

prevention practices addressing the aetiology and risk factors associated with the highest burden health problems in short-course triathletes. Developing a greater understanding of injury severity in short-course triathletes is required to determine injury severity and inform injury prevention programs.

#### Impact and application to the field:

- Overuse, lower limb injuries that mainly occurred due to running; and gastrointestinal and cardiovascular illnesses, mainly attributable to environmental factors, were the most frequently reported health problems in short-course triathletes.
- Identifying triathlon-specific injury mechanisms, activities and risk factors is critical for prioritisation of targeted prevention programs.

#### 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.

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#### Injury epidemiology in elite triathletes: A 4 year prospective study

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**Introduction:** To investigate the prevalence, incidence rate (IR) and burden of injuries in elite Australian triathletes over four years of training and competition to assist the identification of future prevention priorities.

**Methods:** Fifty triathletes (25 females and 25 males, mean age: 24 years  $\pm$  3.5) of the Australian national elite squad were prospectively followed for four seasons (2018-2021). Injuries requiring medical attention were prospectively recorded in a centralised database and were further sub-categorised as time-loss or non-time loss injuries. The IR and burden were calculated per 365 athlete-days, with differences in IR between males and females compared using incidence rate ratios (IRR) generated from negative binomial regression modelling.

**Results:** A total of 266 injuries were reported in 46 athletes, with 61.3% injuries resulting in a period of time-loss. The overall IR was 1.87 (95%CI=1.7-2.8) injuries per 365 athlete-days, and comparable between females (2.1, 95%CI=1.8-2.4) and males (1.7, 95%CI=1.4-2.0) (IRR= 0.82, 95%CI=0.7-1.0,  $p=0.10$ ). Overall athlete availability was 83.8% (95%CI=83.5-84.0).

The injury sites were comparable between females and males, with injuries most frequently reported at the ankle (15.8%), foot (12.4%), and lower leg (12.0%). Foot injuries accumulated the highest number of days missed from sport (2337 days). Pelvis/buttock (75 days, IQR 6-204) and foot (60, IQR 20-152) injuries had the highest median days of time loss per injury.

The most frequently reported tissue type injury was muscle ( $n=48$ , 18.0%) and tendon ( $n=46$ , 17.3%) injuries. There were twenty-five bone stress injuries reported, which resulted in the highest number of total days missed from sport (4456 days) of all tissue types. Bone stress injuries resulted in the highest number of median days lost (160 days, IQR 121-208). Females had a 2.7 times

higher rate of bone stress injuries compared to males (IRR=2.7, 95% CI=1.1-6.4,  $p=0.03$ ).

The injury burden was 68.5 days time-loss per 365 days (95% CI=58.8-80.0), with bone stress injuries accounting for almost half of the overall injury burden (32.1 days time-loss per 365 days, 95% CI=21.7-47.5).

**Discussion:** The majority of medical attention injuries reported in elite triathletes resulted in time-loss. Foot, ankle and lower limb injuries had the highest incidence, however pelvis/buttock and foot injuries were more severe, resulting in the highest number of training and competition days missed. The overall injury rate experienced by male and female triathletes was comparable, however, females demonstrated a significantly higher rate of bone stress injuries compared to male triathletes. Whilst there was a higher incidence of muscle and tendon injuries, bone stress injuries were far more severe than any other injured tissue and had the highest injury burden.

#### Impact and application to the field:

- Bone stress injuries were associated with the highest injury burden.
- The higher rate of bone stress injuries in female triathletes warrants consideration for specific selective prevention strategies.

#### 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.

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#### Functional outcome measures reported in longitudinal studies of ACL injury: a scoping review

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**Introduction:** The incidence of Anterior cruciate ligament (ACL) injury continues to increase each year. Many tools have been developed and validated to specifically measure function after an ACL injury. However, variability in these tools makes it difficult to compare and pool the results across different studies, potentially impacting on the quality of the evidence available to patients, clinicians, and policy makers. The aim of this scoping review was to summarize the different functional outcome measures and study characteristics in longitudinal studies of people following ACL injury.

**Methods:** Four electronic databases were searched: Medline, EMBASE, SPORTDiscus and CINAHL, from inception to October 2020. This review included longitudinal studies (with at least three months between at least two timepoints) published in any language, that reported any measure of function following an ACL injury that was managed either surgically or conservatively. Two independent reviewers screened titles/abstracts and the full text of potentially eligible studies. Data extraction was completed using a piloted data extraction sheet by two reviewers, with agreement determined by a third reviewer.

**Results:** The included studies ( $n=265$ ) had a combined sample of 106,449 participants, of which 62,085 (58%) were male and 44,364 (42%) were female. Participants' mean age was 27.5 years and a total of 17 different self-reported functional outcome measures reported. The International Knee Documentation Committee (IKDC) was the most frequently reported functional measure ( $n=141$ , 53%), followed by Lysholm ( $n=106$ , 40%), Tegner ( $n=80$ , 30%) and Knee Injury and Osteoarthritis Outcome Score (KOOS) ( $n=58$ , 22%), with the IKDC and KOOS becoming increasingly more common over the