Wednesday 11 March

16.00 Registration
18.30 OPENING CEREMONY - Room Salle des Princes
Greetings on behalf of the Organising Committee
Fredrik S. Bendiksen
Opening remarks by the Chair of the IOC Medical & Scientific Commission
Uğur Erdener
Video message by the IOC President
Thomas Bach
Welcome Speech
H.S.H. Prince Albert II
19.00 Welcome Reception hosted by the Minister of State of the Principality of Monaco - Diaghilev Hall

Thursday 12 March

08.00 Registration
OPENING OF THE SCIENTIFIC SESSIONS

09.00-09.30 Room Salle des Princes
KEYNOTE 1

09.30-10.30 Room Salle des Princes
INJURY PREVENTION FROM A PROFESSIONAL SPORTS LEAGUE PERSPECTIVE: THE JOURNEY FROM THEORY TO IMPLEMENTATION [114]
Speaker: Willem MEEUWISSE - Canada

10.30-11.00 Coffee Break

11.00-11.20 Session A • SYMPOSIUM 1
LOAD MANAGEMENT IN ELITE FOOTBALL: DOES SEXY RESEARCH TRANSLATE TO REAL-WORLD PREVENTION? [452]
Chairs: Thor Einar ANDERSEN - Norway, Alan McCALL - United Kingdom

11.00-11.05 I Load management: The hottest topic in injury prevention
Thor Einar Andersen - Norway

11.05-11.20 I Load management in a professional club: Ideal conditions versus reality
Alan McCall - United Kingdom

11.20-11.35 I Managing workload in a national team: Like a box of chocolates?
Grégory Dupont - United Kingdom/France

11.35-11.50 I Managing load in an elite youth academy: A fine line
Michel S. Brink - The Netherlands

11.50-12.05 I What’s the evidence? The first RCT of load management as prevention
Torstein Dalen-Lorentsen - Norway

12.05-12.15 I The future of load management in injury prevention: Where to now?
Alan McCall - United Kingdom

12.15-12.30 I Panel discussion
Andersen, McCall, Dupont, Brink, Dalen-Lorentsen

11.00-12.30 Session B • SYMPOSIUM 2
Room Prince Pierre
PROTECTING THE OLYMPIANS OF TOMORROW; SHOULD WE BE CARDIAC SCREENING THE ELITE PAEDIATRIC ATHLETE? [497]
Chair: Sanjay SHARMA - United Kingdom

11.00-11.15 I Introduction: Sudden death in paediatric athletes; Magnitude of the problem
Demitri Constantinoiu - South Africa

11.15-11.30 I Are we pushing kids too hard, too early? Physiological responses to training in elite paediatric athletes
Craig Williams - United Kingdom

11.30-11.45 I Can we cardiologically evaluate kids using the tools made for adults?
Maria-Carmen Adamuz - Qatar

11.45-12.00 I What to do with the elite paediatric athlete with suspected heart disease?
Appraisal of current international guidelines
Guido Pieles - United Kingdom

12.00-12.15 I Future strategies of cardiac care in elite paediatric athletes
Mathew Wilson - United Kingdom

12.15-12.30 I Panel discussion: Striking a balance between child protection and developing the future Olympic superstars: Role of international sporting organisations
Sharma, Constantinoiu, Williams, Adamuz, Pieles, Wilson

11.00-12.30 Session C • SYMPOSIUM 3
Room Camille Blanc
PRIMARY, SECONDARY AND TERTIARY PREVENTION STRATEGIES FOR ANKLE SPRAINS: AN ESSENTIAL UPDATE AND GUIDE FOR CLINICIANS WORKING WITH FIELD- AND COURT-SPORT ATHLETES [292]
Chair: Eamonn DELAHUNT - Ireland

11.00-11.15 I The results of epidemiological and injury mechanism research are integral to the planning of effective ankle sprain injury prevention strategies
Eamonn Delahunt - Ireland

11.15-11.30 I Preventing first-time ankle sprains in field- and court-sport athletes: what works and why?
Evert Verhagen - The Netherlands

11.30-11.45 I Braces and tape: Integrating clinical expertise and best evidence to make informed decisions for the primary and secondary prevention of ankle sprains in field- and court-sport athletes
Claire Hiller - Australia

11.45-12.00 I A guide to implementing effective therapeutic interventions to prevent ankle sprain injury recurrence and chronic ankle instability in field- and court-sport athletes
Phillip Gribble - USA

12.00-12.15 I Managing the difficult ankle: optimal surgical approaches to prevent ongoing impairments following ankle sprain injury
Gino M.M.J. Kerkhoffs - The Netherlands

12.15-12.30 I Panel discussion: Future directions for ankle sprain injury prevention research in field- and court-sport athletes and its uptake in clinical practice
Delahunt, Verhagen, Hiller, Gribble, Kerkhoffs
Session D • FREE COMMUNICATIONS
Room Auric

YOUTH ATHLETES

Chairs: Kathryn ACKERMAN - USA, Natália F. N. BITTENCOURT - Brazil

11.00-11.10 | Coach awareness and practice in relation to growth/maturation and training load in young competitive gymnasts: implications for injury prevention #951
Tejasj Sarika Patel (United Kingdom), Sean Cumming (United Kingdom), Sean Williams (United Kingdom), Bekker Sterwee (South Africa/United Kingdom), Alex McGregor (United Kingdom), Karen Williams (United Kingdom), Louise Fawcett (United Kingdom)

11.10-11.20 | Injury incidence and patterns in male youth elite level football players: a prospective study #1133
Nikki Rommers (Belgium), Roland Rössler (Switzerland), Matthieu Lenoir (Belgium), Erik Witvrouw (Belgium), Eva D’Hondt (Belgium)

11.20-11.30 | Growth plate fractures in adolescent climbers: a critical review #1046
Gareth Jones (United Kingdom), Volker Schöff (United Kingdom/Germany), Isabelle Schöff (United Kingdom/Germany), Christoph Lutter (Germany), Nigel Callender (United Kingdom), Mark Johnson (United Kingdom), Tim Halsey (United Kingdom)

11.30-11.40 | Survival analysis of lower-limb apophyseal injuries in youth elite soccer in association with growth and skeletal maturation #1689
Olivier Materne (Qatar), Abduraziz Faroq (Qatar), Karim Chamari (Qatar), Amanda Johnson (Qatar), Adam Weir (Qatar/The Netherlands), Per Hölmich (Denmark), Matt Greig (United Kingdom), Lars M. Naughton (United Kingdom/South Africa)

11.40-11.50 | Increased injury risk in youth athletics when growth rates are high and skeletal maturation is low #1229
Eirik Halvorsen Vik (Qatar/Norway), Daniel Martinez-Silván (Qatar), Abduraziz Faroq (Qatar), Marco Cardinale (Qatar/United Kingdom), Amanda Johnson (Qatar), Roald Bahr (Qatar/Norway)

11.50-12.00 | Is motor performance related to injury risk in adolescent elite-level soccer players? A causal inference approach to injury risk assessment #1472
Nikki Rommers (Belgium), Roland Rössler (Switzerland), Ian Shrier (Canada), Matthieu Lenoir (Belgium), Erik Witvrouw (Belgium), Eva D’Hondt (Belgium), Evert Verhagen (The Netherlands)

12.00-12.10 | Performance in dynamic movement tasks and occurrence of low back pain in youth floorball and basketball players #1400
Marieena Rosal (Finland), Kati Pasanen (Finland/Canada), Ari Heinonen (Finland), Sanni Ayrämö (Finland), Anu Rälsänen (Canada), Mari Leppänen (Finland), Grethe Myklebust (Norway), Tommi Vasankari (Finland), Petka Kannus (Finland), Jari Pärkkäri (Finland)

12.10-12.20 | Is inferior dual-task performance a risk factor for injury in youth soccer? A prospective study #993
Evi Wezenbeeck, Dries Pieters, Joke Schuermans, Tine Willems, Erik Witvrouw (Belgium)

12.20-12.30 | Big data in youth elite football: could machine learning help us to better understand injury risk? #1470
Nikki Rommers (Belgium), Roland Rössler (Switzerland), Evert Verhagen (The Netherlands), Florian Van decasteele (Belgium), Steven Verstoep (Belgium), Matthieu Lenoir (Belgium), Eva D’Hondt (Belgium), Erik Witvrouw (Belgium)
Session F • WORKSHOP
11.30-12.30
Room Bosio 1
Art & science of lower limb injury prevention #592
Michael Vadiveloo - Australia
Functional anatomical assessment, accuracy of exercise and correct muscle activation are paramount for effective and efficient prevention of injury in the lower limb.

Session G • WORKSHOP
11.30-12.30
Room Bosio 2
Judo injuries prevention on the way to the Tokyo 2020 Olympic Games #937
Nikolaos Malliaropoulos - United Kingdom, Mike Callan - United Kingdom
Future prevention strategies to reduce injuries in judo.

Session H • WORKSHOP
11.30-12.30
Room Lilac
Learning to play again. Using deliberate play principles to prime for risk environments in canoe slalom athletes. Beating the injury prevention blues #939
Oliver Davies - United Kingdom, Doug MacDonald - United Kingdom
Warm ups and injury prevention don't have to be boring! The use of creative and inclusive “Deliberate Play” methods to influence the unique environments lifestyle sports such as canoe slalom produce.

Session I • WORKSHOP
11.30-12.30
Room Scotto
Sleeping your way to injury prevention - why sleep is essential for athlete fitness and overall wellbeing #940
Meeta Singh - USA
Learn about the different way poor and inadequate sleep can increase sports injury risk - Learn about the science of sleep and circadian rhythms - Learn about practical interventions aims at managing poor sleep.

Session J • WORKSHOP
11.30-12.30
Room Poulenc 1
Bodies of gods, teeth of yobs. Oral health for individual and team performance #952
Ian Needleman - United Kingdom, Paul Ashley - United Kingdom
Poor oral health is common in athletes and affects performance. Find out why and how to implement practical solutions for prevention in elite sport.

Session K • WORKSHOP
11.30-12.30
Room Genevoix 1
ECG interpretation in athletes: accurate use of the international criteria in 6-steps! #953
Jonathan Drezner - USA
Can you distinguish normal from abnormal ECG findings in athletes?
6-Steps to accurate ECG interpretation using the International Criteria led by Prof Drezner.

Session L • WORKSHOP
11.30-12.30
Room Genevoix 2-3
Striking while the iron’s hot – reducing the tackler’s risk of head contact in rugby #957
Andrew Gardner - Australia, Suzi Edwards - Australia
Biomechanical insight of how tackle technique alters the risk of head impacts in collision sports. If it can be coached? Injury risk management solutions are debated.

12.30-13.30
Lunch

Session A • HEAD-TO-HEAD DEBATE 1
13.30-14.30
Room Salle des Princes
IS IT TIME TO STOP RECOMMENDING CARDIAC SCREENING IN ATHLETES AND FOCUS ON REACTIVE CARE?
Chair: Kimberly HARMON - USA

13.30-13.35
Setting the scene - pre-debate audience vote
Kimberly Harmon - USA

13.35-13.50
Speaker for the affirmative: Cardiac screening – end of an error. Long live reactive care
Mathew Wilson - United Kingdom

13.50-14.05
Speaker for the negative: Cardiac screening is essential and must go hand-in-hand with reactive care
Sanjay Sharma - United Kingdom

14.05-14.17
Rebuttals
Mathew Wilson - United Kingdom, Sanjay Sharma - United Kingdom

14.17-14.20
Chair’s sum-up and post-debate audience vote
Kimberly Harmon - USA

14.20-14.30
Audience discussion
**Session B • SYMPOSIUM 4**

Room Prince Pierre

**INJURY PREVENTION PROGRAMMES IN RUGBY UNION: ACROSS COUNTRIES AND INTO COMMUNITIES** [233]

Chair: Jon PATRICIOS - South Africa

13.30-13.32  
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<th>Session</th>
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<tbody>
<tr>
<td>■ Introduction: Why rugby?</td>
<td>Jon Patricios - South Africa</td>
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13.32-13.44  
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<tr>
<th>Session</th>
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<tr>
<td>■ RugbySmart: Positively pioneering injury prevention</td>
<td>Ken Quarrie - New Zealand</td>
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<tr>
<td>■ From “the pitch” to the pitch: World Rugby’s approach to implementing the Activate Injury Prevention Programme</td>
<td>Michael Hislop - Ireland</td>
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13.56-13.08  
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<tr>
<td>■ BokSmart: Using a multifractored approach to develop targeted interventions for an ever-evolving game</td>
<td>Wayne Viljoen - South Africa</td>
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14.08-14.20  
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<tr>
<td>■ Questions and panel discussion</td>
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**Session C • SYMPOSIUM 5**

Room Camille Blanc

**CONTACT SPORTS ON ARTIFICIAL GRASS PITCHES: GETTING BENEATH THE SURFACE OF INJURY RISK – HOW IMPORTANT IS THE DIVOT?** [622]

Chair: Keith STOKES - United Kingdom

13.30-13.42  
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<tr>
<td>■ It’s not just how common, but how severe: The burden of injuries on grass and artificial pitches in Rugby Union</td>
<td>Keith Stokes - United Kingdom</td>
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<tr>
<td>■ Differential injury rates on natural vs. artificial surfaces in the NFL: Lessons from American Football</td>
<td>Allen Sills - USA</td>
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<tr>
<td>■ Biomechanical Testing of Shoe-Surface Interactions and Footwear Design Implications</td>
<td>Richard Kent - USA</td>
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14.06-14.18  
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<th>Time</th>
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<tr>
<td>■ Strategies for injury reduction on artificial turf pitches</td>
<td>Simon Kemp - United Kingdom</td>
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<tbody>
<tr>
<td>■ Questions and panel discussion</td>
<td>Stokes, Sills, Kent, Kemp</td>
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**Session D • SYMPOSIUM 6**

Room Auric

DO THE THREE E’s OF INJURY PREVENTION (EDUCATION, ENFORCEMENT, ENGINEERING) WORK IN ALPINE SKIING AND SNOWBOARDING? [284]

Chair: Claude GOULET - Canada

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<th>Session</th>
<th>Time</th>
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<tr>
<td>■ Introduction of symposium and speakers</td>
<td>Claude Goulet - Canada</td>
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13.32-13.44  
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<tr>
<td>■ Does risk compensation undo the protection of ski helmet use?</td>
<td>Gerhard Ruedl - Austria</td>
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<tr>
<td>■ Educating for injury prevention: child and youth skiing and snowboarding</td>
<td>Brent E. Hagel - Canada</td>
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<tr>
<td>■ Using the biomechanics of injury to design safer snow sports equipment and on-slope injury prevention strategies</td>
<td>Irving Scher - USA</td>
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<tr>
<td>■ Sport injury epidemiology to support regulation implementation in alpine skiing and snowboarding</td>
<td>Claude Goulet - Canada</td>
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<tr>
<td>■ Panel Discussion: Future directions for research and informing best practice in the prevention of injuries for alpine skiers and snowboarders</td>
<td>Goulet, Ruedl, Hagel, Scher</td>
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**Session E • SYMPOSIUM 7**

Room Van Dongen

INNOVATIONS TO PREVENT RUNNING INJURIES [319]

Chair: Leonardo METSAVAHT - Brazil

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<th>Session</th>
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<tr>
<td>■ Problem overview: epidemiology</td>
<td>Mansueto Gomes-Neto - Brazil</td>
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<tr>
<td>■ The complexity of running injuries and its risk factors</td>
<td>Leonardo Metsavaht - Brazil</td>
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<tr>
<td>■ Costs for identifying running-related injury risks</td>
<td>Gustavo Leporace - Brazil</td>
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<tr>
<td>■ Neurovascular training to prevent running-related injuries</td>
<td>Fábio Arcanjo - Brazil</td>
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<tr>
<td>■ Panel Discussion: Implementation of running-related injury prevention programs in clinical practice</td>
<td>Metsavaht, Gomes-Neto, Leporace, Arcanjo</td>
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**Session F • WORKSHOP**

Room Bosio 1

**Keeping golfers on course for glory: prevention of illness and injury in golf #973**

Andrew Murray - United Kingdom, Daniel Coughlan - United Kingdom

What works in preventing illness and injury in golf? And what illness and injury preventing are there for other sports? with @etpi @docandrewmurray.

**Session G • WORKSHOP**

Room Bosio 2

**#Playlikeagirl: keeping our female athletes healthy and performing!**

Marie-Elaine Grant - Ireland, Margo Mountjoy - Canada

#Playlikeagirl: keeping female athletes healthy and performing at their top potential! Learn about the latest prevention science for females #GenderGap! #GoGIRL.

**Session H • WORKSHOP**

Room Lifar

**The SmartHER way forward for British female Olympic and Paralympic athletes #983**

Anita Biswas - United Kingdom, Richard Burden - United Kingdom

The English Institute of Sport’s application of research and innovation to enable elite female athletes to thrive and fulfill their health and performance potential

**Session I • WORKSHOP**

Room Poulenc 1

**Incidence, diagnosis and management of injury in sport climbing: A new Olympic discipline #984**

Gareth Jones - United Kingdom, Volker Schöffl - United Kingdom/Germany

What types of injuries do climbers sustain? Should they be surgically or conservatively managed? We discuss the evidence.

**Session J • WORKSHOP**

Room Poulenc 1

**Travel advice that can help your athletes win a medal #1009**

Nebojša Nikolić - United Kingdom

Participants grouped according to specifics of their sports. Each travel guideline will be presented and discussed. Each group will adapt it to their sport needs.

**Session K • WORKSHOP**

Room Genevoix 1

**Ten years of talent pathway health data in AFL – Collating this information with future injury and illness in the AFL #1010**

Peter Harcourt - Australia, Anik Shawdon - Australia

A review AFL player health outcomes to AFL pathway health data to answer: What pre-competition longitudinal health data is useful in predicting health outcomes?

