Results 55 participants reported with a median time of 63 days (95%CI: 35–133) a severe health problem. Women had significantly ($p=0.02$) shorter median time to first health problem (35 days; 95%CI: 7–105) compared to men (98 days; 95%CI: 49–294) and nearly twice as high risk to sustain a severe health problem (HR: 1.88; 95%CI: 1.1–3.24). Age or impairment comparisons showed no significant differences. Injuries at the shoulder resulted in the highest burden with 6.5 time loss days per athlete per year followed by the hand (2.9) and trunk (2.6). Respiratory infections showed the highest burden with 5.2 time loss days per athlete per year followed by genitourinary illnesses (1.9) and infectious diseases (1.8).

Conclusion Sex but not age or impairment type showed significant differences on time to health problem and enhanced risks. Upper body injuries and respiratory infections generated high burden.

448

INJURY AND ILLNESS IN ELITE ATHLETICS: A PROSPECTIVE COHORT STUDY OVER THREE SEASONS

¹Shane Kelly, ²Noel Pollock, ³George Polglass, ⁴Ben Clarsen. ¹Ballet Healthcare, Royal Opera House, London, UK; ²Institute of Sport Exercise and Health, London, UK; ³British Athletics Medical Department, Loughborough, UK; ⁴Oslo Sports Trauma Research Center, Department of Sports Medicine, Norwegian School of Sports Sciences, Oslo, Norway

10.1136/bjsports-2021-IOC.410

Background Athletics is one of the most popular sports in the world and is the centrepiece of the Summer Olympic Games. Participation in athletics training and competition involves a risk of illness and injury.

Objective This paper reports and summarises injury and illness in British Olympic track and field athletes over three full training and competition seasons.

Study Design Descriptive epidemiological study

Setting Elite athletics training centres

Participants Elite track and field athletes from the British national programme

Main outcome measures Exposure, incidence, severity, burden, mechanism- acute vs overdue

Methods A total of 111 athletes on the British national programme were followed prospectively for three consecutive seasons between 2015–2018. Team medical personnel recorded all injuries and illnesses during this time, following current consensus-based methods.

Results The average age of the athletes was 24 years for both males and females (24 years, SD: 4). Total exposure for the three seasons was 79 205 athlete days (217 athlete years). Overuse injuries (56.4%) were more frequent than acute injuries (43.6%). The thigh was the most common injury location (0.6 per athlete year), followed by the lower leg (0.4 per athlete year) and foot (0.3 per athlete year). Muscle and tendon were the most commonly injured tissues, while strains and tears were the most common pathology type. Respiratory illness was the most common illness type (0.3 per athlete year). Hamstring muscle strain was the most common diagnosis causing time loss, followed by Achilles tendinopathy and soleus muscle strain.

Conclusion Our findings indicate that future injury prevention efforts within elite athletics need to focus specifically on hamstring strains, Achilles tendinopathy, and soleus strains. Improved knowledge of the aetiology and risk profile of these problems in elite athletes is needed.

449

SPORTS INJURIES IN ADAPTED SPORTS: A SYSTEMATIC REVIEW WITH QUALITY ASSESSMENT

¹Sietske Luitjen, ²Leonie te Loo, ¹Joske Nauta, ³Thomas Janssen, ^{4,5}Jasmijn Holla, ⁶René Otten, ^{1,7}Ingrid Vriend, ^{1,7}Evert Verhagen. ¹Departement of public and occupational health, Amsterdam UMC, Amsterdam, Netherlands; ²Sport Studies, Inholland University of Applied Sciences, Haarlem, Netherlands; ³Faculty of behavioural and movement sciences, Vrije Universiteit, Amsterdam, Netherlands; ⁴Faculty of Health, Sports and Social Work, Inholland University of Applied Sciences, Haarlem, Netherlands; ⁵Amsterdam Rehabilitation Research Center, Reade, Amsterdam, Netherlands; ⁶Medical Library, Vrije Universiteit, Amsterdam, Netherlands; ⁷Amsterdam Public Health research institute, Amsterdam, Netherlands

10.1136/bjsports-2021-IOC.411

Background Participation in sport is associated with a risk of sports injuries and illnesses. For athletes with an impairment, sports related health issues pose further burden upon an already restricted lifestyle. This underlines the importance of injury prevention in adapted sports.

Objective To provide an overview of the current evidence regarding injuries and their prevention in adapted sports.

Design A systematic review with quality assessment.

Setting Peer-reviewed literature on sports injuries in adapted sports.

Participants Individuals with a physical impairment that affects motor function, and who are active in sports or physical activity.

Assessment of Risk Factors This study was conducted in accordance with the 'Preferred Reporting Items for Systematic Reviews and Meta-Analyses' (PRISMA) guidelines.

Main Outcome Measurements Literature and evidence was categorised by the sequence of prevention; i.e. (1) problem magnitude; (2) aetiology of injury; (3) development of preventive measures; and (4) evaluation of effectiveness.

Results 52 studies were included. A total of 5 studies reported on the first step of the sequence of prevention (problem magnitude) only. 28 studies reported information on both the first and second step, 15 studies on only the second step and only 4 studies on the third and fourth step of the sequence. Most studies included participants of an elite level (82.7%). There is a wide range of injury and illness incidence between various sports (2.2 - 90.9 per 1000 athlete days) and impairment categories (0.6 - 50.0 per 1000 athlete days).

Conclusions Current evidence regarding injuries in adapted sports is mostly limited to elite level athletes. The evidence regarding the development of preventive measures and their effectiveness is limited in this target group. More knowledge is needed of the aetiology and risk factors of various adapted sports, physical impairments and level of performance to develop future prevention strategies for this population.

450

INJURY RATES, TYPES AND MECHANISMS IN SLEDGE HOCKEY: IMPLICATIONS FOR GRASSROOTS THROUGH ELITE PARTICIPATION

¹Alexandra J Sobry, ¹Ash T Kolstad, ¹Leticia Janzen, ^{1,2,3,4}Amanda M Black, ^{1,2,3,4,5,6,7}Carolyn A Emery. ¹Sport Injury Prevention Research Centre, Faculty of Kinesiology, University of Calgary, Calgary, Canada; ²Alberta Children's Hospital Research Institute, University of Calgary, Calgary, Canada; ³O'Brien Institute for Public Health, University of Calgary, Calgary, Canada; ⁴Hotchkiss Brain Institute, University of Calgary, Calgary, Canada; ⁵McCaig Institute for Bone and Joint Health, University of Calgary, Calgary, Canada; ⁶Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, Canada; ⁷Department of Pediatrics, Cumming School of Medicine, University of Calgary, Calgary, Canada

10.1136/bjsports-2021-IOC.412