IOC WORLD CONFERENCE
ON PREVENTION OF INJURY & ILLNESS IN SPORT

MONACO
11 - 13 FEBRUARY 2021
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<tr>
<th>Time</th>
<th>Session</th>
<th>Chair(s)</th>
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<tbody>
<tr>
<td>08.30-09.15</td>
<td>KEYNOTE 3 Room Salle des Princes</td>
<td>Tania PIZZARI - Australia, Johannes TOL - The Netherlands/Qatar</td>
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<td></td>
<td>Injuries prevention in youth sport: Why are we so afraid of change?</td>
<td>Speaker: Carolyn EMERY - Canada</td>
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<td>09.30-11.00</td>
<td>Session A SYMPOSIUM 22</td>
<td>Chairs: Evert VERHAGEN - The Netherlands, Johan VERHAGEN - Germany</td>
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<td>19.00-20.00</td>
<td>SPORTS CELEBRATION NIGHT</td>
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08.30-09.15  **KEYNOTE 4**  Room Salle des Princes  
Injury prevention: when return to play is not the way  
Speaker: Michael TURNER - United Kingdom

11.00-11.30  Coffee Break

13.00-14.30  Lunch

16.30-17.00  Coffee Break

17.00-17.45  **KEYNOTE 5**  Room Salle des Princes  
Understanding the basis of success: How fewer injuries will help you win trophies  
Speaker: Martin HÄGGGLUND - Sweden

17.45-18.05  HONORARY KEYNOTE LECTURE  Room Salle des Princes  
Publishing in Exercise and Sport Science: 1790-2020  
Speaker: Howard G. KNUTTGEN - USA

18.05-18.15  CLOSING CEREMONY  Room Salle des Princes
Wednesday 10 February

16.00 Registration
18.30 OPENING CEREMONY - Room Salle des Princes
19.00 Welcome Reception hosted by the Minister of State of the Principality of Monaco - Diaghilev Hall

Thursday 11 February

08.00 Registration
09.00-09.30 OPENING OF THE SCIENTIFIC SESSIONS
09.30-10.30 Room Salle des Princes
09.30-10.30 KEYNOTE 1

10.30-11.00 Coffee Break
11.00-12.30 Session A • SYMPOSIUM 1

11.00-11.20 Session B • SYMPOSIUM 2

11.00-12.30 Session C • SYMPOSIUM 3

SCIENTIFIC PROGRAMME

SCIENTIFIC PROGRAMME
YOUTH ATHLETES

11.00-11.10 | Coach awareness and practice in relation to growth/maturation and training load in young competitive gymnasts: implications for injury prevention #959
   Tejal Sarika Patel (United Kingdom), Sean Cumming (United Kingdom), Sean Williams (United Kingdom), Bekker Sheree (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 Schöffl (United Kingdom/Germany), isabelle Schöffl (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), Abdulaziz Farooq (Qatar), Karim Chamari (Qatar), Amanda Johnson (Qatar), Adam Weir (Qatar/The Netherlands), Per Hölmich (Denmark), Matt Greig (United Kingdom), Lars Mc 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
   Eirk Halvorsen Vik (Qatar/Norway), Daniel Martinez-Silván (Qatar), Abdulaziz Farooq (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
   Marileena Rosal (Finland), Kati Pasanen (Finland/Canada), Ari Heinonen (Finland), Sami Ayramo (Finland), Anu Räsänen (Canada), Mari Leppänen (Finland), Grethe Myklebust (Norway), Tommi Vasankari (Finland), Pekka Kannus (Finland), Jari Parkkari (Finland)

12.10-12.20 | Is inferior dual-task performance a risk factor for injury in youth soccer? A prospective study #993
   Evi Wezenbeek, Dries Pieters, Joke Schuemans, 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 Vandecasteele (Belgium), Steven Verstockt (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 Lifar
**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? #243**
- **Chair: Kimberly HARMON** - USA

| Setting the scene - pre-debate audience vote |
| Kimberly Harmon - USA |

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

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

| Rebuttals |
| Mathew Wilson - United Kingdom, Sanjay Sharma - United Kingdom |

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

| 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
Introduction: Why rugby?
Jon Patricios - South Africa

13.32-13.44
RugbySmart: Positively pioneering injury prevention
Ken Quarrie - New Zealand

13.44-13.56
From “the pitch” to the pitch: World Rugby’s approach to implementing the Activate Injury Prevention Programme
Michael Hislop - Ireland

13.56-14.08
BokSmart: Using a multipronged approach to develop targeted interventions for an ever-evolving game
Wayne Viljoen - South Africa

14.08-14.20
Sports Concussion South Africa: Country-wide community-based concussion care
Jon Patricios - South Africa

14.20-14.30
Questions and panel discussion

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? [322]

Chair: Keith STOKES - United Kingdom

13.30-13.40
It’s not just how common, but how severe: The burden of injuries on grass and artificial pitches in Rugby Union
Keith Stokes - United Kingdom

13.40-13.50
Differential injury rates on natural vs. artificial surfaces in the NFL: Lessons from American Football
Allen Sills - USA

13.50-14.00
Biomechanical Testing of Shoe-Surface Interactions and Footwear Design Implications
Richard Kent - USA

14.00-14.10
Strategies for injury reduction on artificial turf pitches
Simon Kemp - United Kingdom

14.10-14.30
Questions and panel discussion

Stokes, Sills, Kent, Kemp

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

13.30-13.32
Introduction of symposium and speakers
Claude Goulet - Canada

13.32-13.44
Does risk compensation undo the protection of ski helmet use?
Gerhard Ruedl - Austria

13.44-13.56
Educating for injury prevention: child and youth skiing and snowboarding
Brent E. Hagel - Canada

13.56-14.08
Using the biomechanics of injury to design safer snow sports equipment and on-slope injury prevention strategies
Irving Scher - USA

14.08-14.20
Sport injury epidemiology to support regulation implementation in alpine skiing and snowboarding
Claude Goulet - Canada

14.20-14.30
Panel Discussion: Future directions for research and informing best practice in the prevention of injuries for alpine skiers and snowboarders
Goulet, Ruedl, Hagel, Scher

Session E • SYMPOSIUM 7
Room Van Dongen

INNOVATIONS TO PREVENT RUNNING INJURIES [319]