**Session L • WORKSHOP**

Room Genevoix 2-3

**Food as medicine: optimizing nutrition and its role in sports injury prevention #1016**

Jacqueline Winkelmann - USA

What should athletes eat to prevent injury or illness? Beyond stretching: food as medicine for illness and injury prevention.

**Session A • SYMPOSIUM 8**

Room Salle des Princes

**HEAD AND SHOULDERS, KNEES AND TOES: INJURY-SPECIFIC PREVENTION IN FEMALE YOUTH SPORTS** [267]

Chair: Carolyn EMERY - Canada

14.30-14.35 Keeping our girls on the field of play: The importance of injury prevention in youth female sports

Carolyn Emery - Canada, Grethe Myklebust - Norway

14.35-14.45 Preventing concussions in female youth sport

Carolyn Emery - Canada

14.45-14.55 Preventing shoulder injuries in overhead female youth sports

Martin Askér - Sweden

14.55-15.05 Preventing knee injuries in female youth team sports

Grethe Myklebust - Norway

15.05-15.15 Preventing ankle injuries in female youth team sports

Kati Pasanen - Canada/Finland

15.15-15.30 Panel discussion: Is it possible to protect our female youth sport athletes head to toe?

Emery, Myklebust, Askér, Pasanen
### Session B • SYMPOSIUM 9

**Room Prince Pierre**

**14.30-15.30**

**TWO DECADES OF THE TRIPP MODEL: HAS IMPLEMENTATION MADE ITS MARK?** [198]

**Chair:** Caroline FINCH - Australia

14.30-14.45  
Reflecting on two decades of the TRIPP model – what is it and how has it been used to make an impact?  
Caroline Finch - Australia

14.45-14.55  
Implementing injury prevention in sports - are we winning?  
James O'Brien - Australia/Austria

14.55-15.05  
Behavioural approaches to enhance implementation  
Carly McKay - United Kingdom

15.05-15.15  
Implementation is more than an afterthought to your RCT  
Evert Verhagen - The Netherlands

15.15-15.30  
Panel discussion: Where do we go next if we want to increase the impact of our preventive efforts  
Finch, O'Brien, McKay, Verhagen

### Session C • SYMPOSIUM 10

**Room Camille Blanc**

**14.30-15.30**

**TOWARDS NEW HORIZONS IN INJURY PREVENTION FOR BIG AIR AND SLOPESTYLE EVENTS IN BEIJING 2022 WINTER OLYMPICS** [531]

**Chair:** Torbjørn SOLIGARD - Norway/Switzerland

14.30-14.42  
The epidemiology of injuries in snowboarding and freestyle skiing in the Olympic Games  
Torbjørn Soligard - Norway/Switzerland

14.42-14.54  
Biomechanical evaluation of Big Air Jumps: Analysis of on-slope measurements to reduce injuries  
Irving Scher - USA

14.54-15.06  
IOC project Big Air / Slopestyle: Harnessing injury risk in the Beijing Winter Olympics with novel course design tools  
Matthias Gilgien - Norway/Switzerland

15.06-15.18  
IOC project Big Air / Slopestyle: The link between jump design, injury risk and user satisfaction  
Claes Högström - Norway

15.18-15.30  
Panel discussion: Injury prevention for Big Air and Slopestyle events in Beijing 2022 Winter Olympics  
Soligard, Scher, Gilgien, Högström

### Session D • SYMPOSIUM 11

**Room Auric**

**14.30-15.30**

**PREVENTING OVERUSE INJURIES IN TEAM SPORTS – YES WE CAN! AS EVIDENCED BY THE HIT SPORT – VOLLEYBALL** [453]

**Chairs:** Natália F. N. BITTENCOURT - Brazil, Christopher SKAZALSKI - Qatar/Norway

14.30-14.32  
Introduction – The all too common state of overuse problems in volleyball

14.32-14.44  
Patellar tendinopathy: can we block the spike of jumper’s knees in volleyball?  
Johannes Zwerver - The Netherlands

14.44-14.56  
Navigating the risk factor identification minefield and implementing a tailored prevention program to decrease patellar tendinopathy that works!  
Natália F. N. Bittencourt - Brazil

14.56-15.08  
Monitoring training and competition load in volleyball…can we really prevent these overuse injuries?  
Christopher Skazalski - Qatar/Norway

15.08-15.20  
Injury prevention from the coach’s point of view, a real-world example of injury prevention and championship results  
Kerry MacDonald - Canada

15.20-15.30  
Panel Discussion: How we can learn from the mistakes of the past to prevent future overuse injuries and complaints among our team sport athletes  
Zwerver, Bittencourt, Skazalski, MacDonald
14.30-14.40
Evaluation of in-ear sensor systems for quantifying head impacts in youth football #1085
Stian Bahr Sandmo (Norway), Andrew S. McIntosh (Australia),
Thor Einar Andersen (Norway), Inga K. Koerte (Germany/USA), Roald Bahr (Norway)

14.40-14.50
Head impact exposure in youth football – are current interventions hitting the target? #1084
Stian Bahr Sandmo (Norway), Thor Einar Andersen (Norway),
Inga K. Koerte (Germany/USA), Roald Bahr (Norway)

14.50-15.00
Head impact doses and “no-go” deficits in Olympic and non-Olympic sport athletes #1160
Adam Bartsch (USA), Lori Glover (USA), Jay Alberts (USA),
Jason Cruickshank (USA), Elizabeth Jansen (USA), Mikael Swaren (Sweden),
Norman Link (USA), Missy Fraser (USA), Annalise Lane (USA)

15.00-15.10
Concussions among Icelandic female athletes: self-reported prevalence with and without a definition of concussion #1234
Ragna Brynjarsdottir, Hafrun Kristjansdottir, Ingunn Kristensen, Helga Sigurjonsdottir,
Lara Claessen, Maria K. Jónsdóttir (Iceland)

15.10-15.20
Biomarkers in serum after head impact exposure in football #1082
Stian Bahr Sandmo, Peter Filipcik, Martin Cente, Jozef Hanes, Thor Einar Andersen, Truls M. Straume-Næsheim, Roald Bahr (Norway)

15.20-15.30
Tackle characteristics associated with concussion in British University level rugby union #1394
Simon Roberts, Simon Kemp, Luke Morgan, Keith Stokes (United Kingdom)
### Session K • WORKSHOP

**14.30-15.30**  
Room Genevoix 1

**Down Under the foot – optimising foot function in sport #1047**  
Susan Mayes - Australia

An evidence-based approach to foot intrinsic muscle strengthening and methods that can facilitate optimal foot function will be presented in this practical workshop.

### Session L • WORKSHOP

**14.30-15.30**  
Room Genevoix 2-3

**ACL secondary prevention: build hardware and think software #1452**  
Renato Andrade - Portugal, Rogério Pereira - Portugal

Learn how to recover normal movement patterns and biomechanical capacities after ACL injury, by addressing human software and hardware with strengthening and motor learning exercise-based interventions.

### THEMATIC POSTERS SESSIONS

**15.30-16.30**  
Poster Area – Level -2

Please refer to pages 84-98 for full details

**SESSION 1 - SHOULDER**  
Chair: Elizabeth A. ARENDT - USA  
Posters #1430 #1103 #1702 #1142 #1669 #1107 #1516 #938

**SESSION 2 - WATER SPORTS**  
Chair: Margo MOUNTJOY - Canada  
Posters #1220 #1118 #1161 #1339 #1672 #1652 #1646

**SESSION 3 - COMBAT SPORTS**  
Chair: Hideyuki KOGA - Japan  
Posters #1066 #1741 #1745 #1547 #1059 #1360 #1304 #1032

**SESSION 4 - FOOT - ANKLE**  
Chair: Daniel T. P. FONG - United Kingdom  
Posters #1449 #1518 #1739 #1466 #981 #1334 #1162

**SESSION 5 - LOAD MONITORING**  
Chair: Karim KHAN - Canada  
Posters #1321 #1665 #1619 #1403 #1382 #1530 #1356 #1317

**SESSION 6 - DANCE**  
Chair: Yannis PITSILADIS - United Kingdom  
Posters #1607 #1001 #1292 #1559 #1576 #1595 #1561 #1295

**SESSION 7 - LOW BACK & PELVIS**  
Chair: Nicola PHILLIPS - United Kingdom  
Posters #1354 #1214 #1469 #1703 #1505 #1236 #1237 #1120

**SESSION 8 - FATIGUE**  
Chair: Yorck Olaf SCHUMACHER - Qatar  
Posters #1141 #1337 #1714 #1425 #1193 #1200 #1149 #1176

**SESSION 9 - RISK FACTORS**  
Chair: Natália F. N. BITTENCOURT - Brazil  
Posters #1456 #1044 #1395 #1552 #1657 #1655 #1002 #1594

**SESSION 10 - HAMSTRING**  
Chair: Clare ARDERN - Sweden/Australia  
Posters #1483 #1383 #1658 #1662 #1520 #1613

**SESSION 11 - CONCUSSION I**  
Chair: Jane THORNTON - Canada  
Posters #964 #1618 #1551 #1691 #1233 #1504 #1341 #1701

**SESSION 12 - CONCUSSION II**  
Chair: Caroline FINCH - Australia  
Posters #1372 #1466 #1285 #1412 #1755 #1208 #1708 #1348

**SESSION 13 - YOUTH FOOTBALL**  
Chair: Markus WALDÉN - Sweden  
Posters #1563 #1294 #1638 #1615 #1039 #1040 #1318 #1727

**SESSION 14 - OLYMPICS**  
Chair: Lars ENGBRETSEN - Norway/Switzerland  
Posters #1204 #1355 #1008 #1458 #1565 #1774

**SESSION 15 - ACL**  
Chair: Fares HADDAD - United Kingdom  
Posters #1346 #1357 #1758 #1350 #1185 #991 #1414

**SESSION 16 - BIOMECHANICS**  
Chair: Eric MÜLLER - Austria  
Posters #1629 #1251 #975 #1493 #1378 #1508 #1163 #1602

**SESSION 17 - INDOOR TEAM SPORTS**  
Chair: Evert VERHAGEN - The Netherlands  
Posters #1651 #1521 #1527 #1661 #1593 #1596

**SESSION 18 - FEMALE SPORTS**  
Chair: Kathryn ACKERMAN - USA  
Posters #1687 #1411 #1127 #1713 #1740 #1428 #1119 #1688

**SESSION 19 - RUGBY**  
Chair: Christa JANSE VAN RENSBURG - South Africa  
Posters #1626 #1482 #1029 #1649 #1109 #1548 #1550 #1622

**SESSION 20 - SCREENING AND PHE**  
Chair: Jonathan DREZNER - USA  
Posters #1058 #1515 #1260 #1485 #1130 #1313 #949 #1699

**16.30-17.00**  
Coffee Break
### Session A • SYMPOSIUM 12

**Room Salle des Princes**

**Chair:** Andrea MOSLER - Australia

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Country</th>
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<tbody>
<tr>
<td>17.00-17.12</td>
<td>Preparing injury in women’s football, a global problem</td>
<td>Andrea Mosler</td>
<td>Australia</td>
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<tr>
<td>17.12-17.24</td>
<td>What really works to reduce injury risk in women’s football?</td>
<td>Markus Waldén</td>
<td>Sweden</td>
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<tr>
<td>17.24-17.36</td>
<td>Prevention programmes only work if you do them: implementation strategies to reduce injury risk</td>
<td>Kay M. Crossley</td>
<td>Australia</td>
</tr>
<tr>
<td>17.36-17.48</td>
<td>Mars vs Venus, how injury prevention strategies for women’s football embrace the differences</td>
<td>Martin Häggland</td>
<td>Sweden</td>
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<tr>
<td>17.48-18.00</td>
<td>Panel discussion: Future directions for researching the unresolved questions, and optimising injury prevention implementation by clinicians and stakeholders involved in elite women’s football</td>
<td>Mosler, Waldén, Crossley, Häggland</td>
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### Session B • SYMPOSIUM 13

**Room Prince Pierre**

**Chair:** Christa JANSE VAN RENSBURG - South Africa

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<th>Time</th>
<th>Title</th>
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<tbody>
<tr>
<td>17.00-17.12</td>
<td>Overview: Why sleep is integral to performance</td>
<td>Meeta Singh</td>
<td>USA</td>
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<tr>
<td>17.12-17.24</td>
<td>Sleep to prevent injury and illness</td>
<td>Kieran O’Sullivan</td>
<td>Ireland</td>
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<tr>
<td>17.24-17.36</td>
<td>Athlete-specific challenges to sleep: An applied perspective</td>
<td>Christa Janse van Rensburg</td>
<td>South Africa</td>
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<tr>
<td>17.36-17.48</td>
<td>A ‘Sleep Toolbox’ for practitioners: How to identify and target poor sleep in athletes</td>
<td>Amy Bender</td>
<td>Canada</td>
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<tr>
<td>17.48-18.00</td>
<td>Panel discussion</td>
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### Session C • SYMPOSIUM 14

**Room Camille Blanc**

**Chair:** Evert VERHAGEN - The Netherlands

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<th>Time</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>17.00-17.05</td>
<td>Can you hear me? The true stories that numbers won’t tell</td>
<td>Caroline Bolling</td>
<td>The Netherlands/Brazil</td>
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<tr>
<td>17.05-17.15</td>
<td>Step 1 – “As long as I can perform I am not injured”</td>
<td>Caroline Bolling</td>
<td>The Netherlands/Brazil</td>
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<tr>
<td>17.15-17.25</td>
<td>Step 2 – “It is not just me!”</td>
<td>Evert Verhagen</td>
<td>The Netherlands/Brazil</td>
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<tr>
<td>17.25-17.35</td>
<td>Step 3 – “One exercise won’t change my life”</td>
<td>Sheree Bekker</td>
<td>South Africa/United Kingdom</td>
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<tr>
<td>17.35-17.45</td>
<td>Step 4 – “Yes, your intervention works. So what?!”</td>
<td>Evert Verhagen</td>
<td>The Netherlands</td>
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<tr>
<td>17.45-18.00</td>
<td>Panel discussion: Making words and numbers count: the value of mixed-methods approaches in improving athlete health protection</td>
<td>Verhagen, Bolling, Bekker</td>
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### Session D • SYMPOSIUM 15

**Room Auric**

**Chair:** Brian HAINLINE - USA

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<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>17.00-17.05</td>
<td>#BreakTheSilence: The importance of addressing athlete mental health</td>
<td>Abhinav Bindra</td>
<td>India</td>
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<tr>
<td>17.05-17.16</td>
<td>The Sport Mental Health Assessment and Recognition Tools: a new global initiative</td>
<td>Vincent Gouttebarge</td>
<td>The Netherlands</td>
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<tr>
<td>17.16-17.27</td>
<td>Primary Prevention – Creating an environment that supports mental wellness in sport</td>
<td>Brian Hainline</td>
<td>USA</td>
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<tr>
<td>17.27-17.38</td>
<td>Primary Prevention – Addressing toxic environments in sport</td>
<td>Margo Mountjoy</td>
<td>Canada</td>
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<tr>
<td>17.38-17.49</td>
<td>Primary Prevention – Managing transition from sport: from injury to retirement</td>
<td>Rosemary Purcell</td>
<td>Australia</td>
</tr>
<tr>
<td>17.49-18.00</td>
<td>Panel discussion: Future directions for the primary prevention of mental health symptoms and disorders in elite athletes</td>
<td>Bindra, Gouttebarge, Hainline, Mountjoy, Purcell</td>
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</table>
Session E • SYMPOSIUM 16
17.00-17.10  ❙ Sport-specific injury mechanism of ACL – Studies from Japan
Yuka Kimura - Japan

17.10-17.20  ❙ Prevention of ACL injuries in Asia – Community Outreach
Kam-Ming Mok - Hong Kong, China

17.20-17.30  ❙ Clinical examination of ACL – Bridging knee instability with player perceptions
Hideyuki Koga - Japan

17.30-17.40  ❙ Treatment of ACL injuries – the Korea Experience
Jin-Goo Kim - Republic of South Korea

17.40-17.50  ❙ Return-to-play decisions after rehabilitation – What is missing to prevent injuries?
Patrick Shu Hang Yung - Hong Kong, China

17.50-18.00  ❙ Panel Discussion: How to synthesize of East and West in ACL research
Kimura, Mok, Koga, Kim, Yung

Session F • WORKSHOP
17.00-18.00  ❙ How to prevent fifth metatarsal stress fractures #1033
Yoshitomo Saita, Masashi Nagao - Japan

Session G • WORKSHOP
17.00-18.00  ❙ Let’s kick out of football...groin injuries! - blending science and practice in prevention of groin injuries in football #1052
Marcin Bator - Poland

Session H • WORKSHOP
17.00-18.00  ❙ The ball is in your court - methodological challenges when arranging RCT’s in youth team sports #1053
Hanna Lindblom, Ida Åkerlund - Sweden
Session A • SYMPOSIUM 17
Room Salle des Princes

BIG COMPUTERS, BIG DATA, BIG GAINS IN INJURY PREVENTION? [336]

Chair: Evert VERHAGEN - The Netherlands

18.00-18.04  ❙ Introduction
Evert Verhagen - The Netherlands

18.04-18.16  ❙ Is it possible to predict injury risk and performance in complex systems?
Stephen W. Marshall - USA

18.16-18.28  ❙ Artificial Intelligence: What computers can see that humans cannot
Tyrel Stokes - Canada

18.28-18.40  ❙ Decision-making: What humans know that computers do not
Ian Shrier - Canada

18.40-19.00  ❙ Panel discussion: What is the role of artificial intelligence in sport medicine research?
Verhagen, Marshall, Stokes, Shrier

Session B • SYMPOSIUM 18
Room Prince Pierre

ACL-INJURY PREVENTION: FROM RISK FACTOR IDENTIFICATION TO PRACTICAL USE – WHERE ARE WE (AND WHAT IS MISSING)? [513]

Chair: Jesper BENCKE - Denmark

18.00-18.02  ❙ Introduction - From scientist to coach perspective
Jesper Bencke - Denmark

