cardiovascular risk, but the benefit outweighs the risk. Â© 2010 Elsevier Espana, S.L. All rights reserved Notes: DB - Embase UI - 2012029736 IN - (Subirats Bayego, Soteras Martinez) Servicio de Medicina Interna, Hospital Transfronterizo de Puigcerd, Puigcerd, Girona, Spain (Subirats Bayego, Subirats Vila) Facultad de Medicina, Universitat de Girona, Girona, Spain CP - Spain OT - Prescripcion de ejercicio fisico: indicaciones, posologia y efectos adversos LG - Spanish PT - Journal: Article EM - 201204 DD - 20120123

(506) Suenaga E, Noguchi Y, Jingushi S, Shuto T, Nakashima Y, Miyanishi K et al. Relationship between the maximum flexion-internal rotation test and the torn acetabular labrum of a dysplastic hip. J Orthop Sci 2002; 7(1):26-32. Ref ID: 772 Abstract: To determine the relationship between pain at flexion-rotation and the status of a labral tear in patients with dysplastic hips, physical examination maneuvers and hip arthroscopy were carried out in 59 patients with dysplastic osteoarthritis (5 men and 54 women; mean age, 41 years; range, 16 to 64 years). Between January 1998 and June 2000, these patients underwent 60 hip arthroscopies at Kyushu University Hospital. All hip joints arthroscoped demonstrated incomplete or complete detaching tears of the acetabular labrum in one portion of the weight-bearing area. Twenty-three patients (39%) experienced pain during the maximum flexion-internal rotation test; 16 patients (27%) showed a positive result for the maximum flexion-external rotation test. There was no statistically significant relationship between the results of the maximum flexion-external rotation test and the arthroscopic findings of labral tears. A positive maximum flexion-internal rotation test result, however, correlated well with incomplete detaching tears in the posterosuperior portion of the acetabular labrum. In contrast, a complete detaching tear of the posterosuperior labrum was associated with a negative maximum flexion-internal rotation test result. The maximum flexion-internal rotation test is useful for assessing the magnitude of a labral tear in the posterosuperior portion of the acetabular labrum in dysplastic hips Notes: DA - 20020130 IS - 0949-2658 (Print) IS - 0949-2658 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(507) Sulko J, Oberc A. [Acute, haematogenous arthritis of the hip in children--treatment and long follow-up assessment]. Chir Narzadow Ruchu Ortop Pol 2010; 75(5):291-295. Ref ID: 658 Abstract: BACKGROUND: This is a retrospective study of 15 cases of acute septic arthritis of the hip in older children treated from 1995 to 2007. MATERIALS AND METHODS: All treated children were over 2 years old. The average follow-up period was 7 years (2-16 years). Among patients, there were 11 males and 4 females. None of them had bilateral disease presentation. All cases met the diagnostic criteria including bacteriological results, clinical or radiographic changes. The average duration of symptoms before admission to the hospital was 6,5 days (1-35 days). Pain in affected hip was observed in all patients, other symptoms were: limited range of motion (12 patients), fever (14 patients), abdominal or thigh pain (4 patients). Only one-third of the patients had a leukocyte count of over 12 000/mm3, the erythrocyte sedimentation rate was elevated in all cases--average 80/125, CRP ranged from 3.1-205 mg/l. 13 cases underwent emergency arthrotomy and debridement, two patients received only intravenous antibiotic treatment without arthrotomy. Pathogens had been isolated from blood only in 3 cases (20%), from arthrocentesis fluid in 8 patients (62%). Staphylococcus aureus was the most common pathogen (54%). RESULTS: All patients had been succesfully treated. 10 of them had good result, 3 satisfactory and 2 unsatisfactory according to Kiepurska criteria. CONCLUSIONS: A delay in definite treatment was the important factor associated with poor prognosis. One patient who received only intravenous antibiotic treatment showed satisfactory result - early diagnosis and significant response to antibiotics contributed to this favorable outcome Notes: DA - 20110822 LA - pol PT - English Abstract PT - Journal Article RN - 0 (Anti-Bacterial Agents) SB - IM

(508) Sullivan N, Taunton J, Lloyd-Smith R, McKenzie D, Prasad N, Mattison R. The Adductor Triad - Adductor Strain, Osteitis Pubis and Sport Hernia. Clinical Journal of Sports Medicine 2005; 15(5):393-394. Ref ID: 66 Notes: IS - 5 CY - ;

(509) Suslak AG, Mather RC, Kelly BT, Nho SJ. Improved Arthroscopic Visualization of Peripheral Compartment. Arthroscopy Techniques 1 (1) ()(pp e57-e62), 2012 Date of Publication: December 2012 2012;(1):e57-e62. Ref ID: 340 Abstract: Femoroacetabular impingement is a recognized cause of hip pain and motion restrictions. Advancements in hip arthroscopy have allowed surgeons the ability to treat this condition more effectively. However, the learning curve is steep for osteochondroplasty of the femoral head-neck junction in the peripheral compartment. Therefore we present a reproducible technique that allows improved visualization of the peripheral compartment and treatment of the cam lesion with hip arthroscopy. Our technique uses the anterior portal as a viewing portal, a distal anterolateral accessory portal as a working portal, and the anterolateral portal for soft-tissue retraction. Â© 2012 Arthroscopy Association of North America Notes: DB - Embase UI - 2012559351 IN - (Suslak, Nho) Department of Orthopedic Surgery, Rush University Medical Center, Chicago, IL, United States (Mather) Department of Orthopaedic Surgery, Duke University Medical Center, Durham, NC, United States (Kelly) Department of Orthopaedic Surgery, Hospital for Special Surgery, New York, NY, United States CP - France LG - English PT - Journal: Article EM - 201242 DD - 20121011

(510) Sussman WI, Han E, Schuenke MD. Quantitative assessment of the ischiofemoral space and evidence of degenerative changes in the quadratus femoris muscle. Surgical and Radiologic Anatomy 35 (4) ()(pp 273-281), 2013 Date of Publication: May 2013 2013;(4):273-281. Ref ID: 287 Abstract: Background: Injuries to the quadratus femoris (QF) muscle have only recently appeared in the medical literature with the increasing use of advanced imaging in assessing musculoskeletal complaints in the gluteal region. Both strains of the QF muscle and impingement of the QF muscle within the ischiofemoral (IF) space can appear similar on imaging, and normative data of the IF space is important in establishing guidelines for defining these conditions. Purpose: One purpose of this study was to quantitatively describe the IF and QF spaces. The second goal of this paper was to describe gross abnormalities seen in the QF muscle, and determine if the appearance of the muscle is associated with pelvimetric measurements. Methods: Quantitative measurements were taken of the IF and QF spaces on 16 cadavers (29 hips). The QF muscle was then examined and assigned a quantitative grade. Results: The mean IF space was 23.5 +/- 4.7 mm and QF space was 20.4 +/- 5.6 mm. Abnormalities of the QF muscle were observed in 51.7 % of the hips, and were associated with a greater approximation when moving the hip from neutral to maximally extended-adducted. Conclusion: While degenerative changes were present in the majority of QF muscles, these changes were not associated with the size of the IF or QF space. However, there was a significant association between the degree of degenerative change observed and (1) an increased approximation of the QF attachments sites; and (2) a narrower intertuberous diameter. Â© 2012 Springer-Verlag France Notes: DB - Embase UI - 2013460072 IN - (Sussman, Han, Schuenke) Department of Anatomy, College of Osteopathic Medicine, University of New England, Biddeford, ME 04005, United States CP - France LG - English PT - Journal: Article EM - 201332 DD - 20130805

(511) Taneja AK, Torriani M, Simeone FJ. Septic arthritis and osteomyelitis of the hip by Candida albicans. Journal of Rheumatology 41 (11) ()(pp 2270), 2014 Date of Publication: 01 Nov 2014 2014;(11):2270. Ref ID: 196 Notes: DB - Embase UI - 2015769380 IN - (Taneja) Division of Musculoskeletal Imaging, Diagnostic Center, Hospital do Coracao and Teleimagem, Av. Albert Einstein, 627, Morumbi, Sao Pauk SP CEP 05652-900, Brazil (Torriani, Simeone) Division of Musculoskeletal Imaging and Intervention, Massachusetts General Hospital and Harvard Medical School, Boston, MA, United States CP - Canada LG - English PT - Journal: Note EM - 201510 DD - 20150303

(512) Tannast M, Kubiak-Langer M, Langlotz F, Puls M, Murphy SB, Siebenrock KA. Noninvasive three-dimensional assessment of femoroacetabular impingement. J Orthop Res 2007; 25(1):122-131. Ref ID: 742 Abstract: A CT-based method ("HipMotion") for the noninvasive three-dimensional assessment of femoroacetabular impingement (FAI) was developed, validated, and applied in a clinical pilot study. The method allows for the anatomically based calculation of hip range of motion (ROM), the exact location of the impingement zone, and the simulation of quantified surgical maneuvers for FAI. The accuracy of HipMotion was 0.7 +/- 3.1 degrees in a plastic bone setup and -5.0 +/- 5.6 degrees in a cadaver setup. Reliability and reproducibility were excellent [intraclass correlation coefficient (ICC) > 0.87] for all measures except external rotation (ICC = 0.48). The normal ROM was determined from a cohort of 150 patients and was compared to 31 consecutive hips with FAI. Patients with FAI had a significantly decreased flexion, internal rotation, and abduction in comparison to normal hips (p < 0.001). Normal hip flexion and internal rotation are generally overestimated in a number of orthopedic textbooks. HipMotion is a useful tool for further assessment of impinging hips and for appropriate planning of the necessary amount of surgical intervention, which represents the basis for future computer-assisted treatment of FAI with less invasive surgical approaches, such as hip arthroscopy Notes: DA - 20061204 IS - 0736-0266 (Print) IS - 0736-0266 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Validation Studies SB - IM

(513) Tannast M, Goricki D, Beck M, Murphy SB, Siebenrock KA. Hip damage occurs at the zone of femoroacetabular impingement. Clinical Orthopaedics and Related Research 466 (2) ()(pp 273-280), 2008 Date of Publication: February 2008 2008;(2):273-280. Ref ID: 476 Abstract: Although current concepts of anterior femoroacetabular impingement predict damage in the labrum and the cartilage, the actual joint damage has not been verified by computer simulation. We retrospectively compared the intraoperative locations of labral and cartilage damage of 40 hips during surgical dislocation for cam or pincer type femoroacetabular impingement (Group I) with the locations of femoroacetabular impingement in 15 additional hips using computer simulation (Group II). We found no difference between the mean locations of the chondrolabral damage of Group I and the computed impingement zone of Group II. The standard deviation was larger for measures of articular damage from Group I in comparison to the computed values of Group II. The most severe hip damage occurred at the zone of highest probability of femoroacetabular impact, typically in the anterosuperior quadrant of the acetabulum for both cam and pincer type femoroacetabular impingements. However, the extent of joint damage along the acetabular rim was larger intraoperatively than that observed on the images of the 3-D joint simulations. We concluded femoroacetabular impingement mechanism contributes to early osteoarthritis including labral lesions. Level of Evidence: Level II, diagnostic study. See the Guidelines for Authors for a complete description of levels of evidence. Â© 2008 The Association of Bone and Joint Surgeons Notes: DB - Embase UI - 2008315329 IN - (Tannast, Goricki, Beck, Siebenrock) Department of Orthopaedic Surgery, Inselspital, University of Bern, Murtenstrasse, Bern 3010, Switzerland (Murphy) Center for Computer Assisted and Reconstructive Surgery, New England Baptist Hospital, Tufts University, Boston, MA, United States CP - United States LG - English PT - Journal: Conference Paper EM - 200800 DD - 20080723

(514) Tannast M, Hanke M, Ecker TM, Murphy SB, Albers CE, Puls M. LCPD: reduced range of motion resulting from extra- and intraarticular impingement. Clin Orthop Relat Res 2012; 470(9):2431-2440. Ref ID: 641 Abstract: BACKGROUND: Legg-Calve-Perthes disease (LCPD) often results in a deformity that can be considered as a complex form of femoroacetabular impingement (FAI). Improved preoperative characterization of the FAI problem based on a noninvasive three-dimensional computer analysis may help to plan the appropriate operative treatment. QUESTIONS/PURPOSES: We asked whether the location of impingement zones, the presence of additional extraarticular impingement, and the resulting ROM differ between hips with LCPD and normal hips or hips with FAI. METHODS: We used a CT-based virtual dynamic motion analysis based on a motion algorithm to simulate the individual motion for 13 hips with LCPD, 22 hips with FAI, and 27 normal hips. We then determined the motion and impingement pattern of each hip for the anterior (flexion, adduction, internal rotation) and the posterior impingement tests (extension, adduction, external rotation). RESULTS: The location of impingement zones in hips with LCPD differed compared with the FAI/normal groups. Intra- and extraarticular impingement was more frequent in LCPD (79% and 86%, respectively) compared with normal (15%, 15%) and FAI hips (36%, 14%). Hips with LCPD had decreased amplitude for all hip motions (flexion, extension, abduction, adduction, internal and external rotation) compared with FAI or normal. CONCLUSIONS: Hips with LCPD show a decreased ROM as a result of a higher prevalence of intra- and extraarticular FAI. Noninvasive assessment of impingement characteristics in hips with LCPD may be helpful in the future for establishment of a surgical plan Notes: DA - 20120809 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(515) Tannast M, Macintyre N, Steppacher SD, Hosalkar HS, Ganz R, Siebenrock KA. A systematic approach to analyse the sequelae of LCPD. Hip Int 2013; 23 Suppl 9:S61-S70. Ref ID: 602 Abstract: The analysis and treatment of hips with healed Legg-Calve-Perthes disease (LCPD) differs substantially from the treatment in the acute phase of the disease. More specifically, the treating orthopaedic surgeon is often faced with a complex three-dimensional pathomorphology of the hip that is difficult to understand and correct. To date, none of the current classification systems provide a useful decision-making algorithm with regards to the type of surgical intervention necessary to improve hip function in patients with sequelae of LCPD. The conceptual recognition of the femoroacetabular impingement (FAI) and the ability to safely dislocate the hip have revolutionised our diagnostic and therapeutic algorithm for joint-preserving surgery of hips with structural residuals of LCPD. We present a systematic approach to analyse femoral and acetabular pathomorphologic features. The resulting pathomechanisms and the surgical treatment options are presented Notes: DA - 20131224 IS - 1724-6067 (Electronic) IS - 1120-7000 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't PT - Review SB - IM

(516) Tannenbaum EP, Ross JR, Bedi A. Pros, cons, and future possibilities for use of computer navigation in hip arthroscopy. Sports Medicine and Arthroscopy Review 22 (4) ()(pp e33-e41), 2014 Date of Publication: 12 Dec 2014 2014;(4):e33-e41. Ref ID: 169 Abstract: The recent integration of computer-assisted surgery as a resource for preoperative planning and intraoperative assistance in hip arthroscopy has paved the way for more precise surgical planning and the potential for improved operative results. The aims of computer-assisted surgery are to better define the pathoanatomy underlying patient symptomatology in an effort to refine surgical techniques, decrease human error, and ultimately improve clinical outcomes. Multiple studies have been published describing various technologies. The majority of these systems create 3D dynamized computer models from 2D CT scans to allow for precise preoperative planning, and some offer real-time intraoperative capabilities. Although these technologies have shown potential for increasing surgical precision in treating femoroacetabular impingement, they are not without limitations, including an inability to factor in soft-tissue structures and an incompatibility with dysplastic and arthritic hips. Future studies must be conducted to determine whether these systems result in improved clinical outcomes Notes: DB - Embase UI - 2015084311 IN - (Tannenbaum, Ross, Bedi) Department of Orthopaedic Surgery, University of Michigan, 24 Frank Lloyd Wright Drive, Lobby A, Ann Arbor, MI 48106, United States CP - United States LG - English PT - Journal: Review EM - 201525 DD - 20150616