Chair: Leonardo METSAVAHT - Brazil

13.30-13.50
Problem overview: epidemiology
Mansueto Gomes-Neto - Brazil

13.50-14.00
The complexity of running injuries and its risk factors
Leonardo Metsavaht - Brazil

14.00-14.10
Costs for identifying running-related injury risks
Gustavo Leporace - Brazil

14.10-14.30
Panel Discussion: Implementation of running-related injury prevention programs in clinical practice
Metsavaht, Gomes-Neto, Leporace, Arcanjo
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<td>13.30-14.30</td>
<td>Session F</td>
<td>Bosio 1</td>
<td>Keeping golfers on course for glory: prevention of illness and injury in golf #973</td>
<td>Andrew Murray, Daniel Coughlan</td>
<td>Andrew Murray - United Kingdom, Daniel Coughlan - United Kingdom</td>
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<td>I What works in preventing illness and injury in golf? And what illness and injury preventing are there for other sports?</td>
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<td>Session G</td>
<td>Bosio 2</td>
<td>#Playlikeagirl: keeping our female athletes healthy and performing! #976</td>
<td>Marie-Elaine Grant, Margo Mountjoy</td>
<td>Marie-Elaine Grant - Ireland, Margo Mountjoy - Canada</td>
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<td>#Playlikeagirl: keeping female athletes healthy and performing at their top potential! Learn about the latest prevention science for females #GenderGap #GoGIRL.</td>
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<td>Session H</td>
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<td>The SmartHER way forward for British female Olympic and Paralympic athletes #983</td>
<td>Anita Biswas, Richard Burden</td>
<td>Anita Biswas - United Kingdom, Richard Burden - United Kingdom</td>
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<td>I 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</td>
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<td>Session I</td>
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<td>Incidence, diagnosis and management of injury in sport climbing: A new Olympic discipline #984</td>
<td>Gareth Jones, Volker Schöffl</td>
<td>Gareth Jones - United Kingdom, Volker Schöffl - United Kingdom/Germany</td>
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<td>I What types of injuries do climbers sustain? Should they be surgically or conservatively managed? We discuss the evidence.</td>
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<td>Session J</td>
<td>Poulenc 1</td>
<td>Travel advice that can help your athletes win a medal #1009</td>
<td>Nebojša Nikolić</td>
<td>Nebojša Nikolić - United Kingdom</td>
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<td>I 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.</td>
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<td>Session K</td>
<td>Genevoix 1</td>
<td>Ten years of talent pathway health data in AFL – Collating this information with future injury and illness in the AFL #1010</td>
<td>Peter Harcourt, Anik Shawdon</td>
<td>Peter Harcourt - Australia, Anik Shawdon - Australia</td>
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<td>I 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?</td>
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<td>Session L</td>
<td>Genevoix 2-3</td>
<td>Food as medicine: optimizing nutrition and its role in sports injury prevention #1016</td>
<td>Jacqueline Winkelmann</td>
<td>Jacqueline Winkelmann - USA</td>
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<td>I What should athletes eat to prevent injury or illness? Beyond stretching: food as medicine for illness and injury prevention.</td>
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<td>I Keeping our girls on the field of play: The importance of injury prevention in youth female sports</td>
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**Thursday 11 February**
Session B • SYMPALUSM 9
Room Prince Pierre

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

Chair: TBA

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?
TBA

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
O’Brien, McKay, Verhagen

Session C • SYMPALUSM 10
Room Camille Blanc

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 • SYMPALUSM 11
Room Auric

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
### Session E • FREE COMMUNICATIONS

**Room Van Dongen**

#### HEAD IMPACTS & CONCUSSION

**Chairs:** Daniel T. P. Fong - United Kingdom, Karim Khan - Canada

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.30-14.40</td>
<td>Evaluation of in-ear sensor systems for quantifying head impacts in youth football</td>
<td>Stian Bahr Sandmo (Norway), Andrew S. McIntosh (Australia), Thor Einar Andersen (Norway), Inga K. Koerte (Germany/USA), Roald Bahr (Norway)</td>
</tr>
<tr>
<td>14.40-14.50</td>
<td>Head impact exposure in youth football – are current interventions hitting the target?</td>
<td>Stian Bahr Sandmo (Norway), Thor Einar Andersen (Norway), Inga K. Koerte (Germany/USA), Roald Bahr (Norway)</td>
</tr>
<tr>
<td>14.50-15.00</td>
<td>Head impact doses and “no-go” deficits in Olympic and non-Olympic sport athletes</td>
<td>Adam Bartsch (USA), Lori Glover (USA), Jay Alberts (USA), Jason Cruickshank (USA), Elizabeth Jansen (USA), Edward Benzel (USA), Sergey Samorezov (USA), Vincent Miele (USA), Julian Bailes (USA), Gerald McGinty (USA), Steven Rowson (USA), Christopher D Lauro (USA), Tyler Rooks (USA), Kenneth Cameron (USA), Megan Houston (USA), Emily Kieffer (USA), Laurel Ng (USA), Kiran Mathews (USA), Mikhail Swaren (Sweden), Norman Link (USA), Missy Fraser (USA), Jason P. Mihalik (USA), Johna Mihalik-Register (USA), JT Eckner (USA), Annalise Lane (USA)</td>
</tr>
<tr>
<td>15.00-15.10</td>
<td>Concussions among Icelandic female athletes: self-reported prevalence with and without a definition of concussion</td>
<td>Ragna Brynjarsdottir, Hafrun Kristjansdottir, Ingunn Kristensen, Helga Sigurjonsdottir, Lara Claessen, Maria K. Jonsdottir (Iceland)</td>
</tr>
<tr>
<td>15.10-15.20</td>
<td>Biomarkers in serum after head impact exposure in football</td>
<td>Stian Bahr Sandmo, Peter Filipcik, Martin Cente, Jozef Hanes, Thor Einar Andersen, Truls M. Straume-Naesheim, Roald Bahr (Norway)</td>
</tr>
<tr>
<td>15.20-15.30</td>
<td>Tackle characteristics associated with concussion in British University level rugby union</td>
<td>Simon Roberts, Simon Kemp, Luke Morgan, Keith Stokes (United Kingdom)</td>
</tr>
</tbody>
</table>
**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.