18.02-18.14  ❙ The importance of trunk stability as a risk factor for ACL injuries – and how to measure it
Ajit Chaudhari - USA

18.14-18.24  ❙ Hip and knee strength as a risk factor for ACL injuries – is it important?
Jesper Bencke - Denmark

18.24-18.36  ❙ Taking knee and hip biomechanics measurements from the lab to the field: Is it possible?
Tron Krosshaug - Norway

18.36-18.48  ❙ Neuromuscular activation as a risk factor for ACL injuries: Importance for exercise selection
Mette Kreutzfeldt Zebis - Denmark

18.48-19.00  ❙ Panel discussion: How can science help coaches optimising and individualising injury prevention?
Chaudhari, Bencke, Krosshaug, Kreutzfeldt Zebis

Session C • SYMPOSIUM 19
Room Camille Blanc

TACKLE RISK IN CONTACT SPORTS: SHORT-TERM PAIN FOR LONG-TERM SALVATION [477]

Chair: Simon KEMP - United Kingdom

18.00-18.12  ❙ What is it about the rugby tackle that needs to inform prevention?
Simon Kemp - United Kingdom

18.12-18.24  ❙ Football helmets and shoulder pads – part of the problem or part of the solution?
Allen Sills - USA

18.24-18.36  ❙ Evolution or Revolution – which is the most appropriate approach?
Keith Stokes - United Kingdom

18.36-18.48  ❙ Engineering approaches to the “Tackling Problem” – from field to laboratory
Chris Sherwood - USA

18.48-19.00  ❙ Panel discussion: Injury risk during contact events: Where do we go from here?
Kemp, Sills, Stokes, Sherwood

Session D • SYMPOSIUM 20
Room Auric

SPORTS INJURY PREVENTION AND HARM REDUCTION IN THE GLOBAL SOUTH: SOCIOECOLOGICAL CONSIDERATIONS FOR CONTEXTUALISED RESEARCH, POLICY, AND PRACTICE [221]

Chair: Sheree BEKKER - South Africa/United Kingdom

18.00-18.02  ❙ Introduction
Sheree Bekker - South Africa/United Kingdom

18.02-18.10  ❙ Ensuring the global relevance of sports injury prevention and harm reduction: The imperative for contextualised research, policy, and practice
Sheree Bekker - South Africa/United Kingdom

18.10-18.20  ❙ Overcoming cultural stigma to promote safety and fair play for recreational athletes with impairment in sub-Saharan Africa: the Ghanaian and Kenyan experience
Yetsa A. Tuakli-Wosornu - Ghana/USA

18.20-18.30  ❙ The landscape of adopting, adapting and implementing sports injury prevention programs in sub-Saharan Africa: The Nigerian and South African experience
Ummukulthoum Bakare - Nigeria/South Africa

18.30-18.40  ❙ The complexity of injury prevention: The Brazilian experience
Luciana De Michelas Mendonça - Brazil

18.40-19.00  ❙ Discussion
Bekker, Tuakli-Wosornu, Bakare, De Michelas Mendonça
Session E • SYMPOSIUM 21
Room Van Dongen

**THE HOLY GRAIL: THE PRIMARY PREVENTION OF BOTH ATHLETE INJURY + ILLNESS IN SPORT: RELATIVE ENERGY DEFICIENCY IN SPORT (RED-S)**

Chair: Margo MOUNTJOY - Canada

18.00-18.05
- Introduction: What is RED-S?
  Margo Mountjoy - Canada

18.05-18.15
- Primary prevention of low energy availability: Fueling + body composition management
  Louise Burke - Australia

18.15-18.25
- Primary prevention of eating disorders/ disordered eating
  Jorunn Sundgot-Borgen - Norway

18.25-18.35
- Primary prevention through athlete screening for RED-S
  Kathryn Ackerman - USA

18.35-18.45
- Primary prevention of RED-S through sport rule changes
  Margo Mountjoy - Canada

18.45-19.00
- Discussion
  Mountjoy, Burke, Sundgot-Borgen, Ackerman

Session F • WORKSHOP
Room Bosio 1

**Climbing on the band wagon! - Heel hook injuries in climbers - medical management and injury prevention #1099**

Uzo Ehiogu - United Kingdom, Volker Schöffl - Germany

- What is scale of heel hook injuries in climbers?
- Are eccentric preventative programmes appropriate for preventing heel hook injuries in the climbing athlete?

Session G • WORKSHOP
Room Bosio 2

**The sporting spine – Getting to the core of injury prevention #1117**

Tim Allardyce - United Kingdom, Marie-Elaine Grant - Ireland

- #sporting-spine: learn about the risks, practical and prevention science for spinal injury: Update on the current thinking on the core of Spinal Injury Prevention!

Session H • WORKSHOP
Room Lilar

**Mouthguards – protection, concussion and performance ... What is the connection? #1136**

Paul Piccininni - Switzerland/Canada, Anthony Clough - Switzerland/United Kingdom

- Mouthguards are one of the most effective pieces of protective equipment in sport. Can they play a role in concussion prevention and/or performance enhancement?
### Session A • SYMPOSIUM 22

**Room Salle des Princes**

**FROM COPENHAGEN TO DUBLIN VIA OSLO: COLLABORATING TO TACKLE PRIMARY, SECONDARY AND TERTIARY GROIN INJURY PREVENTION IN SPORTS** [330]

**Chairs:**
- Thor Einar ANDERSEN - Norway
- Per HÖLMICH - Denmark

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<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>09.30</td>
<td>Introduction</td>
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<tr>
<td>09.35</td>
<td>Agreement and disagreement in terminology: How to move forward?</td>
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<td>09.47</td>
<td>What are the symptoms and impairments?</td>
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<td>09.59</td>
<td>Primary prevention: Is strengthening of the adductors enough?</td>
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<td>10.11</td>
<td>Screening for secondary prevention: What are the options?</td>
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<td>10.23</td>
<td>What is the role of movement control and 3D-biomechanics in secondary prevention?</td>
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<td>10.35</td>
<td>Tertiary prevention: Conservative or surgical?</td>
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<td>10.45</td>
<td>Panel discussion: Future directions for research informing best practice in the prevention of groin pain in athletes (GPA)</td>
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<td>10.50</td>
<td>ECG screening: Establishing priorities when resources are limited</td>
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<td>11.00</td>
<td>Crossing the implementation gap for cardiac screening through education and innovative models of health care delivery</td>
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### Session B • SYMPOSIUM 23

**Room Prince Pierre**

**PREVENTION OF SUDDEN CARDIAC DEATH: CROSSING THE IMPLEMENTATION GAP** [136]

**Chair:** Jonathan DREZNER - USA

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<tr>
<td>09.30</td>
<td>Overview: Challenges and controversies in the prevention of sudden cardiac death</td>
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<tr>
<td>09.35</td>
<td>Cardiac screening in young athletes: Defining an evidence-based protocol</td>
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<td>09.50</td>
<td>Incidence of SCD: Which athletes should we consider “high” risk?</td>
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<tr>
<td>10.05</td>
<td>ECG screening: Establishing priorities when resources are limited</td>
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<tr>
<td>10.35</td>
<td>Panel discussion: Future directions for cardiac screening and sports cardiology training</td>
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### Session C • SYMPOSIUM 24

**Room Camille Blanc**

**INJURIES IN RUNNERS: EPIDEMIOLOGY, RISKS AND PREVENTION** [321]

**Chair:** Evert VERHAGEN - The Netherlands

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<tr>
<td>09.30</td>
<td>On your marks, ready, go! What is the injury problem in running</td>
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<td>09.42</td>
<td>In one mind - the psychology of injury prevention and running performance</td>
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<td>09.54</td>
<td>Novel risk factors associated with running injuries: An important step in designing intervention for prevention</td>
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<td>10.06</td>
<td>Do running shoe features influence injury risk?</td>
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<td>10.18</td>
<td>Viewpoints on advanced statistical analyses of running-related injury data: pathways and pitfalls</td>
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<td>10.30</td>
<td>Education and e-Health in the prevention of running-related injuries</td>
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<td>10.40</td>
<td>Panel discussion: What are the white spots in our knowledge on running injuries and their prevention and what should we focus on in the next decade?</td>
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**KEYNOTE 2**

**INJURY PREVENTION IN YOUTH SPORT: WHY ARE WE SO AFRAID OF CHANGE?** [269]

**Speaker:** Carolyn EMERY - Canada
**INJURY PREVENTION I**

**Session D • FREE COMMUNICATIONS**

Room Auric

**09.30-09.40** 45% lower acute injury incidence but no effect on overuse injury prevalence in youth floorball players who used an injury prevention exercise programme: two-armed parallel-group cluster randomised controlled trial  #967

Ida Åkerlund, Markus Waldén, Sofi Sonesson, Martin Hägglund (Sweden)

**09.40-09.50** Does the Oslo Sports Trauma Research Center shoulder injury prevention program affect the risk factors external rotation strength and internal rotation range of motion? A randomized controlled study among adolescent handball players  #1148

Hilde Fredriksen (Norway), Ann Cools (Belgium), Roald Bahr (Norway/Qatar), Grethe Myklebust (Norway)

**09.50-10.00** Spraino® reduces the risk of lateral ankle sprain injury among indoor sport athletes: a pilot randomized controlled trial with 510 participants  #1627

Filip Gertz Lysdal (Denmark), Thomas Bandholm (Denmark), Janne Tolstrup (Denmark), Mikkel Clausen (Denmark), Stephanie Mann (Denmark), Pelle Petersen (Denmark), Thor Grenlykke (Denmark), Uwe Kersting (Denmark/Germany), Eamonn Delahunt (Ireland), Kristian Thorborg (Denmark)

**10.00-10.10** Floorball participation, injury prevention expectations, injury risk perceptions and health problems in Swedish youth players at the start of a season  #1599

Nirmala Perera (Sweden/United Kingdom/Australia), Ida Åkerlund (Sweden), Martin Hägglund (Sweden)

**10.10-10.20** We have the injury prevention programme, but how well do youth use it?  #1546

Nirmala Perera (Sweden/United Kingdom/Australia), Martin Hägglund (Sweden)

**10.20-10.30** The effect of a workshop on coaches’ adoption and adherence to the activate injury prevention exercise programme  #1481

Craig Barden, Carly McKay, Keith Stokes (United Kingdom)

**10.30-10.40** The Effectiveness of Online ACL Injury Prevention Education for Sports Coaches  #1756

Joseph Janosky, Titiayo Olohobo, James Rusomanno, Sandra Goldsmith, Laura Robbins (USA)

**10.40-10.50** Can a Massive Open Online Course (MOOC) inform concussion prevention knowledge translation?  #1255

Stephanie Adams, Pierre Fremont, Jennifer Lock, Keith O Yeates, Carolyn Emery, Leslie Reid, Penny Werthner, Kathryn Schneider (Canada)

**10.50-11.00** Is it possible to stimulate injury-preventive behaviour in adult novice runners with an online intervention? Results of a randomized controlled trial  #1215

Ellen Kemler, Maaike Cornellissen, Vincent Gouttebarge (The Netherlands)
Session F • WORKSHOP
09.30-10.30
Why we should keep doing preseason assessment in athletes? #1147
Luciana De Michelis Mendonça - Brazil, Natália F. N. Bittencourt - Brazil
This workshop aims to discuss the clinical reasoning in planning the preseason assessment (PA), how to monitor injury risk through parameters of results and the application of it at preventive programs.

Session G • WORKSHOP
09.30-10.30
Olympic athlete safety and performance: making sense of sensor fusion data #1159
Adam Bartsch - USA, Mikael Swaren - Sweden
Olympic sport athletes can be monitored by fusing data from multiple sensor systems. In doing so, an objective, data-driven health and safety surveillance program is created.

Session H • WORKSHOP
09.30-10.30
Pain prevention: well-intentioned, but sometimes unrealistic and unhelpful? #1243
Morten Høgh - Denmark, Kieran O'Sullivan - Ireland
Is prevention of pain always helpful, even for everyday aches and pains? What are the risks associated with always seeking to prevent pain?

Session I • WORKSHOP
09.30-10.30
Variety is the spice of life! How to design and implement an effective lower extremity injury prevention program in your setting using evidence-based principles #1171
Marc Norcross - USA, Alex Donaldson - Australia
Co-designing and implementing flexible, pragmatic, evidence-based injury prevention programs – what to include and how to do it.

Session J • WORKSHOP
09.30-10.30
The important piece of the puzzle – end-users’ perspectives in injury prevention training #1190
Eva Ageberg - Sweden, Sofia Bunke - Sweden
How engage end-users to develop and implement injury prevention training? We discuss process and practical solutions to create end-user motivation and ownership.
### Session B • SYMPOSIUM 26

11.30-13.00

**Room Prince Pierre**

**EVIDENCE BASED PREVENTION OF ILLNESS ASSOCIATED WITH LONG-HAUL TRAVEL IN ELITE ATHLETES: SORTING THE WHEAT FROM THE CHAFF**

*Chair: Wayne Derman - South Africa*

<table>
<thead>
<tr>
<th>11.30-11.40</th>
<th>Introduction and overview</th>
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<tr>
<td>Wayne Derman - South Africa</td>
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<tr>
<td>11.40-11.55</td>
<td>Evidence-based strategies for management and mitigation of long-haul jet lag in athletes</td>
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<td>Christa Janse Van Rensburg - South Africa</td>
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<tr>
<td>11.55-12.10</td>
<td>Pharmacological and pharmaceutical approaches to illness prevention: From A to Zinc: The evidence base</td>
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<td>Nick Webborn - United Kingdom</td>
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<td>12.10-12.25</td>
<td>What the team physician needs to know about vaccination and illness prevention: an evidence based approach</td>
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<td>Tim Meyer - Germany</td>
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<tr>
<td>12.25-12.40</td>
<td>How to fly long and stay healthy: The evidence from travel medicine research</td>
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<tr>
<td>Wayne Derman - South Africa</td>
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<tr>
<td>12.40-13.00</td>
<td>Panel discussion/questions</td>
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<tr>
<td>Janse Van Rensburg, Webborn, Meyer, Derman</td>
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### Session C • SYMPOSIUM 27

11.30-13.00

**Room Camille Blanc**

**INJURY PREVENTION IN YOUTH SPORT: WHERE DOES THE FUTURE LIE?**

*Chair: Carolyn Emery - Canada*

| 11.30-11.35 | Laying the framework for discussion of approaches to injury prevention in youth sport |
| Carolyn Emery - Canada |
| 11.35-11.47 | Training strategies: The key to injury prevention in youth |
| Kati Pasanen - Canada/Finland |
| 11.47-11.59 | Targeting sport specialization in youth sport: Isn’t it clear? |
| Chris Whatman - New Zealand |
| 11.59-12.11 | Protective equipment in youth sport: Issues and recommendations |
| Brent E. Hagel - Canada |
| 12.11-12.23 | Apps and social media are the ticket to changing the culture for injury prevention in youth sport |
| Evert Verhagen - The Netherlands |
| 12.23-12.35 | Rule changes in youth sport: Evidence informing policy |
| Carolyn Emery - Canada |
| 12.35-12.40 | 5 minutes 5 slides: Highlighting 5 targets in injury prevention in youth sport |
| Carolyn Emery - Canada |
| 12.40-13.00 | Panel discussion: Where does the future lie in injury prevention in youth sport? |
| Emery, Pasanen, Whatman, Hagel, Verhagen |
### S C I E N T I F I C  P R O G R A M M E  
Friday 13 March

### 11.30-13.00

**Session E • FREE COMMUNICATIONS**

**Room Van Dongen**

**TEAM SPORTS II**

**Chairs:** Elizabeth A. ARENDT - USA, Markus WALDÉN - Sweden

| Time | Title | Authors/
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<tbody>
<tr>
<td>11.30-11.40</td>
<td>Shoulder rotation strength changes from preseason to midseason: a cohort study of 292 youth elite handball players without shoulder problems</td>
<td>Behnam Liaghat (Denmark), Jesper Bencke (Denmark), Mette Kreutzfeldt Zebis (Denmark), Henrik Sørensen (Denmark), Grethe Myklebust (Norway), Niels Wedderkopp (Denmark), Martin Lind (Denmark), Merete Møller (Denmark)</td>
</tr>
<tr>
<td>11.40-11.50</td>
<td>Injuries are negatively associated with team performance in professional cricket</td>
<td>Luke Goggins, Nicholas Peirce, Steve Griffin, Ben Langley, Keith Stokes, Carly McKay, Sean Williams (United Kingdom)</td>
</tr>
<tr>
<td>11.50-12.00</td>
<td>Risk factors for dominant shoulder injury in elite female Australian cricket players: a prospective study</td>
<td>Myles Murphy, Paola Chivers, Kate Mahony, Andrea Mosler (Australia)</td>
</tr>
<tr>
<td>12.00-12.10</td>
<td>Injury incidence of elite New Zealand cricketers: an update from 2009-2015</td>
<td>Tim Dovbysh, Duncan Reid, Dayle Shackel (New Zealand)</td>
</tr>
<tr>
<td>12.10-12.20</td>
<td>Cutting technique and risk for non-contact knee injuries in youth basketball and floorball players</td>
<td>Mari Leppänen (Finland), Anni Rantala (Finland), Jari Parkkari (Finland), Tommi Vassankari (Finland), Sami Äyrämö (Finland), Tron Krosshaug (Norway), Pekka Kannus (Finland), Kati Passanen (Finland/Canada)</td>
</tr>
<tr>
<td>12.20-12.30</td>
<td>Injury burden differs considerably between single teams from German professional male handball: surveillance of three consecutive seasons</td>
<td>Hendrik Bloch, Christian Klein, Patrick Luig (Germany)</td>
</tr>
<tr>
<td>12.40-12.50</td>
<td>Injury surveillance in junior elite field hockey: comparative study of three different recording techniques</td>
<td>Udo Rolle, Heilin Till-Martin, Anna Levi (Germany)</td>
</tr>
<tr>
<td>12.50-13.00</td>
<td>Perceived barriers and facilitators towards an injury prevention program in professional male ice hockey teams among players and staff members</td>
<td>Romana Brunner, Mario Bizzini, Nicola Mattiuzzetti, Karin Niedermann (Switzerland)</td>
</tr>
</tbody>
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### 11.30-12.30

**Session F • WORKSHOP**

**Room Bosio 1**

**Monitoring loads to prevent injuries in team sports. Is it worth the effort? #1232**

Javier Peña - Spain, Marti Casals - Spain

- Is it possible to monitor loads in team sports? Is it useful? Our workshop aims at presenting effective ways to gather and using monitoring data in team disciplines.