(517) Taylor CJ, Pizzari T, Ames N, Orchard JW, Gabbe BJ, Cook JL. Groin pain and hip range of motion is different in Indigenous compared to non-indigenous young Australian football players. J Sci Med Sport 2011; 14(4):283-286. Ref ID: 667 Abstract: OBJECTIVES: Hip and groin pain are common problems in Australian football. Although indigenous (I) players are at greater risk of soft tissue injury than their non-indigenous (non-I) counterparts, Aboriginal descent has not previously been identified as a risk factor for hip and groin injury. The aim of this study was to investigate if hip and groin screening tests would demonstrate differences between indigenous and non-indigenous junior elite AF players. DESIGN: Cross-sectional study. METHOD: Two hundred and seventy elite junior Australian football players were screened using five hip and groin musculoskeletal tests. RESULTS: Thirty-three players (12%) were indigenous. Differences were demonstrated between the two groups for right prone hip internal rotation (I X = 27.60 +/- 9.16, non-I X = 33.39 +/- 8.88, p < 0.001) and left prone hip internal rotation (I X = 25.83 +/- 10.25, non-I X = 31.36 +/- 8.75, p < 0.001), pressure on squeeze test with knees at 90 degrees (I X = 165.71 +/- 40.32, non-I X = 188.17 +/- 62.32, p = 0.001) and pressure on squeeze tests with knees at 0 degrees (I X = 172.57 +/- 35.98, non-I X = 202.57 +/- 49.14, p = 0.049), and pain provocation during squeeze test with knees at 90 degrees (I X = 3.19 +/- 2.26, non-I X = 1.03 +/- 1.78, p > 0.001). CONCLUSIONS: The indigenous players displayed less range of passive hip internal rotation with the hip in neutral, reduced adductor squeeze force and higher levels of groin pain with the squeeze test at 90 degrees . The differences observed between indigenous and non-indigenous players suggest indigenous players are at greater risk of hip and groin injuries in Australian football Notes: DA - 20110620 IS - 1878-1861 (Electronic) LA - eng PT - Comparative Study PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(518) Tey M, Alvarez S, Rios JL. Hip labral cyst caused by psoas impingement. Arthroscopy - Journal of Arthroscopic and Related Surgery 28 (8) ()(pp 1184-1186), 2012 Date of Publication: August 2012 2012;(8):1184-1186. Ref ID: 363 Abstract: Hip labral impingement can cause labral tears and secondary paralabral cyst formation. Femoroacetabular impingement is the main cause of labral impingement, but other conditions such as iliopsoas tendon impingement are described. There is no description of labral cyst resulting from psoas impingement treated arthroscopically in the literature. We present the case of a young sportsman with groin pain caused by psoas impingement with a labral tear and secondary paralabral cyst who was treated arthroscopically by cyst debridement, psoas tenotomy, and labral repair. Â© 2012 Arthroscopy Association of North America Notes: DB - Embase UI - 2012450930 IN - (Tey, Alvarez, Rios) Orthopaedic Department, ACTUA Serveis Medics (Medical Services), Clinica Bofill, Girona, Spain CP - United States LG - English PT - Journal: Article EM - 201233 DD - 20120813

(519) Thijs Y, Pattyn E, Van Tiggelen D, Rombaut L, Witvrouw E. Is Hip Muscle Weakness a Predisposing Factor for Patellofemoral Pain in Female Novice Runners? A Prospective Study. American Journal of Sports Medicine 2011; 39(9):1877-1883. Ref ID: 41 Notes: IS - 9

(520) Thomas AC, Villwock M, Wojtys EM, Palmieri-Smith RM. Lower extremity muscle strength after anterior cruciate ligament injury and reconstruction. J Athl Train 2013; 48(5):610-620. Ref ID: 595 Abstract: CONTEXT: Quadriceps and hamstrings weakness occurs frequently after anterior cruciate ligament (ACL) injury and reconstruction. Evidence suggests that knee injury may precipitate hip and ankle muscle weakness, but few data support this contention after ACL injury and reconstruction. OBJECTIVE: To determine if hip, knee, and ankle muscle weakness present after ACL injury and after rehabilitation for ACL reconstruction. DESIGN: Case-control study. SETTING: University research laboratory. PATIENTS OR OTHER PARTICIPANTS: Fifteen individuals with ACL injury (8 males, 7 females; age = 20.27 +/- 5.38 years, height = 1.75 +/- 0.10 m, mass = 74.39 +/- 13.26 kg) and 15 control individuals (7 men, 8 women; age = 24.73 +/- 3.37 years, height = 1.75 +/- 0.09 m, mass = 73.25 +/- 13.48 kg). INTERVENTION(S): Bilateral concentric strength was assessed at 60 degrees /s on an isokinetic dynamometer. The participants with ACL injury were tested preoperatively and 6 months postoperatively. Control participants were tested on 1 occasion. MAIN OUTCOME MEASURES: Hip-flexor, -extensor, -abductor, and -adductor; knee-extensor and -flexor; and ankle-plantar-flexor and -dorsiflexor strength (Nm/kg). RESULTS: The ACL-injured participants demonstrated greater hip-extensor (percentage difference = 19.7, F1,14 = 7.28, P = .02) and -adductor (percentage difference = 16.3, F1,14 = 6.15, P = .03) weakness preoperatively than postoperatively, regardless of limb, and greater postoperative hip-adductor strength (percentage difference = 29.0, F1,28 = 10.66, P = .003) than control participants. Knee-extensor and -flexor strength were lower in the injured than in the uninjured limb preoperatively and postoperatively (extensor percentage difference = 34.6 preoperatively and 32.6 postoperatively, t14 range = -4.59 to -4.23, P </= .001; flexor percentage difference = 30.6 preoperatively and 10.6 postoperatively, t14 range = -6.05 to -3.24, P < .05) with greater knee-flexor (percentage difference = 25.3, t14 = -4.65, P < .001) weakness preoperatively in the injured limb of ACL-injured participants. The ACL-injured participants had less injured limb knee-extensor (percentage difference = 32.0, t28 = -2.84, P = .008) and -flexor (percentage difference = 24.0, t28 = -2.44, P = .02) strength preoperatively but not postoperatively (extensor: t28 = -1.79, P = .08; flexor: t28 = 0.57, P = .58) than control participants. Ankle-plantar-flexor weakness was greater preoperatively than postoperatively in the ACL-injured limb (percentage difference = 31.9, t14 = -3.20, P = .006). CONCLUSIONS: The ACL-injured participants presented with hip-extensor, -adductor, and ankle-plantar-flexor weakness that appeared to be countered during postoperative rehabilitation. Our results confirmed previous findings suggesting greater knee-extensor and -flexor weakness postoperatively in the injured limb than the uninjured limb. The knee extensors and flexors are important dynamic stabilizers; weakness in these muscles could impair knee joint stability. Improving rehabilitation strategies to better target this lingering weakness seems imperative Notes: DA - 20130926 IS - 1938-162X (Electronic) IS - 1062-6050 (Linking) LA - eng PT - Journal Article PT - Research Support, N.I.H., Extramural SB - IM

(521) Thomas W, Benecke P. The medial approach for total hip replacement. [German, English]. Operative Orthopadie und Traumatologie 16 (3) ()(pp 288-299), 2004 Date of Publication: August 2004 2004;(3):288-299. Ref ID: 507 Abstract: Objective: Direct access to the coxofemoral joint allowing a perfect exposure of the surgical site without risk of damaging important structures (vessels, nerves, muscles). Restitution of a pain-free joint function after joint replacement. Indications: Insertion of a total hip prosthesis. Contraindications: Skin infection at the groin. Ankylosis of the hip. Adduction contracture, range of abduction under anesthesia < 50degree. Need for reconstruction of acetabular roof with compact bone grafts fixed with screws. Massive subcutaneous fat at groin and thigh (body mass index [BMI] > 30 a relative contraindication). Surgical Technique: With the thigh slightly flexed and abducted curved longitudinal incision at the groin. The leg remains in this position up to the moment of reduction of the implant. Temporary partial detachment of the long abductor at the area of its tendinous insertion. Dissection and ligation of the deep branch of the medial femoral circumflex artery overlying the femoral neck. Opening of the hip joint. Medial and distal dislocation of the femoral head. Depending on the prosthesis chosen: Either only removal of the marginal osteophytes (surface replacement) or subcapital resection of the head (femoral neck prosthesis) or resection at the base (standard diaphyseal shaft). Insertion of the acetabular component. After increase of flexion and abduction preparation of the proximal femur and insertion of implant. Reduction of the prosthetic components, reattachment of adductor longus. Suction drain. Wound closure. Sterile dressing. Radiographic control in two planes. Results: Since January 2002 this approach has been used 30 times in 29 patients (17 women, twelve men, average age 51 years [27-74 years]). Average operating time 70 min (45-130 min). Average blood loss 240 ml (120-430 ml). Follow-ups after 6 weeks, 3, 6, and 12 months and thereafter every year. Rapid increase of Harris hip score. No serious complications such as dislocation, infection, implant failure or muscle insufficiency. No heterotopic ossification. Transient sensory disturbances in the territory of obturator nerve in one patient. Â© Urban & Vogel Munchen 2004 Notes: DB - Embase UI - 2005255596 IN - (Thomas) Dipartimento de Ortopedia, Clinica Quisisana, Via G.G. Porro 5, I-00197 Rome, Italy (Benecke) Chirurgische Abteilung, Kreiskrankenhaus Ratzeburg, Ratzeburg, Germany CP - Germany OT - Der mediale Zugang zum Huftgelenk zur Implantation von Endoprothesen LG - German, English PT - Journal: Article EM - 200500 DD - 20050623

(522) Thorborg K, MSportsphysio, Branci S, Nielsen MP, Tang L, Nielsen MB et al. Eccentric and isometric hip adduction strength in male soccer players with and without adductor-related groin pain: An assessor-blinded comparison. Orthopaedic Journal of Sports Medicine 2 (2) , 2014 Date of Publication: 2014 2014;(2). Ref ID: 184 Abstract: Background: Adductor-related pain is the most common clinical finding in soccer players with groin pain and can be a longstanding problem affecting physical function and performance. Hip adductor weakness has been suggested to be associated with this clinical entity, although it has never been investigated. Purpose: To investigate whether isometric and eccentric hip strength are decreased in soccer players with adductor-related groin pain compared with asymptomatic soccer controls. The hypothesis was that players with adductor-related groin pain would have lower isometric and eccentric hip adduction strength than players without adductor-related groin pain. Study Design: Cross-sectional study; Level of evidence, 3. Methods: Male elite and subelite players from 40 teams were contacted. In total, 28 soccer players with adductor-related groin pain and 16 soccer players without adductor-related groin pain (asymptomatic controls) were included in the study. In primary analysis, the dominant legs of 21 soccer players with adductor-related groin pain (>4 weeks duration) were compared with the dominant legs of 16 asymptomatic controls using a cross-sectional design. The mean age of the symptomatic players was 24.5 +/- 2.5 years, and the mean age of the asymptomatic controls was 22.9 +/- 2.4 years. Isometric hip strength (adduction, abduction, and flexion) and eccentric hip strength (adduction) were assessed with a handheld dynamometer using reliable test procedures and a blinded assessor. Results: Eccentric hip adduction strength was lower in soccer players with adductor-related groin pain in the dominant leg (n = 21) compared with asymptomatic controls (n = 16), namely 2.47 +/- 0.49 versus 3.12 +/- 0.43 N m/kg, respectively (P <.001). No other hip strength differences were observed between symptomatic players and asymptomatic controls for the dominant leg (P =.35-.84). Conclusion: Large eccentric hip adduction strength deficits were found in soccer players with adductor-related groin pain compared with asymptomatic soccer players, while no isometric strength differences were observed between the groups Notes: DB - Embase UI - 2015932060 IN - (Thorborg, MSportsphysio, Branci, Nielsen, Tang, Nielsen, Holmich) Sports Orthopaedic Research Center, Arthroscopic Centre Amager, Copenhagen University Hospital, Amager-Hvidovre, Denmark (Thorborg, Tang) Physical Medicine and Rehabilitation Research-Copenhagen (PMR-C), Departments of Orthopaedic Surgery and Physical Therapy, Copenhagen University Hospital, Amager-Hvidovre, Denmark (Branci, Nielsen) Department of Radiology, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark CP - United Kingdom LG - English PT - Journal: Article EM - 201517 DD - 20150422

(523) Tibor LM, Sekiya JK. Differential Diagnosis of Pain Around the Hip Joint. Arthroscopy - Journal of Arthroscopic and Related Surgery 24 (12) ()(pp 1407-1421), 2008 Date of Publication: December 2008 2008;(12):1407-1421. Ref ID: 480 Abstract: The differential diagnosis of hip pain is broad and includes intra-articular pathology, extra-articular pathology, and mimickers, including the joints of the pelvic ring. With the current advancements in hip arthroscopy, more patients are being evaluated for hip pain. In recent years, our understanding of the functional anatomy around the hip has improved. In addition, because of advancements in magnetic resonance imaging, the diagnosis of soft tissue causes of hip pain has improved. All of these advances have broadened the differential diagnosis of pain around the hip joint and improved the treatment of these problems. In this review, we discuss the causes of intra-articular hip pain that can be addressed arthroscopically: labral tears, loose bodies, femoroacetabular impingement, capsular laxity, tears of the ligamentum teres, and chondral damage. Extra-articular diagnoses that can be managed arthroscopically are also discussed, including: iliopsoas tendonitis, "internal" snapping hip, "external" snapping hip, iliotibial band and greater trochanteric bursitis, and gluteal tendon injury. Finally, we discuss extra-articular causes of hip pain that are often managed nonoperatively or in an open fashion: femoral neck stress fracture, adductor strain, piriformis syndrome, sacroiliac joint pain, athletic pubalgia, "sports hernia," "Gilmore's groin," and osteitis pubis. Â© 2008 Arthroscopy Association of North America Notes: DB - Embase UI - 2008550468 IN - (Tibor) Department of Orthopaedic Surgery, University of Michigan Hospitals, Ann Arbor, MI, United States (Sekiya) Department of MedSport, University of Michigan Medical Center, Ann Arbor, MI, United States CP - United States LG - English PT - Journal: Review EM - 200800 DD - 20081218

(524) Tibor LM, Sink EL. Risks and benefits of the modified dunn approach for treatment of moderate or severe slipped capital femoral epiphysis. Journal of Pediatric Orthopaedics 33 (SUPPL 1) ()(pp S99-S102), 2013 Date of Publication: July-August 2013 2013;(SUPPL. 1):S99-S102. Ref ID: 277 Abstract: In North America, in situ pinning is the most common treatment for a stable slipped capital femoral epiphysis (SCFE), with generally good results and relatively low risk of avascular necrosis. Since the recognition that even a mild SCFE can cause femoroacetabular impingement, there has been a reconsideration of the goals of treatment, particularly for moderate, severe, or unstable slips. The modified Dunn approach for moderate or severe SCFE involves a surgical hip dislocation, creation of a retinacular flap, controlled open reduction of the epiphysis, and internal fixation of the slip. It has the advantage of correcting the pathoanatomy at the site of the deformity and at the time of diagnosis, minimizing secondary chondrolabral damage. The short-term results are generally good to excellent with few complications. The modified Dunn technique is, however, technically complex and more invasive than in situ pinning, with some inherent risk of avascular necrosis because of the proximity to the lateral retinacular vessels. When performed by experienced surgeons, the modified Dunn technique is an ideal technique for the treatment of moderate to severe SCFE. Because of the technically challenging nature of the procedure, it is recommended that it be performed in tertiary care centers by surgeons with experience in this technique Notes: DB - Embase UI - 2013655097 IN - (Tibor) Department of Orthopaedic Surgery, William Beaumont Hospital, Royal Oak, MI, United States (Sink) Center for Hip Preservation, Hospital for Special Surgery, New York, NY, United States CP - United States LG - English PT - Journal: Article EM - 201344 DD - 20131029