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**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.

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**THEMATIC POSTERS SESSIONS**

**15.30-16.30**

Poster Area – Level -2

Please refer to pages 72-86 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 #1610 #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

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**SCIENTIFIC PROGRAMME**

**Thursday 11 February**

**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 - CONCUSION I**

Chair: Jane THORNTON - Canada

Posters #964 #1618 #1551 #1691 #1233 #1504 #1341 #1701

**SESSION 12 - CONCUSION II**

Chair: TBA

Posters #1372 #1465 #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: Erich 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 #1250 #1637 #1313 #949 #1699

**16.30-17.00**

Coffee Break
Session A • SYMPOSIUM 12

17.00-17.12
Preventing injury in women’s football, a global problem
Andrea Mosler - Australia

17.12-17.24
What really works to reduce injury risk in women’s football?
Markus Waldén - Sweden

17.24-17.36
Prevention programmes only work if you do them; implementation strategies to reduce injury risk
Kay M. Crossley - Australia

17.36-17.48
Mars vs Venus, how injury prevention strategies for women’s football embrace the differences
Martin Hägglund - Sweden

17.48-18.00
Panel discussion: Future directions for researching the unresolved questions, and optimising injury prevention implementation by clinicians and stakeholders involved in elite women’s football
Mosler, Waldén, Crossley, Hägglund

Session B • SYMPOSIUM 13

17.00-17.12
Overview: Why sleep is integral to performance
Meeta Singh - USA

17.12-17.24
Sleep to prevent injury and illness
Kieran O’Sullivan - Ireland

17.24-17.36
Athlete-specific challenges to sleep: An applied perspective
Christa Janse van Rensburg - South Africa

17.36-17.48
A ‘Sleep Toolbox’ for practitioners: How to identify and target poor sleep in athletes
Amy Bender - Canada

17.48-18.00
Panel discussion

Session C • SYMPOSIUM 14

17.00-17.05
Can you hear me? The true stories that numbers won’t tell
Caroline Bolling - The Netherlands/Brazil

17.05-17.15
Step 1 – “As long as I can perform I am not injured”
Caroline Bolling - The Netherlands/Brazil

17.15-17.25
Step 2 – “It is not just me!”
Caroline Bolling - The Netherlands/Brazil

17.25-17.35
Step 3 – “One exercise won’t change my life”
Sheree Bekker - South Africa/United Kingdom

17.35-17.45
Step 4 – “Yes, your intervention works. So what?!”
Evert Verhagen - The Netherlands

17.45-18.00
Panel discussion: Making words and numbers count: the value of mixed-methods approaches in improving athlete health protection
Verhagen, Bolling, Bekker

Session D • SYMPOSIUM 15

17.00-17.05
#BreakTheSilence: The importance of addressing athlete mental health
Abhinav Bindra - India

17.05-17.16
The Sport Mental Health Assessment and Recognition Tools: a new global initiative
Vincent Gouttebarge - The Netherlands

17.16-17.27
Primary Prevention – Creating an environment that supports mental wellness in sport
Brian Hainline - USA

17.27-17.38
Primary Prevention – Addressing toxic environments in sport
Margo Mountjoy - Canada

17.38-17.49
Primary Prevention – Managing transition from sport: from injury to retirement
Rosemary Purcell - Australia

17.49-18.00
Panel discussion: Future directions for the primary prevention of mental health symptoms and disorders in elite athletes
Bindra, Gouttebarge, Hainline, Mountjoy, Purcell
Session E • SYMPOSIUM 16
Room Van Dongen

UNDERSTANDING, PREVENTION, TREATMENT AND REHABILITATION OF ACL INJURY – INSIGHTS FROM THE FAR EAST [106]

Chair: Patrick Shu Hang YUNG - Hong Kong, China

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
Room Bosio 1

How to prevent fifth metatarsal stress fractures #1033
Yoshitomo Saita - Japan, Masashi Nagao - Japan

We present our works about the epidemiology and identifying risk factors, and how to prevent and screening of these fractures.

Session G • WORKSHOP
Room Bosio 2

Let’s kick out of football...groin injuries! - blending science and practice in prevention of groin injuries in football #1052
Marcin Bator - Poland

How to implement prevention protocols into a practice field? Is it possible to find a missing puzzle piece in groin injuries prevention protocols in football? (on-field point of view). Let’s kick out together groin injuries of football!

Session H • WORKSHOP
Room Llar

The ball is in your court - methodological challenges when arranging RCT’s in youth team sports #1053
Hanna Lindblom - Sweden, Ida Åkerlund - Sweden

How do we improve conduct of RCT’s in injury prevention? We discuss practical solutions.

Session I • WORKSHOP
Room Scotto

Systemic approach of heart rate variability analysis: a tool to better understand and use fatigue typology and prevention #1064
Cyril Besson - Switzerland, Laurent Schmitt - France

How to effectively use HRV in athletes’ fatigue monitoring? Presentation of a systemic approach allowing fatigue characterization.

Session J • WORKSHOP
Room Poulenc 1

“Adding insult to injury” – primary and secondary prevention as a field-of-play strategy #1078
David Zideman - United Kingdom/Switzerland, Marie-Elaine Grant - Ireland/Switzerland

Field of Play emergency medical team prevention strategies – discover the essential clinical and practical skills to prevent primary and secondary injuries.

Session K • WORKSHOP
Room Genevoix 1

Deep impact – Immersive and innovative concussion prevention for youth athletes #1083
Boris Gojanovic - Switzerland, Stéphane Tercier - Switzerland

Do you want to experience the future of prevention? Join us in 3D immersion to test your knowledge on concussion! Do it for understanding and transmitting it.