**Session G • WORKSHOP**

**Room Bosio 2**

**How wearables can protect the health of athletes during sporting competitions in the heat #1666**

Yannis Pitsiladis - United Kingdom, Benoit Mariani - Switzerland

- Aim to provide a practical update on developments in wearable technologies that help identify those at risk of EHI for more effective intervention during adverse events.

**Session H • WORKSHOP**

**Room Lifar**

**Preventing low back pain in sports – should we image, and how do we interpret images? #1244**

Kieran O’Sullivan - Ireland, Bruce Forster - Canada

- Altered low back morphology is common among athletes, even though serious pathology is rare. When do we order imaging, and/or be concerned about altered morphology?

**Session I • WORKSHOP**

**Room Scotto**

**Health & wellbeing of performance staff: building a resource to support your performance team #1257**

Steven Mutch - France, Elliott Niall - United Kingdom

- How to create the wellbeing infrastructure and monitoring processes for your performance team whilst integrating into the wider team strategies? Focus on wellbeing and performance delivery for support staff.

**Session J • WORKSHOP**

**Room Poulenc 1**

**Uncensored: the sensible use of head-impact sensors in sports #1266**

Stian Bahr Sandmo - Norway, Declan Patton - USA/Canada

- How to evaluate and use head impact sensors to quantify head loading in contact sports? We will take you through just that – step by step.
11.30-12.30  
**Session K • WORKSHOP**  
Room Genevoix 1  
**Knowledge translation in injury and concussion prevention: Interdisciplinary perspectives to inform prevention in youth volleyball – an applied example #1723**  
Kathryn Schneider - Canada, Kerry MacDonald - Canada  
Reducing concussion risk in youth volleyball - how an interdisciplinary team approach has addressed research and policy implementation.

11.30-12.30  
**Session L • WORKSHOP**  
Room Genevoix 2-3  
**The effect of injury on performance: the gold medal analytical strategy #1279**  
Tyrel Stokes - Canada, Ben Raysmith - Australia/Sweden  
Understanding a common framework for measuring different types of performances, and avoiding important errors in analytical strategies.

13.00-14.30  
Lunch

14.30-15.15  
**KEYNOTE 3**  
Room Salle des Princes  
**TROPICAL PARADISE OR DANGER ZONE? BEAT THE HEAT TO PROTECT ATHLETES IN A SWELTERING 2020 TOKYO** [565]  
Speaker: Sébastien RACINAIS - Qatar

15.30-16.30  
**THEMATIC POSTERS SESSIONS**  
Poster Area - Exhibition Hall Diaghilev  
*Please refer to pages 99-113 for full details*

**SESSION 21 - MSK AND REHAB**  
Chair: Nicola PHILLIPS - United Kingdom  
Posters #1249 #1416 #1503 #1612 #1564 #1769 #1650

**SESSION 22 - CRICKET AND CLIMBING**  
Chair: Martin SCHWELLNUS - South Africa  
Posters #1090 #1091 #1562 #1206 #1062 #1100

**SESSION 23 - INJURY PREVENTION MEASURES**  
Chair: Carolyn EMERY - Canada  
Posters #094 #1253 #1379 #085 #1614 #1289 #1290 #1640

**SESSION 24 - INJURY SURVEILLANCE**  
Chair: Karim KHAN - Canada  
Posters #1310 #1697 #1670 #1659 #1597 #1603 #1643 #1467

**SESSION 25 - MEDICINE**  
Chair: Jonathan DREZNER - USA  
Posters #1445 #1544 #1003 #1094 #1135 #1276 #1671

16.30-17.00  
Coffee Break
Session A • SYMPOSIUM 28
Room Salle des Princes

THE VALUE OF LONGITUDINAL DATA FOR THE PREVENTION OF INJURY AND ILLNESS. LESSONS LEARNED FROM INTERNATIONAL SURVEILLANCE PROGRAMS [105]

Chair: Ian SHRIER - Canada

17.00-17.04
Introduction
Ian Shrier - Canada

17.04-17.16
Evaluating the implementation and results from prevention programs in Danish children age 6-11 years over 5.5 years
Niels Wedderkopp - Denmark

17.16-17.28
Keeping your athletes available throughout a season: The value and benefits of timely feedback informed by injury and illness monitoring
Evert Verhagen - The Netherlands

17.28-17.40
Informing and maintaining policy change through research findings: Experiences with body checking in Canadian youth hockey
Carolyn Emery - Canada

17.40-18.00
Panel discussion: How to reap athlete benefits from longitudinal data

Session B • SYMPOSIUM 29
Room Prince Pierre

#METOSPORT – THE PREVENTION OF NON-ACCIDENTAL VIOLENCE IN SPORT SETTINGS: IT’S NOT JUST ABOUT ONE BAD APPLE [219]

Chairs: Sheree BEKKER - South Africa/United Kingdom, Margo MOUNTJOY - Canada

17.00-17.05
Introduction: #MeTooSport: The contemporary cultural context of the prevention of non-accidental violence in sport settings
Sheree Bekker - South Africa/United Kingdom

17.05-17.15
The vulnerability of disability: Prevalence and prevention of harassment and abuse in athletes with impairment
Yetsa A. Tuakli-Wosornu - Ghana/USA

17.15-17.25
Injury prevention through safeguarding: The work of the International Olympic Committee
Susan Greinig - Switzerland

17.25-17.35
The imperative for systemic change: understanding, contextualising, and influencing a culture of safeguarding in sport settings
Sheree Bekker - South Africa/United Kingdom

17.35-17.45
"Only by speaking out can we create lasting change": Lessons from the Nassar tragedy for sports medicine
Margo Mountjoy - Canada

17.45-18.00
Discussion

Session C • SYMPOSIUM 30
Room Camille Blanc

KNOWLEDGE TRANSLATION: BRIDGE BETWEEN THE EVIDENCE AND REAL-WORLD INJURY PREVENTION IMPACT [272]

Chair: Kathrin STEFFEN - Norway

17.00-17.05
Introduction: From lab to the fields of play
Kathrin Steffen - Norway

17.05-17.15
From evidence to impact: How to get the message out to increase adoption of injury prevention programmes in the real world
Nirmala Perera - Australia/Sweden

17.15-17.25
Getting evidence into practice: The meaning of ‘context’ for implementation of injury prevention programmes
Kathrin Steffen - Norway

17.25-17.35
Using the science of language to explicate the language of science: The role of communication and social psychology in implementation
Carly McKay - United Kingdom

17.35-17.45
Nation-wide implementation of an injury prevention exercise programme: Is there a real-world impact?
Martin Hägglund - Sweden

17.45-18.00
Panel discussion: “Down the rabbit hole – curiouser and curiouser” - practical tips to mitigate implementation challenges, opportunities and future direction for real world injury prevention outcomes
Kathrin Steffen, Nirmala Perera, Carly McKay, Martin Hägglund

Session D • SYMPOSIUM 31
Room Auric

PREVENTION OF INJURY IN THE OVERHEAD THROWING ATHLETE: PREDICTION, PREVENTION AND WORKLOAD [51]

Chair: Jason L. ZAREMSKI - USA

17.00-17.04
Epidemiology of injury in the overhead throwing athlete
Jason L. Zaremski - USA

17.04-17.16
The etiology of throwing injury in an overhead throwing athlete: What are the contributing factors?
Merete Møller - Denmark

17.16-17.26
Measuring true volume of workload in baseball pitchers and applications to workload in overhead throwing athletes
Jason L. Zaremski - USA

17.26-17.38
Shoulder throwing injury prevention in handball players: The Oslo Sports Trauma Research Center experience
Stig Andersson - Norway

17.38-17.50
Factors that may predict injury in overhead throwing athletes: the range of motion debate
Rodney Whiteley - Qatar

17.50-18.00
Panel discussion: Future directions for research and implementation for best practice in the prevention of overuse throwing injury in sport
Zaremski, Møller, Andersson, Whiteley
**Session E • SYMPOSIUM 32**

**17.00-18.00**

**Room Van Dongen**

**THE EFFECT OF THE ‘FACE TO FACE’ EDUCATION PROGRAM TO RUGBY MEDICAL ON THE SEVERE HEAD INJURY**

Chair: Mutsuo YAMADA - Japan

17.00-17.12

- The outline of WR education system
  Mutsuo Yamada - Japan

17.12-17.24

- Concussion education in prehospital immediate care in sports
  Andrew Smith - England

17.24-17.36

- The effect of the concussion card on the number of severe head injuries
  Lucy Clarke - Hong Kong, China

17.36-17.48

- The effect of concussion education on the number of severe head injuries
  Mutsuo Yamada - Japan

17.48-18.00

- Panel discussion: The effect of concussion education and the risk of severe head injury in rugby
  Yamada, Smith, Clarke

---

**Session F • WORKSHOP**

**17.00-18.00**

**Room Bosio 1**

**Shining on centre stage: does sport injury prevention translate to dance?**

#1284

Sarah J. Kenny - Canada, Janine Stubbe - The Netherlands

- Dance is coming to the Olympics! It's time to talk about dance, to learn what makes dancers unique, to do our best to keep them injury free.

**Session G • WORKSHOP**

**17.00-18.00**

**Room Bosio 2**

**Prevention is better than cure: the role of psychological interventions in sports injury risk reduction**

#1293

Andreas Ivarsson - Sweden, Adam Gledhill - United Kingdom

- Do you want practical suggestions for integrating psychological techniques into injury prevention? We'll cover that!

**Session H • WORKSHOP**

**17.00-18.00**

**Room Lifar**

**Looking to the past for the future of harm reduction in sport: a call for meaningful informed consent and health literacy initiatives in elite athlete development**

#1299

Asad Siddiqi - USA

- Can the tools of the past unlock the future of harm reduction in sports medicine? Informed consent and health literacy may be the keys.

---

**Session I • WORKSHOP**

**17.00-18.00**

**Room Scotto**

**Heat illness in sport – prevention and management strategies**

#1300

Glen Bergeron - Canada, Brian Zeller - Canada

- A look at life saving prevention and management strategies of exertional heat illness focusing on the on-field responsibility of the health care team.

**Session J • WORKSHOP**

**17.00-18.00**

**Room Poulenc 1**

**Top down or bottom up – Which way forward for youth sports health and safety**

#1303

Alex Diamond - USA, Allen Sills - USA

- How to implement change. Using real life examples to examine how we approach interventions to improve health and safety in youth sport.

**Session K • WORKSHOP**

**17.00-18.00**

**Room Genevoix 1**

**Peak performance without doping: using the innovations in anti doping, sport science and sport medicine for the illness and prevention and protection of the clean athlete**

#1322

Irina Zelenkova - Russian Federation, Yannis Pitsiladis - United Kingdom

- Aim to provide a practical update on sport science and sport medicine technologies that can be used for performance enhancement without doping, injury and illness prevention.

**Session L • WORKSHOP**

**17.00-18.00**

**Room Genevoix 2-3**

**Time to ditch the planks, listen to what athletes really need and want... and other useful strategies for preventing athlete low back pain**

#1324

Fiona Wilson - Ireland, Jane Thornton - Canada

- How common is athlete LBP, what are the risk factors, and can we improve RTP? We address practical screening and preventive strategies from our collective experience.
### Session A • HEAD-TO-HEAD DEBATE 2
Room Salle des Princes

**KILL THE SACRED COW: RETURN TO PLAY CRITERIA SHOULD BE TRASHED IN FAVOUR OF TIME (BIOLOGY)-BASED CRITERIA**

Chair: Karim KHAN - Canada

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<th>Speaker</th>
<th>Country</th>
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<tr>
<td>18.00-18.05</td>
<td>Setting the scene for the debate and introduction of speakers and debate format</td>
<td>Karim Khan</td>
<td>Canada</td>
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<td>18.05-18.20</td>
<td>Speaker for the affirmative: To improve our safe return to play we need to respect biological healing</td>
<td>Erik Witvrouw</td>
<td>Belgium</td>
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<td>18.20-18.35</td>
<td>Speaker for the negative: Studies show that the present RTP criteria are valid</td>
<td>Lynn Snyder-Mackler</td>
<td>USA</td>
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<td>18.35-18.47</td>
<td>Rebuttals</td>
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<td>18.47-18.50</td>
<td>Chair’s sum-up and post-debate audience vote</td>
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<td>18.50-19.00</td>
<td>Audience discussion</td>
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### Session B • SYMPOSIUM 33
Room Prince Pierre

**GASTROINTESTINAL ISSUES IN SPORT: UTILIZING DIET, THE GUT MICROBIOTA AND PROBIOTICS FOR PREVENTION OF ILLNESS IN ATHLETES**

Chair: Owen CRONIN - Ireland/United Kingdom

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<th>Speaker</th>
<th>Country</th>
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<tbody>
<tr>
<td>18.00-18.12</td>
<td>Gastrointestinal issues in our athletes: Prevalence, mechanisms and prevention through dietary habit</td>
<td>Jamie Pugh</td>
<td>United Kingdom</td>
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<td>18.12-18.24</td>
<td>Exercise effects and the elite athlete microbiome: What do we know?</td>
<td>Owen Cronin</td>
<td>Ireland/United Kingdom</td>
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<tr>
<td>18.24-18.36</td>
<td>Probiotics to prevent illness in athletes: The evidence and current state of play</td>
<td>Neil C. Williams</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>18.36-18.48</td>
<td>Manipulating our microbes: Microbial strategies to improve athlete health and prevent illness in elite sport</td>
<td>Orla O’Sullivan</td>
<td>Ireland</td>
</tr>
<tr>
<td>18.48-19.00</td>
<td>Panel discussion: What evidence and knowledge gaps are missing? How we must co-ordinate efforts to focus research in this field and to provide a solid evidence base for our athletes</td>
<td>Pugh, Cronin, Williams, O’Sullivan</td>
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### Session C • SYMPOSIUM 34
Room Camille Blanc

**THE 11+ JOURNEY: 14 YEARS AND STILL GOING STRONG?**

Chairs: Mario BIZZINI - Switzerland, Holly SILVERS-GRANELLI - USA

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<tbody>
<tr>
<td>18.00-18.08</td>
<td>Background of the 11+ programme</td>
<td>Mario Bizzini</td>
<td>Switzerland</td>
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<tr>
<td>18.08-18.24</td>
<td>Understanding age, gender, level of play and adherence issues related to the 11+</td>
<td>Holly Silvers-Granelli</td>
<td>USA</td>
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<tr>
<td>18.24-18.36</td>
<td>Tailoring the 11+ to the professional football context</td>
<td>James O’Brien</td>
<td>Australia/Austria</td>
</tr>
<tr>
<td>18.36-18.48</td>
<td>Prevention has to start early: The 11+ kids</td>
<td>Roland Rössler</td>
<td>Switzerland</td>
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<tr>
<td>18.48-19.00</td>
<td>Panel discussion: How should the 11+ programme looks like in the future? How we deal with implementation challenges? What about the children and 11+ kids?</td>
<td>Bizzini, Silvers-Granelli, O’Brien, Rössler</td>
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### Session D • SYMPOSIUM 35
Room Auric

**IOC CONSENSUS ON METHODOLOGY FOR RECORDING AND REPORTING OF DATA FOR INJURY AND ILLNESS SURVEILLANCE**

Chairs: Roald BAHR - Norway/Qatar, Karim CHAMARI - Qatar

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<tbody>
<tr>
<td>18.00-18.08</td>
<td>Why do we need a new consensus document?</td>
<td>Roald Bahr</td>
<td>Norway/Qatar</td>
</tr>
<tr>
<td>18.08-18.24</td>
<td>The key elements and changes in the new consensus statement</td>
<td>Willem Meeuwisse</td>
<td>Canada</td>
</tr>
<tr>
<td>18.24-18.36</td>
<td>How the STROBE-IE (Injury/Illness Epidemiology) checklist can help you – planning and reporting from studies</td>
<td>Karim Khan</td>
<td>Canada</td>
</tr>
<tr>
<td>18.36-18.48</td>
<td>How does the new consensus statement translate to the world of tennis – a model for other federations?</td>
<td>Babette Pluim</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>18.48-19.00</td>
<td>Panel discussion: What are the next steps to encourage consistency in data collection and research reporting?</td>
<td>Bahr, Chamari, Meeuwisse, Khan, Pluim</td>
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</table>
**Session E • FREE COMMUNICATIONS**
Room Van Dongen

**ACL INJURIES**

**Chairs:** Fares HADDAD - United Kingdom, Evert VERHAGEN - The Netherlands

18.00-18.10
- The mechanisms of anterior cruciate ligament injuries in male professional football players in the Middle East: a systematic video analysis of 15 cases #1584
  Raouf Nader Rekik, Roald Bahr, Flavio Cruz, Pieter D’Hooghe, Paul Read, Montassar Tabben, Karim Chamari (Qatar)

18.10-18.20
- Soccer players who rupture their ACL demonstrate biomechanical risk factors while decelerating: a prospective cohort study #1068
  Celeste Dix, Amelia Arundale, Holly Silvers-Granelli, Ryan Zarzycki, Adam Marmon, Lynn Snyder-Mackler (USA)

18.20-18.30
- Lower extremity malalignments associated with ACL injury risks may also be related to decreased field performance #1532
  Yohei Shimokochi, Satoshi Kuwano, Shogo Uta, Wakana Sasakabe, Takauchi Haruka, Takatsu Tomohiro, Shinshiro Mineta, Frederick Henderson, Takaaki Mishima, Moe Machida-Kosuga, Issei Ogasawara, Ken Nakata (Japan)

18.30-18.40
- The association between ACL injury and restricted hip range of motion among athletes #1093
  Diego Escudeiro de Oliveira, Pedro Baches Jorge, Marcos Vaz de Lima, Aires Duarte Junior, Claudio Santili (Brazil)

18.40-18.50
- Age-appropriateness of common neuromuscular training exercises in ACL injury prevention programs #1221
  Daphne Ling, Caroline Boyle, Joseph Janosky, Brenda Chang, Naomi Roselaar, James Kinderknecht, Robert Marx (USA)

18.50-19.00
- Effect of six-week exercise training on reducing biomechanical re-injury risk factors of professional female basketball players with anterior cruciate ligament reconstruction during stop jump #1207
  Jihong Qiu, Patrick Shu Hang Yung (Hong Kong, China)

**Session F • WORKSHOP**
Room Bosio 1

“Take my breath away”: asthma in female athletes, effects of reproductive hormones and strategies for screening and management #1362

Constance Lebrun - Canada, Patricia K. Doyle-Baker - Canada

- Does menstrual-linked asthma (MLA), or perimenstrual asthma (PMA) exist? We will discuss practical strategies for detection and preventative intervention.

