Results A total of 399 practice or game sessions were observed over 2 sport seasons (62% in intervention schools). A greater proportion of coaches in the intervention group provided alignment cues to correct improper technique compared to coaches in the control group [difference=0.04 (95% CI: 0.01, 0.07, $p=0.006$]. There was a similar proportion of coaches in the intervention and control groups who provided exercise instructions [difference=0.01 (95% CI: -0.02, 0.04), $p=0.44$].

Conclusions One barrier to adoption of injury prevention programs may be the coach's lack of knowledge on how to implement a warm-up routine that is effective at reducing ACL injuries. A coach education workshop may lead to actual behavior change in practice.

364 THE RELATIONSHIP BETWEEN THE INJURIES IN ELEMENTARY PE AND THE STAGES OF TEACHER PROFESSIONAL DEVELOPMENT

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Background In Japan, the ministry has emphasized that safety management is important for PE instructions.

Objective The purpose of this study is to clarify the relationship between the injuries in elementary PE and the stages of teacher professional development.

Design The method of this study is to collect the number of injuries in elementary PE in each professional development stage by the record of Japanese school health room. These collected data are classified into three types of injuries: Open wound, Closed wound, Other wound. The survey was conducted in 2014.

Setting Elementary school of physical education.

Patients (or Participants) The subjects were nine Japanese elementary schools that received research cooperation. The number of participants was 54 teachers (20 novice teachers, 15 experienced teachers, 19 expert teachers).

Interventions (or Assessment of Risk Factors) The independent variables were the three stages of teacher professional development.

Results 1) When focusing on the total number of injuries, there were no significant differences among three professional development stages ($p<.05$). 2) When focusing on the total number of injuries, there were no significant differences between male novice teachers, female novice teachers, male experienced teachers, female experienced teachers, male expert teachers and female expert teachers ($p<.05$). When focusing on the proportion of three types of injuries, there were significant differences among three professional development stages ($p<.05$). Closed wound were more common in the experienced teacher stage and less common in the expert teacher stage. On the other hand, Open wound was more common in the Expert teacher stage and less common with Novice teachers and Experienced teachers.

Conclusions In particular, it is suggested that the quality of injury changes from serious injuries to minor injuries between Experienced teachers and Expert teachers. That is, it implicates that professional development of safety management in PE is different between Experienced teacher and Expert teacher.

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MOVE HEALTHY-THE IDENTIFICATION OF CURRENT NATIONAL INJURY PREVENTION PROGRAMS AND BELIEFS OF COACHES AND YOUTH REGARDING INJURY PREVENTION IN 6 EUROPEAN COUNTRIES

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Background Despite the importance of sports injury prevention in youth, no broad scale approaches that work in real-life situations with significant positive effects exist. Main reasons for this are poor uptake and maintenance of current sports injury prevention exercises.

Objective In order to improve uptake of sports injury prevention routines, this project set out to: 1. identify the specifics of current injury prevention programs within 6 European countries, and 2: to establish wishes and needs regarding injury prevention of the end-users (sport coaches, physical educators and youth) within 6 European countries.

Design Semi-structured interviews and focus group sessions.

Setting Youth sports teams and physical education (PE) classes.

Patients (or Participants) Interviews and focus group sessions were performed within 6 participating countries (Belgium, Denmark, Lithuania, Romania, The Netherlands, United Kingdom). National stakeholders were interviewed to identify injury prevention programs. The program owners of the identified programs were then individually interviewed. The focus group sessions were organized with youth basketball and soccer players and PE pupils. Separate focus group sessions were organized for basketball/soccer coaches and physical educators.

Interventions (or Assessment of Risk Factors) This qualitative study provided input for the development of a freely available ICT based platform with video material of routines designed to prevent sports injuries in youth.

Main Outcome Measurements Overview of country specific results of interviews and focus groups.

Results This study will describe the current availability of national injury prevention programs within 6 European countries. The results of the focus group sessions will establish the differences in beliefs regarding injury prevention in 6 European countries regarding injury prevention.

Conclusions In the coming year, the Move Healthy project will use the qualitative results of this study to develop a freely available ICT based platform with video material of routines developed to prevent sports injuries in youth.

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SHINING A LIGHT ON INJURY STATUS: DEVELOPING AN EFFECTIVE METHOD TO MONITOR PLAYER AVAILABILITY AND IMPROVE COMMUNICATION BETWEEN COACHES AND MEDICAL STAFF

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Background Return to play decisions are complex. Pathways considering effective communication should be considered. High correlations between sports medicine/management communication and athlete injuries have been reported.

Objective Design and implement a practical sports medicine/management communication tool with UCD Athletic Football Club's (AFC) Premier division team for an 8 week trial.