Session L • WORKSHOP
Room Genevoix 2-3

Telling your athletes to get a good night’s sleep? Creating awareness of sleep deprivation as a risk factor for sport injury in youth athletes #1095
Sarah Richmond - Canada, Ian Pike - Canada

Telling your athletes to get a good night’s sleep? Creating awareness of sleep deprivation as a risk factor for sport injury in youth athletes.
Session C • SYMPOSIUM 19
Room Camille Blanc
18.00-19.00
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
18.02-18.14
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
18.14-18.24
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
18.24-18.36
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
18.36-18.48
The complexity of injury prevention: The Brazilian experience
Luciana De Michalis Mendonça - Brazil
18.48-19.00
Discussion
Bekker, Tuakli-Wosornu, Bakare, De Michalis Mendonça
<table>
<thead>
<tr>
<th>Time</th>
<th>Session E • SYMPOSIUM 21</th>
<th>Room Van Dongen</th>
</tr>
</thead>
</table>
| 18.00-19.00 | **THE HOLY GRAIL: THE PRIMARY PREVENTION OF BOTH ATHLETE INJURY + ILLNESS IN SPORT: RELATIVE ENERGY DEFICIENCY IN SPORT (RED-S)** [575]  
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 |

<table>
<thead>
<tr>
<th>Time</th>
<th>Session F • WORKSHOP</th>
<th>Room Bosio 1</th>
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</thead>
</table>
| 18.00-19.00 | **Climbing on the band wagon! - Heel hook injuries in climbers - medical management and injury prevention #1099**  
Uzo Ehiogu - United Kingdom, Volker Schöffl - Germany  
18.00-18.05 | What is scale of heel hook injuries in climbers?  
Are eccentric preventative programmes appropriate for preventing heel hook injuries in the climbing athlete?  
18.00-19.00 | **The sporting spine – Getting to the core of injury prevention #1117**  
Tim Allardyce - United Kingdom, Marie-Elaine Grant - Ireland  
18.00-18.05 | #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!  
18.00-19.00 | **Mouthguards – protection, concussion and performance … What is the connection? #1136**  
Paul Piccininni - Switzerland/Canada, Anthony Clough - Switzerland/United Kingdom  
18.00-18.05 | 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?  
18.00-19.00 | Session H • WORKSHOP                                                                                                                                                                                                       | Room Lifar |
| 18.00-19.00 | **Injury prevention in elite karate: fantasy or reality? #1140**  
Montassar Tabben - Qatar, Rafael Arriaza - Spain  
18.00-18.05 | Current perceptions and practices of top-level karate athletes concerning risk factors and injury prevention implementation, as well as events medical coverage.  
18.00-19.00 | **Just ACT – Mindfulness and acceptance based techniques to prevent mental health problems in athletes #1144**  
Ulrika Tranaeus - Sweden, Andreas Ivarsson - Sweden  
18.00-18.05 | Mindfulness and Acceptance based techniques to prevent mental health problems in athletes.  
18.00-19.00 | **Making mass-participation endurance sports events safer – it starts with measuring, but how do I do it? #1529**  
Martin Schwellnus - South Africa, Ishen Seocharan - South Africa  
18.00-18.05 | Measuring and preventing medical encounters at endurance events?  
Implementing pre-race medical screening/education?  
Practical and interactive solutions.  
18.00-19.00 | Session I • WORKSHOP                                                                                                                                                                                                       | Room Scotto |
| 18.00-19.00 | **Injury prevention in elite karate: fantasy or reality? #1140**  
Montassar Tabben - Qatar, Rafael Arriaza - Spain  
18.00-18.05 | Current perceptions and practices of top-level karate athletes concerning risk factors and injury prevention implementation, as well as events medical coverage.  
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Implementing pre-race medical screening/education?  
Practical and interactive solutions.  
18.00-19.00 | Session K • WORKSHOP                                                                                                                                                                                                       | Room Genevoix 1 |
| 18.00-19.00 | **Just ACT – Mindfulness and acceptance based techniques to prevent mental health problems in athletes #1144**  
Ulrika Tranaeus - Sweden, Andreas Ivarsson - Sweden  
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18.00-19.00 | **Making mass-participation endurance sports events safer – it starts with measuring, but how do I do it? #1529**  
Martin Schwellnus - South Africa, Ishen Seocharan - South Africa  
18.00-18.05 | Measuring and preventing medical encounters at endurance events?  
Implementing pre-race medical screening/education?  
Practical and interactive solutions.  
18.00-19.00 | Session L • WORKSHOP                                                                                                                                                                                                       | Room Genevoix 2-3 |
| 18.00-19.00 | **Just ACT – Mindfulness and acceptance based techniques to prevent mental health problems in athletes #1144**  
Ulrika Tranaeus - Sweden, Andreas Ivarsson - Sweden  
18.00-18.05 | Mindfulness and Acceptance based techniques to prevent mental health problems in athletes.  
18.00-19.00 | **Making mass-participation endurance sports events safer – it starts with measuring, but how do I do it? #1529**  
Martin Schwellnus - South Africa, Ishen Seocharan - South Africa  
18.00-18.05 | Measuring and preventing medical encounters at endurance events?  
Implementing pre-race medical screening/education?  
Practical and interactive solutions.
Friday 12 February

**Session A • SYMPOSIUM 22**

**09.30-11.00**

**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

09.30-09.35 | ❙ Introduction
09.35-09.47 | ❙ Agreement and disagreement in terminology: How to move forward? Andrew Franklyn-Miller - Ireland
09.47-09.59 | ❙ What are the symptoms and impairments? Thor Einar Andersen - Norway
09.59-10.11 | ❙ Primary prevention: Is strengthening of the adductors enough? Joar Harøy - Norway
10.11-10.23 | ❙ Screening for secondary prevention: What are the options? Kristian Thorborg - Denmark
10.23-10.35 | ❙ What is the role of movement control and 3D-biomechanics in secondary prevention? Enda King - Ireland
10.35-10.45 | ❙ Tertiary prevention: Conservative or surgical? Per Hölmich - Denmark
10.45-11.00 | ❙ Panel discussion: Future directions for research informing best practice in the prevention of groin pain in athletes (GPA) Franklyn-Miller, Andersen, Harøy, Thorborg, King, Hölmich