**Session H • WORKSHOP**
Room Lifar

Modern day observations of golf injury etiology and physical assessment #1370

Gill Lance - USA, Mike Voight - USA

- Epidemiology of Injuries in Golf - Is this a problem? Golf Fitness Screening – the foundation to improving performance and preventing injury.

**Session J • WORKSHOP**
Room Poulenc 1

EAT, SLEEP, SWIM, REPEAT: how to implement prevention strategies for overuse injuries in elite/competitive swimmers?
– An integrated approach #1389

Kevin Kuppens - Belgium, Céline Labie - Belgium

- Evidence and expert based integrated approach for reducing the risk of overuse injuries in competitive and elite swimmers.

**Session K • WORKSHOP**
Room Genevoix 1

The missing link: what to do when reality causes imperfect data collection #1399

Örjan Dahlström - Sweden, Chinchin Wang - Canada

- Proper handling of missing data is a challenge but essential to properly interpret results. We explore recent developments in this field.

**Session L • WORKSHOP**
Room Genevoix 2-3

Taping and bracing for injury prevention: a help, habit or hazard? #1419

Marie-Elaine Grant - Ireland

- # Taping and Bracing for prevention: Review of the science, learn the criteria to make informed choices for prevention, avoid habitual or potentially hazardous use.
### Session A • SYMPOSIUM 36

**09.30-11.00**

**Room Salle des Princes**

**TOKYO 2020: PROTECTING THE ATHLETE FROM ENVIRONMENTAL AND LOGISTICAL CHALLENGES** [248]

**Chair:** Lee TAYLOR - United Kingdom

<table>
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<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>09.30-09.33</td>
<td>Introduction: Environmental and logistical challenges to athlete health</td>
<td>Lee Taylor</td>
<td>United Kingdom</td>
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<tr>
<td>09.33-09.45</td>
<td>Jetlag and travel fatigue prevention and treatment at the games</td>
<td>Christa Janse van Rensburg</td>
<td>South Africa</td>
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<tr>
<td>09.45-09.57</td>
<td>Illness during travel and at the games: how to prevent illness?</td>
<td>Martin Schwellnus</td>
<td>South Africa</td>
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<td>09.57-10.09</td>
<td>Air quality/pollution challenges to athlete health at the games: Prevention and treatment</td>
<td>Valérie Bougault</td>
<td>France</td>
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<td>10.09-10.21</td>
<td>Water quality/pollution challenges to athlete health at the games: Prevention and treatment</td>
<td>Margo Mountjoy</td>
<td>Canada</td>
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<td>10.21-10.33</td>
<td>Challenges to athlete health at the hottest modern Olympics in history</td>
<td>Sébastien Racinais</td>
<td>Qatar</td>
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<td>10.33-10.45</td>
<td>Countermeasures to prevent illness and preserve performance in hot and humid conditions</td>
<td>Lee Taylor</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10.45-11.00</td>
<td>Panel discussion</td>
<td>Taylor, Janse van Rensburg, Schwellnus, Bougault, Mountjoy, Racinais</td>
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### Session B • SYMPOSIUM 37

**09.30-11.00**

**Room Prince Pierre**

**CONCUSSION PREVENTION IN YOUTH TEAM SPORTS: EVIDENCE INFORMING BEST PRACTICE AND POLICY ACROSS FIVE HIGH RISK SPORTS** [266]

**Chair:** Carolyn EMERY - Canada

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
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<tr>
<td>09.30-09.35</td>
<td>The public health burden of concussion in youth team sport: Introduction of session and speakers</td>
<td>Carolyn Emery</td>
<td>Canada</td>
</tr>
<tr>
<td>09.35-09.47</td>
<td>Primary prevention of concussion in youth American Football: Tackle training, equipment, and rules</td>
<td>Jason P. Mihalik</td>
<td>USA</td>
</tr>
<tr>
<td>09.47-09.59</td>
<td>A comprehensive approach to concussion prevention in youth ice hockey</td>
<td>Carolyn Emery</td>
<td>Canada</td>
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<tr>
<td>09.59-10.11</td>
<td>Preventing concussion in youth rugby: Dispelling the myths of tackle training, load modification, and neuromuscular training</td>
<td>Keith Stokes</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10.11-10.23</td>
<td>Best practice in concussion prevention in youth lacrosse</td>
<td>Dawn Comstock</td>
<td>USA</td>
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<tr>
<td>10.23-10.35</td>
<td>Targeting intrinsic and extrinsic risk factors for concussion in youth soccer</td>
<td>Kathryn Schneider</td>
<td>Canada</td>
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<tr>
<td>10.35-10.40</td>
<td>Highlights for best practice and policy across 5 team sports</td>
<td>Carolyn Emery</td>
<td>Canada</td>
</tr>
<tr>
<td>10.40-11.00</td>
<td>Panel discussion: Future directions in the prevention of concussion in youth sport. What evidence has potential for translation across sport-specific contexts?</td>
<td>Emery, Mihalik, Stokes, Comstock, Schneider</td>
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Session C • SYMPOSIUM 38
Room Camille Blanc

NEVER MENTION PREVENTION! [371]

Chairs: Martin ASKER - Sweden, Rodney WHITELEY - Qatar

09.30-11.00
09.30-09.42 How would you train if you weren’t governed by fear of injury?
Rodney Whiteley - Qatar
09.42-09.54 Injury prevention programmes are bargains, but very few are buying them: Why?
Renate Moller - Denmark
09.54-10.06 I choose a throwing performance programme over injury prevention training every day of the week!
Martin Ask - Sweden
10.06-10.18 Don’t do hamstring injury prevention training, it will just decrease your performance!
Tania Pizzari - Australia
10.18-10.30 If I do the Copenhagen Adduction Exercise, I’ll be sore for a week, so no thank you!
Andreas Serner - Denmark/Qatar
10.30-10.42 30 years of research and clinical experience on the bumpy road of injury prevention - what do we see on the horizon
Rodney Whiteley - Qatar
10.42-11.00 Panel discussion: Adherence to injury prevention strategies that have proven efficacy is a challenge for sports medicine practitioners. How can we improve the practical translation from research to real world settings? How can we enhance implementation of injury prevention in sport?
Whiteley, Møller, Ask, Pizzari, Serner

Session D • FREE COMMUNICATIONS
Room Auric

INJURY PREVENTION II

Chairs: Jonathan DREZNER - USA, Erich MÜLLER - Austria

09.30-11.00
09.30-09.40 Do non-elite soccer teams implement neuromuscular training to prevent non-contact anterior cruciate ligament injuries? #1217
Christophe Eechaut, Lieselot Longé, Winnie Debecker, Lore Meganck, Lynn Leemans, Ronald Buy, David Beckwée, Tim Hendrikx, Michel Stéphane (Belgium)
09.40-09.50 Implementing a School Prevention Program to Reduce Injuries through Neuromuscular Training (SPRINT): A cluster-randomized controlled trial #1805
Carla Vandenberg (Canada), Carolyn Emery (Canada), Sarah Richmond (Canada), Luz Palacios-Derflinger (Canada), Carly McKay (United Kingdom), Patricia K. Doyle-Baker (Canada), Megan McKinlay (Canada), Oluwatoyosi Owoeye (Canada), Clodagh Toomey (The Netherlands), Kathy Belton (Canada), Alison K. MacPherson (Canada), Brent E. Hagel (Canada)
09.50-10.00 Injury prevention: exploring factors affecting adherence to different exercise programmes in men’s community rugby union #1320
Matthew Atwood, Carly McKay, Simon Roberts, Grant Trewartha, Keith Stokes (United Kingdom)
10.00-10.10 Kinematic and neuromuscular predictors of failed landings during unanticipated drop-jumps: implications for injury prevention #1579
Nicholas Romanchuk, Célina Girard, Daniel Benoit (Canada)
10.10-10.20 The preventive effect of targeted adductor training on groin pain from football players #997
Julia Smakal, Nadja Jamrog, Bartosz Wojanowski (Germany)
10.20-10.30 Supervised implementation of a neuromuscular training warm-up programme to improve adherence and reduce injuries in youth basketball: A cluster randomised trial #1457
Oluwatoyosi Owoeye (USA/Canada), Kati Pasanen (Canada/Finland), Anu Räisänen (Canada), Kimberley Befus (Canada), Tyler J. Tait (Canada), Carlyn Stilling (Canada), Vineetha Warriyar (Canada), Luz Palacios-Derflinger (Canada), Carolyn Emery (Canada)
10.30-10.40 Identifying the challenges to implementing a netball neuromuscular warm-up using concept mapping #1496
Erin Smyth, Renee Appaneal, Michael Drew, Alanna Antcliff, Gordon Waddington, Juana Weissensteiner, Phillip Newman, Alex Donaldson (Australia)
10.40-10.50 Warm-up practices in high school basketball: Searching for clues to improve injury prevention program implementation strategies #1345
Anu Räisänen (Canada), Oluwatoyosi Owoeye (Canada/USA), Kimberley Befus (Canada), Carla Vandenberg (Canada), Kati Pasanen (Canada/Finland), Carolyn Emery (Canada)
10.50-11.00 The effectiveness of neuromuscular training warm-up programme to reduce knee and ankle injuries in youth basketball: A historical cohort study #1511
Oluwatoyosi Owoeye (USA/Canada), Kati Pasanen (Canada/Finland), Kimberley Befus (Canada), Carlyn Stilling (Canada), Brianna Ghali (Canada), Tyler J. Tait (Canada), Tade HubkaRao (Canada), Luz Palacios-Derflinger (Canada), Vineetha Warriyar (Canada), Carolyn Emery (Canada)
Injury and illness epidemiology and risk factors in short course triathlon: a systematic review #1517
Sara A Guevara, Paula C. Charton, Gordon Waddington, Julien D. Périard, Kate Mahony, Michael Drew (Australia)

The epidemiology of injury and illness of athletes at the Indian Ocean Island Games 2019 #961
Daniel Garnett (South Africa), Chandra Adisha Bholah (Mauritius), Yannick D’Hotman (Mauritius), Jon Patricios (South Africa), Benita Olivier (South Africa), Saul Cobbing (South Africa)

Average race day environmental data underestimates individual athlete environmental exposure in a mass-participation endurance cycling event with a staggered start: a SAFER study in 97946 cyclists #1541
Sonja Swanevelder, Martin Schwellnus, Nicola Sewry, Esme Jordaan (South Africa)

Years of training, older age, history of chronic disease and medication use are risk factors associated with overuse injuries in recreational cyclists: a cross-sectional SAFER study in 21824 cyclists #1516
Francois du Toit, Martin Schwellnus, Paola Wood, Sonja Swanevelder, Jannelene Killops, Esme Jordaan (South Africa)

Independent risk factors associated with injury-related medical encounters during a 109 km cycling event are female sex, older age, faster cycling speed and environmental conditions: a SAFER study in 102251 race starters #1533
Jannelene Killops, Nicola Sewry, Martin Schwellnus, Sonja Swanevelder, Christa Janse van Rensburg, Esme Jordaan (South Africa)

Independent risk factors associated with illness-related medical encounters during a 109 km cycling event are older age, slower cycling speed and warmer environmental conditions: a SAFER study in 102251 race starters #1537
Nicola Sewry, Martin Schwellnus, Jannelene Killops, Sonja Swanevelder, Christa Janse van Rensburg, Esme Jordaan (South Africa)

Sleep and general health predict higher injury rates in endurance athletes: a prospective study #1432
Kieran O’Sullivan (Ireland), Richard Johnston (Ireland/Australia), Rosin Cahalan (Ireland), Laura Bonnett (United Kingdom), Mark Maguire (Ireland), Phil Glasgow (Ireland), Sharon Madigan (Ireland), Thomas M. Comyns (Ireland)

Olympic-career related sports injury epidemiology: The Retired Olympian Musculoskeletal Health Study (ROMHS) #1486
Debbie Palmer (United Kingdom), Dale Cooper (United Kingdom), Carolyn Emery (Canada), Mark Batt (United Kingdom), Lars Engebretsen (Norway/Switzerland), Brigitte Scammell (United Kingdom), Torbjørn Soligard (Norway/Switzerland), Kathrin Steffen (Norway), Jackie Whittaker (Canada), Richard Budgett (Switzerland)

Injury and illness coaching style: associations with burnout in young elite athletes #1150
Nils Fredrik Holm Moseid, Christine Holm Moseid, Pierre-Nicolas Lemyre, Morten Wang Fagerland, Roald Bahr (Norway)

Leadership for athlete health protection #1048
Evert Verhagen - The Netherlands, Jan Ekstrand - Sweden/Qatar

Injury prevention: the role of video analysis #1455
Simon Roberts - United Kingdom, Claude Goulet - Canada

Mirror mirror on the wall.... What's the minimum machine learning I should know: a brief introduction to machine learning #1457
Luz Palacios-Derflinger - Canada, Alberto Nettel-Aguirre - Canada

A practical guide to prevent injuries with load management in football #1466
Torstein Dalen-Lorentsen - Norway, Johann Windt - Canada

How can we prevent Exercise-Induced Laryngeal Obstruction (EILO) from obstructing the athletes’ career? #1443
Hege Clemm - Norway

Athletes’ breathing, asthma or EILO? Undiagnosed EILO hampers athletes’ career.
Asthma medication used for wrong reasons. EILO can be treated.

Successful medical teams are characterised by effective leadership. What is leadership, why does it matter, how can you harness it?

Successful medical teams are characterised by effective leadership. What is leadership, why does it matter, how can you harness it?
Session K • WORKSHOP
09.30-10.30
Room Genevoix 1
Elite cycling: preventing injury and increasing rider safety #1273
Stephen Boyce - United Kingdom, Neil Heron - United Kingdom

Cycling is a popular global sport. Road racing can be a dangerous environment with a high potential for injury and trauma. Can we make professional cycling safer for riders? Can we improve our management of concussion and trauma? We discuss the practicalities, offer solutions and invite debate.

Session L • WORKSHOP
09.30-10.30
Room Genevoix 2-3
Going from 2016 to 2020 and beyond: from "screening will never predict injuries" to "complex systems thinking", lessons learnt from big data collection, and how to keep it simple #1476
Nikki Rommers - Belgium, Bruno Tassignon - Belgium

From 2016 to 2020 and beyond: screening will never predict injuries and complex systems, lessons learnt from big data and how to KISS.

