Participants 18 developmental athletes, mean age 13.93 ± 1.37 years, (range 11.9 - 16.3 years), all members of an elite athletics project.
Assessment Each participant performed a 40cm and a 30cm side-hop test for each leg. Athletes were tested during a regular training session, sufficient resting time (≥ 4min) granted after each trial. All tests conducted within 10 days. Tests were supervised and evaluated by two coaches, one counting number of jumps during the trial with a customary hand-held mechanical clicker, the other one filming each attempt with a latest generation smartphone high-speed camera. Errors click-counted on home PC with videos running at half speed and error-rate calculated.
Main Outcome Measurements Comparison of total number of jumps and error-rates for both distances. Evaluation of correlations with time to/from peak height velocity (PHV), height, and chronological age.
Results Lower number of jumps for 40cm (59.33 ± 8.66) vs. 30cm (66.8 ± 9.91), but higher error-rate for 40cm (0.27 ± 0.13) compared with 30cm (0.22 ± 0.12). Paired t-tests show significant differences ($p<0.02$) for both. Based on cohen's d, effect is large for comparing number of hops ($d=0.81$), but small when comparing error-rates ($d=0.40$). Pearsons's correlations of error-rates with age, height, and PHV are stronger for 30cm ($r_{age}=-0.664$; $r_{height}=-0.344$; $r_{PHV}=-0.351$), than for 40cm ($r_{age}=-0.537$; $r_{height}=-0.145$; $r_{PHV}=-0.155$), however, respective effect sizes based on cohen's q are small ($q_{age}=0.201$; $q_{height}=0.213$; $q_{PHV}=0.210$).
Conclusions While results remain statistically inconclusive when comparing 40 cm and 30 cm hop-tests in developmental athletes, 30 cm width may be favourable in a clinical context due to higher number of jumps and lower error rates. Further research is warranted to provide clarity.

260 THE HIDDEN COST OF WINNING A MEDAL: A NARRATIVE REVIEW ON THE MENTAL HEALTH OF ELITE ATHLETES

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Background Athletes have started a public conversation about the psychological struggles they are facing. To create a safer psychological environment, the sporting community has the duty to support this movement by increasing awareness, providing educational resources, addressing stigma and encouraging mental health research.
Objective Illustrate an overview of the current literature regarding the mental health of elite athletes.
Design Narrative review
Setting Elite division
Results Physical exercise can reduce the risk of mental illness, nevertheless, at elite levels, the constant physical and psychological stress has a negative impact on athletes' mental health. Consequently, symptoms such as: anhedonia, depressed mood, anxiety, irritability, decreased self-esteem and suicidal ideation can arise and lead to serious psychiatric disorders. A meta-analysis focused on the prevalence of mental health disorders concluded that 34% of elite athletes suffer from anxiety/depression and 19% have reported alcohol misuse. A cohort study of Olympic Athletes revealed that 49% had suboptimal sleep quality. Emerging data suggests a higher rate of suicidal ideation amongst transgender compared to cisgender athletes. Regarding the mental health of para athletes, there is currently limited available data. The International Olympic Committee Sport Mental Health Assessment Tool 1 is a great screening tool that has been psychometrically validated in athletes. It is also important to plan strategic psychopharmacological and psychotherapeutic interventions. The most effective approaches for preventing and managing mental health issues are mindfulness and cognitive-behavioural therapy.
Conclusions Athletes are humans first. Integrating a bio-psycho-social model into the existing healthcare strategy should be a priority. The future of sport should include a mental health action plan for each country. In order for the sport culture to evolve, all those involved should start considering the price of winning a medal.

261 INJURIES IN LONG DISTANCE RACECAR DRIVERS: A LONGITUDINAL STUDY OF PRE-PARTICIPATION EXAMINATIONS

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Background Professional long distance racecar drivers are exposed to high physical load during races. Athletes have to interact with other racecar drivers during high-speed situations on the track. Additionally G-forces have to be counteracted and pedal power maintained without any loss of performance. Data regarding common injuries or overuse are rare and not longitudinal analyzed.
Objective This study is based on prospective longitudinal analyses of common injuries and overuse in professional long distance racecar drivers during pre- participation examinations (PPE).
Design Prospective longitudinal study
Setting University outpatient clinic, Medical examination center of the German Olympic Sports Federation
Patients (or Participants) 37 male professional long distance racecar drivers were analyzed over 15 years (2003–2017).
Interventions (or Assessment of Risk Factors) Athletes participated in a PPE screening two times a year. Frequent diagnoses were evaluated during medical examination focussing on orthopaedics, internal medicine and cardiology. Overall 353 PPEs were included in the analysis of prevalence. Individual follow up of athletes ranged from one to maximum fifteen years.
Main Outcome Measurements The number of findings in medical history and clinical examination was differentiated between orthopaedic, internal medicine and cardiological findings (frequencies [%]).
Results Long distance racecar drivers presented a low prevalence of injuries. 40% of cases were found in the musculoskeletal system, 20% in internal medicine. Frequent complaints were tendinopathies of the lower limb as well as chronic unspecific low back pain. Repetitive infections of the upper respiratory tract and allergies were frequent as well. Cardiological findings were rare.
Conclusions There is a need of regular health monitoring in long distance racecar driving. Prevention of frequent

complaints should be based on regular PPE focussing on the musculoskeletal system as well as internal medical and cardiovascular screening.