**Session B • SYMPOSIUM 23**

**09.30-11.00**

**Room Prince Pierre**

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

**Chair:** Jonathan DREZNER - USA

09.30-09.35 | ❙ Overview: Challenges and controversies in the prevention of sudden cardiac death Jonathan Drezner - USA
09.35-09.50 | ❙ Cardiac screening in young athletes: Defining an evidence-based protocol Sanjay Sharma - United Kingdom
09.50-10.05 | ❙ Incidence of SCD: Which athletes should we consider “high” risk? Kimberly Harmon - USA
10.05-10.20 | ❙ ECG screening: Establishing priorities when resources are limited Mats Börjesson - Sweden
10.20-10.35 | ❙ Crossing the implementation gap for cardiac screening through education and innovative models of health care delivery Jonathan Drezner - USA
10.35-11.00 | ❙ Panel discussion: Future directions for cardiac screening and sports cardiology training Drezner, Sharma, Harmon, Börjesson

**Session C • SYMPOSIUM 24**

**09.30-11.00**

**Room Camille Blanc**

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

**Chair:** Evert VERHAGEN - The Netherlands

09.30-09.42 | ❙ On your marks, ready, go! What is the injury problem in running Evert Verhagen - The Netherlands
09.42-09.54 | ❙ In one mind - the psychology of injury prevention and running performance Toomas Tipkka - Sweden
09.54-10.06 | ❙ Novel risk factors associated with running injuries: An important step in designing intervention for prevention Martin Schwellnus - South Africa
10.06-10.18 | ❙ Do running shoe features influence injury risk? Laurent Malisoux - Luxembourg
10.18-10.30 | ❙ Viewpoints on advanced statistical analyses of running-related injury data: pathways and pitfalls Rasmus Nielsen - Denmark
10.30-10.40 | ❙ Education and e-Health in the prevention of running-related injuries Luiz Hespanhol Jr - Brazil
10.40-11.00 | ❙ 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? Verhagen, Tipkka, Schwellnus, Malisoux, Nielsen, Hespanhol
INJURY PREVENTION I

09.30-10.10

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)

09.40-10.00

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)

09.50-10.10

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 Grønlykke (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, Titilayo Ologhobo, James Rusomano, 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 Cornelissen, 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 aim 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
Room Prince Pierre

EVIDENCE BASED PREVENTION OF ILLNESS ASSOCIATED WITH LONG-HAUL TRAVEL IN ELITE ATHLETES: SORTING THE WHEAT FROM THE CHAFF [469]

Chair: Wayne DERMAN - South Africa

11.30-11.40 | Introduction and overview
Wayne Derman - South Africa

11.40-11.55 | Evidence-based strategies for management and mitigation of long-haul jet lag in athletes
Christa Janse Van Rensburg - South Africa

11.55-12.10 | Pharmacological and pharmaceutical approaches to illness prevention: From A to Zinc: The evidence base
Nick Webborn - United Kingdom

12.10-12.25 | What the team physician needs to know about vaccination and illness prevention: an evidence based approach
Tim Meyer - Germany

12.25-12.40 | How to fly long and stay healthy: The evidence from travel medicine research
Wayne Derman - South Africa

12.40-13.00 | Panel discussion/questions
Janse Van Rensburg, Webborn, Meyer, Derman

Session C • SYMPOSIUM 27
Room Camille Blanc

INJURY PREVENTION IN YOUTH SPORT: WHERE DOES THE FUTURE LIE? [271]

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
Kari 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
11.30-12.00  
**Session E • FREE COMMUNICATIONS**  
Room Van Dongen  
**TEAM SPORTS II**  

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

11.30-11.40  
**Shoulder rotation strength changes from preseason to midseason: a cohort study of 292 youth elite handball players without shoulder problems** #1020  
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)

11.40-11.50  
**Injuries are negatively associated with team performance in professional cricket** #1396  
Luke Goggins, Nicholas Peirce, Steve Griffin, Ben Langley, Keith Stokes, Carly McKay, Sean Williams (United Kingdom)

11.50-12.00  
**Risk factors for dominant shoulder injury in elite female Australian cricket players: a prospective study** #1497  
Myles Murphy, Paola Chivers, Kate Mahony, Andrea Mosler (Australia)

12.00-12.10  
**Injury incidence of elite New Zealand cricketers: an update from 2009-2015** #1042  
Tim Dovbysh, Duncan Reid, Dayle Shackel (New Zealand)

12.10-12.20  
**Cutting technique and risk for non-contact knee injuries in youth basketball and floorball players** #1422  
Mari Leppänen (Finland), Anni Rantala (Finland), Jari Parkkari (Finland), Tommi Vasankari (Finland), Sami Äyrämö (Finland), Tron Krosshaug (Norway), Pekka Kannus (Finland), An Heinonen (Finland), Kati Passanen (Finland/Canada)

12.20-12.30  
**Injury burden differs considerably between single teams from German professional male handball: surveillance of three consecutive seasons** #1690  
Hendrik Bloch, Christian Klein, Patrick Luig (Germany)

12.30-12.40  
**Evaluation of body checking policy for injury prevention in non-elite adolescent ice hockey players** #1446  
Carolyn Emery, Paul H. Ellis, Vineetha Warriyar K. V., Luz Palacios-Derflingher, Amanda M. Black, Maciej Krolikowski, Nicole Spencer, Kathryn Schneider, Sheilina Babul, Martin Mrazik, Constanse Lebrun, Claude Goulet, Alison K. MacPherson, Brent E. Hagel (Canada)

12.40-12.50  
**Injury surveillance in junior elite field hockey: comparative study of three different recording techniques** #1256  
Udo Rolle, Heilen Till-Martin, Anna Levi (Germany)

12.50-13.00  
**Perceived barriers and facilitators towards an injury prevention program in professional male ice hockey teams among players and staff members** #1166  
Romana Brunner, Mario Bizzini, Nicola Mattiuletti, Karin Niedermann (Switzerland)

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11.30-12.30  
**Session F • WORKSHOP**  
Room Bosio 1

11.30-12.30  
**Monitoring loads to prevent injuries in team sports. Is it worth the effort?** #1232  
Javier Peña - Spain, Marti Casals - Spain

11.30-12.30  
**How wearables can protect the health of athletes during sporting competitions in the heat** #1666  
Yannis Pitsiladis - United Kingdom, Benoit Mariani - Switzerland

11.30-12.30  
**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.**

11.30-12.30  
**Health & wellbeing of performance staff: building a resource to support your performance team** #1257  
Steven Mutch - France, Elliott Niall - United Kingdom

11.30-12.30  
**Uncensored: the sensible use of head-impact sensors in sports** #1266  
Stian Bahr Sandmo - Norway, Declan Patton - USA/Canada

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12.40-12.50  
**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.**
Session K • WORKSHOP
11.30-12.30
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
I Reducing concussion risk in youth volleyball - how an interdisciplinary team approach has addressed research and policy implementation.