(525) Tjoumakaris FP, Wallach DM, Davidson RS. Subtrochanteric osteotomy effectively treats femoroacetabular impingement after slipped capital femoral epiphysis. Clin Orthop Relat Res 2007; 464:230-237. Ref ID: 733 Abstract: Femoroacetabular impingement causing pain and deformity often follows in situ pinning for severe, stable (Grade III) slipped capital femoral epiphysis. We asked whether a transverse percutaneous subtrochanteric osteotomy using external fixation could decrease pain, restore function and motion, and improve radiographic outcome. We performed a transverse subtrochanteric osteotomy with external fixation in 13 patients who had prior in situ pinning for severe slipped capital femoral epiphysis. All patients had decreased function, limited range of motion, pain with ambulation, and a limp after in situ pinning. We evaluated the patients using Southwick's categorical classification. The patients' ages ranged from 11 to 17 years; there were five boys and eight girls. The minimum followup was 32 months (average, 43 months; range, 32-92 months). Considering pain as a criterion, 11 patients had good or excellent results (two fair). Twelve patients had good results (one fair) for function, 11 had good results (two fair) for limping, and 11 had good or excellent results (two fair) for motion. Radiographic parameters showed nine good results and four fair results. Subtrochanteric three-dimensional correction using a percutaneous transverse osteotomy and external fixation effectively improved symptoms of femoroacetabular impingement after pinning of a severe slipped capital femoral epiphysis. LEVEL OF EVIDENCE: Level IV, therapeutic study. See the Guidelines for Authors for a complete description of levels of evidence Notes: DA - 20071204 IS - 0009-921X (Print) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM

(526) Turley GA, Williams MA, Wellings RM, Griffin DR. Evaluation of range of motion restriction within the hip joint. Med Biol Eng Comput 2013; 51(4):467-477. Ref ID: 620 Abstract: In total hip arthroplasty, determining the impingement free range of motion requirement is a complex task. This is because in the native hip, motion is restricted by both impingement as well as soft tissue restraint. The aim of this study is to determine a range of motion benchmark which can identify motions which are at risk from impingement and those which are constrained due to soft tissue. Two experimental methodologies were used to determine motions which were limited by impingement and those motions which were limited by both impingement and soft tissue restraint. By comparing these two experimental results, motions which were limited by impingement were able to be separated from those motions which were limited by soft tissue restraint. The results show motions in extension as well as flexion combined with adduction are limited by soft tissue restraint. Motions in flexion, flexion combined with abduction and adduction are at risk from osseous impingement. Consequently, these motions represent where the maximum likely damage will occur in femoroacetabular impingement or at most risk of prosthetic impingement in total hip arthroplasty Notes: DA - 20130306 IS - 1741-0444 (Electronic) IS - 0140-0118 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(527) Turner R, O'Sullivan E, Edelstein J. Hip dysplasia and the performing arts: Is there a correlation? Current Reviews in Musculoskeletal Medicine 5 (1) ()(pp 39-45), 2012 Date of Publication: March 2012 2012;(1):39-45. Ref ID: 374 Abstract: Dancers frequently present with hip pain. The etiology of this pathology has not been clearly identified from an anatomical perspective. Structural variations including hip dysplasia and dynamic variables from the foot to the pelvis will be discussed. Understanding the etiology as a structural entity, neuromuscular entity or a combination of the two, allows for a successful rehabilitative process and a successful return to dance. This article describes the possible correlation between hip dysplasia and hip pain in the dancer, the relationship of dance postures to the kinematic chain and outlines possible treatment strategies for management. Â© 2011 Springer Science+Business Media, LLC Notes: DB - Embase UI - 2012195547 IN - (Turner, O'Sullivan, Edelstein) Hospital for Special Surgery, 525 East 71st Street, New York, NY 10021, United States CP - United States LG - English PT - Journal: Review EM - 201216 DD - 20120413

(528) Tyler T, Zook L, Brittis D, Gleim G. A new pelvic tilt detection device: Roentgenographic validation and application to assessment of hip motion in professional ice hockey players. Journal of Orthopaedic and Sports Physical Therapy 24 (5) ()(pp 303-308), 1996 Date of Publication: November 1996 1996;(5):303-308. Ref ID: 529 Abstract: Professional ice hockey players often sustain hip and low back strains. We hypothesized that playing the sport of ice hockey may result in the shortening of the iliopsoas muscles, increasing the likelihood of lumbosacral strains and hip injuries. The purpose of this study was to identify whether ice hockey players demonstrate a decrease in hip extension range of motion when compared with age-matched controls. Objective data were obtained using the Thomas test with an electrical circuit device to determine pelvic tilt motion. The device was validated by obtaining X-rays in six subjects during the Thomas test. The study then examined 25 professional hockey players and 25 age-matched controls. A two-way analysis of variance was applied for statistical analysis to examine the effect of sport and side. The results demonstrated that ice hockey players have a reduced mean hip extension range of motion (p < .0001) by comparison with age-matched controls. There was no difference between right and left sides, nor was there any interaction of the sport with the side of the body. Therefore, hockey players demonstrated a decreased extensibility of the iliopsoas muscles. Future research may be directed toward establishing a link between prophylactic stretching and injury rate in professional ice hockey players Notes: DB - Embase UI - 1996326210 IN - (Tyler) Nicholas Inst. Sports Med. A., Lenox Hill Hospital, 130 E. 77th Street, New York, NY 10021, United States (Zook) Department of Physical Therapy, Long Island University, Brooklyn, NY, United States (Brittis, Gleim) Nicholas Inst. Sports Med. A., Lenox Hill Hospital, New York, NY, United States (Gleim) Department of Physiology, New York Medical College, Valhalla, NY, United States CP - United States LG - English PT - Journal: Article EM - 199600 DD - 19961106

(529) Tyler TF, Nicholas SJ, Campbell RJ, McHugh MP. The association of hip strength and flexibility with the incidence of adductor muscle strains in professional ice hockey players. Am J Sports Med 2001; 29(2):124-128. Ref ID: 776 Abstract: This prospective study was conducted to determine whether hip muscle strength and flexibility play a role in the incidence of adductor and hip flexor strains in National Hockey League ice hockey team players. Hip flexion, abduction, and adduction strength were measured in 81 players before two consecutive seasons. Thirty-four players were cut, traded, or sent to the minor league before the beginning of the season. Injury and individual exposure data were recorded for the remaining 47 players. Eight players experienced 11 adductor muscle strains, and there were 4 hip flexor strains. Preseason hip adduction strength was 18% lower in the players who subsequently sustained an adductor muscle strain compared with that of uninjured players. Adduction strength was 95% of abduction strength in the uninjured players but only 78% of abduction strength in the injured players. Preseason hip adductor flexibility was not different between players who sustained adductor muscle strains and those who did not. These results indicate that preseason hip strength testing of professional ice hockey players can identify players at risk of developing adductor muscle strains. A player was 17 times more likely to sustain an adductor muscle strain if his adductor strength was less than 80% of his abductor strength Notes: DA - 20010406 IS - 0363-5465 (Print) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(530) Tyler TF, Nicholas SJ, Mullaney MJ, McHugh MP. The role of hip muscle function in the treatment of patellofemoral pain syndrome. Am J Sports Med 2006; 34(4):630-636. Ref ID: 747 Abstract: BACKGROUND: Previous literature has associated hip weakness with patellofemoral pain syndrome. HYPOTHESIS: Improvements in hip strength and flexibility are associated with a decrease in patellofemoral pain. STUDY DESIGN: Cohort study; Level of evidence, 2. METHODS: Thirty-five patients with patellofemoral pain syndrome, aged 33 +mn; 16 years (29 women, 6 men; 43 knees), were evaluated and placed on a 6-week treatment program. Hip flexion, abduction, and adduction strengths, Thomas and Ober test results, and visual analog scale scores for pain with activities of daily living as well as with exercise were documented on initial evaluation and again 6 weeks later. Treatment consisted of strength and flexibility exercises primarily focusing on the hip. RESULTS: Hip flexion strength improved by 35% +/- 8.4% in 26 lower extremities treated successfully, compared with -1.8% +/- 3.5% in 17 lower extremities with an unsuccessful outcome (P < .001). Before treatment, there were positive Ober test results in 39 of 43 lower extremities; positive Thomas test results were seen in 31 of 43 lower extremities. A successful outcome with a concurrent normalized Ober test result was seen in 83% (20/24) of lower extremities, and successful outcomes with normalized Thomas test results were seen in 80% (16/20) of lower extremities. A combination of improved hip flexion strength (> 20%) as well as normal Ober and Thomas test results was seen in 93% of successfully treated cases (14/15 lower extremities), compared with 0% success (0/5 lower extremities) if there was no change in hip flexion strength (< 20%) and if Ober and Thomas test results remained positive. CONCLUSIONS: Improvements in hip flexion strength combined with increased iliotibial band and iliopsoas flexibility were associated with excellent results in patients with patellofemoral pain syndrome Notes: DA - 20060324 IS - 0363-5465 (Print) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(531) Urabe Y, Ochi M, Onari K. Changes in isokinetic muscle strength of the lower extremity in recreational athletes with anterior cruciate ligament reconstruction. Journal of Sport Rehabilitation 11 (4) ()(pp 252-267), 2002 Date of Publication: November 2002 2002;(4):252-267. Ref ID: 516 Abstract: Objective: To investigate changes in muscle strength in the lower extremity after ACL reconstruction. Design: Prospective case series. Dependent Variables: Isokinetic muscle strength measured in 6 movements (hip extension/flexion, hip adduction/abduction, knee extension/flexion) and circumference of the thigh/calf. Setting: Clinic and home. Patients: 44 (24 men, 20 women) between the ages of 16 and 47 years with an ACL rupture. All underwent reconstruction via a semitendinosus autograft. Main Outcome Measures: The peak torque for each joint movement was recorded. Repeated-measures ANOVA and power analysis were conducted to detect significant interaction effects. Results: The decline of muscle strength after ACL reconstruction remained not only in the knee extensors and flexors but also in the hip adductors. Conclusion: Rehabilitation programs that address the behavioral patterns and physiological characteristics of an ACL injury will benefit the athlete's whole body and lead to a full recovery. Â© 2002 Human Kinetics Publishers, Inc Notes: DB - Embase UI - 2002425668 IN - (Urabe, Onari) Institute of Health Sciences (Ochi) Dept. of Orthopedic Surgery, Hiroshima University, Faculty of Medicine, Hiroshima, 734-8551, Japan CP - United States LG - English PT - Journal: Article EM - 200200 DD - 20021203

(532) Van Houcke J, Pattyn C, Vanden Bossche L, Redant C, Maes JW, Audenaert EA. The pelvifemoral rhythm in cam-type femoroacetabular impingement. Clin Biomech (Bristol , Avon ) 2014; 29(1):63-67. Ref ID: 593 Abstract: BACKGROUND: There is growing evidence that femoroacetabular impingement is a potentially important risk factor for the development of early idiopathic osteoarthritis in the nondysplastic hip. Understanding of affected joint kinematics is a basic prerequisite in the evaluation of mechanical disorders in a clinical and research oriented setting. The aim of the present study was to compare pelvifemoral kinematics between subjects diagnosed with femoroacetabular impingement and healthy controls. METHODS: The authors collected motion data of the femur and pelvis on a total of 43 hips - 19 cam impingement hips and 24 healthy controls - using a validated electromagnetic tracking device. The pelvifemoral rhythm in supine position was defined during both active and passive hip flexion and statistically compared between both groups. FINDINGS: A significant increase in posterior pelvic rotation was observed during active hip flexion in the femoroacetabular impingement group compared with the control group (P<0.001). During passive hip flexion, however, posterior pelvic rotation between the impingement group and the controls did not differ significantly (P=0.628). INTERPRETATION: Posterior pelvic rotation during active high-end hip flexion is increased in femoroacetabular impingement, indicating the presence of an active compensational mechanism that decreases the extent of harmful joint conflict during high-flexion activities Notes: DA - 20131223 IS - 1879-1271 (Electronic) IS - 0268-0033 (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - IM

(533) Vandenbussche E, Saffarini M, Deloge N, Moctezuma JL, Nogler M. Hemispheric cups do not reproduce acetabular rim morphology. Acta Orthop 2007; 78(3):327-332. Ref ID: 735 Abstract: BACKGROUND: Iliopsoas impingement is a recurrent complication following THA, caused by muscle friction against a protrusive prosthetic cup.This study was designed to quantify the dimensional variations in acetabular rim profiles, with particular regard to the iliopubic valley, in order to suggest means to prevent iliopsoas impingement. MATERIAL AND METHODS: 34 cadaver pelvises were analyzed using a hip navigation system. The morphometric data were processed to plot profiles of all acetabular rims with particular regard to the shape and depth of the psoas valley. RESULTS: The acetabular rim is an asymmetric succession of 3 peaks and 3 troughs. The psoas valley is a salient feature in most pelvises and there is only a weak correlation between its depth (mean 3.8 mm, SD 2.0) and acetabular diameter, anteversion, or inclination. INTERPRETATION: It would be difficult to obviate the anterior overlap of the acetabulum using a hemispheric cup, a fortiori in certain morphotypes, without compromising range of motion or risk of dislocation. The solution for prevention of iliopsoas impingement would be to adapt cup design to acetabular anatomy, which may require different implants for the right and left sides, and hence a doubled inventory Notes: DA - 20070705 IS - 1745-3674 (Print) IS - 1745-3674 (Linking) LA - eng PT - Journal Article RN - 0 (Coated Materials, Biocompatible) SB - IM

(534) Vaughn ZD, Safran MR. Arthroscopic femoral osteoplasty/chielectomy for cam-type femoroacetabular impingement in the athlete. Sports Medicine and Arthroscopy Review 18 (2) ()(pp 90-99), 2010 Date of Publication: June 2010 2010;(2):90-99. Ref ID: 422 Abstract: Femoroacetabular impingement (FAI) represents an underlying bony abnormality of either the femoral head-neck junction or acetabulum, or most commonly, both. This often is associated with damage to intra-articular structures, primarily the labrum and chondral surfaces. Like pincer impingement, cam impingement has been associated with pain, limited hip range of motion, pain affecting athletic performance, and has been linked to the development of osteoarthritis. Cam impingement is the loss of offset of the femoral head-neck junction associated with loss of sphericity of the femoral head. Isolated cam impingement, although more common than isolated pincer impingement, it is much less common than both cam and pincer coexisting in people with FAI. Classically, the patient with isolated cam impingement is a young athletic male near 20 years of age. The classic pathology associated with the cam lesion is an acetabular articular cartilage injury in the anterosuperior acetabulum that is fairly well defined and may be deep, 1 to 1.5cm from the acetabular rim, initially sparing the labrum, but eventually leading to labral detachment from the underlying bone. Treatment generally focuses on restoring the femoral head-neck offset by removing the excess bone. This article will review the underlying pathology of cam-type FAI, the evaluation and diagnosis, arthroscopic treatment, and reported outcomes. Â© 2010 by Lippincott Williams & Wilkins Notes: DB - Embase UI - 2010289271 IN - (Vaughn, Safran) Department of Orthopaedic Surgery, Sports Medicine, Stanford University, M/C 6341, 450 Broadway Street, Redwood City, CA 94063, United States CP - United States LG - English PT - Journal: Review EM - 201000 DD - 20100609

(535) Vendittoli P-A, Ganapathi M, Roy AG, Lusignan D, Lavigne M. A comparison of clinical results of hip resurfacing arthroplasty and 28 mm metal on metal total hip arthroplasty: A randomised trial with 3-6 years follow-up. HIP International 20 (1) ()(pp 1-13), 2010 Date of Publication: January-March 2010 2010;(1):1-13. Ref ID: 432 Abstract: Two hundred and nine hips were randomised to receive either a 28 mm total hip athroplasty (THA, 100 hips) or hybrid hip resurfacing (HR, 109 hips). At 1 and 2 years post-operatively, patients with HR achieved statistically significantly better WOMAC functional scores. However, differences in scores were of slight clinical relevance with a difference of 2.2/100 and 3.3/100, at 1 and 2 years respectively (p=0.007). After an average follow-up of 56 months (range 36-72) there were similar reoperation rates 7/100 THA and 6/109 HR (p=0.655) and revision rates 2/100 THA and 4/109 HR (p=0.470). However, the types of complications were different. Higher early aseptic loosening rate was found in HR and long-term survival analysis of both patient cohorts is necessary to determine whether the potential bone preservation advantage offers by HR will overcome its earlier higher failure rate. Â© 2010 Wichtig Editore Notes: DB - Embase UI - 2010228461 IN - (Vendittoli, Ganapathi, Roy, Lusignan, Lavigne) Surgery Department, Maisonneuve Rosemont Hospital, University of Montreal, Montreal, QC, Canada CP - Italy LG - English PT - Journal: Article EM - 201000 DD - 20100428

