

from pre-1-to-End-tests, except for LPA (+2.3%) and total-SED-time (and -2.7%). Total-daily-counts in the End-test increased for controls (+6.7%) but significantly more for the exercise group (+17.3%). Between the exercise groups' two pre-tests, no significant difference was observed, except for total-PA (+4.6%) and SED-total (-2.4%).

Conclusion Elderly participating in supervised exercise increase PA- and decrease SED-time, which is of importance because it is linked with improved health for elderly, longevity and potent socioeconomic gains.

7 PLATELET RICH PLASMA FOR ACUTE ACHILLES TENDON RUPTURE: A DOUBLE-BLIND, MULTICENTRE, RANDOMISED, PLACEBO-CONTROLLED TRIAL

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Introduction Platelet Rich Plasma (PRP), an autologous supra-physiological concentration of platelets from whole blood, has demonstrated positive cellular and physiological effects on healing in the laboratory. However, evidence from robust clinical trials is lacking. We aimed to determine the clinical efficacy of PRP for treating acute Achilles tendon rupture.

Materials and methods 230 adults starting non-surgical management within 12 days of rupture were randomised to PRP injection or dry needle insertion, under local anaesthetic. Participants were blinded and received standardised rehabilitation. Blinded outcome assessments were at 4, 7, 13, and 24 weeks. Primary outcome: muscle-tendon function assessed by work performed during the heel-rise endurance test (HRET), measured with the Limb Symmetry Index (LSI, 0%–100%) at 24 weeks. Secondary outcomes: Achilles Tendon Rupture Score (ATRS), quality of life, pain and goal attainment.

Results Of 230 participants, 114 were allocated to PRP injection (103 received PRP), 116 were allocated to and received placebo. At 24 weeks, 201/230 (87%) completed the HRET and 214/230 (93%) completed patient-reported outcomes. Participant characteristics between the groups were similar. There was no difference between groups at 24 weeks in LSI (mean difference=−4.373; 95% CI −11.217, 2.471; p=0.195). There were no differences in the secondary outcomes and adverse event rates.

Conclusion This study design and standardised PRP preparation secure robust clinical trial evidence for PRP in managing Achilles tendon rupture, and suggest that PRP offers no patient benefit. Use of PRP in soft tissue injuries must be questionable unless supported by equally robust evidence indicating positive outcomes.

8 THE EFFECT OF CHANGE OF DIRECTION ANGLE ON KNEE MECHANICS – IMPLICATIONS FOR ACL INJURY

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Introduction Change of direction (COD) manoeuvres are important for many field sports, however they are unfortunately associated with non-contact ACL injuries. Although players frequently COD at >90° angles, limited knowledge is available on knee joint kinematics and kinetics during COD at 90° and 135° and whether limb preference impacts knee mechanics during COD at these angles, which formed the aims of this study.

Methods Healthy male recreational soccer players were recruited to take part in the study. 3D kinematics and kinetics were collected during COD manoeuvres at 90° and 135°. Running speed was controlled at 4 ± 0.4 m/s and 3.5 ± 0.3 m/s, respectively. To determine differences on variables associated with ACL risk; knee abduction angle and moment, across cutting angles and preferred legs, a paired sample t-test was conducted using a Holm method correction, $\alpha=(0.05/ (8 \text{ comparisons} - \text{rank } +1))$.

Results 36 individuals took part in the study (24.25 ± 6.21 years, 1.72 ± 0.06 m and 66.41 ± 10.83 kg). COD at 135° showed greater knee abduction angles and moments than at 90° but with similar peak VGRF. There were no differences between preferred and non-preferred legs, apart from the increased knee flexion angle during COD manoeuvres at 90° in the non-preferred leg.

Conclusion In male recreational soccer players, sharper cutting angles place the knee at more risk for ACL injuries with little asymmetry between preferred and non-preferred limbs. Sharper angles of examination should be utilized in the evaluation of individuals.

9 CHANGE IN PATIENT-REPORTED OUTCOMES FOLLOWING MENISCAL REPAIR COMPARED WITH RESECTION IN YOUNG ADULTS: SECONDARY ANALYSES FROM A PROSPECTIVE COHORT STUDY

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Introduction In young adults, meniscal repair may be an alternative to resection. We compared change in patient-reported outcomes from before to 52 weeks after arthroscopic surgery in younger patients having either meniscal repair or resection.