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

13.00-14.30
Lunch

THEMATIC POSTERS SESSIONS
15.30-16.30
Poster Area - Exhibition Hall Diaghilev
Please refer to pages 87-101 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 #048 #1253 #1379 #058 #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

KEYNOTE 3
14.30-15.15
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

SESSION 26 - YOUTH ATHLETES
Chair: Jane THORNTON - Canada
Posters #1283 #1258 #1506 #1717 #1676 #1296 #1108 #1556
SESSION 27 - FOOTBALL
Chair: Markus WALDÉN - Sweden
Posters #1022 #1441 #1158 #1151 #1308 #1172 #1406 #1222
SESSION 28 - GROWTH AND MATURATION
Chair: Fares HADDAD - United Kingdom
Posters #1164 #1749 #1421 #1353 #1639 #1490
SESSION 29 - CONCUSSION III
Chair: Margo MOUNTJOY - Canada
Posters #1246 #1000 #1502 #1735 #1347 #979 #1778 #1216
SESSION 30 - RUNNING
Chair: Lars ENGBRETSEN - Norway/Switzerland
Posters #1230 #1674 #089 #1420 #1726 #1630 #1405 #1569
SESSION 31 - MSK RISK FACTORS
Chair: Natália F. N. BITTENCOURT - Brazil
Posters #999 #960 #1397 #1558 #1450 #1464 #1580 #1492
SESSION 32 - HEALTH AND PROTECTIVE EQUIPMENT
Chair: Daniel T. P. FONG - United Kingdom
Posters #1679 #1693 #1037 #990 #1435 #1011 #1289 #1098
SESSION 33 - EPIDEMIOLOGY METHODOLOGY
Chair: Elizabeth A. ARENDT - USA
Posters #1056 #1475 #1707 #1361 #935 #1410 #1205 #1747
SESSION 34 - MEDICATION/NUTRITION/VIT.D
Chair: Kathryn ACKERMAN - USA
Posters #1415 #1718 #601 #1368 #1532 #972
SESSION 35 - COACHING ETC.
Chair: Yannis PITSILADIS - United Kingdom
Posters #1057 #1385 #1292 #1608 #1218 #1423
SESSION 36 - CYCLING
Chair: Yorck Olaf SCHUMACHER - Qatar
Posters #1770 #1575 #1577 #1209 #1737 #1454 #1392
SESSION 37 - TESTS ETC.
Chair: Eric MÜLLER - Austria
Posters #1635 #1086 #1663 #1352 #1006
SESSION 38 - APPLIED KNOW-HOW
Chair: Evert VERHAGEN - The Netherlands
Posters #1621 #1624 #1616 #1625 #1620 #1664 #1381 #978
SESSION 39 - MULTI-SPORTS
Chair: Clare ARDERN - Sweden/Australia
Posters #1325 #1574 #1642 #1333 #1335 #1586 #1729
SESSION 40 - WINTER SPORTS
Chair: Hideyuki KOGA - Japan
Posters #1424 #1417 #1031 #1203
16.30-17.00 Coffee Break
Session A • SYMPOSIUM 28
Room Salle des Princes

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
Jason L. Zaremski, Merete Møller, Stig Andersson, Rodney Whiteley
Session E • SYMPOSIUM 32
Room Van Dongen
17.00-18.00

THE EFFECT OF THE ‘FACE TO FACE’ EDUCATION PROGRAM TO RUGBY MEDICAL ON THE SEVERE HEAD INJURY [541]

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

Session F • WORKSHOP
Room Bosio 1
17.00-18.00

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
Room Bosio 2
17.00-18.00

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
Room Lifar
17.00-18.00

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 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 [121]**

Chair: Karim KHAN - Canada

- 18.00-18.05 Setting the scene for the debate and introduction of speakers and debate format
  - Karim Khan - Canada
- 18.05-18.20 Speaker for the affirmative: To improve our safe return to play we need to respect biological healing
  - Erik Witvrouw - Belgium
- 18.20-18.35 Speaker for the negative: Studies show that the present RTP criteria are valid
  - Lynn Snyder-Mackler - USA
- 18.35-18.47 Rebuttals
  - Erik Witvrouw - Belgium, Lynn Snyder-Mackler - USA
- 18.47-18.50 Chair’s sum-up and post-debate audience vote
  - Karim Khan - Canada
- 18.50-19.00 Audience discussion

**Session B • SYMPOSIUM 33**
Room Prince Pierre

**GASTROINTESTINAL ISSUES IN SPORT: UTILIZING DIET, THE GUT MICROBIOTA AND PROBIOTICS FOR PREVENTION OF ILLNESS IN ATHLETES [150]**

Chair: Owen CRONIN - Ireland/United Kingdom

- 18.00-18.12 Gastrointestinal issues in our athletes: Prevalence, mechanisms and prevention through dietary habit
  - Jamie Pugh - United Kingdom
- 18.12-18.24 Exercise effects and the elite athlete microbiome: What do we know?
  - Owen Cronin - Ireland/United Kingdom
- 18.24-18.36 Probiotics to prevent illness in athletes: The evidence and current state of play
  - Neil C. Williams - United Kingdom
- 18.36-18.48 Manipulating our microbes: Microbial strategies to improve athlete health and prevent illness in elite sport
  - Orla O’Sullivan - Ireland
- 18.48-19.00 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
  - Pugh, Cronin, Williams, O’Sullivan

**Session C • SYMPOSIUM 34**
Room Camille Blanc

**THE 11+ JOURNEY: 14 YEARS AND STILL GOING STRONG? [166]**

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

- 18.00-18.12 Background of the 11+ programme
  - Mario Bizzini - Switzerland
- 18.12-18.24 Understanding age, gender, level of play and adherence issues related to the 11+
  - Holly Silvers-Granelli - USA
- 18.24-18.36 Tailoring the 11+ to the professional football context
  - James O’Brien - Australia/Austria
- 18.36-18.48 Prevention has to start early: The 11+ kids
  - Roland Rössler - Switzerland
- 18.48-19.00 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?
  - Bizzini, Silvers-Granelli, O’Brien, Rössler