(536) Verrall GM, Hamilton IA, Slavotinek JP, Oakeshott RD, Spriggins AJ, Barnes PG et al. Hip joint range of motion reduction in sports-related chronic groin injury diagnosed as pubic bone stress injury. J Sci Med Sport 2005; 8(1):77-84. Ref ID: 753 Abstract: Traumatic osteitis pubis is a non-specific entity that relates to chronic groin injury and has recently been described as being akin to a pubic bone stress injury. It is uncertain whether or not reduction of hip joint range of motion occurs in traumatic osteitis pubis. The purpose of this study was to establish whether there is a reduction of hip range of motion in athletes who have chronic groin injury diagnosed as pubic bone stress injury. A case-control study was performed whereby 89 Australian Rules footballers underwent, with clinical history unknown, clinical and MRI examination of the groin region. Clinical criteria (pain with tenderness) and MR-criteria (pubic bone marrow oedema) were used for diagnosis of pubic bone stress injury. End-range internal and external rotation hip motion was measured using a goniometer. Athletes with and without symptoms were compared, as were athletes with current symptoms with athletes who had recovered from their groin pain episode. Chronic groin injury was diagnosed in 47 athletes with 37 having pubic bone stress injury. Thirteen athletes had previous groin injury. A reduction of internal and external hip range of motion was demonstrated in athletes with pubic bone stress injury (p < 0.05) and in athletes who had current symptoms compared to those who had recovered from their groin pain episode (p < 0.05). A reduction in hip range of motion was evident in athletes with chronic groin injury diagnosed as pubic bone stress injury. There may be a role for increasing hip range of motion in rehabilitation Notes: DA - 20050512 IS - 1440-2440 (Print) LA - eng PT - Journal Article SB - IM

(537) Verrall GM, Slavotinek JP, Barnes PG, Esterman A, Oakeshott RD, Spriggins AJ. Hip joint range of motion restriction precedes athletic chronic groin injury. J Sci Med Sport 2007; 10(6):463-466. Ref ID: 740 Abstract: Although a restricted hip range of motion has been previously associated with chronic groin injury the temporal course of this association remains unclear. Accordingly the purpose of this prospective cohort study was to report preliminary findings examining whether hip joint range of motion restriction is associated with subsequent onset of athletic chronic groin injury. End-range internal and external hip joint range of motion was determined in 29 elite Australian football players, without previous history of groin injury. The players were followed for two subsequent playing seasons for the development of chronic groin injury. Four athletes developed chronic groin injury defined as at least 6 weeks of groin pain and missing match playing time. In athletes that developed chronic groin injury a lower body weight (p=0.02) and reduced total hip joint range of motion (p=0.03) were found to be associated. This study suggests that hip stiffness is associated with later development of chronic groin injury and as such may be a risk factor for this condition. This work should be viewed as preliminary and caution is advised in applying the conclusion to clinical practice as the numbers in this study were small Notes: DA - 20071029 IS - 1440-2440 (Print) LA - eng PT - Journal Article SB - IM

(538) Viala P, Vanel D, Larbi A, Cyteval C, Laredo J-D. Bilateral ischiofemoral impingement in a patient with hereditary multiple exostoses. Skeletal Radiology 41 (12) ()(pp 1637-1640), 2012 Date of Publication: December 2012 2012;(12):1637-1640. Ref ID: 335 Abstract: The skeletal anatomy of the hip provides two main locations for impingement: abnormal contact between the acetabulum and femur (femoroacetabular impingement) or between the ischium and femur (ischiofemoral impingement). We report a case of bilateral ischiofemoral impingement in a patient with hereditary multiple exostoses. The association of exostoses and femoral metaphyseal widening resulted in the narrowing of the ischiofemoral spaces. Pain was improved on the left side by resection of the ischial exostosis. Â© ISS 2012 Notes: DB - Embase UI - 2012625349 IN - (Viala, Larbi, Cyteval) Department of Radiology, Lapeyronie Hospital, 371 avenue du Doyen Gaston Giraud, 34295 Montpellier, Cedex 5, France (Vanel) Department of Radiology, Rizzoli Orthopaedic Institute, via G.C. Pupilli 1, 40136 Bologna, Italy (Laredo) Department of Radiology, Lariboisiere Hospital, 2 rue Ambroise Pare, 75475 Paris, Cedex 10, France CP - Germany LG - English PT - Journal: Article EM - 201246 DD - 20121108

(539) Villa ML, Marcus R, Delay RR, Kelsey JL. Factors contributing to skeletal health of postmenopausal Mexican-American women. Journal of Bone and Mineral Research 10 (8) ()(pp 1233-1242), 1995 Date of Publication: August 1995 1995;(8):1233-1242. Ref ID: 531 Abstract: Incidence rates of hip fracture are lower in Hispanic (HC) than non- Hispanic Caucasians (NHC). To investigate factors that may affect skeletal health of Hispanics, we recruited 152 healthy community-dwelling Mexican- American Caucasian women into a 4-year longitudinal study that evaluates bone mass, nutritional status, muscle strength, mobility, falls, and other factors that may contribute to fracture risk. Results from the baseline component of the study are reported herein. Average bone mineral densities (BMD) evaluated by dual-energy X-ray absorptiometry (DXA) in this study group did not differ from BMDs in healthy, NHC women of similar age. Hip axis length (HAL), however, was significantly shorter than that reported for nonosteoporotic NHC. Factors independently associated with greater BMD and BMC at certain skeletal sites were lean body mass, fat mass, acculturation, years of estrogen use, sun exposure, hip adductor strength, grip strength, erythrocyte folate, and serum glucose concentrations. Factors independently associated with lower BMD and BMC at certain skeletal sites were age, parity, and vertebral deformities (all p < 0.05). Thus, the decreased risk of hip fracture in HC compared with NBC does not appear to be due to high bone mass. However, other factors such as HAL and body composition may play a role in maintenance of skeletal integrity Notes: DB - Embase UI - 1995231010 IN - (Villa, Marcus, Delay, Kelsey) Depts. of Med. and Hlth. Res. Policy, Stanford Univ. Sch. Med. Aging S., Palo Alto Vet. Aff. Medical Center, Palo Alto, CA, United States (Villa) Geriatric Res., Educ. and Clin. Ctr., Dept. of Vet. Affairs Medical Center, 3801 Miranda Avenue (182-B), Palo Alto, CA 94304, United States CP - United States LG - English PT - Journal: Article EM - 199500 DD - 19950814

(540) Vogt S, Ansah P, Imhoff AB. Complete osseous avulsion of the adductor longus muscle: acute repair with three fiberwire suture anchors. Arch Orthop Trauma Surg 2007; 127(8):613-615. Ref ID: 737 Abstract: BACKGROUND: An acute tear of the adductor longus tendon is a seldom injury. A proximal osseous avulsion of this tendon has never been reported in literature. METHODS: Acute repair (refixation) of the osseous avulsion with three suture anchors. RESULTS: Physical examinations 3, 6 and 24 months following the injury revealed no evidence of tenderness over the adductor muscle group, and range of motion was equal to the contra lateral hip. Manual muscle strength testing was 5/5 with resisted adduction and identical to the opposite side. The patient returned to his previous level of sports. CONCLUSION: This case seems to be the first description of a proximal tendon rupture of the adductor longus muscle with an isolated osseous avulsion. Surgical treatment of this injury with the use of three fiberwire suture anchorstrade mark was successful. STUDY DESIGN: Case report Notes: DA - 20070820 IS - 0936-8051 (Print) IS - 0936-8051 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(541) Volk T. Ra databases and documentation. Regional Anesthesia and Pain Medicine Conference: 32nd Annual European Society of Regional Anaesthesia and Pain Therapy, ESRA Congress 2013 Glasgow United Kingdom Conference Start: 20130904 Conference End: 20130907 Conference Publication: (var pagings) 2013;(var.pagings):E51-E53. Ref ID: 255 Abstract: Many in regional anesthesia strongly believe that regional anesthesia has significant benefits.Without doubt regional anesthesia is superior to systemic measures in most relevant areas of acute pain treatment. However, "benefit" is ill defined and has many facets. Benefit has for at least over 50 years been accepted if it could be shown in randomized controlled trials (RCT). Among reasons, why RCTs cannot always answer questions are selection bias, low incidence rates of severe complications, difficult outcome measures, publication bias or costs. Moreover, the typical methods to summarize RCTs with metaanalytical techniques clearly has limitations. Therefore, the importance of analysis of registries in regional anaesthesia, in which real life treatments are documented, may also increase [1]. High quality registry studies have been described as being at the core of quality control and clearly overcome at least some of the shortcomings of RCTs. Incidence rates around a few percent may need > 10.000 patients to show a benefit or differences between treatments. This will hardly be achieved in regional anesthesia trials. Mortality: Regan et al. [2] assessed mortality and complications in a cohort of 12,646 men undergoing hip fracture surgery during 1998 to 2005 and identified general anesthesia as a risk factor for mortality in adjusted models. van Lier [3] analyzed 541 consecutive patients undergoing major abdominal surgery with chronic obstructive pulmonary disease and found that pneumonia rates and 30day mortality is lower in propensity score adjusted patients having had epidurals. Neuman et al. [4] analyzed hip fractures in New York. Within two years 18,158 patients were treated in 126 hospitals. Regional anesthesia was associated with a lower adjusted odds of mortality (OR 0.71, 95% CI 0.541; 0.932) and pulmonary complications (0.752, 95% CI 0.637; 0.887). Cummings et al. used The Medicare-Surveillance, Epidemiology, and End Results database to analyze 42,151 patients after open colectomy and found a significant association between epidural use and improved 5-year survival (HR 0.91, 95% CI 0.87; 0.94) [5]. Patients after primary joint replacement seem to have a higher thirty-day mortality when general compared with the neuraxial or neuraxial-general group was chosen (OR 1.83, 95% CI 1.08; 3.1 / OR 1.70, 95% CI 1.06-; 2.74, respectively) when data from 382,236 patients treated in 400 hospitals over 5 years are analyzed [6]. Morbidity: Recently, Memtzoudis et al. [7] were able to analyze 30,024 patients from 400 hospitals in the US with sleep apnea and found that patients having had neuraxial anesthesia had significantly lower rates of major complications than did patients who received combined neuraxial and general or general anesthesia. A group from Taiwan looked surgical site infection rates in 303,834 sectiones and found an increased risk when general anesthesia was used [8]. Similarly 3081 hip replacements were associated with higher infection rates when general anesthesiawas used [9]. Pugely et al. [10] confirmed this association within the ACS NSQIP database. Moreover, the 14,052 cases of primary total knee arthroplasty showed after adjustment for potential confounders, that the overall likelihood of complications was significantly higher in association with general anesthesia (1.129; 95% CI 1.004; 1.269). Bhattacharya [11] analysed data from the National Surgical Quality Improvement Program (NSQIP) of 25,213 patients undergoing initial unilateral inguinal herniorrhaphy. Propensity-matched patients with regional anesthesia showed reduced rates of postoperative admission and 30-day morbidity. The same database has been analysed for 2,404 infrainguinal bypass surgeries [12] and also found that major systemic complications correlated with general (vs regional) anesthesia. The impact of chronic pain after surgery remains a major concern. At present there are no large databases available.Metaanalysis of RCTs point out that the number needed to treat is 4 to avoid chronic pain after thoracic surgery if regional anesthesia is used [13]. Functional outcomes: Only a limited number of registries have functional outcome data available. Egol et al. [14] identified patients in a registry of 600 patients with a distal radial fracture to show that finger range of motion and functional scores for patients who received regional versus general anesthesia was improved at all follow-up points. Registries in regional anesthesia: Most registries in regional anesthesia are in a state of nascent. Single centre registries need long time periods to define incidence rates of e.g. of local anesthetic systemic toxicity [15]. Collecting data from many centres can be much faster to obtain incidence figures of interest. The Australasian Regional Anaesthesia Collaboration looked at neurologic complications after 7,156 peripheral blocks in a 3 year period [16] and the German Network for Regional Anesthesia described infection rates after 8,781 catheter within 15 months [17] and epidural hematoma rates within 2 years [18]. Taken together, registries offer an underused tool to analyse risks and derive best practise measures. (Table Presented) Notes: DB - Embase UI - 71366402 IN - (Volk) Anesthesiology Intensive Care and Pain Medicine, Saarland University, Faculty of Medicine, Homburg, Germany LG - English PT - Journal: Conference Abstract EM - 201412 DD - 20140313

(542) Walia H, Michalisin JJ, Root BC. Loss of femoral neck "waistline" in pistol grip hip deformity predisposing to hip arthroplasty in the young population: A case report. PM and R Conference: 2012 American Academy of Physical Medicine and Rehabilitation, AAPM&R Annual Assembly Atlanta, GA United States Conference Start: 20121115 Conference End: 20121118 Conference Publication: (var pagings) 4 (10 SUPPL 1) ()(pp S191-S 2012;(var.pagings):S191-S192. Ref ID: 337 Abstract: Case Description: A 48-year-old man with right groin pain. The patient presented with complaints of progressive right groin pain radiating to the lower back and right knee over a span of several months. On physical examination, he was noted to have significantly decreased range of motion (ROM) in both hips with pain at the end points. Physical exam, including comprehensive neurologic exam, was otherwise normal. He was subsequently sent for radiographs of the pelvis and bilateral (B/L) hips which revealed advanced degenerative joint disease (DJD). On AP view, radiographic measurements of the neck shaft angles were found to be greater than 142degree, while lateral radiographs showed an anteverted neck in relation to the femoral shaft. Setting: Outpatient physiatry office. Results or Clinical Course: The radiographic findings, in combination with clinical presentation, helped confirm the diagnosis of B/L pistol grip hip deformity (PGD). Such deformity led to severe progressive DJD, which limited both ROM and the performance of activities of daily living. As a result, the patient underwent B/L total hip arthroplasty (THA) without complication. Discussion: PGD is a pre-arthritic condition with a greater prevalence in adults who are younger than 50 years old and are very physically active. Such patients presenting with groin pain and decreased hip ROM should be evaluated for PGD. The triad of Cam type anterior femoral acetabular impingement, DJD, and a femoral neck-shaft angle >140degree or alpha115degree with radiographic evidence of an abnormally shaped femoral head is suggestive of PGD. Significant benefit may arise from early recognition and orthopedic evaluation in terms of diagnosis and treatment. Conclusions: PGD left untreated is progressive and ultimately leads to THA. With early recognition, there is potential for successful treatment via arthroscopy. It is therefore imperative that the rehabilitation physician be familiar with this condition so that such a condition does not go unnoticed Notes: DB - Embase UI - 70909779 IN - (Walia) Hofstra North Shore-LIJ Health System, Melville, NY, United States LG - English PT - Journal: Conference Abstract EM - 201245 DD - 20121102

(543) Wall PDH, Brown JS, Karthikeyan S, Griffin D. An introduction to hip arthroscopy. Part two: Indications, outcomes and complications. Orthopaedics and Trauma 26 (1) ()(pp 38-43), 2012 Date of Publication: February 2012 2012;(1):38-43. Ref ID: 375 Abstract: Part one in our series covered the basic surgical anatomy and techniques used for hip arthroscopy. Part two covers the specific indications and complications of hip arthroscopy. Hip arthroscopy can be used to treat a diverse range of conditions affecting both the central and peripheral compartments of the hip, including loose bodies, femoroacetabular impingement, coxa sultans and septic arthritis. The body of evidence supporting these indications continues to expand; however, there is still much work to be done. Failure to follow the correct technique for patient positioning and portal placement significantly increases the risk of damaging important local neurovascular structures. Complications include neuropraxia secondary to traction or pressure from the perineal post, cartilage injury, infection, fluid extravasation and trochanteric bursitis. Â© 2011 Elsevier Ltd Notes: DB - Embase UI - 2012162827 IN - (Wall, Karthikeyan, Griffin) University of Warwick, Hospital Health Sciences, The Division of Health Sciences, Warwick Medical School, University Hospital, Coventry, United Kingdom (Brown) University Hospitals Coventry and Warwickshire, Clinical Sciences Research Institute, Warwick Medical School, University Hospital, Coventry, United Kingdom CP - United Kingdom LG - English PT - Journal: Article EM - 201213 DD - 20120328