Materials and methods Patients aged 40 or younger from the Knee Arthroscopy Cohort Southern Denmark (KACS) study undergoing arthroscopic meniscal surgery. Patients completed the Knee injury and Osteoarthritis Outcome Score (KOOS) online at pre-surgery, 12 and 52 weeks follow-up. Between-group differences in change in a composite of 4 of 5 KOOS subscales (KOOS₄) from baseline to 52 weeks were analyzed using repeated measures mixed linear models.

Abstracts

Results 118 patients having meniscal resection (mean age 32 [SD 7], 66% men, mean baseline KOOS₄ score 48.3 [SD 17]), and 24 patients having meniscal repair (mean age 26 (SD 6), 67% men, baseline KOOS₄ score 47.1 [SD 16]) were included. At 52 weeks both groups had improved, but patients having repair experienced less improvement in KOOS₄ scores than patients having resection (adjusted mean difference in change -13.0, 95% CI: -21.1; -4.9, p=0.002). Sensitivity analysis excluding patients having additional surgery in the index knee within the 52 weeks follow-up (repair: 32%; resection 9%) yielded similar results. Additional subgroup analysis including only patients with non-degenerative longitudinal-vertical tears, displayed even less improvement in the repair group compared with the resection group (adjusted mean difference in change -22.9, 95% CI: -32.5; -13.2, p<0.001).

Conclusion In this prospective cohort, patients having meniscal repair experienced less improvement after 1 year than patients having meniscal resection.

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RECOMMENDED CORE OUTCOME DOMAINS FOR TENDINOPATHY DERIVED FROM A DELPHI OF PATIENTS AND HEALTH CARE PROFESSIONALS: THE GRONINGEN ISTS2018 CONSENSUS

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Introduction Tendinopathy (local tendon pain associated with physical activity) is a challenge to treat despite recent advances. One factor contributing to this challenge is our limited ability to synthesise/meta-analyse research findings, which is further compounded by a lack of valid outcome measures. We determined the core outcome domains against which outcome measures could be recommended.

Materials and methods We conducted a Delphi study of patients and health care professionals (HCP) in two parts: an online survey and consensus meeting. Online survey items were extracted from clinical trial reports. Agree, disagree, or unsure were options in response to: 'The 'item' is important enough to be included in a core domain set of tendinopathy'. A-priori criterion of ≥70% participant agreement was deemed for selection of a core domain.

Results 32 patients and 28 HCP (92% had >10 years of tendinopathy experience, 71% consulted >10 cases per month) completed the online survey. 2 patients and 15 HCP attended the consensus meeting. Of the original 24 items (from trial reports); 9 were core: Patient overall rating, participation, pain on activity/loading, disability, function, physical function capacity, quality of life, psychology, and pain over a specified timeframe. Eight items were not core domains: range of motion, palpation, clinical examination, structure, pain on examination or without other specification, drop out, and sensory modality pain. Remaining seven items did not meet criterion.

Conclusion The core domain set serves as a guide for reporting of outcomes in clinical trials. Further research should determine these outcomes for each specific tendon.

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THE EFFECTIVENESS OF THE FÉDÉRATION INTERNATIONALE DE FOOTBALL ASSOCIATION (FIFA) INJURY PREVENTION PROGRAMMES IN SOCCER: A META-ANALYSIS OF META-ANALYSES

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Introduction The FIFA Medical and Research Centre has designed a comprehensive warm-up programme targeting muscular strength, body kinaesthetic awareness, and neuromuscular control during static and dynamic movements to decrease injury risk for soccer players.

Materials and methods The purpose of this research was to meta analyse the existing meta-analyses so that a conclusion can be drawn on how effective the injury programmes are. Relevant studies were identified by searching five databases for the period January 1990 till 1 July 2018. Results of each meta-analysis were combined together using OR (odds ratios) in a summary meta-analysis. QUOROM was used to assess how comprehensive the reporting included in the meta-analyses had been. The quality of the methodology in the meta-analyses was assessed using AMSTAR 2.

Results In total, the criteria for eligibility were satisfied by four meta-analyses covering fifteen primary studies. All four meta-analyses scored quite highly on QUOROM, but two were rated by AMSTAR 2 as moderate quality and two were found to be of critically low quality. Be that as it may, an overall risk reduction of 34% [OR=0.66 (0.60–0.73); I²=84%] for all injuries and a reduction of 29% [OR=0.71 (0.63–0.81); I²=80%] for injuries to the lower limbs were revealed.

Conclusion Combining every previous meta-analysis into a single source produced decisive evidence that the risk of injuries while playing soccer is reduced as a result of FIFA's programmes.