participation is limited by the adverse physical effects following different types of breast cancer surgery. This study investigated how the adverse physical effects following different types of breast cancer surgery are perceived to limit physical activity and sport.

Methods: 506 Australian women who had breast cancer surgery (breast conserving surgery (BCS) n=176, mastectomy (MAST) n=167, breast reconstruction surgery (BRS) n=163) completed an on-line survey where they retrospectively ranked the perceived frequency and severity of their adverse physical effects and their impact on physical activity and sport 6, 12-, and 24-months post-surgery. Fisher exact tests compared the frequency amongst the three groups with moderate-to-very-high frequency/severity scores (≧ 6/10) versus scores <6/10 for each adverse physical effect; (ii) moderate-to-very-high Total scores (≧36/60) versus total scores <36/60; and (iii) in "Agreement" that their physical activity and sport were limited (agree versus disagree) at the three points of time (3, 6, 12 months). The frequency of the entire cohort (n=632) with Total scores ≧36/60 were grouped according to previously identified risk factors (yes/no) and independent t-tests compared the mean Total scores grouped according to these identified risk factors ($p < 0.05$).

Results: At 6 months following surgery, 43-58% of respondents perceived physical activity/sport were limited by their adverse physical effects, which were moderate-to-very-high in frequency/severity and over multiple body regions for ~ 25% of respondents. Sport was perceived to be limited by a significantly higher percentage of the BRS group compared to the MAST and BCS groups at 6 months post-surgery ($p<0.05$). Physical activity and sport were limited by a significantly higher percentage of the BRS and MAST groups compared to the BCS group at 12 months post-surgery ($p<0.05$). A significantly higher percentage reported moderate-to-very-high adverse physical effects if they: (i) had lymph nodes removed ($p=0.012$); (ii) had post-operative complications ($p<0.001$); and (iii) were younger than 50-years ($p=0.048$).

Discussion: Physical activity and the resumption of sport is limited for a high percentage of women following all types of breast cancer, particularly following breast reconstruction surgery because of adverse physical effects of surgery/treatment. Greater investment in physical rehabilitation following all types of breast cancer surgery is required to enable women to participate in physical activity and resume sport.

Conflict of interest statement: My co-authors and I acknowledge that we have no conflict of interest relevant to the submission of this abstract.

http://dx.doi.org/10.1016/j.jsams.2021.09.048

S110

Hospital-treated Australian Football injury in women and girls, Victoria, 2010/11-2019/20

V. Stathakis[a]

[a]*Victorian Injury Surveillance Unit (VISU), Monash University Accident Research Centre, Monash University, Australia*

Introduction: Rates of participation for women and girls playing Australian Football at the school, club and professional level in recent years has increased significantly, from 95,000 participants nationally in 2011 to 586,422 in 2019. In 2010, there were 58 female club teams in Victoria, increasing almost 20-fold to 1092 teams in 2019. The dramatic increase in participation has also seen a sharp rise in serious injuries such as concussion, ruptured ACLs and fractured wrists. The study aims to describe the incidence of hospital-treated Australian Football injuries among women and girls aged 5 years and above in Victoria, Australia.

Methods: Routinely collected Victorian emergency department and hospital admissions data from 2010/11 to 2019/20 will be extracted and analysed. Trends over a ten-year period will be examined, while in-depth analysis will focus on the three most recent years of available data. Records will be restricted to females aged 5 plus years with an ICD-10-AM external cause activity code indicating Australian Football (admissions data), while narrative texts and Australian Football sports code will be used for selection of ED presentation data.

Results: Outcome measures include frequencies and rates per 100,000 participants for hospital-treated Australian Football injury. Preliminary results: 2509 hospitalisations for women and girls injured while playing Australian Football from 2010/11 to 2019/20; hospitalisations were 94 in 2010/11, increased to 584 in 2018/19 and dropped to 311 in 2019/20 (reflecting limited activity during COVID-19 lockdown). Thirty-four percent (n=859) recorded for females aged 15 to 19 years, followed by 10 to 14 year olds (19%, n=473). Most injuries were to the head (29%, n=727), wrist/hand (24%, n=610) and knee/lower leg (21%, n=521).

