

## 025 BARRIERS TO WRIST PROTECTOR USE IN SWISS SNOWBOARDERS

Flavia Buergi, Philip Derrer, Steffen Niemann, Othmar Bruegger. *BFU – Swiss Council for Accident Prevention, Bern, Switzerland*

10.1136/bjsports-2021-IOC.24

**Background** Wrist injuries are the most common type of injury sustained while snowboarding, with 2500 Swiss snowboarders injuring their wrist or forearm annually. The effectiveness of wrist protectors in preventing these injuries is scientifically proven, yet the use of wrist protectors has decreased 17% over the last 10 years, to 25% in 2018.

**Objective** To identify barriers to the use of wrist protectors among Swiss snowboarders in order to promote their use in the future via specific measures.

**Design** Face-to-face interviews were conducted on the slopes of 21 ski resorts in Switzerland in the 2017/18 winter season using a standardized questionnaire including information about demographics, snowboarding skills, and snowboarders' behaviour regarding the use of wrist protectors.

**Setting** Recreational sport.

**Participants** 721 snowboarders (mean age: 28±9.1 years, 34% females) residing in Switzerland (aged ≥15 years) were included in the study. The response rate was 79%.

**Main Outcome Measurements** The prevalence of and barriers to wrist protector use.

**Results** In this study, a total of 16% of the snowboarders used wrist protectors. We found a difference between adolescents (15–17 years) and adults (≥18 years): 28% vs. 15% ( $p=0.001$ ). However, no difference was found concerning sex or skill level. The most important barriers to the use of wrist protectors were a belief that they increase injury risk (22%), that they aren't effective (18%), or that they are uncomfortable (16%).

**Conclusions** In Switzerland, snowboarders are badly informed about the efficacy of wrist protectors and a minority of snowboarders use them. Therefore, further efforts will be taken in Switzerland to adequately inform non-users. Future prevention measures are planned to ensure that only effective protectors are available on the market and to target the lack of knowledge among snowboarders and suppliers.

## 026 INJURIES AND ILLNESSES AMONG COMPETITIVE NORWEGIAN RHYTHMIC GYMNASTS DURING PRESEASON: A PROSPECTIVE COHORT STUDY OF PREVALENCE, INCIDENCE AND RISK FACTORS

<sup>1</sup>Marte Charlotte Dobbjert Gram, <sup>2,3</sup>Benjamin Clarsen, <sup>1,4</sup>Kari Bø. <sup>1</sup>Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, Norway; <sup>2</sup>Oslo Sports Trauma Research Center, Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, Norway; <sup>3</sup>Centre for Disease Burden, Norwegian Institute of Public Health, Bergen, Norway; <sup>4</sup>Department of Obstetrics and Gynecology, Akershus University Hospital, Lorenskog, Norway

10.1136/bjsports-2021-IOC.25

**Background** Rhythmic gymnastics (RG) is an Olympic sport that demands high training volume from early age. RG combines elements from ballet, artistic gymnastics and modern dance with manipulation of hand-held apparatus. Most elements require extreme flexibility and strength.

**Objective** We investigated the extent of, and risk factors for, injuries among competitive Norwegian rhythmic gymnasts.

**Design** Prospective cohort study.

**Setting** Norwegian rhythmic gymnasts at national and international level.

**Participants** One-hundred and seven out of 133 (80.5%) female rhythmic gymnasts participated (mean age: 14.5 years (SD 1.6), mean BMI: 18.9 (SD 2.2)).

**Interventions** All gymnasts completed a baseline questionnaire and the 'Triad-Specific Self-Report Questionnaire'. Injuries, illnesses and training hours were recorded prospectively for 15 weeks during pre-season using the 'Oslo Sports Trauma Research Center Questionnaire on Health Problems' (OSTRC-H2).

**Main Outcome Measurements** Prevalence and incidence of injuries (all physical complaints) and illnesses.

**Results** Gymnasts' response rate to OSTRC-H2 was 97%. Mean overuse and acute injury prevalence were 37% (95% CI: 36% to 39%) and 5% (95% CI: 4% to 6%), respectively. Incidence was 4.2 overuse injuries (95% CI: 3.6 to 4.9) and 1.0 acute injuries (95% CI: 0.5 to 1.6) per gymnast per year. Overuse injuries in knees, lower back and hip/groin represented the greatest burdens. Previous injury increased the odds of injury (OR 30.38, (95% CI: 5.04 to 183.25)), while increased age (OR 0.61 per year, (95% CI: 0.39 to 0.97)) and presence of menarche (OR: 0.20, (95% CI: 0.06 to 0.71)) reduced the odds of all injuries and substantial injuries, respectively.

**Conclusions** Overuse injuries were common among Norwegian rhythmic gymnasts. Younger gymnasts had higher all-injury risk. Gymnasts who were not menstruating had higher substantial injury risk. Injury prevention interventions should start at an early age and focus on preventing knee, lower back and hip/groin injuries.

## 027 RESPIRATORY VIRAL INFECTIONS IN TEAM FINLAND DURING 2019 NORDIC WORLD SKI CHAMPIONSHIPS: A CONTROLLED STUDY

<sup>1</sup>Maarit Valtonen, <sup>2</sup>Wilma Gronroos, <sup>3</sup>Raakel Luoto, <sup>4</sup>Matti Waris, <sup>5</sup>Matti Uhari, <sup>2</sup>Olli Heinonen, <sup>3</sup>Olli Ruuskanen. <sup>1</sup>Reserach Center for Olympic Sports, Jyväskylä, Finland; <sup>2</sup>Paavo Nurmi Centre and Unit of Health and Physical Activity, University of Turku, Turku, Finland; <sup>3</sup>Department of Paediatrics and Adolescent Medicine, Turku University Hospital and Turku University, Turku, Finland; <sup>4</sup>Institute of Biomedicine, University of Turku and Department of Clinical Virology, Turku University Hospital, Turku, Finland; <sup>5</sup>Department of Children and Adolescents, Oulu University Hospital, Oulu, Finland

10.1136/bjsports-2021-IOC.26

**Background** The occurrence, etiology and clinical presentation of respiratory viral infections in elite athletes is unclear.

**Design** A prospective controlled follow-up study.

**Objective** Do elite athletes have an increase in risk of acute respiratory viral illnesses?

**Setting** We followed respiratory viral infections in Team Finland during 2019 Nordic World Ski Championships and in sex and age-matched controls in Finland.

**Participants** 26 athletes, and 36 staff members. 52 control subjects were adjusted for age sex and number of children.

**Intervention** Nasal swabs were taken from team members on days 1, 7 and 13 during the Games which lasted 14 days. Respiratory symptoms were recorded daily. At the onset of a symptom two nasal swabs were taken. One swab was analysed within 60 minutes using a point-of-care test (POCT) for 15 viruses. The other swab was tested for 16 viruses in laboratory.