297 CARDIAC FIBROSIS MARKERS: GALECTIN-3 AND SUPPRESSION OF TUMORIGENICITY 2 MEASUREMENT IN PARTICIPANT AT THE TOR DES GÉANTS

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Background The formation of cardiac fibroid deposits due to intense exercise may be involved in cardiac arrhythmias. Galectin-3 (Gal-3) and suppression of tumorogenicity2 (ST2) are considered as markers for fibrosis development and cardiac remodeling.

Objective The aim of our study was to examine the evolution of both in trailers who ran the Tor des Géants (TdG).

Design Longitudinal, cohort study

Setting The TdG, a 330 km long ultra-distance trail running, with +24,000m elevation changes, is considered as one of the most difficult mountain marathon race in the world.

Patients (or Participants) 51 participants have been followed and the study was conducted on 33 subjects having reached at least half of the race.

Interventions (or Assessment of Risk Factors) Blood and urine samples collection were carried out at 4 key time points: before, during (mid-point) and after the race (less than 1h) and 3 days after the end of the race.

Main Outcome Measurements Levels of plasma Gal-3 and ST2 were determined at the 4 times. We calculated the difference between the different times in delta. Results were considered as significant with $p < 0.05$.

Results We observed an increase for Gal-3 and ST2, above the reference values only for ST2. We noted for both a decrease up to the normal values 3 days after the trail. For the correlation between deltas, we observed that Gal-3 and ST2 are correlated for each delta.

Conclusions The results of this study demonstrate that this exercise was associated with biochemical abnormalities that may reflect adverse consequences on cardiac structure as fibrosis. ST2 values were higher, perhaps due to a mechanical stress more than a cardiac stress.

298 ATTITUDES OF ELITE ATHLETES AND THEIR SUPPORT STAFF TO THE INFLUENZA VACCINE

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Background Influenza is an important public health issue, even amongst healthy adults. The influenza vaccine should be offered to elite athletes for reasons including; a reduction in immune response at certain times of training, travel, close contacts amongst athletes and the consequences of contracting influenza. Athlete uptake of the influenza vaccine can depend on the attitudes of coaches, fellow athletes and support staff. Influenza vaccine uptake rates amongst elite athletes is limited. International studies have documented a fear amongst elite athletes of the potential side effects of the influenza vaccine.

Objective To determine the influenza vaccine uptake rates in elite athletes and their support staff along with their attitudes, fears, and barriers to receiving it.

Design A cross sectional survey.

Setting Ireland Institute of Sport. Elite athletes and support staff in athletics, boxing, cycling, rowing, swimming, judo, para athletics and others were invited to participate in an anonymous online survey.

Patients (or Participants) Elite athletes & their support staff on the 2019 database of the Ireland Institute of Sport.

Main Outcome Measurements Elite athlete influenza vaccine uptake rates, knowledge and attitudes to the influenza vaccine.

From 193 athletes and staff invited, 86 (43 male, 43 female) participated of which 58 were athletes. 50 participants received the influenza vaccine during the 2018/2019 season, 36 did not. 46.5% completely agree that the influenza vaccine is safe. A significant number (39%) of athletes fear that the vaccine itself would make them unwell even though most (59%) are concerned about contracting the flu every year. 59.3% of participants would recommend the influenza vaccine to other athletes.

Conclusions Less than half of elite athletes and staff believe the influenza vaccine is completely safe but the majority would recommend it to others. Addressing the barriers to receiving the influenza vaccine remains a key issue.

299 ABSTRACT WITHDRAWN

300 THE OSLO SPORTS TRAUMA RESEARCH CENTER QUESTIONNAIRE ON HEALTH PROBLEMS (SPANISH VERSION) COMPARED TO A TRADITIONAL SURVEILLANCE METHOD FOR INJURY DETECTION AND SEVERITY ESTIMATION IN YOUTH SPORTS: AN OBSERVATIONAL STUDY

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Background The Oslo Sports Trauma Research Center questionnaire on Health problems, recently updated to a second version (OSTRC-H2), has shown a greater ability than a traditional surveillance method to detect athletes with health problems in an adult elite cohort. Moreover, it provides a score that could improve traditional injury severity measures.

Objective 1) To compare the ability of the Spanish OSTRC-H2 questionnaire to identify young injured athletes with the surveillance routine of a High-Performance Training Center and 2) to compare the comprehensiveness of the OSTRC-H2 score with a time-loss approach to assess injury severity.

Design Validation study (prospective, observational). Setting data were collected in M-86 High Performance Training

Center (Madrid, Spain) during the validation study of the OSTRC-H2 Spanish questionnaire.

Patients (or Participants) Fifty-four elite athletes (swimming, waterpolo and artistic swimming), from 12 to 18 years old.

