

sixty-three (80%) dancers participated. Baseline scans were collected with follow-up scans at six weeks. The primary outcome was quantification of AT structure with Ultrasound Tissue Characteristics (UTC) (echo-type I–IV). Secondary outcomes of interest were clinical signs and symptoms gathered from a clinical examination, self-reported symptoms, VISA-A questionnaire and pain during single-legged heel raise. UTC has previously shown to have satisfactory reproducibility and validity. Separate multilevel linear and logistic regression models were performed including time and demographic variables as covariates.

Result From baseline to follow-up there was significant decrease in distribution of UTC echo-type I ($\beta = -3.6$, $p = 0.001$; 95% CI: -5.8 ; -1.5) with significant increase in echo-type II ($\beta = 3.2$, $p < 0.0001$; 95% CI: 1.6 ; 4.8). Significant effects were also seen, of limb (type I+III) and gender (type I+II). No significant changes were found in clinical outcomes/clinical signs and symptoms.

Conclusion The cohort of ballet dancers showed significant UTC changes, mainly a reduction of echo-type I distribution after six-weeks pre-season period rehearsing Swan Lake ballet. No changes were found in clinical outcomes/clinical signs and symptoms. However, early structural changes seem important to follow longitudinally for potential planning of secondary prevention strategies.

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INCIDENCE OF SPORTS-RELATED INJURIES AND ILLNESSES IN PARALYMPIC ATHLETES – A PROSPECTIVE STUDY DURING 52 WEEKS

¹Kristina Fagher*, ^{2,3}Örjan Dahlström, ²Jenny Jacobsson, ²Toomas Timpka, ^{1,4}Jan Lexell. ¹Department of Health Sciences, Rehabilitation Medicine Research Group, Lund University, Sweden; ²Department of Medical and Health Sciences, Athletics Research Center, Linköping University, Sweden; ³Department of Behavioural Sciences and Learning, Linköping University, Sweden; ⁴Department of Neuroscience, Rehabilitation Medicine, Uppsala University, Sweden

10.1136/bjsports-2019-scandinavianabs.27

Introduction Sports-related injuries and illnesses in Paralympic sport (SRIIPS) is a growing concern, but knowledge about the etiology of SRIIPS is limited. The aim of this study was to prospectively assess the incidence and risk factors of SRIIPS among Swedish Paralympic athletes during 52 weeks.

Materials and methods 107 Paralympic athletes weekly reported SRIIPS in an eHealth application adapted to Paralympic athletes. Descriptive statistics and the Kaplan Meier method with corresponding Cox proportional hazards regression analysis ($p < 0.05$) was used to assess incidence, time to SRIIPS, survival probability and hazard ratio (HR).

Results The incidence of injuries and illnesses was 7.0/1000 and 9.5/1000 hours of sport exposure, respectively. For injury the survival probability was 31.8% and median time to injury was 19 weeks (95% CI: 10.6–27.4). A higher risk to sustain an injury was noted among athletes; ≥ 30 years (HR 1.6; 95% CI: 1.01–2.53), with previous severe injury (HR 2.4; 95% CI: 1.47–3.83), in team sports (HR 1.8; 95% CI: 1.10–2.80) and males (HR 1.8; 95% CI: 1.06–2.93). For illness, the survival probability was 23.4%. Median time to illness was 9 weeks (95% CI: 1.4–16.6). Athletes reporting an injury (HR 1.8; 95% CI: 1.08–2.98) and participants in team sports (HR 1.6; 95% CI: 1.05–2.54) had a higher risk for illness.

Conclusion This is the first longitudinal long-term prospective study of SRIIPS. Males, older athletes, athletes in team sports and with previous incidents are particularly at risk for injuries and illnesses and should therefore be targets for preventive measures and future research.

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INCREASED HIP ADDUCTION DURING RUNNING IS ASSOCIATED WITH PATELLOFEMORAL PAIN AND DIFFERS BETWEEN MALES AND FEMALES: A CASE-CONTROL STUDY

^{1,2}Bradley Neal*, ^{3,4}Christian Barton, ^{1,5}Aleksandra Birn-Jeffrey, ^{1,6}Dylan Morrissey. ¹Sports and Exercise Medicine, Queen Mary University of London, UK; ²Pure Sports Medicine, UK; ³La Trobe Sport and Exercise Medicine Research Centre, Australia; ⁴School of Allied Health, La Trobe University, Australia; ⁵School of Engineering and Materials Science, Queen Mary University of London, UK; ⁶Physiotherapy Department, Barts Health NHS Trust, UK

10.1136/bjsports-2019-scandinavianabs.28

Introduction Patellofemoral pain (PFP) is common amongst recreational runners and associated with altered running kinematics. However, it is currently unclear how sex may influence kinematic differences previously reported in runners with patellofemoral pain. This case-control study aimed to evaluate lower limb kinematics in males and females with and without patellofemoral pain during prolonged running.

Materials and methods Lower limb 3D kinematics were sampled in 20 runners with PFP (11 females, 9 males) and 20 asymptomatic runners (11 females, 9 males) during a 3 km treadmill run. Data were analysed when mean-pooled as mixed sex groups (PFP versus control) and as individual sex sub-groups.

Results Mixed-sex runners with PFP were found to have significantly greater peak hip adduction (mean difference = 4.9° , $d = 0.91$, 95% CI 1.4–8.2, $p = 0.01$) when compared to matched controls. Analyses for all other kinematic variables were non-significant. Females with PFP ran with greater peak hip adduction compared to female controls (mean difference = 6.6° , $p = 0.02$, $F = 3.41$, 95% CI 0.4–12.8), but not males with or without PFP. Analyses of sub-group comparisons for all other kinematic variables were non-significant.

Conclusion Differences in peak hip adduction between those with and without PFP during running appear to be driven by female participants, highlighting potentially different kinematic treatment targets for the individual sexes. Future research is encouraged to report lower limb kinematic variables in runners with PFP separately for males and females.

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IS TWO-DIMENSIONAL VIDEO A VALID AND RELIABLE MEASURE OF THREE-DIMENSIONAL KINEMATICS IN RUNNERS WITH PATELLOFEMORAL PAIN?

^{1,2}Bradley Neal*, ^{1,2}Simon Lack, ^{3,4}Christian Barton, ^{1,5}Aleksandra Birn-Jeffrey, ¹Stuart Miller, ^{1,6}Dylan Morrissey. ¹Sports and Exercise Medicine, Queen Mary University of London, UK; ²Pure Sports Medicine, UK; ³La Trobe Sport and Exercise Medicine Research Centre, La Trobe University, Australia; ⁴School of Allied Health, La Trobe University, Australia; ⁵School of Engineering and Materials Science, Queen Mary University of London, UK; ⁶Physiotherapy Department, Queen Mary University of London, UK

10.1136/bjsports-2019-scandinavianabs.29

Introduction Peak hip adduction (HADD) and knee flexion (KFLEX) during running are associated with patellofemoral pain (PFP) persistence, representing treatment targets. Clinical