players reported tendinopathy using the OSTRC-P, suggesting that patellar tendinopathy was not a primary knee pain presentation in this jumping cohort. Pain location rather than presence or severity of pain alone may better describe the clinical presentations of AKP in jumping athletes.

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S112

Electromyography recordings of the tensor fascia latae muscle during dynamic tasks: A comparison of surface and fine-wire electrodes

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Introduction: The tensor fascia latae (TFL) is a small fusiform muscle that is active during flexion, abduction, and internal rotation of the hip. Surface electrodes are commonly used to record electromyography (EMG) from the TFL. Surface electrodes are susceptible to crosstalk from surrounding muscles. This study aimed to compare the patterns of TFL EMG recorded using surface and fine-wire methods during dynamic tasks.

Methods: Eight healthy and physically active volunteers (5 females, 3 males; mean $\pm$ SD age 28 $\pm$ 6 years; height 1.70 $\pm$ 0.07 m; body mass 65.6 $\pm$ 10.3 kg; BMI 22.8 $\pm$ 3.4 kg/m2) participated in this study. TFL EMG was concurrently recorded with surface and fine-wire electrodes. Participants performed five trials of a step-up and a step-down task wearing their preferred footwear. EMG signals for all trials were visually inspected for artefacts. EMG data were amplitude-normalised to the maximum voluntary isometric contractions (MVIC, expressed as %). Statistical parametric mapping (SPM) was used to statistically compare the patterns of activation between electrode types.

Results: Fine-wire recordings were technically more problematic than surface recordings (e.g., more frequent contamination by movement artefact), but acceptable for most participants. The difference between the pattern of TFL EMG from surface and fine-wire recordings varied between participants in both tasks. Some participants showed an additional major peak with surface recordings that was not apparent in the fine-wire recordings, and others showed the opposite. SPM revealed one supra-threshold cluster (between 10-15%) that exceeded the critical threshold ($t^* = 3.516$, $p = 0.013$) during the step-up task. The MVIC normalised amplitude of surface recordings was significantly greater than fine-wire recordings during this period.

Discussion: Although the pattern of TFL activity was variable between participants for both electrode types, surface recordings revealed activity that was absent in the fine-wire recordings, which strongly suggests contamination of surface recordings by activity from adjacent muscles (crosstalk). However, some participants showed opposite results (higher activity with fine-wire recordings than surface). For studies that aim to specifically understand the activation of TFL, fine-wire recordings are recommended considering the limitations of this technique.

Conflict of interest statement: The authors have no conflict of interest of relevance to the submission of this abstract.

S114

Posterior ankle impingement syndrome clinical features are not associated with imaging findings in elite ballet dancers and athletes

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Introduction: Posterior ankle impingement syndrome (PAIS) commonly presents in elite ballet and some athletic populations. Imaging is frequently used as a diagnostic tool, and imaging findings can precipitate surgical intervention. The relationship between MRI findings and clinical presentation in PAIS is unclear. This study assessed the association between clinical features and MRI findings in PAIS and compared imaging and clinical findings between participants with and without a clinical diagnosis of PAIS.

Methods: Eighty-two male (54%) and female participants comprising elite ballet dancers (N=43), cricket fast bowlers (N=24) and soccer players (N=15) completed clinical assessment (posterior ankle pain, passive ankle plantarflexion test, single leg heel raise capacity test), patient reported outcome measures (Oslo Sports Trauma Research Center Overuse Injury Questionnaire, Foot and Ankle Ability Measure Sports Subscale, and Cumberland Ankle Instability Tool (CAIT)), and underwent unilateral ankle 3.0T MRI. Images were assessed for findings associated with PAIS. A subgroup of participants with a positive clinical PAIS diagnosis (posterior ankle pain plus positive ankle plantarflexion test) (N=10) were age, sex, activity, and ankle-matched to an asymptomatic participant, and clinical and imaging findings were compared between groups.

Results: Imaging findings commonly associated with PAIS were prevalent despite clinical status, and were not associated with posterior ankle pain, a positive ankle plantarflexion test, or patient reported outcome measures. Imaging findings did not differ between PAIS-positive and PAIS-negative groups. The PAIS group achieved significantly fewer repetitions on single leg heel raise capacity testing (P = 0.02) and were more symptomatic for functional ankle instability according to CAIT scores (P = 0.004) than the asymptomatic group.

Discussion: The lack of association between imaging findings and clinical presentation questions the role of imaging in the diagnosis and management of PAIS. It is unclear whether PAIS develops following functional (strength and/or stability) deficit, or whether strength and stability deficits are outcomes of PAIS. Clinicians should continue to rely primarily on clinical assessment in the diagnosis and management of patients with PAIS.

