

Abstract 183 Table 1

	% Asymmetry HT	% Asymmetry ST	% Asymmetry CT	5m(sec)
After warm up	10.2±10.1	5.2±3.1	5.1±5.5	1.31±0.05
After series 1	11.3±9.6	17.1±17.6**	13.1±5.5**	1.52±0.11*
After series 2	14.1±7.7	20.2±16.7**	15.1±9.8**	1.59±0.07*
After series 3	14.7±7.6	19.9±15.1**	20.2±5.6***	1.72±0.13*

\*p<0.05 \*\*p<0.01 p<0.001 (from after-warm-up value)

**Conclusions** The jumps with frontal plane displacement and those on the two planes (the CT is performed by jumping simultaneously on the sagittal and frontal plane) have the highest asymmetry values and seem influenced by post-SSG fatigue. Sprint values undergo acute decreases in performance too.

## 184 MANAGING VITAMIN D SUPPLEMENTATION IN ELITE ACADEMY FOOTBALLERS

Amit Verma, Thomas Maynard, Jim Moxon. *Liverpool Football Club, Liverpool, UK*

10.1136/bjsports-2021-IOC.169

**Background** The maintenance of phosphate and calcium homeostasis alongside optimal vitamin D status is essential for bone health. Moreover, low vitamin D is associated with an increased risk of stress fracture, impaired muscular remodelling and increased risk of upper respiratory tract infections.

**Objective** The primary objective was to assess the efficacy of an individualised in-season vitamin D supplementation programme. The secondary aim was to observe for regression of vitamin D levels during the longer daylight months (April-October) in players where vitamin D was not routinely supplemented.

**Design** Serum 25 Hydroxyvitamin D (Serum 25[OH]D) levels were collected twice a year (October and April). Levels were categorised as: deficient (<30 nmol/l), insufficient (31–75), sufficient (76–175) or overloaded (>175). Players with sufficient levels were given a maintenance protocol (20,000iu once weekly) October-April. Players who were deficient/insufficient were given a loading regimen (20,000iu twice weekly for three weeks) and the maintenance protocol thereafter.

**Setting** A category one Premier League Elite Player Performance Plan (EPPP) youth football academy.

**Participants** 13 participants from the u23s and u18s squads.

**Interventions** Serum 25[OH]D levels were collected (via venous blood sample) twice a year (October and April). Levels were categorised as: deficient <30nmol/l, insufficient 31–75nmol/l, sufficient 76–175nmol/l or overloaded >175nmol/l.

Players with sufficient or insufficient levels were given a maintenance protocol (20,000IU once weekly) during October-April. Players who were deficient were given a loading regimen (20,000iu twice weekly for three weeks) and the maintenance protocol for the remainder of winter (22 weeks). Oral supplementation was administered using Synergy Biologics LTD Pro D3 Sport 20k (UK).

**Results** There was no significant increase in serum 25[OH]D during the supplementation period (October-April). However, 20,000iu of supplemental Vitamin D over a 25-week period was sufficient to maintain vitamin D status. Baseline

serum 25[OH]D was not significantly increased after a period of supplemental vitamin D during winter months. Further studies in this population group would be beneficial to assess the effects of longer term season-on-season supplementation.

## 185 REVIEW OF THE PHYSIOTHERAPY SERVICE FOR ATHLETES IN 2018 OLYMPIC WINTER GAMES

<sup>1</sup>Joon Young Chang, <sup>1,2</sup>Young Hee Lee, <sup>3,4</sup>Marie-Elaine Grant, <sup>7</sup>Jong Ha Lee, <sup>5</sup>Joshua Sung H You, <sup>6</sup>Tae Gyu Kim, <sup>1,8</sup>In Deok Kong. <sup>1</sup>Yonsei Institute of Sports Science and Exercise Medicine, Wonju, South Korea (Republic of); <sup>2</sup>Rehabilitation Medicine, Wonju College of Medicine, Yonsei University, Wonju, South Korea (Republic of); <sup>3</sup>International Olympic Committee, Lausanne, Switzerland; <sup>4</sup>Institute of Sport and Health, University College Dublin, Dublin, Ireland; <sup>5</sup>Sports Movement Artificial-Intelligence Robotics Technology (SMART) Institute, Department of Physical Therapy, Yonsei University, Wonju, South Korea (Republic of); <sup>6</sup>Department of Marine Sports, Pukyong National University, Busan, South Korea (Republic of); <sup>7</sup>Department of Rehabilitation Medicine, Kyung Hee University College of Medicine and Hospital, Seoul, South Korea (Republic of); <sup>8</sup>Department of Physiology, Yonsei University Wonju College of Medicine, Wonju, South Korea (Republic of)

10.1136/bjsports-2021-IOC.170

**Objective** This study will provide to better understand the needs for physiotherapy services during the 2018 PyeongChang Olympic Winter Games (POG) from two polyclinics. It is necessary to understand the needs and what physiotherapists do during the Olympic Winter games for first time.

**Design** An observational study.

**Setting** 2018 PyeongChang Olympic Winter Games.

**Participants** Athletes who visited the physiotherapy department of polyclinics.

**Results** During 25 the days of the POG, a total of 125 athletes (n = 125, 83 males, 42 females) visited the two polyclinics. Of all visits, 69.6% were from the mountain polyclinic and 30.4% from the city. There were three reasons for visit, most of the reason for visit was injury and injury with recovery or injury prevention. Overall, the injury rate (per 1000 athletes) was 42.8 across 13 sports visited the physiotherapy department during the POG. Total numbers of treatments sessions were 823 provided and electrophysical modalities (36.2%) was the most utilized service in POG. And also there were significant differences in the physiotherapy services provided at the two polyclinics.

**Conclusion** As each polyclinic differed in location, they addressed different populations of athletes; hence, the study provides insights into the injury trends and different physiotherapy treatments.

## 186 EPIDEMIOLOGY OF INJURY AND RETIREMENT FROM SPORT AMONG FORMER INTERNATIONAL ATHLETES

<sup>1</sup>Dale Cooper, <sup>2</sup>Mark Batt, <sup>3</sup>Debbie Palmer. <sup>1</sup>School of Allied Health Professions, University of Leicester, Leicester, UK; <sup>2</sup>Centre for Sport, Exercise and Osteoarthritis Research Versus Arthritis, Queen's Medical Centre, Nottingham, UK; <sup>3</sup>Institute of Sport, PE and Health Sciences, Moray House School of Education and Sport, University of Edinburgh, Edinburgh, UK

10.1136/bjsports-2021-IOC.171

**Background** High-level athletes are at an increased injury risk. Yet relatively little is known about the prevalence of career-ending injuries in high-level sport.