11.00-11.30 Coffee Break

Session A • SYMPOSIUM 39
11.30-12.30 Room Salle des Princes
TRAINING LOAD AND INJURY [146]
Chair: Karim CHAMARI - Qatar

11.30-11.33
Introduction
Karim Chamari - Qatar

11.33-11.45
Training load monitoring: Objective and subjective tools – feasibility in the field
Karim Chamari - Qatar

11.45-11.57
Training load data analysis: What variables, what stats, what tools? What does it all mean when I just want to prevent injuries?
Rodney Whiteley - Qatar

11.57-12.09
From research to the football World Cup: lessons learned from implementing training load monitoring in elite football players
Grégory Dupont - United Kingdom/France

12.09-12.21
Navigating the complex relationship between training load and groin injury in professional male football players
Andrea Mosler - Australia

12.21-12.33
Training load specifics for tendons – prevention of injuries and re-injuries when there is ‘pathology’, pain, or a ‘normal’ tendon?
Jill Cook - Australia

12.33-12.45
Modifying training loads to reduce the risk of further injury for athletes following knee surgery
Kay M. Crossley - Australia

12.45-13.00 Discussion

Session B • SYMPOSIUM 40
11.30-12.30 Room Prince Pierre
THE INJURY PREVENTION (R)EVOLUTION - A PRIMER FOR TOMORROW [362]
Chairs: Nicol van DYK - Qatar, Johann WINDT - Canada

11.30-11.35
Introduction: Back to the future for prevention?
Nicol van Dyk - Qatar

11.35-11.45
Injury surveillance has changed dramatically: What will it look like in 2024?
Torbjørn Soligard - Norway/Switzerland

11.45-12.00
Technology will change the game - and it already has
Lorena Torres Ronda - USA

12.00-12.15
Don’t bring your opinion to a data fight: Analytics will enhance our prevention strategies
Johann Windt - Canada

12.15-12.30
Scaling up our prevention capacity - the key is context
Carly McKay - United Kingdom

12.30-12.45
Will future coaches be better partners to effectively drive injury prevention efforts?
5 ways you can make sure they are
Kerry MacDonald - Canada

12.45-13.00 Panel discussion and case study: We will illustrate an injury prevention strategy/intervention using a practical example
van Dyk, Soligard, Torres Ronda, Windt, McKay, MacDonald

Session C • SYMPOSIUM 41
11.30-12.30 Room Camille Blanc
INJURY PREVENTION – WHAT CAN YOU LEARN FROM OUR BIGGEST MISTAKES? [255]
Chair: Michael TURNER - United Kingdom

11.30-11.45
Epidemiological headaches
Evert Verhagen - The Netherlands

11.45-12.00
Injury prevention in youth sport: It isn’t just about the research findings
Carolyn Emery - Canada

12.00-12.15
Sports medicine solutions that failed
Babette Pluim - The Netherlands

12.15-12.30
Trust your physio, we don’t make mistakes
Caroline Bolling - The Netherlands/Brazil

12.30-12.45
Popular injury prevention myths that aren’t supported by science
Michael Turner - United Kingdom

12.45-13.00 Panel Discussion:
Turner, Verhagen, Emery, Pluim, Bolling
DISTANCE RUNNING

Chairs: Caroline FINCH - Australia, Kathryn ACKERMAN - USA

11.30-11.40
- Experienced runners with an above average training load have the highest risk of exercise associated muscle cramping (EAMC) #1538
  Martin Schwellnus, Esme Jordaan (South Africa)

11.40-11.50
- Risk factors associated with injuries in first-time marathon runners: a 12-week prospective study #1041
  Brett Toresdahl, Kathryn McElheny, Mark Alan Fontana, Jordan Metzl, Brittany Ammerman, James Kinderknecht (USA)

11.50-12.00
- Primary or secondary injury prevention in recreational runners: does it differ? #1427
  Tryntsje Fokkema, Robert-Jan de Vos, Sita M.A. Biemra-Zeinstra, Marienke van Middelkoop (The Netherlands)

12.00-12.10
- The use of artificial intelligence tools to estimate running-related injury risk profiles in recreational runners #1491
  Gustavo Leporace, Gustavo Nakaoka, Leonardo Metsavaht, Luiz Hespanhol Jr (Brazil)

12.10-12.20
- A novel comparison of impact accelerations between prospectively injured runners and runners with and without a history of injury #1338
  Aoife Burke, Kieran Moran, Enda Whyte, Sarah Dillon, Shane Gore, Siobhán O'Connor (Ireland)

12.20-12.30
- Environmental factors, training factors, race pace and distance, older age, and metabolic/endocrine disease are independent risk factors associated with adverse events in runners: a SAFER study in 76654 starters #1534
  Martin Schwellnus (South Africa), Nicola Sewry (South Africa), Mats Borjesson (Sweden), Sonja Swanevelder (South Africa), Esme Jordaan (South Africa)

12.30-12.40
- Self-reported medical conditions/medication use, older females, and slow pace are independent risk factors for all medical encounters in a 90 km ultramarathon: a SAFER study in 70328 runners over 5 years #1539
  Nicola Sewry, Jeremy Boulter, Martin Schwellnus (South Africa)

12.40-12.50
- Metabolic/endocrine disease, older females, longer race distance, slower race pace and lower WBGT are independent risk factors associated with medical encounters in 21.1 km and 50 km runners: a SAFER study in 76654 starters #1536
  Martin Schwellnus (South Africa), Nicola Sewry (South Africa), Mats Borjesson (Sweden), Sonja Swanevelder (South Africa), Esme Jordaan (South Africa)

12.50-13.00
- Slower runners, older females and route characteristics are independent risk factors for serious/life-threatening medical encounters in a 90 km ultramarathon: a SAFER study in 70328 runners over 5 years #1540
  Nicola Sewry, Jeremy Boulter, Martin Schwellnus (South Africa)
Session F • WORKSHOP
11.30-12.30
Room Bosio 1
Stimulating talent development and preventing injuries simultaneously – bio-banded training in elite youth football? #1477
Nikki Rommers - Belgium, Jan Willem Teunissen - The Netherlands
Talent development meets injury prevention in adolescent elite football players: the right training at the right time works like a charm.

Session G • WORKSHOP
11.30-12.30
Room Bosio 2
Performance driven injury prevention #1487
Hunter Visser - Canada
In this session you will learn to help athletes manage the four mental and physical states that cause over 95% of injuries and performance errors.

Session H • WORKSHOP
11.30-12.30
Room Lifar
The acute:chronic workload ratio: evolution or revolution? #1145
Sean Williams - United Kingdom, Ian Shrier - Canada
What are the limitations of the ACWR? And can these challenges be overcome? We will discuss potential solutions to this issue.

Session I • WORKSHOP
11.30-12.30
Room Scotto
Studying techniques to reduce the risk of injuries in contact sports - from the lab to the field #1531
Sharief Hendricks - South Africa/United Kingdom, Gregory Tierney - United Kingdom
Demonstrate current methodologies used to study techniques in contact sports for effective injury prevention and discuss potential future innovations.

Session J • WORKSHOP
11.30-12.30
Room Poulenc 1
Rugby-7s is fast, but are we running and about to knock-on! Evidence-based rugby-7s injury prevention concepts #1542
Victor Lopez Jr - USA/New Zealand, Patricia Hume - New Zealand
What are developing markets rugby-7s injury risks? What interventions improve developing nations performance? We discuss evidence-based solutions.

Session K • WORKSHOP
11.30-12.30
Room Genevoix 1
An innovative approach to increasing concussion reporting: pre-game safety huddles #1571
Sara Chrisman - USA, Rachel Hays - USA
A practical approach to improving concussion safety. How can Pre-Game Safety Huddles increase concussion reporting? What is required to implement safety huddles?

Session L • WORKSHOP
11.30-12.30
Room Genevoix 2-3
Sensorimotor education for the management of recurrent ankle instability #1573
Masafumi Terada - Japan, Phillip Gribble - USA
This workshop will discuss novel injury prevention and management strategies for recurrent ankle sprains to induce positive sensorimotor plasticity.

13.00-14.30 Lunch

Session A • SYMPOSIUM 42
14.30-15.30
Room Salle des Princes
HEAT INJURY AND ILLNESS PREVENTION FOR TOKYO 2020: WHAT IS THE IOC DOING?
Chair: Yannis PITSILADIS - United Kingdom
14.30-14.42 From risk analyses to evidenced based practice
Sébastien Racinais - Qatar
14.42-14.54 Timing analyses for appropriate scheduling
Stéphane Bermon - Monaco
14.54-15.06 Anticipating the treatment needs
Douglas J. Casa - USA
15.06-15.18 Wearable technologies: Future challenges and opportunities for implementation in athlete healthcare
Yannis Pitsiladis - United Kingdom
15.18-15.30 Panel discussion: Success, challenge and legacy of the IOC adverse weather impact expert working group for the Olympics Games Tokyo 2020
Racinais, Bermon, Casa, Pitsiladis
### Session B • SYMPOSIUM 43

**Room Prince Pierre**

**IMPLEMENTING CHANGE IN PERFORMANCE AND PREVENTION: PERSUASION, PERSEVERANCE, PASSION** [181]

**Chairs:** Mario BIZZINI - Switzerland, Nicola PHILLIPS - United Kingdom

14.30-14.35
- Setting the scene for leadership in practice change
  - Nicola Phillips - United Kingdom
14.35-14.45
- The 11+ story: how F-MARC changed practice on a global basis
  - Mario Bizzini - Switzerland
14.45-14.55
- Changing practice in a performance environment – Australian Ballet
  - Susan Mayes - Australia
14.55-15.05
- Leading a change in practice for reducing injuries in a team setting
  - Mo Gimpel - United Kingdom
15.05-15.15
- Increasing professional engagement in change – setting the tone
  - Emma Stokes - Qatar/Ireland
15.15-15.30
- Panel discussion: How do we change mindsets to adopt a different approach for injury prevention?

### Session C • SYMPOSIUM 44

**Room Camille Blanc**

**INJURY PREVENTION IN HANDBALL: WHAT HAVE WE LEARNED AND WHERE ARE WE GOING?** [568]

**Chairs:** Lior LAVER - United Kingdom/Israel, Grethe MYKLEBUST - Norway

14.30-14.42
- Laying the ground for the next step in injury prevention in Handball – The Handball Consensus statement on injury and illness data collection
  - Lior Laver - United Kingdom/Israel
14.42-14.54
- Injury prevention strategies for the lower extremities in handball: More than just a throwing sport!
  - Grethe Myklebust - Norway
14.54-15.06
- Risk factors and injury prevention for the upper extremities in handball
  - Martin Asker - Sweden
15.06-15.18
- The role of load management in injury prevention in handball
  - Merete Møller - Denmark
15.18-15.30
- Discussion

### Session D • SYMPOSIUM 45

**Room Auric**

**IT’S NOT COMPLICATED: INJURY PREVENTION IN SPORT THROUGH A COMPLEX SYSTEMS APPROACH** [218]

**Chairs:** Sheree BEKKER - South Africa/United Kingdom, Nicol VAN DYK - Qatar

14.30-14.35
- Introduction
  - Nicol van Dyk - Qatar
14.35-14.45
- The evolution of injury prevention models in the past 30 years
  - Willem Meeuwisse - Canada
14.45-14.55
- Risk factor identification to injury pattern recognition – key principles in complex systems theory
  - Natália F. N. Bittencourt - Brazil
14.55-15.05
- Small big data - How to apply complex approaches at an individual level
  - Nicol van Dyk - Qatar
15.05-15.15
- What works in Melbourne on a muggy Monday won’t work in Soweto on a sunny Saturday: considerations for successful implementation in complex settings
  - Sheree Bekker - South Africa/United Kingdom
15.15-15.30
- Panel discussion
  - van Dyk, Meeuwisse, Bittencourt, Bekker

### Session E • SYMPOSIUM 46

**Room Van Dongen**

**PREVENTION OF LONG-STANDING GROIN PAIN IN ATHLETES** [361]

**Chair:** Per HÖLMICH - Denmark

14.30-14.42
- Prevention with athletic exercise based on pathology
  - Sadao Niga - Japan
14.42-14.54
- Prevention of core muscle injuries in athletes
  - Alexander E. Poor - USA
14.54-15.06
- Cross-motion swing produces effective pelvic motion for prevention by three-dimensional movement analysis
  - Mitsunori Kaya - Japan
15.06-15.18
- Development of clinical entities, treatment, and prevention
  - Per Hölmich - Denmark
15.18-15.30
- Panel discussion: Future strategies for long-standing groin pain prevention
  - Niga, Poor, Kaya, Hölmich
### Session F • WORKSHOP
14.30-15.30
Room Bosio 1
**Injury risk reduction in elite road cycling: shoulder performance matters!** #1578

*Kevin Kuppens* - Belgium, *Stefan Deckx* - Belgium

An interactive workshop emphasizing the need for shoulder girdle training aiming at injury risk reduction in elite road cyclists.

### Session G • WORKSHOP
14.30-15.30
Room Bosio 2
**Engaging with modern media: are sports medicine clinicians missing the mark for injury prevention?** #1589

*Osman Ahmed* - United Kingdom, *Karen Litzy* - USA

Elevate your media game. Discover how you can tap into mainstream and social media platforms to disseminate evidenced based sports injury information to the public.

### Session H • WORKSHOP
14.30-15.30
Room Lilar
**#SoMe or Not #SoMe? How to turbocharge knowledge translation in sport and exercise medicine for real-world prevention impact** #1600

*Nirmala Perera* - Switzerland/Sweden/United Kingdom/Australia, *Steffan Griffin* - United Kingdom

Interactive workshop to empower delegates to actively contribute towards #IOCprev2020 #SoMe strategy to spread key injury prevention message to a global audience.

### Session I • WORKSHOP
14.30-15.30
Room Scotto
**How hard do you have to be a hardened professional sportsperson? Lessons from England Cricket's lumbar spine stress fracture research program, exploring bone density, bone adaptation, injury resilience and readiness to perform** #1632

*Nicholas Peirce* - United Kingdom, *Pete Alway* - United Kingdom

How hard is a hardened sportsperson? What does safe career bone progression look like? England Cricket presents data that informs sport.
SCIENTIFIC PROGRAMME
Saturday 14 March

15.30-16.30  Session B • SYMPOSIUM 48
Room Prince Pierre

PROTECTING RESPIRATORY HEALTH IN ATHLETES: WHAT CAN WE DO BETTER? [174]

Chair: James Hull - United Kingdom, Michael Loosemore - United Kingdom

15.30-15.35  Introduction
Michael Loosemore - United Kingdom

15.35-15.45  Respiratory problems in athletic individuals: What’s hot and what’s not?
James Hull - United Kingdom

15.45-15.55  Allergy and pollution exposure when exercising: Can we do better to protect respiratory health?
Michael Koehle - Canada

15.55-16.05  Respiratory tract infections: The good, the bad and the ugly
Martin Schwellnus - South Africa

16.05-16.15  Delivery of optimal respiratory health in a world-class performance system: Can it be done?
Michael Loosemore - United Kingdom

16.15-16.30  Panel discussion: Future directions in respiratory health: how can we help improve the most important medical problem in athletes
Loosemore, Hull, Koehle, Schwellnus

15.30-16.30  Session C • SYMPOSIUM 49
Room Camille Blanc


Chair: Paul Dijkstra - Qatar, Andrea Mosler - Australia

15.30-15.45  Our confusing hip language is undermining prevention and protection
Claire Ardern - Sweden/Australia

15.45-15.55  To prevent and protect the hip, we need to understand primary cam morphology, its cause and prognosis - but can we yet?
Paul Dijkstra - Qatar

15.55-16.05  Screening and intervention to prevent primary cam morphology – it’s too much sports medicine creating a mountain out of a molehill?
Andrea Mosler - Australia

16.05-16.15  Protecting the athlete with primary cam morphology from developing femoroacetabular impingement syndrome and osteoarthritis
Sion Glyn-Jones - United Kingdom

16.15-16.30  Panel Discussion: This discussion will focus on the current state of evidence on protecting athletes from developing cam morphology, femoroacetabular impingement syndrome and early hip osteoarthritis. The importance of multi-center collaboration for clinical research, to reach consensus on sharing data and experiences, and develop the foundations for a prospective Individual Patient Data Meta-analysis will also be discussed
Ardern, Dijkstra, Mosler, Glyn-Jones

15.30-16.30  Session D • SYMPOSIUM 50
Room Auric

HEALTH IMPACT OF LIFE-LONG PARTICIPATION IN OLYMPIC SPORT [574]

Chair: Yannis Pitsiladis - United Kingdom

15.30-15.42  Too much of a good thing? The cardiovascular profile of older habitual high volume training endurance athletes
Jeroen Swart - South Africa

15.42-15.54  The benefits and consequences of a life in competitive sport: A musculoskeletal perspective
James Bilzon - United Kingdom

15.54-16.06  The health impact of life-long participation in Olympic sport: Lessons from Tokyo 1964
Michiko Dohi - Japan

16.06-16.18  The legacy of the Olympic Games and major sporting events: new horizons for life expectancy and health
Victoriya Badtliya - Russia

16.18-16.30  Questions and panel discussion

15.30-16.30  Session E • FREE COMMUNICATIONS
Room Van Dongen

INJURIES & LOAD MONITORING

Chair: Lars Engbretsen - Norway/Switzerland, Caroline Finch - Australia

15.30-15.40  Multiple workload spikes and the risk of shoulder injuries in adolescent competitive tennis players: the SMASH cohort study #1675
Eva Skillgate (Sweden), Ann Cools (Belgium), Jaime Fernandez-Fernandez (Spain), Fredrik Johansson (Sweden)

15.40-15.50  Training load management and prevention: effects on injury prevalence in high-level rugby center #599
Julien Paulus, Arnaud Laly, Sébastien Guns, Jean-François Kaux (Belgium)

15.50-16.00  Training load and other risk factors for soft tissue injury risk in professional rugby union: a 13 team, 2-season study of 383 injuries #1358
Stephen West, Sean Williams, Dario Cazzola, Matthew Cross, Simon Kemp, Keith Stokes (United Kingdom)

16.00-16.10  Match congestion and training load influence injury risk in collegiate men’s and women’s soccer #1461
Robert Huggins, Ryan Curtis, Courteney L. Benjamin, Yasuki Sekiguchi, Erin Wasserman, David Klossner, Douglas J. Casa (USA)

16.10-16.20  Monitoring workload to evaluate injury risk: the impact of missing data #1453
Lauren Benson (Canada), Carlyn Stilling (Canada), Oluwatoyosi Owoeye (Canada/USA), Carolyn Emery (Canada)