Design Prospective Exploratory study.

Setting UCD Physiotherapy Hub- physiotherapists, supported by students provide sports physiotherapy services. UCD AFC's top tier team competes in the Irish Premier Division.

Patients (or Participants) UCD AFC team selected through purposive sampling. Coaches approached seeking qualitative feedback regarding the communication tool. Only de-identified data reported.

Main Outcome Measurements 'Traffic Light System': Model chosen based on sports medicine and management staff consensus. Players were categorised as Green-fit to play, Yellow-fit to play with caution, Amber-fit for light training only or Red-not fit to play. Classification was based on combining return to play criteria/outcome measures and clinical decision making by the Physiotherapist. Player availability (group and individual) in pie chart and table format was shared with management prior to training sessions/games.

Qualitative Feedback Management feedback gathered through a survey at the end of the 8 week trial.

Results *Descriptive results* Twenty seven UCD Soccer athletes of mean age 20.26 ± 1.3 years monitored over an 8 week mid-season period. Sixteen initial Physiotherapy clinical sessions completed. Average availability 69% Green 8.6% Yellow 9.3% Amber 13% Red.

Qualitative results Surveys were completed by 3 AFC Management staff. Key themes: i) Ease of interpretation ii) Application to training session/game planning iii) Improving availability and transparency

Conclusions The 'Traffic light System' was time efficient, low cost, and has received positive preliminary feedback. Trialling the system over a full season is needed to gauge long term utility.

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THE BAN OF TRAMADOL AND HAZARD PREVENTION IN CYCLING

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Background Tramadol is a synthetic opioid not banned by WADA, but included in the Monitoring Program since 2012. The prevalence of use of tramadol in competition was approximately 5% in cycling. These data clearly suggest that there was a misuse of tramadol in cycling. Opioids have several adverse effects, including nausea, dizziness and reduced vigilance. Such effects might be a potential cause of falls during races. Moreover, the psychoactive effects of tramadol are known to lead to abuse and then to drug dependence.

Objective In order to decrease the risk of falls and prevent the occurrence of opioid-related side effects, the UCI has decided to ban the use of tramadol in competition from the

1st March 2019. This regulation was part of a vast program of injury prevention in cycling, and was included in the UCI medical rules.

Main Outcome Measurements The tramadol controls are done in dried blood spots (DBS). The capillary blood is taken from a finger using a specific device that allows reliable collection (Hemaxis-DB10, DBS-System SA, Gland, Switzerland). DBS samples are sent to the reference laboratory in sealed bags through a reliable courier company. Tramadol analyses are performed by using the UHPLC-MS/MS technique. Positive results are based on the presence of the parent compound and its two main metabolites. The results are reviewed by an independent third entity, and sent to the UCI Medical Director. Positive controls are sanctioned with disqualification of the event and a fine.

Results As this summary is being written, 520 controls have been done in UCI-WorldTour races and World Championships. No positive results were reported.

Conclusions The ban on tramadol in cycling is a UCI medical regulation totally independent of the WADA rules, and supported by medical reasons intended to prevent the risks of injuries and opioid-related side effects. The introduction of the Tramadol-DBS tests has obviously a strong deterrent effect on its use in cycling.

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INJURIES AMONG YOUTH MOUNTAIN BIKE RACERS: THREE-YEAR DATA FROM A NATION-WIDE INJURY SURVEILLANCE SYSTEM IN THE UNITED STATES

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Background Youth mountain bike racing is a rapidly growing sport in the United States. An injury surveillance system (ISS) is now implemented through a collaboration between University of Utah researchers and the National Interscholastic Cycling Association (NICA), referred to as NICA-ISS, to better understand injury characteristics in this sport and pursue data-driven injury prevention strategies.

Objective Describe types of and factors associated with injuries sustained by youth mountain bike racers during NICA-sanctioned mountain bike racing and training.

Design NICA-ISS was developed using a web-based system. Data were collected from NICA leagues during the 2018–2020 seasons. Designated reporters on each team were asked to complete weekly incident and exposure report forms.

Setting Nation-wide youth mountain biking leagues in the United States.

Participants Student-athletes on NICA teams in grades 8–12 participating in the 2018–2020 seasons.

Assessment of Risk Factors Variables analyzed included injury characteristics, athlete demographics, trail conditions, incline during crash, weather, crash circumstances (practice, race, passing, trail familiarity), and health factors (dehydration, sleep, illness).

Main Outcome Measurements Proportions/rates of injuries overall, by type and location, and by group of athletes.

Results Injuries were tracked in 66,588 student-athlete-years, resulting in 2,587 injuries in 1,677 student-athlete injury events reported. The most commonly reported injury was