**Session D • SYMPOSIUM 35**
Room Auric

**IOC CONSENSUS ON METHODOLOGY FOR RECORDING AND REPORTING OF DATA FOR INJURY AND ILLNESS SURVEILLANCE [573]**

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

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

### ACL INJURIES

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>18.00-18.10</td>
<td>The mechanisms of anterior cruciate ligament injuries in male professional football players in the Middle East: a systematic video analysis of 15 cases #1584</td>
<td>Raouf Nader Rekik, Roald Bahr, Flavio Cruz, Pieter D’Hooghe, Paul Read, Montassar Tabben, Karim Chamari (Qatar)</td>
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<tr>
<td>18.10-18.20</td>
<td>Soccer players who rupture their ACL demonstrate biomechanical risk factors while decelerating: a prospective cohort study #1068</td>
<td>Celeste Dix, Amelia Arundale, Holly Silvers-Granelli, Ryan Zarzycki, Adam Marmon, Lynn Snyder-Mackler (USA)</td>
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<tr>
<td>18.20-18.30</td>
<td>Lower extremity malalignments associated with ACL injury risks may also be related to decreased field performance #1532</td>
<td>Yohei Shimokochi, Satoshi Kuwano, Shogo Uta, Wakana Sasakabe, Takauchi Haruka, Takatsu Tomohiro, Shinshiro Mineta, Frederick Henderson, Takaaki Mishima, Moe Machida-Kosuga, Ken Nakata (Japan)</td>
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<td>18.30-18.40</td>
<td>The association between ACL injury and restricted hip range of motion among athletes #1093</td>
<td>Diego Escudeiro de Oliveira, Pedro Baches Jorge, Marcos Vaz de Lima, Aires Duarte Jr, Claudio Santili (Brazil)</td>
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<td>18.40-18.50</td>
<td>Age-appropriateness of common neuromuscular training exercises in ACL injury prevention programs #1221</td>
<td>Daphne Ling, Caroline Boyle, Joseph Janosky, Brenda Chang, Naomi Roselaar, James Kinderknecht, Robert Marx (USA)</td>
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<tr>
<td>18.50-19.00</td>
<td>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</td>
<td>Jihong Qiu, Patrick Shui Hang Yung (Hong Kong, China)</td>
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### Session F • WORKSHOP

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

**Authors:** 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

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

**Authors:** 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.
Saturday 13 February

Session A • SYMPOSIUM 36
Room Salle des Princes

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

Chair: Lee TAYLOR - United Kingdom

09.30-09.33
Introduction: Environmental and logistical challenges to athlete health
Lee Taylor - United Kingdom

09.33-09.45
Jetlag and travel fatigue prevention and treatment at the games
Christa Janse van Rensburg - South Africa

09.45-09.57
Illness during travel and at the games: how to prevent illness?
Martin Schwellnus - South Africa

09.57-10.09
Air quality/pollution challenges to athlete health at the games: Prevention and treatment
Valérie Bougault - France

10.09-10.21
Water quality/pollution challenges to athlete health at the games: Prevention and treatment
Margo Mountjoy - Canada

10.21-10.33
Challenges to athlete health at the hottest modern Olympics in history
Sébastien Racinais - Qatar

10.33-10.45
Countermeasures to prevent illness and preserve performance in hot and humid conditions
Lee Taylor - United Kingdom

10.45-11.00
Panel discussion: Future directions in the prevention of concussion in sport.
Taylor, Janse van Rensburg, Schwellnus, Bougault, Mountjoy, Racinais

Session B • SYMPOSIUM 37
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

09.30-09.35
The public health burden of concussion in youth team sport: Introduction of session and speakers
Carolyn Emery - Canada

09.35-09.47
Primary prevention of concussion in youth American Football: Tackle training, equipment, and rules
Jason P. Mihalik - USA

09.47-09.59
A comprehensive approach to concussion prevention in youth ice hockey
Carolyn Emery - Canada

09.59-10.11
Preventing concussion in youth rugby: Dispelling the myths of tackle training, load modification, and neuromuscular training
Keith Stokes - United Kingdom

10.11-10.23
Best practice in concussion prevention in youth lacrosse
Dawn Comstock - USA

10.23-10.35
Targeting intrinsic and extrinsic risk factors for concussion in youth soccer
Kathryn Schneider - Canada

10.35-10.40
Highlights for best practice and policy across 5 team sports
Carolyn Emery - Canada

10.40-11.00
Panel discussion: Future directions in the prevention of concussion in youth sport.
What evidence has potential for translation across sport-specific contexts?
Emery, Mihalik, Stokes, Comstock, Schneider
### Session C • SYMPOSIUM 38

**Room Camille Blanc**

**NEVER MENTION PREVENTION! [371]**

**Chairs:** Martin ASKER - Sweden, Rodney WHITELEY - Qatar

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>09.30-09.42</td>
<td>How would you train if you weren’t governed by fear of injury?</td>
<td>Rodney Whiteley - Qatar</td>
</tr>
<tr>
<td>09.42-09.54</td>
<td>Injury prevention programmes are bargains, but very few are buying them: Why?</td>
<td>Merete Møller - Denmark</td>
</tr>
<tr>
<td>09.54-10.08</td>
<td>I choose a throwing performance programme over injury prevention training every day of the week!</td>
<td>Martin Asker - Sweden</td>
</tr>
<tr>
<td>10.06-10.18</td>
<td>Don’t do hamstring injury prevention training, it will just decrease your performance!</td>
<td>Tania Pizzari - Australia</td>
</tr>
<tr>
<td>10.18-10.30</td>
<td>If I do the Copenhagen Adduction Exercise, I’ll be sore for a week, so no thank you!</td>
<td>Andreas Serner - Denmark/Qatar</td>
</tr>
<tr>
<td>10.30-10.42</td>
<td>30 years of research and clinical experience on the bumpy road of injury prevention - what do we see on the horizon</td>
<td>Rodney Whiteley - Qatar</td>
</tr>
<tr>
<td>10.42-11.00</td>
<td>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?</td>
<td>Whiteley, Møller, Asker, Pizzari, Serner</td>
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### Session D • FREE COMMUNICATIONS