(544) Warren L, Baker R, Nasypany A, Seegmiller J, Mokha M. Core Concepts: Understanding the Complexity of the Spinal Stabilizing Systems in Local and Global Injury Prevention and Treatment. International Journal of Athletic Therapy & Training 2014; 19(6):28-34. Ref ID: 17 Notes: IS - 6

(545) Waryasz GR, McDermott AY. Patellofemoral pain syndrome (PFPS): A systematic review of anatomy and potential risk factors. Dynamic Medicine 7 (1) , 2008 Article Number: 9 Date of Publication: 2008 2008;(1). Ref ID: 475 Abstract: Background. Patellofemoral Pain Syndrome (PFPS), a common cause of anterior knee pain, is successfully treated in over 2/3 of patients through rehabilitation protocols designed to reduce pain and return function to the individual. Applying preventive medicine strategies, the majority of cases of PFPS may be avoided if a pre-diagnosis can be made by clinician or certified athletic trainer testing the current researched potential risk factors during a Preparticipation Screening Evaluation (PPSE). We provide a detailed and comprehensive review of the soft tissue, arterial system, and innervation to the patellofemoral joint in order to supply the clinician with the knowledge required to assess the anatomy and make recommendations to patients identified as potentially at risk. The purpose of this article is to review knee anatomy and the literature regarding potential risk factors associated with patellofemoral pain syndrome and prehabilitation strategies. A comprehensive review of knee anatomy will present the relationships of arterial collateralization, innervations, and soft tissue alignment to the possible multifactoral mechanism involved in PFPS, while attempting to advocate future use of different treatments aimed at non-soft tissue causes of PFPS. Methods. A systematic database search of English language PubMed, SportDiscus, Ovid MEDLINE, Web of Science, LexisNexis, and EBM reviews, plus hand searching the reference lists of these retrieved articles was performed to determine possible risk factors for patellofemoral pain syndrome. Results. Positive potential risk factors identified included: weakness in functional testing; gastrocnemius, hamstring, quadriceps or iliotibial band tightness; generalized ligamentous laxity; deficient hamstring or quadriceps strength; hip musculature weakness; an excessive quadriceps (Q) angle; patellar compression or tilting; and an abnormal VMO/VL reflex timing. An evidence-based medicine model was utilized to report evaluation criteria to determine the at-risk individuals, then a defined prehabilitation program was proposed that begins with a dynamic warm-up followed by stretches, power and multi-joint exercises, and culminates with isolation exercises. The prehabilitation program is performed at lower intensity level ranges and can be conducted 3 days per week in conjunction with general strength training. Based on an objective one repetition maximum (1RM) test which determines the amount an individual can lift in good form through a full range of motion, prehabilitation exercises are performed at 50-60% intensity. Conclusion. To reduce the likelihood of developing PFPS, any individual, especially those with positive potential risk factors, can perform the proposed prehabilitation program. Â© 2008 Waryasz and McDermott; licensee BioMed Central Ltd Notes: DB - Embase UI - 2008325672 IN - (Waryasz, McDermott) Tufts University, School of Medicine, Boston, MA, United States (Waryasz) Department of Nutrition, Brigham and Women's Hospital, Boston, MA, United States (McDermott) Kinesiology Department, California Polytechnic State University, San Luis Obispo, CA, United States CP - United Kingdom LG - English PT - Journal: Review EM - 200800 DD - 20080821

(546) Waseem M, Raja A, Al Husayni H. Hip pain in a child: Myositis or appendicitis? Pediatric Emergency Care 26 (6) ()(pp 431-433), 2010 Date of Publication: June 2010 2010;(6):431-433. Ref ID: 424 Abstract: Hip pain is a common presenting complaint in the pediatric emergency department, which can be attributed to many possible causes. It may be due to a benign "growing pain" or a potentially serious illness requiring urgent evaluation. At times, hip pain can be a manifestation of an underlying appendicitis in a child; thus, it can be confused with many other conditions. Children can be at particular risk for misdiagnosis or delayed diagnosis of appendicitis as it often can have an uncommon presentation with atypical signs and symptoms. Early identification, however, is important to prevent potential complications of delaying the diagnosis. We present a case that illustrates an atypical presentation of acute appendicitis. This report also highlights the diagnostic dilemma encountered during the evaluation of hip pain in children. Copyright Â© 2010 by Lippincott Williams & Wilkins Notes: DB - Embase UI - 2010327588 IN - (Waseem, Raja) Department of Emergency Medicine, Lincoln Medical and Mental Health Center, Bronx, NY, United States (Al-Husayni) Department of Radiology, Lincoln Medical and Mental Health Center, Bronx, NY, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20100804

(547) Wassilew GI, Janz V, Heller MO, Tohtz S, Rogalla P, Hein P et al. Real time visualization of femoroacetabular impingement and subluxation using 320-slice computed tomography. J Orthop Res 2013; 31(2):275-281. Ref ID: 626 Abstract: We visualized extreme ranges of motion of the hip and located femoroacetabular impingement (FAI) and subluxations using 4dimensional (D) volume computed tomography (CT). In dynamic 4D CT, 30 patients with hip pain (>3 months) and positive clinical and radiological signs of impingement were prospectively analyzed. The investigations were performed in flexion, abduction, and external rotation. The accuracy of the CT visualization of FAI was compared with the intraoperative findings during surgical dislocation, which served as the gold standard. Compared to the intraoperative visualization of FAI, the dynamic CT images showed a high degree of accuracy. 4D CT is a suitable method to dynamically visualize the functional consequences of anatomical FAI pathologies. The location of impingement can be accurately determined, and when combined with information about possible labral tears and chondral damage supplied by magnetic resonance arthrography, allows the surgeon to select the optimal surgical access and plan the required operation for minimal invasiveness Notes: DA - 20130102 IS - 1554-527X (Electronic) IS - 0736-0266 (Linking) LA - eng PT - Journal Article SB - IM

(548) Weber AE, Blaha JD. Femoral neck modularity: A bridge too far. Seminars in Arthroplasty 24 (2) ()(pp 71-75), 2013 Date of Publication: June 2013 2013;(2):71-75. Ref ID: 281 Abstract: Modular femoral neck use in total hip arthroplasty (THA) affords the operating surgeon increased intra-operative flexibility with regard to offset, version, and leg length. Proponents also advocate a reduced dislocation rate, reduced impingement issues, and ease of revision of acetabular component, head, or neck. However, the increased intra-operative flexibility and potential postoperative advantages come at a significant price. Adverse events and complications associated with modular femoral neck usage are being reported with increasing frequency. Modular femoral neck fractures as a result of patient- and implant-related factors are prevalent. Corrosion at the neck-stem interface is associated with a number of sequelae, including osteolysis, synovitis, adverse local tissue reactions (ALTRs), and aseptic lymphocyte-laminated vascular-associated lesions (ALVAL). Systemic complications of metallosis are also pertinent following corrosion at the neck-stem junction. Failure to disassemble the neck from the stem due to corrosion and cold welding is a documented complication and obviates a potential benefit of modularity at the time of revision. Modular femoral necks have a twofold increase in overall revision rate in the Australian registry data as compared to fixed-neck stems. Lastly, modular femoral necks add significant cost to each THA. The purpose of this review article is to discuss the current state of femoral neck modularity and provide the readership with pause prior to the continued use of modular femoral neck THA. Given the current and emerging literature, the modular femoral neck is a bridge too far. Â© 2013 Elsevier Inc Notes: DB - Embase UI - 2013582532 IN - (Weber, Blaha) Department of Orthopaedic Surgery, University of Michigan, 1500 E. Medical Center Dr, 2912 Taubman Center, SPC 5328, Ann Arbor, MI, United States CP - United States LG - English PT - Journal: Article EM - 201341 DD - 20131004

(549) Weber AE, Bedi A, Tibor LM, Zaltz I, Larson CM. The Hyperflexible Hip: Managing Hip Pain in the Dancer and Gymnast. Sports Health 2015; 7(4):346-358. Ref ID: 539 Abstract: CONTEXT: Dance, gymnastics, figure skating, and competitive cheerleading require a high degree of hip range of motion. Athletes who participate in these sports use their hips in a mechanically complex manner. EVIDENCE ACQUISITION: A search of the entire PubMed database (through December 2013) and additional searches of the reference lists of pertinent articles. STUDY DESIGN: Systematic review. LEVEL OF EVIDENCE: Level 3. RESULTS: Whether innate or acquired, dancers and gymnasts have some hypermobility that allows their hips to be placed in potentially impinging or unstable positions required for their given activity. Such extremes of motion can result in both intra-articular and extra-articular impingement as well as compensatory osseous and muscular pathology. In addition, dancers and gymnasts are susceptible to impingement-induced instability. Dancers with innate generalized hyperlaxity are at increased risk of injury because of their activities and may require longer recovery times to return to play. Both nonoperative and operative treatments (arthroscopic and open) have an important role in returning flexibility athletes to their preoperative levels of sport and dance. CONCLUSION: Because of the extreme hip motion required and the compensatory soft tissue laxity in dancers and gymnasts, these athletes may develop instability, impingement, or combinations of both. This frequently occurs in the setting of subtle pathoanatomy or in patients with normal bony anatomy. With appropriate surgical indications and the correct operative technique, the treating surgeon can anticipate high levels of return to play for the gymnast and dancer with hip pain Notes: DA - 20150703 IS - 1941-7381 (Print) IS - 1941-0921 (Linking) LA - eng PT - Journal Article

(550) Weidner J, Buchler L, Beck M. Hip capsule dimensions in patients with femoroacetabular impingement: A pilot study. Clinical Orthopaedics and Related Research 470 (12) ()(pp 3306-3312), 2012 Date of Publication: December 2012 2012;(12):3306-3312. Ref ID: 327 Abstract: Background: Joint-preserving hip surgery, either arthroscopic or open, increasingly is used for the treatment of symptomatic femoroacetabular impingement (FAI). As a consequence of surgery, thickening of the joint capsule and intraarticular adhesions between the labrum and joint capsule and between the femoral neck and the joint capsule have been observed. These alterations are believed to cause persistent pain and reduced range of motion. Because the diagnosis is made with MR arthrography, knowledge of the normal capsular anatomy and thickness on MRI in patients is important. To date there is no such information available. Questions/Purposes: The purpose of this study was to establish thickness, length of the hip capsule, and the size of the perilabral recess in patients with FAI. Methods: We reviewed the preoperative MR arthrography of 30 patients (15 men) with clinical symptoms of FAI. We measured capsular thickness and made observations on the perilabral recess. Results: The joint capsule was thickest (6 mm) anterosuperiorly between 1 and 2 o'clock. The average length from the femoral head-neck junction to the femoral insertion of the capsule ranged from 19 to 33 mm. A perilabral recess was present circumferentially, even across the acetabular notch, where the labrum is supported by the transverse acetabular ligament. The shortest recess occurred superiorly. Conclusions: Knowledge of the capsular anatomy in patients with FAI before surgery is important to judge the postoperative changes and to plan potential further therapy including arthroscopic treatment of intraarticular adhesions. Â© The Association of Bone and Joint Surgeons 2012 Notes: DB - Embase UI - 2012754550 IN - (Weidner, Buchler) Department for Orthopaedic Surgery, University of Berne, Inselspital, 3010 Berne, Switzerland (Beck) Department of Orthopaedics, Canton Hospital Lucerne, Lucerne, Switzerland CP - United States LG - English PT - Journal: Conference Paper EM - 201302 DD - 20130109

(551) Weinans H. Femoral shape and impingement. Osteoarthritis and Cartilage Conference: 2013 Osteoarthritis Research Society International World Congress, OARSI 2013 Philadelphia, PA United States Conference Start: 20130418 Conference End: 20130421 Conference Publication: (var pagings) 21 ()(pp S6 2013;(var.pagings):S6. Ref ID: 244 Abstract: for appropriate articulation with mechanical loading that is well distributed over the joint surface. Whereas severe abnormal shapes clearly create an articulation problem and can lead to OA, it is currently recognized that subtle shape differences can be a risk factor for OA as well. Bone shapes vary between persons and likely there are good and bad shapes with respect to joint functioning. Variations of bone shape among the population have been investigated ever since the introduction of radiographic imaging. The idea that in hip OA many cases of primary OA is actually secondary to a non-optimal shape of the joint goes many years back. For example Perthes' disease, slipped capital femoral epiphysis and congenital hip dysplasia clearly pose a high risk for developing OA. Therefore mild subclinical forms of these pathological conditions might also form a (smaller) risk factor of OA. Many shape aspects have been identified that are associated with OA such as: a decreased anteversion angle of the femoral neck, retroversion of the acetabulum, a deep acetabular socket or a nonspherical head shape. These are all well (pre)defined geometry aspects. However it is not straightforward to quantify shape variations in general and new methods have recently been introduced that can help to identify and find subtle aspects of shape variation within a given population. The importance of these variations in relation to OA development or OA progression has only started to be uncovered recently. The most thorough method to determine shape variations from radiographic images is using so-called statistical shape or appearance models, where the latter also provides the density variation. In these models a contour is created along landmark points of the bone that together annotate the shape. For a given population all contours can now be compared through scaling and rotation to obtain a best fit. Subsequently the contour coordinates are recombined with principal component analysis to derive independent components (modes) that represent the variation in shape within that population. Using this methodology specific shape modes can be found that are strongly associated with OA and even certain geometries of the hip were identified that correlate with OA characteristics dependent on the carrier status of the DIO2 gene SNP. A more direct approach is to use predefined shape parameters that are suspect of contributing to OA. One of the most well studied parameters in this respect is sphericity of the femoral head. A non-spherical head might create a diminished range of motion of the hip joint as a consequence of femoral acetabular impingement. This problem has been well described lately by Ganz and coworkers and often concerns the formation of extra bone at the antero-lateral head neck junction; a so-called Cam-type deformity. There is now general consensus that this deformity is initiated during puberty, likely induced by mechanical loading such as high impact sport activities and not evolves with time in adults. However many clinical studies do show that severe clinical problems related to Cam impingement become evident at adult (but relatively young) age and there is a current trend to operatively remove the Cam deformity in order to prevent OA later in life. The current work on shape analyses can provide imaging related (bio) markers that might predict OA initiation and/or progression. These shape related reasons of OA puts the definition of 'idiopathic' or primary OA in a new context. Furthermore new tools to quantify joint shape can help to elucidate more subtle risk factors and find cause effect relationships related to genes that contribute to OA Notes: DB - Embase UI - 71464680 IN - (Weinans) UMC Utrecht, Utrecht, Netherlands LG - English PT - Journal: Conference Abstract EM - 201422 DD - 20140526

