

Title – The prevalence of musculoskeletal injuries, menstrual irregularity and disordered eating in junior elite athletics in the UK.

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The prevalence of injury in adolescent elite track and field competitors is high (1), however only one study has been conducted with UK athletes (2). Relative Energy Deficiency in Sport (RED-S), encapsulating the Female Athlete Triad, is a syndrome whereby decreased energy availability affects health and performance, potentially leading to an increased injury risk; particularly to bone (3). Calculating decreased energy availability is difficult, however identifying contributing factors, such as disordered eating and menstrual dysfunction, is more viable (3). This study was conducted to identify the prevalence of musculoskeletal injury, disordered eating and menstrual dysfunction in elite junior UK track and field athletes.

Data was collected from track and field athletes ranked within the top 10 of the UK U17 rankings in 2017 or 2018, with 138 athletes participating. Participants completed a self-reported musculoskeletal injury, disordered eating and menstrual dysfunction questionnaire relating to a 12-month time period.

This study found a 12-month retrospective injury prevalence of 43.5%. 13% of participants presented with disordered eating, whilst 37.7% of female participants presented with menstrual dysfunction. There was a statistically significant difference in injury prevalence according to gender, with more male athletes sustaining an injury compared with female athletes. No differences in injury prevalence were noted according to event group, menstrual dysfunction or disordered eating. The anatomical location displaying the highest prevalence of injury was the ankle and foot (22.5%). The anatomical structure displaying the highest 12-month injury prevalence was muscle (43.6%), followed by bone (30.9%). Additionally, 21.7% of respondents reported having previously sustained a stress fracture prior to taking part in this study.

There is a high prevalence of injuries in junior UK track and field athletes, with most injuries affecting the lower limb. Although there was no difference noted in injury risk for athletes with menstrual dysfunction or disordered eating, the prevalence of bone injuries was alarmingly high. This study indicates the requirement for future research investigating RED-S within this population.

1 – Zemper, E. Track and Field Injuries. In: Caine DJ, Maffulli N. (eds). *Epidemiology of Pediatric Sports Injuries. Individual Sports*. Med Sport Science: Volume 48. Basel, Karger; 2005. p. 138-151

2 – D'Souza D. Track and field athletics injuries - a one-year survey. *British Journal of Sports Medicine*. 1994; 28 (3): 197-202.

3 – Mountjoy M, Sundgot-Borgen J, Burke L, *et al*. The IOC consensus statement: beyond the Female Athlete Triad—Relative Energy Deficiency in Sport (RED-S). *British Journal of Sports Medicine*. 2014; 48: 491-497.