

prominent knee postures during ACL injuries. AFLW players may benefit from injury prevention programs incorporating agility-based training. Specifically, drills undertaken in defensive scenarios requiring a player to execute a sidestep cutting manoeuvre in response to an opposition player's movement. This may result in safer and more desirable lower limb postures being implemented during the most common AFLW ACL injury scenario.

**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.2021.09.063>

## S140

### Despite a high daily training availability, a quarter of Academy athletes start the season with an injury and three quarters finish with one

M. Drew, N. Perera, D. Sheehy, L. Toohey

**Introduction:** The development (or academy) phase of an athlete forms the foundation for a successful athletic career. Injuries affect an athlete's availability to train, compete, and perform. Context-specific understanding of the injury burden and risk factors can enable prevention strategies to be prioritised, developed, and implemented to positively impact academy athlete longevity and trajectory towards elite levels. Medical servicing is a key component of the health system around an athletic population. Currently there are no data pertaining to the delivery of medical services in Australian academy athletes. We aim to investigate the incidence, prevalence, burden and characteristics of injuries; and to describe the frequency and type of medical servicing for elite sports academy athletes over a 12-month season.

**Methods:** Medical attention and time-loss injuries were prospectively recorded for 94 athletes (72.3% females) during the 2019-2020 scholarship season. The number and type of linked medical treatments was also recorded. Injury incidence rates (IIR), point and period prevalence, and injury burden were calculated and compared by athlete sex, sport, and categorisation using incidence rate ratios (IRR).

**Results:** 193 injuries were reported in 71 (75.5%) athletes. The IIR was 2.08 (95%CI=1.80-2.40) injuries per 365 days, with no sex difference observed (IRR=1.05, 95%CI=0.77-1.43,  $p=0.761$ ). The injury burden was 43.52 (95%CI=37.79-50.11) days absence per 365 days. More than one-quarter (point prevalence, 26.6%) of athletes commenced the season with an injury. In-season injury risk was 2.5 times higher in athletes commencing the season with an injury (IRR=2.49, 95%CI=1.85-3.35,  $p<0.0001$ ). 75.5% of athletes sustained a medical-attention injury within the 12 month period, medical servicing was not uniform across sports, and despite this, a mean daily athlete availability rate of 87% was observed which fluctuated significantly across the period between 79% and 92%. 81.2% of the 1164 treatments recorded were physiotherapy, with an overall 4.3:1.0 physiotherapy to medicine treatment ratio.

**Discussion:** This is the first study to report the incidence, prevalence, burden, and characteristics of injuries, and the frequency and type of medical servicing delivered to athletes across multiple sports at a State Academy of Sport in Australia. One in four athletes began the elite pathway season with a pre-existing injury, while also demonstrating a 2.5 increased risk of subsequent injury in the scholarship period. Injury profiles and medical servicing varied across sports highlighting the need for service delivery models, prevention programs, and scholarship selection processes to be flexible and supportive of athlete health requirements.

**Conflict of interest statement:** My co-authors and I acknowledge that a conflict of interest may exist as author DS works at ACTAS, and authors LT, NP, and MK work at the AIS, which could potentially bias this research.

<http://dx.doi.org/10.1016/j.jsams.2021.09.064>

## S141

### Consensus statement for preventing and managing low back pain in elite and sub-elite adult rowers

K. Ackerman<sup>f</sup>, C. Ardern<sup>m,n</sup>, J. Caneiro<sup>g</sup>, C. Gissane<sup>b</sup>, J. Hartvigsen<sup>d</sup>, S. McDonnell<sup>l</sup>, A. McGregor<sup>k</sup>, C. Newlands<sup>i</sup>, F. Nugent<sup>t</sup>, J. Thornton<sup>c</sup>, L. Trease<sup>h</sup>, A. Vinther<sup>e</sup>, K. Wilkie<sup>a</sup>, F. Wilson<sup>b</sup>

<sup>a</sup>Bodysystem Physio, Australia

<sup>b</sup>Trinity College, Ireland

<sup>c</sup>University of Western Ontario, Canada

<sup>d</sup>University of Southern Denmark, Denmark

<sup>e</sup>Copenhagen University Hospital, Denmark

<sup>f</sup>Harvard Medical School, United States of America

<sup>g</sup>Curtain University, Australia

<sup>h</sup>University of Tasmania, Australia

<sup>i</sup>University of Limerick, Ireland

<sup>j</sup>Sports Ireland Institute, Ireland

<sup>k</sup>Imperial College, United Kingdom

<sup>l</sup>High Performance Sport New Zealand, New Zealand

<sup>m</sup>LaTrobe University, Australia

<sup>n</sup>Karolinska Institute, Sweden

**Background:** Low back pain (LBP) is the most frequently reported musculoskeletal disorder, and can result in long term pain and disability. Rowing is a sport associated with large volumes of training and high cumulative loading of the lumbar spine. The most frequently reported site of pain for rowers is the low back. Recent research has focused on epidemiology and biomechanical analyses to understand mechanisms that contribute to LBP onset. There has been a limited focus on management or prevention strategies. There are currently no guidelines for managing LBP in rowers or in athletes who participate in other sports. There are guidelines for managing LBP in the general population. While many principles of management are transferable, there is a need to consider issues that are particular to rowers. We aimed to synthesise evidence on low back pain (LBP) in adult rowers and to create a consensus statement to inform clinical practice.

**Methods:** There were five key steps to develop the management guideline. In step one, seven expert clinicians and researchers examined current evidence, and identified five sections that comprised the scope of the consensus statement: epidemiology; biomechanics; management; the athlete's voice and clinical expertise. In step two, working groups were established for each section of the consensus statement to discuss and summarise key issues relevant to their section. In step three, the evidence from each group was synthesised to create the overall consensus statement. In step four, modified Delphi processes were used to create summaries and recommendations. In step five, information from the consensus statement and that from a survey of clinical experts were combined to produce the management guideline.

**Results:** The scope of the consensus statement included epidemiology, biomechanics, management, the athlete's voice and clinical expertise. Prevention and management of LBP in rowers include education on risk factors, rowing biomechanics and training load. If treatment is needed, non-invasive management, including early unloading from aggravating activities, effective pain control and exercise therapy. Fitness should be maintained with load management and progression to full training and competition. The role of surgery is unclear. Management should be athlete focused and a culture of openness within the team encouraged.

**Discussion:** Recommendations are based on current evidence and consensus and aligned with international LBP guidelines in non-athletic populations, but with advice aimed specifically at rowers. We recommend that research in relation to aspects of prevention and management of LBP in rowers be intensified.