262 STRESS FRACTURES DURING TOP-LEVEL INTERNATIONAL ATHLETICS CHAMPIONSHIPS

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Background Stress fracture is a frequent injury among athletics athletes. During international Athletics championships, although stress fractures represented a small percentage of all injuries (2.9% of all injuries and 4.9% of in-competition time-loss injuries for female athletes), it exists and should not be neglected, because it could be one symptom of Relative Energy Deficiency in Sport.
Objective To specifically analyse stress fractures during top-level international Athletics championships from 2007 to 2019.
Design Prospective study.
Setting 21 international championships from 2007 to 2019.
Participants 26281 (14130 male and 12151 female) international-level registered athletes.
Main Outcome Measurements The national medical team and the local organizing committee physicians reported all injuries daily on a standardised injury report form during 21 international championships. Only stress fractures were included in the descriptive analysis.
Results During the 21 international athletics championships, a total of 36 stress fractures were reported, representing 1.6% of all reported injuries. 14 were in male and 22 in female athletes, and 54% in endurance and 46% in explosive disciplines. The overall stress fracture incidence was 1.4 per 1000 registered athletes (95%CI=1.0–1.8). The relative risk was almost doubled in female compared to male athletes although this was not statistically significant (relative risk (RR)=1.83, 95%CI=0.94–3.57). Most of stress fractures involved the lower extremity (92%). In female athletes, 46% were located at the lower leg and 41% at the foot, compared to 14% and 64%, respectively for male athletes. More than half of the stress fractures were classified as severe injuries (i.e. estimated number of days of absence >28 days).
Conclusions Stress fractures also occurred during major international athletics championships, representing a severe injury, with sex differences in location and most likely also in overall risk.

263 EXPERT OPINION ON THE ASSESSMENT AND MANAGEMENT OF CALF MUSCLE STRAIN INJURIES IN SPORT

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Background Despite being a common cause of time loss, information regarding best practice for calf muscle strain injuries (CMSI) in sport is scarce.
Objective To establish best practice for the assessment and management of CMSI.
Design Qualitative.
Setting In-depth interviews.
Patients (or Participants) 20 expert medical professionals working in elite sport and/or researchers specialising in the field; representing seven countries and seven sports.
Interventions (or Assessment of Risk Factors) Semi-structured interviews using a schedule of questions canvassing pre-identified topics. Thematic coding to analyse findings.
Main Outcome Measurements Data were evaluated in three key areas: (i) injury characteristics, (ii) injury management, and (iii) injury prevention.
Results CMSI have unique injury characteristics compared to other common muscle strain injuries (e.g. hamstring), but a criteria-based approach can assist forming the most accurate impression of prognosis. Similarly, a structured approach should be followed to ensure the athlete returns to a high level of performance and the risk of re-injury is minimized, focusing on: re-strengthening, plyometric and ballistic exercises, as well as running-based reconditioning specific to the sport. For the best chance to prevent index CMSI, strategies should span multiple domains of athlete management: screening and monitoring, field-based exposure (e.g. workload data), and off-field interventions (e.g. strengthening). Injury prevention strategies should be tailored to the individual, considering extrinsic (the sport, position played, club culture/coach expectations) and intrinsic (previous injury history, age, training history) factors that may increase susceptibility to CMSI.
Conclusions Knowledge about the unique injury characteristics of CSMI can clarify the likely prognosis and best approach to rehabilitation. Practitioners attempting to prevent CMSI should use a multi-faceted approach given that the aetiology of CMSI is complex and often unique to the individual.

264 RETURN TO PLAY FROM PREVIOUS INJURY WITHIN 1 YEARS MAY BE AN IMPORTANT RISK FACTORS TO BE CONSIDERED IN ORDER TO PREVENT RECURRENT INJURY DURING MAJOR EVENTS FOR YOUNG ATHLETES

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Background Investigating the relationship between time from return to play (RTP) and injury characteristics may provide an important information to preventing a recurrent injury in mass sports event.
Objective To investigate rate of recurrent injuries, and injury types and parts of recurrent injuries during 2017 Summer and Winter Universiade Games.
Design Prospective epidemiological study.
Setting Injuries were reported during 2017 Summer (2017S) and Winter Universiade (2017W) Games by medical staffs.