16.20-16.30  Workload weighted for tissue damage results in higher acute:chronic workload ratio for injured vs. uninjured athletes #1485
Lauren Benson (Canada), Oluwatoyosi Owoeye (Canada/USA), Carlyn Stilling (Canada), W. Brent Edwards (Canada), Carolyn Emery (Canada)
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<td>Session F</td>
<td>Bridging the gap to keep them in the game: sharing a successful knowledge translation initiative to upscale evidence-informed sport injury prevention programs</td>
<td>Bosio 1</td>
<td>Carla Vandenberg - Canada, Kati Pasanen - Canada/Finland</td>
<td>Sharing the KT process used to upscale injury prevention warm-ups in Canadian community sport: Tips on putting your research into practice.</td>
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<td>Session G</td>
<td>Gold standard with gold quality – tips on how to perform a randomized controlled trial (RCT) with high quality</td>
<td>Bosio 2</td>
<td>Eva Skillgate - Sweden</td>
<td>For participants to gained knowledge in the most important biases in clinical epidemiology, and on how to plan, implement and evaluate RCTs within sports medicine.</td>
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<td>Session H</td>
<td>Getting hip with injury prevention: how to perform an effective hip screening exam to identify the “hip at risk”</td>
<td>Lifar</td>
<td>Marc Philippon - USA, Dustin Nabhan - USA</td>
<td>We will discuss and demonstrate the importance of the hip screening exam in the understanding and prevention of FAI in athletes.</td>
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<td>Session I</td>
<td>Behave yourself, and avoid overuse injuries</td>
<td>Scotto</td>
<td>Ulrika Tranaeus - Sweden, Andreas Ivarsson - Sweden</td>
<td>Why do athletes ignore warning signals of overuse injuries? Help them to identify signs of overuse injuries and coach them to awareness and a behavioural change. Start all over with ABC!</td>
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<td>Session J</td>
<td>Functional performance testing to assess injury risk in elite youth sport: the long and winding road from the lab to the field and back again</td>
<td>Poulenc 1</td>
<td>Nikki Rommers - Belgium, Jo Verschueren - Belgium</td>
<td>Lessons learnt and results observed: how to improve functional performance testing in injury prevention practice in elite youth sport.</td>
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<td>Session K</td>
<td>Prevention of concussion in sport: cervical spine and vestibular considerations</td>
<td>Genevoix 1</td>
<td>Kathryn Schneider - Canada</td>
<td>Addressing intrinsic and modifiable factors, such as sensorimotor function, may result in effective primary, secondary and tertiary prevention of concussion.</td>
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<td>Session L</td>
<td>Sport related head injuries, “from the field-side whirlpool to recognize and remove”</td>
<td>Genevoix 2-3</td>
<td>Pierre Viviers - South Africa, Louis Holtzhausen - Qatar</td>
<td>Equip side-line decision makers to recognize suspected sport related head injuries and enable effective communication of findings to all relevant stakeholders.</td>
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17.00-17.45
Room Salle des Princes
**UNDERSTANDING THE BASIS OF SUCCESS: HOW FEWER INJURIES WILL HELP YOU WIN TROPHIES** [483]
Speaker: Martin HÄGGLUND - Sweden

17.45-18.05
Room Salle des Princes
**PUBLISHING IN EXERCISE AND SPORT SCIENCE: 1790-2020**
Speaker: Howard G. KNUTTGEN - USA

18.05-18.15
Room Salle des Princes
Closing remarks by the President of the Organising Committee
Fredrik S. Bendiksen
Closing speech by the Chair of the IOC Medical & Scientific Commission
Üğur Erdener

20.00
**FACULTY DINNER (by invitation)**
SESSION 1 • SHOULDER

Chair: Elizabeth A. ARENDT - USA

The relationship between shoulder pain, physical exam findings, and structural pathology in elite wheelchair athletes

Cheeri Blauwet (USA/Germany), Wayne Derman (South Africa), Nick Webborn (United Kingdom), Dylan Morrissey (United Kingdom), Julian Chakraverty (United Kingdom), Paul Martin (United Kingdom), Guzel İdrisova (Russian Federation/Germany)

Evaluation of sport specific adaptations at the shoulder joint and core endurance among elite female volleyball players with and without overuse related shoulder problems

Lydia Bucher (Switzerland), Perrette Baschung Pfister (Switzerland), Ann Cools (Belgium/Denmark)

Is there an association between shoulder injuries in young elite judokas and reduced shoulder range of motion and poor performance in the closed kinetic chain upper extremity stability test?

Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), Juliana Ocarino (Brazil), Évert Verhagen (The Netherlands), Renan Resende (Brazil)

Risk factors for shoulder pain in junior flatwater kayak athletes

Tatsuya Kasuyama, Kazuhiwa Tsuzuki, Naoki Onoto (Japan)

Do clinical Pilates exercises affect scapular stabilization?

Mehmet Micolgogullari, S. Fatma Uygur, H. Baran Yosaoglu, Bümürin Hakoever (Turkey)

Acute effect of vibration stimulus around shoulders on sensorimotor control

Masanori Morikawa, Yukio Urabe, Junpei Sasadai, Somu Kotoshiba, Makoto Komiy, Kazuki Fukui, Nordin Maeda (Japan)

The relationship between scapular internal rotation angle at stride foot contact and scapular internal rotation angle at maximum shoulder external rotation in baseball pitching

Yuki Nomura, Hajime Toda, Masaki Katayose, Shun Watanabe, Masahiro Yoshida, Makoto Yoshida, Károly Törös, Anna Schmidtka-Várnagy, Gabriella Szendro, Lehel Bálint, Ágnes Mayer (Hungary)

The immediate effects of serving on shoulder rotational range of motion in tennis players

Katy Williams, Clair Hebron (United Kingdom)

SESSION 2 • WATER SPORTS

Chair: Margo MOUNTJOY - Canada

The incidence of Injuries and Illness during open-water swimming events: Optimising swimmer safety

Amilia Alifrangis, Martin Suzan, Courtney Kipps (United Kingdom)

Swimming-related complications during triathlon event

Amilia Alifrangis, Martin Suzan, Courtney Kipps (United Kingdom)

The incidence of scapholunate ligament disruption in competitive divers

Alethea Beck (United Kingdom)

Physical risk factors for shoulder injuries in water polo

Félix Croteau, Shawn Robbins, David Pearsall (Canada)

SESSION 3 • COMBAT SPORTS

Chair: Hideyuki KOGA - Japan

Investigating the effect of mouth guard use on aerobic performance in amateur boxers

Irfan Ahmed (United Kingdom)

Is there variation in injury and illness severity, hours of training and absence of sports participation in young elite judo athletes during different times in season? A longitudinal study with 121 young judokas

Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), Juliana Ocarino (Brazil), Évert Verhagen (The Netherlands), Renan Resende (Brazil)

Injuries and illnesses severity and training hour profile of 121 Brazilian young elite judokas during the first eight weeks of season: a descriptive cohort study

Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), George Sabino (Brazil), Juliana Ocarino (Brazil), Évert Verhagen (The Netherlands), Renan Resende (Brazil)

Video analysis of injury mechanisms in Taekwondo athletes

Hye Seong Jeong (Republic of South Korea), David O’Sullivan (Republic of South Korea), Dae Hyoun Jeong (USA), Sae Yong Lee (Republic of South Korea)

Biomechanical risks of knee injury in mixed martial arts: a video-based notation analysis

Kam Ming Lok, Ivan YH Lau, Lobo Louie, Patrick Shu Hang Yung (Hong Kong, China)

Top-level karate athletes: are they implementing preventative injury measures? A systematic review

Montassar Tabben (Qatar), Dusana Cierna (Slovakia), Laura Perez Martin (Spain), Rafael Arriaza (Spain)

Injury analysis in mixed martial arts athletes

Mandy Zhang, Baoying Lim, Boon Hor Ho, Benedict Tan, Kelvin Chew (Singapore)

Circadian rhythms and rapid time zone travel: a prospective study of their interaction in elite karate athletes traveling from America to Tokyo, Japan

Green Waggener (USA), Dimitri Papadopoulos (USA), David Munroe (United Kingdom), Mark Kasper (USA)
SESSION 4 • FOOT - ANKLE
Chair: Daniel T. P. FONG - United Kingdom

- How do physicians decide a safe return-to-play after a lateral ankle sprain? #1449
  Aude Agaliani (Belgium), Jean-Louis Crosier (Belgium), Cédric Schwartz (Belgium),
  Nasída Dardenne (Belgium), Peter D’Hooghe (Qatar), Yonis Zahraoui (Belgium), Romain Collin (Belgium),
  Jean-François Kaux (Belgium)

- Balance control in chronic ankle instability and healthy subjects: traditional analysis of centre of
  pressure displacement and nonlinear analysis of its variability #1518
  José Esteves, Ricardo Dinis, Orlando Fernandes, Maria António Castro, Raul Oliveira,
  Pedro Pizazar Correia (Portugal)

- Foot and ankle injuries in young elite judo athletes are associated with reduced ankle range of
  motion and poor performance in the modified star excursion balance test #1739
  Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), Juliana Ocarino (Brazil),
  Evert Verhagen (The Netherlands), Renan Resende (Brazil)

- Effect of a single short electrostimulation session of the fibularis muscles on dynamic postural
  stability and evertor muscles strength #1466
  François Fourchet, Artiom Ganchine, Antoine Seurot, Nicolas Le Coroller, Guillaume Servant,
  Boris Gojanovic (Switzerland)

- Does ankle instability alter muscle activation of lower extremity and ground reaction force during
  landing? A meta-analysis #981
  Sungho Ha, Hyunggyu Jeon, Sae Yong Lee (Republic of South Korea)

- Understanding the impact of ankle injuries among contemporary pre-professional dancers:
  incidence and risk factors #1334
  Adinda Mailuhu, Rogier van Rijn, Janine Stubbe, Sita M.A. Bierma-Zeinstra, Marienke van Middelkoop
  (The Netherlands)

- Epidemiology of Ankle Sprains in Elite High School Basketball Players: Medical and Physical
  Checkup Report, Relationships between Prevalence of Ankle Sprains, Unstable sensation,
  ATFL pathology and the Balance Test #1162
  Shuichi Nakayama, Tsukimura Naoki, Iwakura Nahoko, Yamamoto Takayuki, Saku Isaku, Ito Eri,
  Takebayashi Tomomi, Uchino Sayuri, Numasawa Shun, Arimoto Kumi, Ikeda Shigehiro (Japan)

SESSION 5 • LOAD MONITORING
Chair: Karim KHAN - Canada

- Single-question athlete self report measures in team sport athlete monitoring, and their
  relationship with training load: a systematic review and narrative synthesis #1321
  Ciara Dunigan, Calibhe Doherty, Brian Caulfield, Catherine Blake (Ireland)

- Monitoring training & match exposure in elite Scottish rugby union #1665
  Cameron Paul, Tom Campbell, Stuart Yule, Debbie Palmer (United Kingdom)

- Relationship between readiness indicators, training load and fatigue in collegiate female
  volleyball athletes #1619
  Javier Peñal (Spain), Laurie Esler (Canada), Carolyn O’Dwyer (Canada), Albert Altarriba-Bartés (Spain),
  Beatriz Gil (Spain), Cláudia Alba (Spain), Pierre Baudin (Canada)

SESSION 6 • DANCE
Chair: Yannis PITSILADIS - United Kingdom

- Monitoring internal load in professional female football players using urine metabolomics #1403
  Guillermo Quintas, Eva Ferrer, Xavier Reche, Gil Rodas (Spain)

- Perceptions of training load and wellness monitoring of Stellenbosch University high performance
  student-athletes #1382
  Lindsay Starling, Grant Van Velden, Sean Surmon, Wayne Derman, James Craig Brown (South Africa)

- Application of the acute:chronic workload ratio in children #1530
  Chinchin Wang, Tyrel Stokes, Russell Steele, Ian Shrier (Canada)

- The acute:chronic workload ratio: Why one size does not fit all #1356
  Stephen West, Sean Williams, Dario Cazzola, Matthew Cross, Simon Kemp, Keith Stokes
  (United Kingdom)

- Antioxidant blood plasma profiles during a period of high training loads at altitude in elite athletes
  #1317
  Irina Zeleikova, Dmitry Martinov, Sergey Zotkin, Elena Proskurnina (Russian Federation)

- Effects of hamstring flexibility and increased range of motion since childhood on spinal and
  pelvic sagittal balance and lower extremity alignment: an EOS X-ray-imaging system analysis in
  dancers and football players #1607
  Neslihan Aksu, Vefa Atanay, Busra Akgonul, Ayhan Nedim Kara, Azmi Hamzaoglu (Turkey)

- Return to dance following arthroscopic knee surgeries: what are the differences between return
  to sport and return to dance #1001
  Neslihan Aksu, Vefa Atanay, Busra Akgonul, Bugra Ayaz, Ayhan Nedim Kara, Azmi Hamzaoglu (Turkey)

- Association of spinopelvic alignment, lower extremity alignment, hamstring tightness, lower
  extremity range of motion with landing patterns in ballet dancers, football players and
  student-athletes #1129
  Neslihan Aksu, Vefa Atanay, Busra Akgonul, Ayhan Nedim Kara, Azmi Hamzaoglu (Turkey)

- Bone mineral density and associated factors: do young female dancers and other recreational
  sport athletes differ? #1559
  Meghan Critchley, Ciodagh Toomey, Stacey M. Lobos, Luz Palacios-Derflingher, Sarah J. Kenny,
  Carolyn Emery (Canada)

- Association between baseline factors and risk of injury amongst pre-professional dancers #1576
  Sarah J. Kenny, Vneetha Warriya K. V., Luz Palacios-Derflingher, Jackie Whittaker, Carolyn Emery
  (Canada)

- Achilles and patellar tendinopathy structure of elite ballet dancers remains stable across one year
  of training and performances #1595
  Aprine Tan, Richard Clark, Bhavesh Kumar (United Kingdom)

- Musculoskeletal injuries and dance exposure across three years in elite adolescent ballet
  dancers: is there a pattern? #1561
  Valeriya Volkova, Sarah J. Kenny (Canada)
SESSION 7 • LOW BACK & PELVIS

Chair: Nicola PHILLIPS - United Kingdom

I A cross-sectional study of low back pain among retired international athletes (runners, swimmers, rowers, and hockey players) #1354
Dale Cooper, Debbie Palmer, Mary O’Hanlon, Mark Batt (United Kingdom)

I Low back pain and associated factors among Italian equestrian athletes: a cross-sectional study #1214
Mario Ferrante, Francesca Bonetti, Filippo Maria Quattrini, Maura Mezzetti, Sabrina Demarie (Italy)

I Neuromuscular responses of the hamstring and trunk muscles during unanticipated trunk perturbations #1469
Ayako Higashihara (Japan), Jordan Mendiguchia (Spain), Takashi Ono (Japan), Yasuharu Nagano (Japan), Shogo Sasaki (Japan), Shinshiro Mineta (Japan), Norikazu Hirose (Japan)

I Modified kettlebell squats could be safer for the low back of athletes with limited ankle dorsiflexion #1703
Sahin Dogukan Kasapoglu, Gulmez Irfan, Uzun Selce, Ramazanoglu Nusret, Goktug Sanli, Vildan Gozde Gumusbas, Yasar Tatar (Turkey)

I What are the movement patterns associated with good and poor lumbopelvic stability? #1505
Margaret Perrott, Jill Cook, Don Vicendese, Tania Pizzari (Australia)

I An investigation of contact injuries in field hockey #1236
Huw Rees, Ulrik McCarthy Persson, Catherine Blake (Ireland)

I Low back pain in field hockey athletes #1237
Huw Rees, Ulrik McCarthy Persson, Catherine Blake (Ireland)

I Between-side differences in velocity of trunk rotations: can this identify the likelihood of low back pain? #1120
Erika Zemkova, Michal Jelen (Slovakia)

SESSION 8 • FATIGUE

Chair: Yorck Olaf SCHUMACHER - Qatar

I Alteration of dynamic postural control of lower extremity after fatigue #1141
Yong-dae Choi, Sae Yong Lee (Republic of South Korea)

I Examining the relationship between identity and injury fear avoidance: The influence of masculine and athletic identities #1337
Ieuan Cranwick, Ashley Jones, Phil Clarke, Tod David (United Kingdom)

I Immediate effect of Argentine Tango practice on persistent symptoms and postural control deficits associated with concussion #1295
Lisa Worthen-Chaudhari, Catherine Quatman-Yates, W. Jerry Mysiw, Eugenia Costa-Giomi, Ajit Chaudharn (USA)

I Alteration of dynamic postural control of lower extremity after fatigue

SESSION 9 • RISK FACTORS

Chair: Natália F. N. BITTENCOURT - Brazil

I Modelling the risk of soft tissue non-contact injuries from multiple training monitoring data sources in a short track speed skating elite team #1456
François Bleuens, Jérémy Briand, Breault Pierre-Olivier, Sylvain Gaudet (Canada)

I Is proximal stability a risk factor for knee injuries in athletic populations? A systematic review with meta-analysis and best-evidence synthesis #1044
Lionel Chia (Australia), Danilo De Oliveira Silva (Australia/Brazil), Marnee McKay (Australia), Justin Sullivan (Australia), Fabio Micolis de Azevedo (Brazil), Evangelos Pappas (Australia)

I Core stability as a risk factor for the development of acute lower extremity injuries in an athletic population: a prospective study #1395
Cedric De Blaiser, Roel De Ridder, Tine Willems, Stefan Vermeulen, Lieven Danneels, Philip Roosen (Belgium)

I Training protective factors for knee pain in Olympic class sailors #1552
Shawn Hunt, Kathryn Roach, Eryn Milian, Katie Dabrowski, Nathan Kuck, Peter Modera, Courtne Shiss, Katherine Stewart, Michael Twitty, Kaylee Van Deusen, Lei Zhang (USA)

I Identifying factors contributing to single leg hop test in adolescent basketball players with a history of knee injury #1657
Toshiyuki Kurihara, Masafumi Terada (Japan)

I Perceived injury risk among elite track & field athletes—a questionnaire-based study #1655
Maria Mereman (Sweden)

I Immediate effect of Argentine Tango practice on persistent symptoms and postural control deficits associated with concussion #1295
Sahin Dogukan Kasapoglu, Gulmez Irfan, Uzun Selce, Ramazanoglu Nusret, Goktug Sanli, Vildan Gozde Gumusbas, Yasar Tatar (Turkey)

I Alteration of dynamic postural control of lower extremity after fatigue

I Immediate effect of Argentine Tango practice on persistent symptoms and postural control deficits associated with concussion #1295
I Perceived injury risk among elite track & field athletes—a questionnaire-based study #1655
Running style-dependent risk factors for patellofemoral pain #1002
Julia Smakal, Nadja Jamrog, Bartosz Wojanowski (Germany)

A risk factor analysis for head, neck, and face injuries between US men and women rugby-7s players by age-groups #1594
Christian Victoria (USA), Danielle C. Ompad (USA), Shen-Ying Richard Ma (USA/New Zealand), Meryle G. Weinstein (USA), Robert C. Cantu (USA/Ireland), Answorth A. Allen (USA), Victor Lopez Jr (USA/New Zealand)

SESSION 10 • HAMSTRING

Chair: Clare ARDERN - Sweden/Australia

Biceps femoris muscle is activated by performing Nordic hamstrings exercise at shallow knee flexion angle #1483
Norikazu Hirose (Japan), Masaaki Tsuruike (USA)