Discussion: It's anticipated that both the frequency and participation-adjusted rate of hospital-treated female Australian Football injury will have increased over the past 10 years, with the highest increases occurring in more recent years of data. This research pushes the boundaries through the capture of state-wide population-based hospital treated injury cases. The inclusion of descriptive text regarding the circumstances of injury events in the VEMD is a unique feature that can provide valuable information not adequately described by standard health coding systems. The demographic profile and injury description might also provide a basis for injury prevention to curb the injury trend.

Conflict of interest statement: I acknowledge that I have no conflict of interest of relevance to the submission of this abstract.

http://dx.doi.org/10.1016/j.jsams.2021.09.049

S111

Prevalence and pain distribution of anterior knee pain in college basketball players

C. Bonello[a]

[a]*La Trobe Sport & Exercise Medicine Research Centre, Australia*

Background: Causes of anterior knee pain (AKP) in jumping athletes include patellofemoral pain and patellar tendinopathy. Differential diagnosis of AKP is challenging, with variation in clinical presentations. No previous research has used pain location to describe AKP in basketball athletes therefore the aim of this study was to describe the prevalence and pain distribution of AKP in college basketball and the incidence of focal inferior pole pain.

Methods: This cross-sectional study investigated university and college basketball athletes (n=242) utilising two main outcome measures. The single leg decline squat test (SLDS) was used to capture pain location using pain mapping (dichotomised into focal/diffuse) and pain severity (numerical rating scale). The Oslo Sports Trauma Research Centre Knee questionnaire (OSTRC-Knee) and adapted version for patellar tendinopathy (OSTRC-P) were used to report the prevalence of anterior knee pain (AKP) and patellar tendinopathy respectively. Focal inferior pole pain during the SLDS was used to classify patellar tendinopathy.

Results: Of the 242 players (138 women, 104 men), 146 (60%) reported pain with the SLDS [unilateral n=64, (26%); bilateral n=82 (34%)]. 101 (43%) reported knee pain using the OSTRC-Knee. Pain mapping captured variability in pain location. Diffuse pain was more prevalent [left 70%; right 72%] than focal pain [left 30%; right 28%]. There was low prevalence of patellar tendinopathy with either outcome measure; OSTRC-P [n=21, 8.7%] and inferior pole pain during the SLDS [n=25, 10.3%]

Discussion: Diffuse AKP was common in college basketball players, however pain mapped to the inferior pole of the patella was not. Few

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.

Conflict of interest statement: My co-authors and I acknowledge in kindness funding for this research from the National Basketball Association (NBA). My co-authors and I also acknowledge that we have no significant conflicts of interest of relevance to the submission of this abstract. We acknowledge one of the authors sits on the Sports Medicine Australia (SMA) conference committee

http://dx.doi.org/10.1016/j.jsams.2021.09.050

S112

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

M. Besomi[a], P. Hodges[a], W. van den Hoorn[a], B. Vicenzino[a]

[a]*The University of Queensland, School of Health and Rehabilitation Sciences, Australia*

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 ± SD age 28 ± 6 years; height 1.70 ± 0.07 m; body mass 65.6 ± 10.3 kg; BMI 22.8 ± 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.

http://dx.doi.org/10.1016/j.jsams.2021.09.051

S114

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

P. Baillie[a], J. Cook[a], K. Ferrar[a,b], J. Lam[b], S. Mayes[a,b], P. Smith[c]

[a]*La Trobe University, Australia*
[b]*The Australian Ballet, Southbank, Australia*
[c]*I-MED Radiology East Melbourne, Australia*

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.

Conflict of interest statement: My co-authors and I acknowledge that we have no conflict of interest of relevance to the submission of this abstract.

http://dx.doi.org/10.1016/j.jsams.2021.09.052

S118

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

I. Åkerlund[b,c], M. Hägglund[b,c], H. Lindblom[b,c], N. Panagodage Perera[a,c], S. Sonesson[b,c], M. Waldén[b,c]

[a]*Australian Institute of Sport, Australia*
[b]*Linköping University, Sweden*
[c]*Sport Without Injury ProgrammE (SWIPE), Department of Health, Medicine and Caring Sciences (HMV), Linköping University, Sweden*