(552) Weir A, de Vos RJ, Moen M, Holmich P, Tol JL. Prevalence of radiological signs of femoroacetabular impingement in patients presenting with long-standing adductor-related groin pain. Br J Sports Med 2011; 45(1):6-9. Ref ID: 702 Abstract: OBJECTIVE: A decreased range of motion (ROM) of the hip joint is known to predispose to athletic groin injury. Femoroacetabular impingement (FAI) of the hip leads to a reduced ROM. This study examined the prevalence of radiological signs of FAI in patients presenting with long-standing adductor-related groin pain (LSARGP). DESIGN: Prospective case series. SETTING: Outpatient Sports Medicine Department. PATIENTS: 34 athletes with LSARGP defined as pain on palpation of the proximal insertion of adductor muscle and a painful, resisted adduction test. ASSESSMENT: A clinician blinded to the results of the radiological assessment performed a physical examination: iliopsoas length, hip ROM and anterior hip impingement test. Anteroposterior pelvic radiographs were examined by a second blinded clinician for the presence of: pistol grip deformity, centrum-collum-diaphyseal angle, femoral head neck ratio, coxa profunda, protrusio acetabuli, lateral centre edge angle, acetabular index and cross-over sign. RESULTS: The prevalence of radiological signs of FAI was 94% (64/68). The mean number of radiological signs in hips with LSARGP was 1.84 (range 0-4, SD 1.05) and 1.96 (range 0-5, SD 1.12) in asymptomatic groins (p=0.95). The anterior hip impingement test was positive in nine cases. There was no relationship with the number of radiological signs (p=0.95). There was no correlation between hip ROM and the number of radiological signs (p=0.37). CONCLUSION: Radiological signs of FAI are frequently observed in patients presenting with LSARGP. Clinicians should be aware of this fact and the possible lack of correlation when assessing athletes with groin pain Notes: DA - 20101220 IS - 1473-0480 (Electronic) IS - 0306-3674 (Linking) LA - eng PT - Journal Article SB - IM

(553) Weiss DS, Rist RA, Grossman G. When can I start pointe work? Guidelines for initiating pointe training. Journal of dance medicine & science : official publication of the International Association for Dance Medicine & Science 13 (3) ()(pp 90-92), 2009 Date of Publication: 2009 2009;(3):90-92. Ref ID: 453 Abstract: The initiation of pointe training for dance students should be determined after careful evaluation of a number of factors. These include: the dance student's stage of physical development; the quality of her (or his) trunk, abdominal and pelvic control ("core" stability); the alignment of her legs (hip-knee-ankle-foot); the strength and flexibility of her feet and ankles; and the duration and frequency of her dance training. For students who meet the requirements related to all of these factors, began ballet training at age eight or later, and who are taking ballet class at least twice per week, pointe work should be initiated in the fourth year of training. Students with poor core stability or hypermobility of the feet and ankles may require additional strengthening to allow them to safely begin pointe training. For those who are only taking ballet classes once per week, or who are not truly pre-professional, pointe training should be discouraged. No student with insufficient ankle and foot plantar flexion range of motion or with poor lower extremity alignment should be allowed to do pointe work Notes: DB - Embase UI - 19754985 IN - (Weiss, Rist, Grossman) Harkness Center for Dance Injuries of NYU Hospital for Joint Diseases, NYU Langone Medical Center, New York, USA; Department of Orthopaedic Surgery at New York University School of Medicine, New York, New York, USA CP - United States LG - English PT - Journal: Article EM - 200900 DD - 20091103

(554) Wensaas A, Gunderson RB, Svenningsen S, Terjesen T. Good long-term outcome of the untreated contralateral hip in unilateral slipped capital femoral epiphysis : Forty hips with a mean follow-up of 41 years. J Child Orthop 2014; 8(5):367-373. Ref ID: 558 Abstract: PURPOSE: There is no consensus regarding prophylactic fixation of the contralateral hip in slipped capital femoral epiphysis (SCFE). In order to further study this question, we evaluated the long-term natural history of untreated contralateral hips. METHODS: Forty patients treated for unilateral SCFE without evidence of subsequent contralateral slip during adolescence were reviewed with a mean follow-up of 36 years (range 21-50 years). The deformity after SCFE may demonstrate radiographic signs of cam-type femoroacetabular impingement. We, therefore, measured alpha-angles in the contralateral hips on anteroposterior (AP) and frog-leg lateral radiographs. The angles were compared with those of a control group of adults without SCFE. Five years after the radiographic examination, with a mean follow-up of 41 years, all patients were evaluated by telephone interview. As range of motion and deformity could not be examined, a modified Harris hip score (HHS) (maximum score of 91 points) was used. A modified HHS <76 points and/or radiographic osteoarthritis (OA) was classified as a poor long-term outcome. RESULTS: The mean value of the AP alpha-angle was significantly higher in the contralateral hips in SCFE patients than in the control group (55 degrees vs. 46 degrees ), while the mean value of the lateral alpha-angle was not. Abnormally high values for one or both alpha-angles were found in 16 contralateral hips (40 %), of which five patients had abnormal values for both alpha-angles and were considered to have had an asymptomatic contralateral slip. Five patients (13 %) had a poor outcome in the contralateral hip, of which three patients (8 %) had OA. There was a significant association between hips with both alpha-angles that were abnormal and poor outcome. CONCLUSIONS: Since the natural history showed good long-term radiographic and clinical outcome in 35 of 40 patients and only three had OA, we conclude that routine prophylactic fixation of the contralateral hip is not indicated Notes: DA - 20141105 IS - 1863-2521 (Print) IS - 1863-2521 (Linking) LA - eng PT - Journal Article

(555) Wettstein M, Jung J, Dienst M. Arthroscopic Psoas Tenotomy. Arthroscopy - Journal of Arthroscopic and Related Surgery 22 (8) ()(pp 907 e1-907 e4), 2006 Date of Publication: 01 Aug 2006 2006;(8):907. Ref ID: 493 Abstract: Abstract: Tenotomy may be indicated for psoas tendinitis or painful snapping if conservative treatment remains unsuccessful. Because of significant complications with open techniques, endoscopic operations have been developed. We present a new arthroscopic technique to access and release the psoas tendon from the hip joint. This procedure can be performed in addition to other arthroscopic procedures of the hip joint or alone. To exclude additional hip disease, a diagnostic round of the joint should be completed. After hip arthroscopy of the central compartment has been performed, traction is released and the 30degree arthroscope is placed via the proximal anterolateral portal lying on the anterior femoral neck. The medial synovial fold can be identified. This fold lies slightly medially underneath the anteromedial capsule at the level of the psoas tendon. The arthroscope is turned toward the anterior capsule. Sometimes, the tendon shines through a thin articular capsule, or it may even be accessed directly via a hole connecting the hip joint and the iliopectineal bursa at the level of the anterior head-neck junction. If this cannot be done, an electrothermic probe is introduced via the anterior portal to make a 2-cm transverse capsular incision. The tendon is released with the back side of the electrothermic device turned to the iliacus muscle that lies anterior to the psoas tendon. A complete release is achieved when the tendon stumps can be seen gapping at a distance and the fibers of the iliacus muscle are visible. The first 9 patients who underwent surgery performed according to this technique developed no complications, and their hip flexion strength was restored to normal within 3 months. Â© 2006 Arthroscopy Association of North America Notes: DB - Embase UI - 2006374566 IN - (Wettstein, Jung, Dienst) Department of Orthopaedic Surgery, University Hospital, Homburg/Saar, Germany CP - United States LG - English PT - Journal: Article EM - 200600 DD - 20060823

(556) White LM, Geddes C, Lobo-Mueller E, Wright JG, Wedge J, Alman B. Slipped capital femoral epiphysis treated with percutaneous in situ pinning: Correlation of long term clinical outcome and MR imaging features of femoroacetabular impingement. Skeletal Radiology Conference: 2012 Annual Meeting of the Society of Skeletal Radiology, SSR 2012 Miami Beach, FL United States Conference Start: 20120318 Conference End: 20120321 Conference Publication: (var pagings) 41 (6) ()(pp 741), 2012 Date of 2012;(var.pagings):741. Ref ID: 360 Abstract: Purpose: To correlate MR imaging findings described for femoroacetabular impingement (FAI) and early degenerative hip joint disease with long term clinical outcomes in patients with history of slipped capital femoral epiphysis (SCFE ) who underwent surgical treatment with in situ pinning during childhood. Material and Methods: Eight hip joints, previously treated by percutaneous in-situ pinning for fixation of stable SCFE during childhood, were studied in six adult patients (4 male, 2 female), mean age 35 years (range 32-39 years). All hips underwent conventional radiographic and dedicated 3 T MR imaging examination. Average follow up from surgery to imaging was 22 years (range 18-27 years). Morphologic evaluation of cartilage and labrum, as well as evaluation of femoral and acetabular osseous changes were assessed in all cases. Evaluation of acetabular depth, alpha angle, and femoral head-neck offset were also performed in all cases. Conventional radiographic evaluation of the hip, as well as clinical signs and symptoms and hip function were evaluated with the Harris hip score, the Oxford hip score, the UCLA hip score and the WOMAC hip score at the time of the MRI study. Results: Conventional radiographs and MRI demonstrated femoral capital epiphysis retroversion in all hips examined. On MR examination mean acetabular depth measured was +3.6 mm (range -1-+7 mm), mean alpha-angle was 77degree (range 60-108degree), and average femoral head-neck offset measured 1.4 mm (range 1-3 mm). All hips (8/8) showed MR findings of labral tears, cartilage lesions in the anterior and anterosuperior aspects of the hip joint, and osseous changes along the anterior superior femoral-head neck junction similar to those observed in CAM-type impingement and degenerative hip joint disease. On physical examination, trendelenberg sign and impingement tests were negative for all hips (8/8), and no significant limp was observed. Three hips (3/8) showed limited internal rotation. Average clinical outcome scores showed few if any limitation in function (Harris hip score 96.9, Oxford hip score 12.6, UCLA hip score 9.5, WOMAC hip score 99.0). Conclusions: The prevalence of imaging findings suggestive of FAI and degenerative hip joint disease in adult individuals previously treated for SCFE in childhood with in situ pinning is high. However, these findings do not correlate to abnormalities in physical examination or limitations in function as determined by outcome scores, 18-27 years post surgical intervention Notes: DB - Embase UI - 70845209 IN - (White) University of Toronto, Toronto, ON, Canada LG - English PT - Journal: Conference Abstract EM - 201235 DD - 20120824

(557) Whiteside D, Deneweth JM, Bedi A, Zernicke RF, Goulet GC. Femoroacetabular Impingement in Elite Ice Hockey Goaltenders. American Journal of Sports Medicine 2015; 43(7):1689-1698. Ref ID: 26 Notes: IS - 7

(558) Whittaker JL, Small C, Maffey L, Emery CA. Risk factors for groin injury in sport: an updated systematic review. British Journal of Sports Medicine 2015; 49(12):803-809. Ref ID: 93 Abstract: BACKGROUND: The identification of risk factors for groin injury in sport is important to develop and implement injury prevention strategies. OBJECTIVE: To identify and evaluate the evidence examining risk factors for groin injury in sport. MATERIAL AND METHODS: Nine electronic databases were systematically searched to June 2014. Studies selected met the following criteria: original data; analytic design; investigated a risk factor(s); included outcomes for groin injury sustained during sport participation. The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines were followed and two independent authors assessed the quality and level of evidence with the Downs and Black (DB) criteria and Oxford Centre of Evidence-Based Medicine model, respectively. RESULTS: Of 2521 potentially relevant studies, 29 were included and scored. Heterogeneity in methodology and injury definition precluded meta-analyses. The most common risk factors investigated included age, hip range of motion, hip adductor strength and height. The median DB score across studies was 11/33 (range 6-20). The majority of studies represented level 2 evidence (cohort studies) however few considered the inter-relationships between risk factors. There is level 1 and 2 evidence that previous groin injury, higher-level of play, reduced hip adductor (absolute and relative to the hip abductors) strength and lower levels of sport-specific training are associated with increased risk of groin injury in sport. CONCLUSIONS: We recommended that investigators focus on developing and evaluating preparticipation screening and groin injury prevention programmes through high-quality randomised controlled trials targeting athletes at greater risk of injury Notes: ID - 109741512 IS - 12

(559) Wilkin G, March G, BeaulÃ© PE. Arthroscopic Acetabular Labral Debridement in Patients Forty-five Years of Age or Older Has Minimal Benefit for Pain and Function. Journal of Bone & Joint Surgery 2014; 96-A(2):113-118. Ref ID: 107 Abstract: BACKGROUND: Hip arthroscopy is being performed with expanding indications, commonly including symptomatic labral tears. The effects of various patient factors, including patient age, on clinical outcomes are not well understood. The purpose of the present study was to quantify the postoperative functional and quality-of-life outcomes after arthroscopic debridement of symptomatic labral tears in patients forty-five years of age or older. METHODS: Forty-one patients who were at least forty-five years of age (mean age, 52.7 years [range, 45.5 to 67.0 years]; mean body mass index, 26.1 kg/m2 [range, 18.4 to 33.2 kg/m2]; 75.6% female) and who underwent labral debridement at the time of hip arthroscopy were included. Disease-specific clinical outcome measures (Western Ontario and McMaster Universities Osteoarthritis Index [WOMAC] and modified Harris hip score [mHHS]) and general health-related measures (12-Item Short Form Health Survey [SF-12]) were collected preoperatively and postoperatively. RESULTS: The reoperation rate was 17% (seven of forty-one) at a mean of 21.3 months, and six of the seven reoperations involved conversion to hip arthroplasty or resurfacing. The overall hip arthroscopy cohort had postoperative improvements in the mean WOMAC pain score (from 54.0 [range, 20 to 90] to 69.4 [range, 0 to 100], p 0.001), WOMAC function score (from 60.4 [range, 16.2 to 95.6] to 69.1 [range, 10.3 to 100], p = 0.004), SF-12 physical component summary score (from 33.2 to 39.3, p 0.001), and mHHS (from 56.6 [range, 9.9 to 84.6] to 63.9 [range, 29.7 to 100], p = 0.022). The changes in the WOMAC stiffness score (from 54.6 Â± 20.8 to 60.1 Â± 28.1, p = 0.157) and SF-12 mental component summary score (from 51.3 Â± 11.4 to 51.6 Â± 12.2, p = 0.870) were not significant. Thirteen patients (32%) had a good or excellent outcome as indicated by the postoperative mHHS. CONCLUSIONS: Arthroscopic labral debridement in patients forty-five years of age or older was associated with a relatively high reoperation rate and minimal overall improvement in joint-specific and quality-of-life outcome measures. Although differences in some outcome measures were statistically significant, most did not reach the level of the minimum clinically important difference. Arthroscopic debridement of labral tears in this patient population must be approached with caution as the overall clinical benefit was small. LEVEL OF EVIDENCE: Therapeutic Level IV. See Instructions for Authors for a complete description of levels of evidence. PEER REVIEW This article was reviewed by the Editor-in-Chief and one Deputy Editor, and it underwent blinded review by two or more outside experts. It was also reviewed by an expert in methodology and statistics. The Deputy Editor reviewed each revision of the article, and it underwent a final review by the Editor-in-Chief prior to publication. Final corrections and clarifications occurred during one or more exchanges between the author(s) and copyeditors Notes: ID - 104004166 IS - 2 CY - Needham, Massachusetts

(560) Wilson JJ, Furukawa M. Evaluation of the patient with hip pain. American Family Physician 89 (1) ()(pp 27-34), 2014 Date of Publication: 01 Jan 2014 2014;(1):27-34. Ref ID: 263 Abstract: Hip pain is a common and disabling condition that affects patients of all ages. The differential diagnosis of hip pain is broad, presenting a diagnostic challenge. Patients often express that their hip pain is localized to one of three anatomic regions: the anterior hip and groin, the posterior hip and buttock, or the lateral hip. Anterior hip and groin pain is commonly associated with intra-articular pathology, such as osteoarthritis and hip labral tears. Posterior hip pain is associated with piriformis syndrome, sacroiliac joint dysfunction, lumbar radiculopathy, and less commonly ischiofemoral impingement and vascular claudication. Lateral hip pain occurs with greater trochanteric pain syndrome. Clinical examination tests, although helpful, are not highly sensitive or specific for most diagnoses; however, a rational approach to the hip examination can be used. Radiography should be performed if acute fracture, dislocations, or stress fractures are suspected. Initial plain radiography of the hip should include an anteroposterior view of the pelvis and frog-leg lateral view of the symptomatic hip. Magnetic resonance imaging should be performed if the history and plain radiograph results are not diagnostic. Magnetic resonance imaging is valuable for the detection of occult traumatic fractures, stress fractures, and osteonecrosis of the femoral head. Magnetic resonance arthrography is the diagnostic test of choice for labral tears. Â© 2014 American Academy of Family Physicians Notes: DB - Embase UI - 2014020404 IN - (Wilson, Furukawa) University of Wisconsin School of Medicine and Public Health, Madison, WI, United States CP - United States LG - English PT - Journal: Article EM - 201404 DD - 20140121