Clinically-oriented assessments of hamstring muscle strength are reliable #1383
Ellevyn Irwin, Grainne O’Callaghan, Aine Tunney, Eamonn Delahunt, Ulrik McCarthy Persson (Ireland)

The Nordic Hamstring exercise – is it a part of the weekly training in female elite football? #1658
Connie Linnebjerg, Hansen Mette, Clausen Mikkel Bæk, Jesper Bencke, Mikkel Oxfeldt, Mads Bjørndal Sonne, Mads Karlsson, Per Hølmich, Mette Kreutzfeldt Zebis (Denmark)

Predictors of time to return to play and reinjury following hamstring strain injuries with and without tendon involvement in professional football #1662
Scott McAuley, Nick Dobbin, Peter Goodwin (United Kingdom)

HaOS or CHaOS? The relation between the hamstring outcome score (HaOS) and hamstring injuries #1520
Sander van de Hoef, Michel S. Brink, Nick van der Horst, Maarten van Smeden, Frank Backx (The Netherlands)

Eccentric hamstring strength and sprinting performance changes during the off-season in Spanish footballers #1613
Jordi Vicens-Bordas (Spain), Ernest Esteve (Spain), Azahara Fort-Vanmeerhaeghe (Spain), Martí Casals (Spain), Thomas Bandholm (Denmark), Lasse Isha (Denmark), David Opar (Australia), Anthony Shield (Australia), Kristian Thorborg (Denmark)
I MSK injury likelihood is increased during the 4-month period after a concussion #1412
Lee Herrington, Joshua Wass, Moses Wootten, Caroline Lander (United Kingdom)

I Testing neurocognitive function and balance following sport concussion - do we need baselines? #1755
Michael Hutchison, Alex Di Battista, Kyla Pyndura, Doug Richards (Canada)

I Subsequent injury risk is not specific to concussion in Rugby Union #1208
Isabel Moore, Danielle Vicary, Jim Rafferty, Prabhat Mathema (United Kingdom)

I An assessment of injuries sustained to professional rugby union players following a sports related concussion #1708
Stuart O'Flanagan, Jordan Joe (Ireland)

I Safety of an early, active concussion rehabilitation protocol among professional, collegiate/university, and interscholastic athletes: the active rehab study #1348
Johna Register-Mihalik (USA), Kevin Guskiewicz (USA), Stephen Marshall (USA), Karen McCulloch (USA), Jason P. Mihalik (USA), Martin Mrazik (Canada), Ian Murphy (New Zealand), Dhiren Naidu (Canada), Shabbar Ranapuwala (USA), Kathryn Schneider (Canada), Paula Gildner (USA), Vasiliki Kostogiannes (USA), Michael McCrea (USA)

SESSION 13 • YOUTH FOOTBALL
Poster Area – Level -2
Chair: Markus WALDÉN - Sweden

I Developmental changes in quadriceps and hamstring muscle strength from youth to senior: a cross-sectional study in 125 elite football players #1563
Lasse Ishøj, Kasper Krommes, Mathias Nielsen, Kasper Thornton, Per Hölmich, Per Aagaard, Jacob Penalver, Kristian Thorborg (Denmark)

I Effects of the Knee Control programme on jump-landing technique and performance in youth players #1294
Hanna Lindblom, Martin Hägglund, Markus Waldén, Sivt Carlford (Sweden)

I The effects of fatigue induced by high intensity soccer-specific simulation on jump-landing mechanics and functional hamstrings to quadriceps ratio in youth players #1638
Raja Mohammed, Firdad Raja A. Oktai, Saitul Adil Bukry, Haidzir Marif, Maria Justine, Hosni Hasan, Hashbullah Ismail, Rashana Shair (Malaysia)

I Prevention of fifth metatarsal bone stress fracture in youth Japanese soccer players #1615
Yoshitomo Saita, Nagao Masashi, Kobayashi Yohei, Kobayashi Keiji, Wakayama Takanori, Ikeda Hiroshi (Japan)

I Acute effects of small-sided games on the lower limb functional asymmetry in young soccer players #1039
Italo Sannicandro, Giacomo Cofano, Anna Rosa Rosa, Paolo Traficante, Andrea Piccinno (Italy)

I Acute fatigue effects after Small-Sided Games on functional asymmetry and short sprint performance in young soccer players #1040
Italo Sannicandro, Giacomo Cofano, Anna Rosa Rosa, Paolo Traficante, Andrea Piccinno (Italy)
SESSION 15 • ACL Poster Area – Level -2

Chair: Fares HADDAD - United Kingdom

- Isokinetic deficits at 6 months after ACL reconstruction influence the rate of reinjuries and activity level #1346
  Renato Andrade, José Dias, Cátia Cardoso, Cristina Valente, Rogério Pereira, Alexandre Rebelo-Marques, Tiago Proença, Pedro Lamas, Nuno Cordeiro, Acindo Silva, João Espregueira-Mendes (Portugal)

- Assessments for neuromuscular control after an anterior cruciate ligament injury to decide upon return to sports #1357
  Angela Blasimann (Switzerland/Belgium), Irene Koenig (Switzerland), Isabel Baert (Belgium), Heiner Baur (Switzerland), Dirk Vissers (Belgium)

- The effectiveness of onsite ACL injury prevention education for young athletes #1758
  Joseph Janosky, Titlayo Ologhobo, James Russomano, Sandra Goldsmith, Laura Robbins (USA)

- Preventing ACL reinjuries – is persistent knee underloading at return to sports after reconstruction the culprit? #1350
  Argyro Kotsifaki, Vasilios Korakakis, Rodney Whiteley (Qatar)

- Running pattern asymmetry evaluation after anterior cruciate ligament reconstruction could be a way to detect re-injuries #1185
  Alexandre Rambaud, Thomas Neri, Jean-Benoit Morin, Remi Philippot, Jeremy Rossi, Pierre Samozino, Alexandre Rebelo-Marques, Tiago Proença, Pedro Lamas, Nuno Cordeiro, Acindo Silva, João Espregueira-Mendes (Portugal)

- Responsiveness of the Anterior Cruciate Ligament - Return to Sports after Injury (ACL-RSI) scale #991
  Anton Slagers, Johannes Zwerver (The Netherlands)

- Challenging ACL reconstructed athletes and their sensorimotor system at return-to-sport: a vital step towards exposing the roots of their neuromuscular deficits #1414
  Artemie Sneets, Sabine Verschueren, Filip Staes, Steven Claes, Hilde Vandenneucker, Jos Vanrenterghem (Belgium)

SESSION 16 • BIOMECHANICS Poster Area – Level -2

Chair: Erich MÜLLER - Austria

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The design and implementation of sport injury surveillance system #1410
Mojtaba Ebrahimi Varkiani, Mohammad Hossien Alizadeh, Reza Rajabi, Hooman Minoonejad (Islamic Republic of Iran)

The Swiss registry of fatalities in sports: How to overcome data gaps #1205
Steffen Nienmann, Philip Derrer, Flavia Buergi, Mirjam Baechli, Othmar Bruegger (Switzerland)

Epidemiologic concerns regarding denominator selection for sports injury studies #1747
David Swedler, Charlotte Baker, Zachery Kerr, Karen Litter, Joseph Janosky, Bayat Dunya, Molly Simmons, Erinn Wasserman, Katie Schaffer (USA)

**SESSION 34 • MEDICATION/NUTRITION/VIT.D**

**Chair:** Kathryn ACKERMAN - USA

Vitamin D status and muscle injury risk in elite male football players over 3 seasons #1415
Julien Arre, Toscana Viar, Jose Antonio Lekue, Paco Angulo, Imanol Martin-Garetxana, Eder Bkandi, Xabier Monasterio, Jon Laruskan (Spain)

Individual and combined effects of hydration status and ice water dousing on physiological and performance indices during intermittent exercise in the heat #1718
Courtney L. Benjamin, Yasuki Sekiguchi, Margaret C. Morrissey, Cody R. Butler, Erica M. Filep, Rebecca L. Stearns, Douglas J. Casa (USA)

Can ibuprofen prevent acute mountain sickness in moderate altitude? #601
Ana Carolina Corte, Roberto Nahon, Breno Schor, Felipe Hardt, Rodrigo Sasson (Brazil)

Self-medication in fitness centers #1368
Julien Dellaete, Victoria Leducere, Jean-François Kaux, Olivier Bruyère (Belgium)

Serum vitamin D levels and risk of musculoskeletal injury in university track and field athletes #1523
Timothy Miller, Sarah Harangody, Scott Kuzma, Robert Magnusson (USA)

Knowledge, attitude and usage of doping drugs among national level athletes in Sri Lanka #972
Akhila Nilaweera, Upuli Nadishani, Geeth Nipunya, Naveen Wijekoon (Sri Lanka)

**SESSION 35 • COACHING ETC.**

**Chair:** Yannis PITSILADIS - United Kingdom

The impact of sport specialization on injury, success, and perceptions of health #1057
Julie Agel, Todd Rockwood, Anne Eaton (USA)

US Youth Soccer coaches do not possess adequate knowledge of Non-Contact ACL injuries and injury prevention programs #1366
Shelly Fetchen DiCesaro (USA)

Individual and combined effects of hydration status and ice water dousing on physiological and performance indices during intermittent exercise in the heat #1718
Courtney L. Benjamin, Yasuki Sekiguchi, Margaret C. Morrissey, Cody R. Butler, Erica M. Filep, Rebecca L. Stearns, Douglas J. Casa (USA)

The relationship between the injuries in elementary PE and the stages of teacher professional development #1608
Yuki Nakamura (Japan)

MOVE HEALTHY–The identification of current national injury prevention programs and beliefs of coaches and youth regarding injury prevention in 6 European countries #1218
Joske Nauta (The Netherlands), Johan de Jong (The Netherlands), Kristine De Martelaer (Belgium), Paul Dragos (Romania), Remo Mombarg (The Netherlands), Danielle Narager Johansen (Denmark), Thomas Skoggaard (Denmark), Paul Szabo-Alexi (Romania), Evert Verhagen (The Netherlands), Anne Benjaminse (The Netherlands)
Shining a Light on Injury Status: Developing an effective method to monitor player availability and improve communication between coaches and medical staff #1423
Ciarán Purcell, Catherine Blake, Ulrik McCarthy Persson, Sinead McMahon, Caitriona Cunningham, Frank Kenny (Ireland)

SESSION 36 • CYCLING
Poster Area - Exhibition Hall Diaghilev

Chair: Yorck Olaf SCHUMACHER - Qatar

The ban of tramadol and hazard prevention in cycling #1770
Xavier Bigard, Angeline Turin, Olivier Salamin, Raphael Faiss, Youssef Daali, Serge Rudaz, Francesca Rossi, Martial Saugy (Switzerland)

Injuries among youth mountain bike racing coaches: first year data from a nation-wide injury surveillance system in the United States #1575
Meredith Ehn, Daniel Cushman, Masaru Teramoto, Chris Spencer, Stuart Willick (USA)

Injuries among youth mountain bike racers: first year data from a nation-wide injury surveillance system in the United States #1577
Meredith Ehn, Daniel Cushman, Masaru Teramoto, Chris Spencer, Stuart Willick (USA)

Sports-Related Concussion (SRC) in Road Cycling: Establishing the Roadside heAD injury assessment (RIDE) for Elite Road Cycling #1209
Neil Herron, Elliott Jonathan (United Kingdom)

23% of race entrants in a mass-participation community-based 100 mile cycling race report a pre-race long-term medical condition #1737
Courtney Kipps (United Kingdom), Martin Schwellnus (South Africa)

Enduro mountain biking injuries during the Enduro World Series: a two-season prospective study #1454
Debbie Palmer, Chris Ball, Geraint Florida-James (United Kingdom)

Changes in cycling kinematics in function of exercise intensity and association with injury prevalence in amateur road cyclists: A 3D kinematic motion analysis study using statistical parametric mapping #1392
Joke Schuermans (Belgium)

THEMATIC POSTERS SESSIONS
Friday 13 March - 15.30-16.30

SESSION 37 • TESTS ETC.
Poster Area - Exhibition Hall Diaghilev

Chair: Erich MÜLLER - Austria

Using a MOTIFS intervention to influence patient-reported outcomes: a randomized cross-over plausibility study #1635
Niklas Cederström, Simon Granér, Gustav Nilsson, Eva Ageberg (Sweden)

The upper limb rotation test: reliability and validity study of a new upper extremity physical performance test #1086
Philippe DeCleeve, Trystan Attar, Tasnim Benameur, Valentine Gaspar, Joachim Van Cant, Ann Cools (Belgium)

Your activities of daily life: a device worn, image-based survey technique for healthy and injured athletes #1663
Marieanne Liederbach (USA)

The test-retest reliability of bilateral and unilateral force plate derived parameters of the Countermovement Push Up (CMPU) in elite GB boxers #1352
Gemma Parry (United Kingdom)

Test-retest reliability of the reactive balance test: A neurocognitive functional test to evaluate adaptability within injury risk profiling #1006
Jo Verschuuren (Belgium), Bruno Tassignon (Belgium), Jeroen Van Cutsen (Belgium), Bert Plym (Belgium), Kevin De Pauw (Belgium), Evert Verhagen (The Netherlands), Romain Meuesenz (Belgium)

SESSION 38 • APPLIED KNOW-HOW
Poster Area - Exhibition Hall Diaghilev

Chair: Evert VERHAGEN - The Netherlands

Maximising the relevance and dissemination of the IOC medical consensus statements: Key stakeholder’s perceptions of the IOC consensus statements in a developing country (South Africa) #1621
Marelise Badenhorst (South Africa), Lauren Fortington (Australia), Caroline Bolling (The Netherlands/Brazil), Evert Verhagen (The Netherlands), Carolyn Emery (Canada), Martin Schwellnus (South Africa), Kati Pasanen (Canada), Wayne Derman (South Africa), Caroline Finch (Australia)

Maximising the relevance and dissemination of the IOC medical consensus statements: Key stakeholder’s perceptions of the IOC medical consensus statements in a developed country (Australia) #1624
Marelise Badenhorst (South Africa), Lauren Fortington (Australia), Caroline Bolling (The Netherlands/Brazil), Kati Pasanen (Canada), Wayne Derman (South Africa), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Carolyn Emery (Canada), Caroline Finch (Australia)

Maximising the relevance and dissemination of the IOC medical consensus statements: What are the consensus statements and how are they used in literature? #1616
Caroline Finch (Australia), Lauren Fortington (Australia), Marelise Badenhorst (South Africa), Rebecca Handcock (Australia), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Carolyn Emery (Canada), Kati Pasanen (Canada), Wayne Derman (South Africa)
Maximising the relevance and dissemination of the IOC medical consensus statements: a knowledge management perspective #1625
Lauren Fortington (Australia), Ashlee Morgan (Australia), Ruth Sibson (Australia), Marelise Badenhorst (South Africa), Carolyn Emery (Canada), Wayne Derman (South Africa), Kati Pasanen (Canada), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Caroline Finch (Australia)

Maximising the relevance and dissemination of the IOC medical consensus statements: Which consensus statements are used in practice, and how are they used? #1620
Lauren Fortington (Australia), Marelise Badenhorst (South Africa), Caroline Bolling (The Netherlands/Brazil), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Wayne Derman (South Africa), Carolyn Emery (Canada), Kati Pasanen (Canada), Caroline Finch (Australia)

Barriers and facilitators for developing mandated school athletics emergency action plans #1664
Samuel Johnson, Viktor Bovbjerg, Michael Koester, Kylee Gehring, Mackenzie Marques, Marc Norcross (USA)

Prevention in sports: international survey among members of the worlds’ second largest sports orthopedics society (GOTS) #1381
Christoph Lutter (Germany), Romain Seil (Luxembourg), Capser Grim (Germany), Thomas Tischer (Germany)

Knowledge, attitudes and behaviors of New Zealand physiotherapists to sports-related concussion #978
Duncan Reid, Patria Hume, Chris Whatman, Alice Theadom, Simon Walters, Mark Fulcher (New Zealand)

Exploring the barriers and facilitators to using mobile athlete self-report measures in elite Gaelic games: a qualitative study of practitioner and athlete perceptions #1323
Ciara Duignan, Patrick Slavin, Brian Caulfield, Catherine Blake (Ireland)

There was a high incidence of match injuries at the 2019 International Netball World Cup Competition, mostly in the lower limb and following contact with other players #1574
Christa Janse van Rensburg (South Africa), Grace Bryant (Australia), Audrey Jansen van Rensburg (South Africa), Sharon Kearney (New Zealand), Praimand Singh (South Africa), Arnold Devos (Australia), Martin Schwellnus (South Africa), Tanita Cronje (South Africa)

More than 80% of illnesses at the 2019 International Netball World Cup Competition are only reported on match day: Is there not a need to educate players? #1642
Audrey Jansen van Rensburg (South Africa), Christa Janse van Rensburg (South Africa), Grace Bryant (Australia), Sharon Kearney (New Zealand), Praimand Singh (South Africa), Arnold Devos (Australia), Martin Schwellnus (South Africa), Tanita Cronje (South Africa)

Do gender differences exist in the injury profile of collegiate Gaelic footballers? #1333
Siobhán O’Connor, Calvin Teahan, Enda Whyte (Ireland)

Psychological response to injury in collegiate male and female Gaelic games players #1335
Siobhán O’Connor, Aishling Sheridan, Shaunagh Brady, Conor Bruce, Enda Whyte (Ireland)

The reliability and association of the repeated Copenhagen Adduction Exercise to Gaelic football players with a history of groin injury: A pilot study #1586
Rachel Tierney, Ahmad Salma, Ulrik McCarthy Persson (Ireland)

Weekly and seasonal patterns of daily wellbeing in rugby union players participating in a national collegiate competition #1729
Pierre Viviers, Lindsay Starling, Esmé Jordaan, Wayne Derman, James Craig Brown (South Africa)

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