Interventions (or Assessment of Risk Factors) During 10 consecutive Sundays, athletes completed online the Spanish OSTRC-H2 questionnaire and 2 questions proposed by the *Fédération Internationale de Natation* about time-loss of activity. Athletes with musculoskeletal complaints were sent by coaches to Physiotherapy consultations, carried out three times a week.

Main Outcome Measurements Injured athletes (time-loss injury or 'all complaints') and floor and ceiling effects of severity scores (OSTRC-H2 score and total and partial self-reported days/week of time-loss).

Results Thirty-six athletes reported injury complaints through the OSTRC-H2 questionnaire. Twenty reported at least one time-loss injury. Physiotherapy consultations detected 41% of the athletes with injury complaints and 35% of those with time-loss injuries. All requests for consultation were attended. Injury severity measures showed different floor and ceiling effects (84% and 4% for total time-loss; 71% and 12% for partial time-loss; 6% and 3% for OSTRC-H2 score).

Conclusions The OSTRC-H2 Spanish questionnaire has shown greater ability to detect young injured athletes than a method based on physiotherapy consultations. Moreover, OSTRC-H2 severity score has shown greater comprehensiveness than a self-reported time-loss approach.

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301   EPIDEMIOLOGY OF YOUTH INJURIES ACROSS SEVEN SPORTS AT A SINGLE COLLEGE IN ENGLAND

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Background There is increasing drive to assess injury risk in youth sports, given the potential health risks associated with participation. However, many studies focus upon a single sport and comparison between studies is often difficult due to varied injury definitions and methodologies.

Objective To investigate overall injury risk in youth collegiate sports at a single site using consistent data collection methods and injury definitions, and to compare between sports.

Design Retrospective cohort study (2015–2019).

Setting One elite sports college in England.

Participants Under-17 to under-19-year-old athletes enrolled in seven college teams [male American football, basketball, football, rugby league, rugby union; female football and rugby union].

Main outcome measures Injuries (>24-hour time loss) and match exposure were recorded on a standardised report form by college medical staff. Descriptive statistics [percentages, median, range, 95% confidence-intervals (95% CI)] and injury incidence (per 1000 player-match-hours) are reported.

Results In total, 322 injuries were sustained by 240 athletes in 10,273 hours of match exposure. Overall injury incidence was 31.3/1000h (95% CI 28–35) with a median severity of 23 days lost (1–427). Lower limb (52%) injuries were most common, followed by head/neck (26%), whilst 60% of injuries resulted from player contact. American football had the greatest injury incidence (85.9/1000h; 95% CI 61–120). Female rugby union (53.4/1000h; 95% CI 37–76), male rugby union (51.2/1000h; 95% CI 43–61) and basketball (42.9/1000h; 95% CI 25–72) had a substantially greater injury incidence than male football (15.9/1000h; 95% CI 13–20) and female football (21.3/1000h; 95% CI 14–33), but not rugby league (23.7/1000h; 95% CI 12–46).

Conclusions Common injury characteristics were identified across all sports. Despite being non-contact, basketball had higher injury risk than three other sports, which warrants further investigation. This study highlights the benefits of consistent data collection methods and injury definitions across sports, particularly in youth settings.

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302   YOUTH VOLLEYBALL, BASKETBALL AND FUTSAL ATHLETES PERFORMANCE ON Y-TEST OVER THE SPORTS SEASON

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Background Musculoskeletal assessment is very important for injuries prevention and should be made in different moments of sports season. Dynamic lower limb stability is an essential parameter for a good performance, and it can be assessed by Y-Test.

Objective To compare Y-Test performance during 3 different moments of an entire season in young futsal, volleyball and basketball athletes of a Brazilian sports club.

Design Observation (prospective).

Setting One club facility in Brazil.

Patients (or Participants) 90 male athletes divided in: jumpers (volleyball and basketball, 64 subjects); runners (futsal, 26 subjects).

Interventions (or Assessment of Risk Factors) All subjects performed Y-Test, which involves reaches with contralateral leg the furthest distance while maintaining single-leg stance in three directions (anterior, posteromedial, and posterolateral) in three different moments of the year.

Main Outcome Measurements Asymmetry between legs in each direction and composite scores (average between normalized distances in each direction divided by leg length).

Results ANOVA repeated measures were used in statistical analysis ($p < 0.05$). Regarding asymmetry, the results showed significant difference only in the posteromedial direction of jumpers group ($p = 0.003$), indicating an improvement throughout the season. Runners did not present any difference. In relation to composite scores, it was found a statistically significant difference in the non-dominant leg in runners' group ($p = 0.016$), suggesting a decline of performance on Y-Test during the season. Moreover, the results found the dominant leg were bordering p value ($p = 0.06$ in jumpers and $p = 0.0502$ in