(561) Winston P, Awan R, Cassidy JD, Bleakney RK. Clinical examination and ultrasound of self-reported snapping hip syndrome in elite ballet dancers. Am J Sports Med 2007; 35(1):118-126. Ref ID: 743 Abstract: BACKGROUND: Although snapping hip syndrome is commonly reported in ballet dancers, the prevalence, impact, and underlying mechanism of this condition have not been formally studied within a cohort of dancers. PURPOSE: To determine the prevalence, associated factors, and mechanisms of snapping hip and to investigate self-reported snapping with physical and ultrasound examination. STUDY DESIGN: Cross-sectional study; Level of evidence, 3. METHODS: A snapping hip questionnaire was completed by 87 unselected elite ballet dancers at 2 institutions. Twenty-six of the dancers (50 hips) who were able to voluntarily snap their hips were selected from this group for further physical examination by 2 clinicians to determine whether there was a palpable snap, and each underwent an ultrasound examination of his or her hips. RESULTS: Ninety-one percent of dancers reported snapping hip, of which most (80%) had bilateral symptoms. Fifty-eight percent had pain associated with the snap, and 7% had taken time off dance because of this condition. Sixty percent of the dancers could voluntarily snap their hip. One or more of 3 dance movements elicited the snapping in 81%. The clinicians could palpate 46 of the 50 self-reported snapping hips. Ultrasound showed a snapping iliopsoas tendon in 59% of the hips and the iliotibial band snapping in 4%. In one third of cases, ultrasound was not helpful in identifying the cause of the snapping. CONCLUSION: Snapping hip is extremely common in ballet dancers. Some dancers have significant pain, yet many are asymptomatic. Self-reported snapping is likely to be palpable by the clinician. Iliotibial band snapping is evident by physical examination and ultrasound. Iliopsoas snapping was most common and required ultrasonic confirmation Notes: DA - 20070101 IS - 0363-5465 (Print) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(562) Wissel J, Entner T. Botulinum toxin treatment of hip adductor spasticity in multiple sclerosis. [German]. Wiener Klinische Wochenschrift, Supplement 113 (4) ()(pp 20-24), 2001 Date of Publication: 2001 2001;(4):20-24. Ref ID: 521 Abstract: Spasticity results in a resistance to passive movement and decrease of passive mobility of the involved joints and is defined as a state of hypertonicity with exaggeration of tendon reflexes mediated by a loss of inhibitory control of upper motor neurons. In patients with severe stages of multiple sclerosis (MS) spasticity of the lower limbs often leads to a spastic pattern with hip adduction resulting in decreased range-of-motion (ROM), increased pain, spasms, and functional disability (disturbed gait and sitting position) as well as difficulties with perineal hygiene. Local botulinum toxin type A (Btx-A) injections in spastic muscles offer a new treatment approach for managing spasticity and associated problems. Up to now Btx-A is approved for the treatment of blepharospasm and cervical dystonia and the treatment of equinous gait in children with cerebral palsy in Austria and Germany. Up to now only in Switzerland Botox is licensed for the treatment of focal spasticity. Btx-A is a neurotoxin derived from Clostridium botulinum. In most european countries Btx-A is available as Dysport (vial = 500 units) and Botox (vial = 100 units). In prospective studies a ratio of 1 unit Botox to 3-4 units Dysport was found. Following intramuscular injection Btx-A blocks the release of acetylcholine at the neuromuscular junctions, thereby inhibiting muscle contraction, and decreases spastic muscle tone and muscle spindles afferent information to the spinal cord. The spectrum of side effects includes local weakening of the injected and adjacent muscles as well as pain and haematoma at the injection site. At therapeutic doses side effects are local and transient. According to a double blind, placebo controlled, dose ranging study published by Hyman et al. (2000, Dysport in a dose of 500, 1000 and 1500 units reduced the degree of hip adductor spasticity associated with MS, and this benefit was evident despite concomitant use of oral antispasticity medication. According to the results of the study there was a clear trend towards greater efficacy and duration of effects with higher doses of Dysport. Taking efficacy and adverse events into account (incidence of muscle weakness was higher for the 1500 units group than for placebo) the optimal dose for hip adductor spasticity seems to be 1000 units Dysport divided between the adductor magnus, longus and brevis muscles and between both legs. To increase Btx-A effects following injection of hip adductors additional physiotherapy and casting or orthosis to increase passive hip-abduction is recommended. According to the literature anatomical localisation of the adductor muscles for injection and aspiration following insertion of the needle, to avoid injection of the toxin into a vessel, should be performed. A maximum dose of 1500 units Dysport (400 units Botox) per treatment session and 250 units Dysport (50 units Botox) per injection site is recommended. See table for dose-range of Dysport, and Botox in the treatment of adult patients with hip-adductor spasticity. For evaluation of treatment effects in hip adductor spasticity clinical examination with specific scales and measurements (see Appendix) at baseline, 4 and 12 weeks following BtxA injection is recommended: - Global rating of severity (0-4; patient's self assessment and physician's rating) - Global rating of response (- 4 - + 4; patient's self assessment and physician's rating) - Visual Analogue Scale (patient's self assessment of pain) - Active and passive ROM (manual goniometer) - Distance between the medial femur condyles in thigh extension (distance in cm) - Modified Ashworth scale (0-4) - Ten meter walking time (seconds) - Functional Ambulation Categories (0-5) - Score of perineal hygiene (0-5) Notes: DB - Embase UI - 2001382372 IN - (Wissel, Entner) Universitatsklinik fur Neurologie, Anichstrase 35, A-6020 Innsbruck, Austria CP - Austria OT - Botulinum toxin typ A in der behandlung der adduktorenspastizitat LG - German PT - Journal: Review EM - 200100 DD - 20011113

(563) Witvrouw E, Danneels L, Asselman P, D'Have T, Cambier D. Muscle flexibility as a risk factor for developing muscle injuries in male professional soccer players. A prospective study. Am J Sports Med 2003; 31(1):41-46. Ref ID: 769 Abstract: BACKGROUND: Muscular tightness is frequently postulated as an intrinsic risk factor for the development of a muscle injury. However, very little prospective data exist to prove this. HYPOTHESIS: Increased muscle tightness identifies a soccer player at risk for a subsequent musculoskeletal lesion. STUDY DESIGN: Prospective cohort study. METHODS: We examined 146 male professional soccer players before the 1999-2000 Belgian soccer competition. None of the players had a history of muscle injury in the lower extremities in the previous 2 years. The flexibility of the hamstring, quadriceps, adductor, and calf muscles of these players was measured goniometrically before the start of the season. All of the examined players were monitored throughout the season to register subsequent injuries. RESULTS: Players with a hamstring (N = 31) or quadriceps (N = 13) muscle injury were found to have significantly lower flexibility in these muscles before their injury compared with the uninjured group. No significant differences in muscle flexibility were found between players who sustained an adductor muscle injury (N = 13) or a calf muscle injury (N = 10) and the uninjured group. CONCLUSIONS: These results indicate that soccer players with an increased tightness of the hamstring or quadriceps muscles have a statistically higher risk for a subsequent musculoskeletal lesion. CLINICAL SIGNIFICANCE: Preseason hamstring and quadriceps muscle flexibility testing can identify male soccer players at risk of developing hamstring and quadriceps muscle injuries Notes: DA - 20030117 IS - 0363-5465 (Print) IS - 0363-5465 (Linking) LA - eng PT - Comparative Study PT - Journal Article SB - IM

(564) Wollin M, Lovell G. Osteitis pubis in four young football players: A case series demonstrating successful rehabilitation. Physical Therapy in Sport 7 (3) ()(pp 153-160), 2006 Date of Publication: August 2006 2006;(3):153-160. Ref ID: 495 Abstract: This case series study reports on successful rehabilitation outcomes and two new possible clinical indicators for return to football following osteitis pubis (OP). Four young football players developed OP acutely within 6 months of a rapid increase in training load after joining a junior elite programme. The clinical outcome measures included strong effort pain-free hip adduction, no tenderness over the pubic symphysis, bone or adductor complex. The functional outcome measure involved a pain-free completion of a running programme based on average distances covered by players in a game. The performance markers used in this case study (20 m shuttle run, 20 m and 5 m sprint tests) are frequently employed in football to measure player performance. All players were commenced on a conservative rehabilitation program involving abdominal and pelvic strengthening exercises in a graduated format and successfully achieved this outcome between 10 and 16 weeks after diagnosis. Rehabilitation included completion of a running programme consisting of durations and elements specific to football. During their rehabilitation a consistent pattern of clinical milestones emerged that coincided with the players' readiness to return to football. The players were able to perform 5 min of skating on a 3 m slide board and three sets of 12 repetitions of adductor exercises against 6 kg of resistance. No recurrence of injury has been reported at 12 months follow up. Â© 2006 Elsevier Ltd. All rights reserved Notes: DB - Embase UI - 2006351563 IN - (Wollin) Department of Physical Therapies, Australian Institute of Sport, P.O. Box 176 Belconnen, ACT, Australia (Lovell) Department of Sports Medicine, Australian Institute of Sport, P.O. Box 176 Belconnen, ACT, Australia CP - United Kingdom LG - English PT - Journal: Article EM - 200600 DD - 20060815

(565) Wood T, Young D. Labral tears: Understanding the significance of acetabular rim lesions. Medicine Today 9 (2) ()(pp 71-75), 2008 Date of Publication: February 2008 2008;(2):71-75. Ref ID: 478 Abstract: Labral tears occur in association with articu]ar cartilage damage (known as the rim lesion) and are becoming increasingly recognised in both sporting and non-sporting individuals presenting with groin and lateral hip pain. The practitioner will recognise the probable cause of this pain when the patient is asked to show the region of the pain and demonstrates a classic grasp sign. Hip arthroscopy has become the new tool for diagnosis and treatment of labral tears and rim lesions, and the next generation of orthopaedic surgeons will become more familiar and technically competent with this procedure. More importantly, they will have a good working knowledge of the problems of hip pathology and its causes in the athlete. As most rim lesions are due to abnormal hip joint morphology (shape), many will be correctable. Overuse hip injuries and subsequent rim damage are currently a major cause of premature hip degenerative arthritis Notes: DB - Embase UI - 2008156253 IN - (Wood) Glenferrie Private Hospital, Hawthorn, VIC, Australia (Young) Melbourne Orthopaedic Group, Glenferrie Private Hospital, Hawthorn, VIC, Australia CP - Australia LG - English PT - Journal: Article EM - 200800 DD - 20080408

(566) Wortley PG, Monson D, Webber G, Seale T, Williams R. Imaging findings and clinical outcomes in percutaneous cryoablation of extra-abdominal desmoid tumors. Journal of Vascular and Interventional Radiology Conference: World Conference on Interventional Oncology, WCIO 2014 New York, NY United States Conference Start: 20140511 Conference End: 20140514 Conference Publication: (var pagings) 25 (5) ()(pp 817 e 2014;(var.pagings):817. Ref ID: 245 Abstract: Objectives: To investigate the imaging changes and associated clinical outcomes in patients with extra-abdominal desmoid tumors treated with percutaneous cryoablation. Methods: This was a retrospective non-IRB approved study between April 2012 and December 2013, 8 patients (5 female and 3 male; age range from 25-71, mean age 38) underwent CT guided percutaneous cryoablation for palliation of extra-abdominal desmoid tumors. Patients were referred for either local tumor/pain control or improved range of motion. 3 patients (38%) had undergone prior treatment consisting of either surgical resection (3/8) and/or radiation (2/8). Tumor size ranged from 4.7 cm to 22 cm in largest diameter and 22 cm3 to 8,220 cm3 in volume. Tumors were located in the trunk, paraspinal region, hip, and thigh. Patient imaging response, clinical success, and complications were evaluated. Imaging response was characterized by change in size along with change in signal characteristics and morphology on MRI and change in attenuation on CT. Technical success was defined as serial regional low density consistent with cryoablation confined to the lesion preserving native musle or neurovascular structures. Clinical success was defined as improvement in clinical symptoms of pain, range of motion, and subjective tumor size following cyroablation. Results: A total of 17 percutaneous cryoablation procedures were performed in 8 patients with biopsy proven extra-abdominal desmoid tumors. Multiple ablations were performed on 4 patients (50%). 3 tumors (38%) showed decrease in size, with mean decrease in volume of 70% on follow up imaging and no tumors increased in size. The two largest tumors treated (volumes of 8,220 cm3 and 1,927 cm3) showed no change in overall size. CT follow up was available for 4 patients (50%), with all demonstrating decreased attenuation in an area of >50% of the ablation zone. MRI follow up was available in 6 of 8 (75%) patients and all tumors demonstrated increased T2 signal in an area of >50% of the ablation zone size. 3 tumors (50%) showed increased T1 signal in the ablation zone in a similar distribution to the changes on T2 weighted images. These signal changes persisted on multiple follow up exams. Contrast enhanced imaging was only obtained in 2 patients and both demonstrated lack of contrast enhancement in the ablation zone, which corresponded to the area of T2 hyperintensity that occurred in all patients. Clinical follow up was available for 6 of 8 (75%) patients, with clinical success occurring in 5 out of 6 of these patients (83%). No minor complications occurred. Major complications occurred in 2 patients (25%, SIR category C and E, respectively), both related to nerve injuries. Both of these patients had tumors intimately associated with major neurovascular structures. Conclusions: Percutaneous cryoablation is a suitable alternative treatment in the management of extra-abdominal desmoid tumors, for which the standard treatment of surgical excision carries a high rate of morbidity in many patients. Care must be taken with tumors in close proximity to major neurovascular structures Notes: DB - Embase UI - 71445832 LG - English PT - Journal: Conference Abstract EM - 201420 DD - 20140508

(567) Wright AA, Naze GS, Kavchak AE, Paul D, Kenison B, Hegedus EJ. Radiological variables associated with progression of femoroacetabular impingement of the hip: A systematic review. Journal of Science and Medicine in Sport 18 (2) ()(pp 122-127), 2015 Date of Publication: 01 Mar 2015 2015;(2):122-127. Ref ID: 195 Abstract: Objectives: Femoroacetabular impingement is gaining increased recognition as a cause of hip dysfunction. Of great concern is its potential association with labral tears and osteoarthritis. This systematic review examines the evidence regarding radiographic variables associated with the progression of femoroacetabular impingement. Design: Systematic review. Methods: Articles were selected following a comprehensive search of PubMed, CINAHL, SportDiscus, Embase, and Medline databases from database inception through October 2012. Inclusion criteria involved (1) estimates of the association between prognostic variables and progression of femoroacetabular impingement, (2) prospective or retrospective design, (3) patients diagnosed with femoroacetabular impingement based on established criteria, (4) the outcome of interest was radiologic and/or clinical progression of femoroacetabular impingement, and (5) access to the full text. Two independent reviewers assessed the methodological quality of each study and the association between prognostic variables and femoroacetabular impingement progression. Results: Thirteen articles met the inclusion criteria; nine were considered to be of high quality. Moderate evidence of progression of femoroacetabular impingement to labral pathology was associated with increased alpha angle. Moderate evidence for their lack of association with progression of FAI was associated with alpha angle with respect to development of osteoarthritis, acetabular index, center edge angle, coxa profunda, coxa vara, and pistol grip deformity. Conclusions: There is moderate evidence that increased alpha angle at baseline is associated with progression of femoroacetabular impingement to labral tear. Moderate evidence suggests a lack of association between other radiographic variables and progression of femoroacetabular impingement Notes: DB - Embase UI - 2014745627 IN - (Wright, Hegedus) High Point University, School of Health Sciences, Department of Physical Therapy, High Point, United States (Naze) Carroll University, Department of Physical Therapy, Waukesha, United States (Kavchak) Department of Physical and Occupational Therapy, University of Illinois Hospital and Health Sciences System, Chicago, United States (Paul) Exercise Science Program, High Point University, High Point, United States (Kenison) Biology and Exercise Science Programs, High Point University, High Point, United States CP - United Kingdom LG - English PT - Journal: Review EM - 201511 DD - 20150305