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S118

Prevalence, seasonal variation and nature of illness in youth floorball players: a prospective cohort study

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Introduction: Acute illness presents a significant health burden to athletes, including training interference, impaired performance, time-loss from competition and increased subsequent injury risk. Although most youth participate in sport at recreational level, illness epidemiology in this population during a season or competition has not been well studied to direct prevention initiatives. We aim to provide a first detail profile of illness and illness symptoms by sex in Swedish youth floorball players during one season.

Methods: This prospective cohort study was part of a Sport Without Injury ProgrammE cluster randomised controlled trial in floorball evaluating the efficacy of the Knee Control injury prevention exercise programme. Weekly illness data were collected from youth players during the 2017-2018 season (26 weeks) using the Oslo Sports Trauma Research Center questionnaire on health problems. Illness symptoms were grouped into clusters according to the 2020 International Olympic Committee consensus recommendations. Sex differences in average weekly illness prevalence was compared with a prevalence rate ratio and corresponding 95% CI, and proportion of reported illness symptoms with the chi-square test.

Results: The mean age for 329 male and 142 female players was 13.3 (SD 1.0) and 13.7(SD 1.5) years, respectively. The mean number of weekly reports per player was 14.4(SD 7.8) (13.5(SD 8.1) males vs 16.3 (SD 6.8) females). 61% of players (60% males vs 64% females) reported at least one illness week during the season. The average weekly illness prevalence was 12%(95% CI 10.8-12.3%) for all players, and slightly higher in females (13%, 95% CI 11.6-14.3%) than males (11%, 95% CI 9.9-11.7%), prevalence rate ratio 1.20(95% CI 1.05-1.37, p=0.009). 49%(53% males, 43% females) of illness reports indicated time-loss from sport. Illness prevalence was highest in calendar weeks 4-7 (peak winter weeks) and ranged from 15%-18%(20%-23% females vs 12%-17% males) during this period. Upper/lower respiratory symptoms (fever (30%), sore throat (16%) and cough (14%) were common). More females (16% vs 3% males, p<0.001) reported difficulty of breathing/tight airways. 7% females and no males reported fainting.

Discussion: Two third of players reported at least one illness. Flu-like symptoms dominated the season. Athletes, coaches, parents and support personnel need to be aware of risk of infections and educated about risk mitigation of viral infections. Improved awareness of self-monitoring of respiratory symptoms could help reduce the risk of spreading the infection to team members.

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S120

Effects of classroom-based active breaks on cognition, sitting and on-task behaviour in children with intellectual disability

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Objective: Classroom-based active breaks can help typically developing children to reduce prolonged sitting time, increase physical activity, and improve cognitive functions and on-task behavior. Yet, this approach has not been tested in children with intellectual disability, although this population are insufficiently active and at a higher risk of obesity compared to typically developing children. Hence, this study aimed to test the effects of a 5-week active break intervention on cognitive functions, sedentary patterns, and on-task behavior in schoolchildren with intellectual disability.

Method: We recruited twenty-four children, aged between 8 and 12 years (37.5% girls), from two schools. Children's cognitive functions (response inhibition, lapses of attention, interference and working memory) were measured at baseline and trial end using computer-based tests. Sitting, standing and movement patterns were assessed with inclinometers during class/school periods, at baseline, mid-trial, and end of trial. On-task behavior was directly observed in the classroom, before and after active breaks. Linear mixed models were used to investigate the intervention effects on cognitive functions and sedentary patterns. Generalised linear mixed models were used to analyse on-task behaviour data. Teachers' experience was captured using one-on-one interviews.

Results: A significant time × group interaction was found for working memory favouring the intervention group (B = 11.56, 95% confidence interval [1.92, 21.21]). No significant effects were found in relation to the other measures of children's cognition or on-task behaviour. Relative to the control group, the intervention group showed significant positive changes in stepping time (+25 min) and step count (+1913 steps), and significant negative changes in time spent in sitting bouts greater than 5 mins (–60 mins) or greater than 20 min (–73 mins) from baseline to mid-trial; similar significant differences were also noted by the end of trial. Teachers indicated that active breaks are feasible to implement, although adaptations may be needed to cater for children's specific needs.

Discussion: Classroom-based active breaks are feasible to implement in the real school environment and can contribute to increase physical activity and reduce sedentary behaviour in children with intellectual disability and might also benefit their working memory. This study is the first to have tested the effects of classroom-based active breaks in this population. Further research is required to clarify the effects on cognitive functions and whether this strategy has other benefits in children with intellectual disability.

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