(568) Wyss TF, Clark JM, Weishaupt D, Notzli HP. Correlation between internal rotation and bony anatomy in the hip. Clinical Orthopaedics and Related Research (460) ()(pp 152-158), 2007 Date of Publication: July 2007 2007;(460):152-158. Ref ID: 489 Abstract: Femoroacetabular impingement has been implicated as a risk factor for degenerative arthritis in young people with normally concentric hips. On presentation, patients with impingement have groin pain, limited internal rotation in 90degreeflexion, and focal articular lesions. We hypothesized that the amount of internal rotation is dictated primarily by the underlying bony anatomy and not secondary to contractures. We compared 23 consecutive patients (32 hips) with 40 asymptomatic control subjects using positional magnetic resonance imaging, physical examination, and a questionnaire regarding symptoms and their commencement. There was a strong correlation between internal rotation in 90degreeflexion and the measurable free space between the relevant bony contours on magnetic resonance imaging (r = 0.97) in the patient group and the control subjects. The range of internal rotation is closely related to skeletal anatomy, and internal rotation can be used as a noninvasive tool to predict the risk of impingement. Â© 2007 Lippincott Williams & Wilkins, Inc Notes: DB - Embase UI - 2007339450 IN - (Wyss, Notzli) Department of Orthopaedic Surgery, Spital Bern-Ziegler, Bern, Switzerland (Wyss, Notzli) Department of Orthopaedic Surgery, University of Zurich, Balgrist, Zurich, Switzerland (Clark) Department of Orthopaedic Surgery, Group Health Eastside Specialties, Redmond, WA, United States (Weishaupt) Institute of Diagnostic Radiology, University Hospital, Zurich, Switzerland (Notzli) Department of Orthopaedic Surgery, Spital Bern-Ziegler, Morillonstrasse 75-91, CH-3001 Bern, Switzerland CP - United States LG - English PT - Journal: Article EM - 200700 DD - 20070725

(569) Yaffe MA, Terry MA. Recent and upcoming innovation in the technology of hip arthroscopy. Operative Techniques in Orthopaedics 20 (4) ()(pp 242-247), 2010 Date of Publication: December 2010 2010;(4):242-247. Ref ID: 429 Abstract: The advancements in our understanding of hip anatomy and pathology have stimulated the innovation of new products and technologies in hip arthroscopy. Specialized patient-positioning systems can help optimize the limb distraction and joint access that is critical for accessing the hip joint. Guiding systems have been developed to reduce the risk of iatrogenic damage and improve the efficiency and safety by which the secondary portals are established. Suture anchors now commonly contain polylactic acid with varying isomer compositions that help control the rate with which these anchors are reabsorbed. The addition of composite anchors may potentially offer improved anchor-osseus fixation and degradation characteristics. Knotless anchors are now becoming available and hold the potential to improve the ease and speed of achieving stable anchor fixation. Specialized instruments, including flexible and maneuverable thermal probes, extra-long cannulas, and extra-long shavers, burs, drills, implants, and loose body retrieval devices have improved access to the hip joint and have expanded the spectrum of indications for arthroscopy of the hip. These aforementioned products and technologies are representative of an exciting period of growth and innovation in the armamentarium of tools available to surgeons versed in hip arthroscopy. This work explores some of the new products and technologies that have recently come to market in hip arthroscopy that have and potentially will continue to improve our ability to arthroscopically treat hip pathology. Â© 2010 Elsevier Inc Notes: DB - Embase UI - 2010687654 IN - (Yaffe, Terry) Northwestern University, Feinberg School of Medicine, Chicago, IL, United States CP - United States LG - English PT - Journal: Article EM - 201000 DD - 20101223

(570) Yasunaga Y, Yamasaki T, Ochi M. Patient selection criteria for periacetabular osteotomy or rotational acetabular osteotomy. Clinical Orthopaedics and Related Research 470 (12) ()(pp 3342-3354), 2012 Date of Publication: December 2012 2012;(12):3342-3354. Ref ID: 326 Abstract: Background: Hip dysplasia is the most common cause of secondary osteoarthritis (OA). Periacetabular osteotomy (PAO) or rotational acetabular osteotomy (RAO) has been used as a joint-preserving procedure. However, the patient selection criteria are not clearly defined. Questions/purposes Based on a systematic review, we identified reported patient selection criteria for PAO or RAO. Methods: We performed a systematic review of RAO and 18 studies met our inclusion criteria. For the PAO, the systemic review performed by Clohisy et al. was used. Where Are We Now?: For patients with symptomatic hip dysplasia, lateral center-edge angle less than 10degree to 30degree, radiographic pre- or early OA, mean age at the time of surgery of 18 to 45 years, and improvement in joint congruency on AP radiograph with hip abduction, radiographic deformity correction consistently improved hip function in all studies. Radiographic OA progression was noted in 5% to 33% at 3.2 to 20 years postoperatively. Clinical score and prevention of radiographic OA progression of patients 50 years or older or with advanced stage were worse in younger patients or those with early stage. Where Do We Need to Go?: The key challenges are (1) preoperative evaluation of articular cartilage; (2) indication for older patients; (3) prevention of secondary femoroacetabular impingement; and (4) intraarticular treatment combined with PAO or RAO. How Do We Get There?: Future prospective, longitudinal cohort studies need to determine optimal patient selection criteria, risk factors for clinical failure, optimal deformity correction parameters, and the role of adjunctive surgical procedures. Â© The Association of Bone and Joint Surgeons 2012 Notes: DB - Embase UI - 2012754554 IN - (Yasunaga) Department of Artificial Joints and Biomaterials, Hiroshima University, Hiroshima, Japan (Yamasaki, Ochi) Department of Orthopaedic Surgery, Hiroshima University, Hiroshima, Japan CP - United States LG - English PT - Journal: Conference Paper EM - 201302 DD - 20130109

(571) Yazbek PM, Ovanessian V, Martin RL, Fukuda TY. Nonsurgical treatment of acetabular labrum tears: a case series. J Orthop Sports Phys Ther 2011; 41(5):346-353. Ref ID: 671 Abstract: STUDY DESIGN: Case series. BACKGROUND: While the literature has emphasized surgical treatment of acetabular labrum tears, there is a lack of information regarding conservative treatment. The purpose of this case series was to describe a nonsurgical program for those with clinical evidence of an acetabular labrum tear, that emphasized hip and lumbopelvic stabilization, correction of hip muscle imbalance, biomechanical control, and sport-specific functional progression. CASE DESCRIPTION: The 4 patients in this series had clinical evidence and magnetic resonance imaging confirmation of an acetabular labrum tear and underwent a similar treatment protocol consisting of 3 phases. Phase 1 emphasized pain control, education in trunk stabilization, and correction of abnormal joint movement. Phase 2 focused on muscular strengthening, recovery of normal range of motion (ROM), and initiation of sensory motor training. And phase 3 emphasized advanced sensory motor training, with sport-specific functional progression. ROM, flexibility, pain, special tests, and level of function were assessed, and strength was measured with handheld dynamometry. OUTCOMES: All patients demonstrated decreased pain, functional improvement, and correction of muscular imbalance. Increased muscle strength, primarily for the hip flexors (1%-39%), abductors (18%-56%), and extensors (68%-139%) was also noted. DISCUSSION: All patients responded well to our program. This case series suggests that patients with clinical evidence of an acetabular labral tear confirmed with MRI can show meaningful improvement with nonsurgical intervention. LEVEL OF EVIDENCE: Therapy, level 4 Notes: DA - 20110502 IS - 0190-6011 (Print) IS - 0190-6011 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(572) Yildiz C, Aydin T, Yildiz Y, Kalyon TA, Basbozkurt M. Anterior inferior iliac spine apophyseal avulsion fracture. J South Orthop Assoc 2003; 12(1):38-40. Ref ID: 767 Abstract: A case of anterior inferior iliac spine (AIIS) apophyseal avulsion fracture caused while playing football is reported. A 16-year-old amateur football player felt severe pain in his left groin while kicking the ball during training. There was point tenderness over the anterior inferior iliac spine (AIIS). Avulsion fracture of AIIS was considered clinically. Radiographs confirmed the diagnosis. He was treated with a conservative rehabilitation program. He is still an active football player. Avulsion fractures follow violent or explosive muscular contractions against a fixed resistance, sudden deceleration, or stretching of the involved muscle or as a result of a direct trauma. This injury usually occurs with an extension moment to the hip joint, with the knee flexed, and it is commonly seen in sports that involve kicking. AIIS avulsion fractures should be a diagnostic consideration in patients with pain in the groin who are involved in activities requiring high-level forces of flexion of the hip Notes: DA - 20030508 IS - 1059-1052 (Print) IS - 1059-1052 (Linking) LA - eng PT - Case Reports PT - Journal Article SB - IM

(573) Youdas JW, Garrett TR, Harmsen S, Suman VJ, Carey JR. Lumbar lordosis and pelvic inclination of asymptomatic adults. Phys Ther 1996; 76(10):1066-1081. Ref ID: 786 Abstract: BACKGROUND AND PURPOSE: We examined the association between pelvic inclination and lumbar lordosis during relaxed standing and eight variables thought to contribute to lordosis. SUBJECTS: Ninety subjects (45 men, 45 women) without back pain or a history of surgery were examined. The mean age was 54.8 years (SD = 8.5) for male subjects and 58.9 years (SD = 8.8) for female subjects. METHODS: Multiple linear regression modeling was used to assess the association of pelvic inclination and size of lumbar lordosis in a standing position with age, gender, body mass index, physical activity level, back and one-joint hip flexor muscle length, and performance and length of abdominal muscles. RESULTS: Abdominal muscle performance was associated with angle of pelvic inclination for women (R2 = .23), but not for men. Standing lumbar lordosis was associated with abdominal muscle length in women (R2 = .40), but it was multivariately associated with length of abdominal and one-joint hip flexor muscles and physical activity level in men (R2 = .38). No correlation was found between angle of pelvic inclination and depth of lumbar lordosis in a standing position. CONCLUSION AND DISCUSSION: Neither univariate nor multivariate regression models account for variability in the angle of pelvic inclination or size of lumbar lordosis in adults during upright stance; no correlation was found in standing between these two variables. The use of abdominal muscle strengthening exercises or stretching exercises of the back and one-joint hip flexor muscles to correct faulty standing posture should be questioned Notes: DA - 19961120 IS - 0031-9023 (Print) IS - 0031-9023 (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(574) Youdas JW, Garrett TR, Egan KS, Therneau TM. Lumbar lordosis and pelvic inclination in adults with chronic low back pain. Phys Ther 2000; 80(3):261-275. Ref ID: 779 Abstract: BACKGROUND AND PURPOSE: The causes of lumbopelvic imbalances in standing have been widely accepted by physical therapists, but there is a lack of scientific evidence available to support them. We examined the association between 9 variables and pelvic inclination and lumbar lordosis during relaxed standing. SUBJECTS: Thirty men and 30 women with chronic low back pain (CLBP) for at least 4 months were examined (mean age=54.9 years, SD=9, range=40.4-69.8). METHODS: Multiple linear regression modeling was used to assess the association of pelvic inclination and the magnitude of lumbar lordosis in standing with age, sex, body mass index (BMI), Oswestry Back Pain Disability Questionnaire (ODQ) scores, physical activity level, hip flexor muscle length, abdominal muscle force, and range of motion (ROM) for lumbar flexion and extension. RESULTS: In women, age, BMI, and ODQ scores were associated univariately and multivariately with pelvic inclination. In men, lumbar extension ROM was related univariately to pelvic inclination; age, lumbar extension ROM, and ODQ scores were associated multivariately. Lumbar lordosis was associated univariately with only lumbar extension ROM for women and men. A weak correlation was found between angle of pelvic inclination and magnitude of lumbar lordosis in standing (r=. 31 for women, r=.37 for men). CONCLUSION AND DISCUSSION: The odds ratio of having CLBP is increased if the score on the double-leg lowering test for abdominal muscles exceeds 50 degrees for men and 60 degrees for women. In patients with CLBP, the magnitude of the lumbar lordosis and pelvic inclination in standing is not associated with the force production of the abdominal muscles Notes: DA - 20000411 IS - 0031-9023 (Print) IS - 0031-9023 (Linking) LA - eng PT - Journal Article SB - AIM SB - IM

(575) Young SW, Dakic J, Stroia K, Nguyen ML, Harris AH, Safran MR. Hip range of motion and association with injury in female professional tennis players. Am J Sports Med 2014; 42(11):2654-2658. Ref ID: 561 Abstract: BACKGROUND: Adequate hip range of motion is required for the transfer of energy from the lower to the upper extremity along the kinetic chain. Repetitive rotational stresses in the lower extremities during tennis may lead to sport-specific range of motion adaptations, which may increase the risk of injury to other joints along the kinetic chain. PURPOSE: To assess whether such range of motion adaptations occur in the hip, and if so, to identify whether they are associated with injury. STUDY DESIGN: Cross-sectional study; Level of evidence, 3. METHODS: A total of 125 female professional tennis players, the majority of whom were ranked in the top 200 World Tennis Association singles rankings, underwent a comprehensive preparticipation physical health status examination. Hip range of motion was assessed using a digital inclinometer and side-to-side differences in rotational parameters calculated, and associations with previous injuries were identified. RESULTS: A history of an abdominal strain was reported by 10% of players, and there was an association between abdominal strains and the presence of hip flexion contractures (odds ratio, 6.1; P = .006). Hip flexion contractures were bilateral in 85% of those found, affected only the nondominant side in 9%, and affected only the dominant side in 6%. We were unable to identify any specific side-to-side rotational adaptations in the dominant or nondominant hips, and no association between loss of hip range of motion and shoulder, lower back, hip, knee, or ankle injuries was found. CONCLUSION: We report an association in female professional tennis players between abdominal strains and flexion contractures of the hip with iliopsoas tightness. We did not find evidence of specific hip adaptations in rotational range of motion. If hip flexion contractures are found on clinical examination, a stretching program may be indicated. Further studies are required to assess whether such a program can reduce the risk of abdominal injury Notes: DA - 20141031 IS - 1552-3365 (Electronic) IS - 0363-5465 (Linking) LA - eng PT - Journal Article SB - IM

(576) Ziebarth K, Balakumar J, Domayer S, Kim YJ, Millis MB. Bernese periacetabular osteotomy in males: is there an increased risk of femoroacetabular impingement (FAI) after Bernese periacetabular osteotomy? Clin Orthop Relat Res 2011; 469(2):447-453. Ref ID: 680 Abstract: BACKGROUND: The Bernese periacetabular osteotomy (PAO) is a popular option for treating symptomatic acetabular dysplasia. We noted symptomatic impingement after PAO in several male patients. QUESTIONS/PURPOSES: We therefore determined (1) the incidence of clinical signs of FAI after PAO in the male population; and (2) whether any factors were associated with the positive impingement signs after PAO in males. PATIENTS AND METHODS: We retrospectively reviewed 38 males who underwent 46 periacetabular osteotomies (PAO) between 2000 and 2007. Clinical and radiographic data were analyzed with the focus on pre- and postoperative incidence of femoroacetabular impingement. Minimum followup was 12 months (average, 43 months; range, 12-90 months). RESULTS: We found a positive impingement sign in 19 of the 46 hips during the preoperative examination compared to 22 (47.8%) hips postoperatively. The ROM (flexion and internal rotation) decreased postoperatively compared to preoperatively. Radiographic parameters of coverage LCE-, ACE- and Tonnis angle improved into the normal range. Twenty hips had postoperative heterotopic ossification to varying degrees, mostly minor. WOMAC scores improved in the function and pain domains postoperatively. CONCLUSIONS: Despite normalization of coverage we found a high postoperative rate of clinical signs of FAI after PAO in males. LEVEL OF EVIDENCE: Level IV, therapeutic study. See Guidelines for Authors for a complete description of levels of evidence Notes: DA - 20110111 IS - 1528-1132 (Electronic) IS - 0009-921X (Linking) LA - eng PT - Journal Article PT - Research Support, Non-U.S. Gov't SB - AIM SB - IM