**Room Auric**

**INJURY PREVENTION II**

**Chairs:** Jonathan DREZNER - USA, Erich MÜLLER - Austria

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.30-09.40</td>
<td>Do non-elite soccer teams implement neuromuscular training to prevent non-contact anterior cruciate ligament injuries?</td>
<td>#1217 Christophe Eechaute, Lieselot Longé, Winnie Debecker, Lore Meganck, Lynn Leemans, Ronald Buyl, David Beckwée, Tim Hendriks, Michel Stéphanie (Belgium)</td>
</tr>
<tr>
<td>09.40-09.50</td>
<td>Implementing a School Prevention Program to Reduce Injuries through Neuromuscular Training (SPRINT): A cluster-randomized controlled trial</td>
<td>#1805 Carla Vandenberg (Canada), Carolyn Emery (Canada), Sarah Richmond (Canada), Luz Palacios-Derflingher (Canada), Carly McKay (United Kingdom), Patricia K. Doyle-Baker (Canada), Megan McKlnay (Canada), Clodagh Toomey (Canada), Alberto Nettel-Aguirre (Canada), Evert Verhagen (The Netherlands), Kathy Belton (Canada), Alison K. MacPherson (Canada), Brent E. Hagel (Canada)</td>
</tr>
<tr>
<td>09.50-10.00</td>
<td>Injury prevention: exploring factors affecting adherence to different exercise programmes in men’s community rugby union</td>
<td>#1320 Matthew Attwood, Carly McKay, Simon Roberts, Grant Trewarthwaite, Keith Stokes (United Kingdom)</td>
</tr>
<tr>
<td>10.00-10.10</td>
<td>Kinematic and neuromuscular predictors of failed landings during unanticipated drop-jumps: implications for injury prevention</td>
<td>#1579 Nicholas Romanchuk, Céline Girard, Daniel Benoit (Canada)</td>
</tr>
<tr>
<td>10.10-10.20</td>
<td>The preventive effect of targeted adductor training on groin pain from football players</td>
<td>#997 Julia Smakal, Nadja Jamroq, Bartosz Wojanowski (Germany)</td>
</tr>
<tr>
<td>10.20-10.30</td>
<td>Supervised implementation of a neuromuscular training warm-up programme to improve adherence and reduce injuries in youth basketball: A cluster randomised trial</td>
<td>#1457 Oluwatoyosi Owoeye (USA/Canada), Kati Pasanen (Canada/Finland), Anu Räisänen (Canada), Kimberly Befus (Canada), Tyler J. Tait (Canada), Carlyn Stilling (Canada), Vineetha Warriyar (Canada), Luz Palacios-Derflingher (Canada), Carolyn Emery (Canada)</td>
</tr>
<tr>
<td>10.30-10.40</td>
<td>Identifying the challenges to implementing a netball neuromuscular warm-up using concept mapping</td>
<td>#1496 Erin Smyth, Renee Appaneal, Michael Drew, Alanna Antcliff, Gordon Waddington, Juanita Weissensteiner, Phillip Newman, Alex Donaldson (Australia)</td>
</tr>
<tr>
<td>10.40-10.50</td>
<td>Warm-up practices in high school basketball: Searching for clues to improve injury prevention program implementation strategies</td>
<td>#1345 Anu Räisänen (Canada), Oluwatoyosi Owoeye (USA/Canada), Kimberly Befus (Canada), Carla Vandenberg (Canada), Kati Pasanen (Canada/Finland), Carolyn Emery (Canada)</td>
</tr>
<tr>
<td>10.50-11.00</td>
<td>The effectiveness of neuromuscular training warm-up programme to reduce knee and ankle injuries in youth basketball: A historical cohort study</td>
<td>#1511 Oluwatoyosi Owoeye (USA/Canada), Kati Pasanen (Canada/Finland), Kimberly Befus (Canada), Carlyn Stilling (Canada), Brianna Ghali (Canada), Tyler J. Tait (Canada), Tite HubkaRao (Canada), Luz Palacios-Derflingher (Canada), Vineetha Warriyar (Canada), Carolyn Emery (Canada)</td>
</tr>
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### ILLNESS/INJURY EPIDEMIOLOGY

**Session E • FREE COMMUNICATIONS**

**Room Van Dongen**

**Chairs:** Nicola PHILLIPS - United Kingdom, Yorck Olaf SCHUMACHER - Qatar

- **09.30-09.40**
  - Sleep and general health predict higher injury rates in endurance athletes: a prospective study #1432
    - Kieran O’Sullivan (Ireland), Richard Johnston (Ireland/Australia), Roisin Cahalan (Ireland), Laura Bonnett (United Kingdom), Mark Maguire (Ireland), Phil Glasgow (Ireland), Sharon Madigan (Ireland), Thomas M. Comyns (Ireland)

- **09.40-09.50**
  - Injury, illness and 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)

- **09.50-10.00**
  - 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), Lara Engebretsen (Norway/Switzerland), Brigitte Scammell (United Kingdom), Torbjorn Soligard (Norway/Switzerland), Kathrin Steffen (Norway), Jackie Whittaker (Ireland), Richard Budgett (Switzerland)

- **10.00-10.10**
  - Injury and illness epidemiology and risk factors in short course triathlon: a systematic review #1517
    - Sara A Guevara, Paula C. Chariton, Gordon Waddington, Julien D. Périard, Kate Mahony, Michael Drew (Australia)

- **10.10-10.20**
  - The epidemiology of injury and illness of athletes at the Indian Ocean Island Games 2019 #962
    - Daniel Garnett (South Africa), Chandra Adisha Bholah (Mauritius), Yannick D’Hotman (Mauritius), Jon Patricios (South Africa), Benita Olivier (South Africa), Saul Cobbing (South Africa)

- **10.20-10.30**
  - 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)

- **10.30-10.40**
  - 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 #1533
    - Francois du Toit, Martin Schwellnus, Paola Wood, Sonja Swanevelder, Jannelene Killops, Esme Jordaan (South Africa)

- **10.40-10.50**
  - 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 #1537
    - Jannelene Killops, Nicola Sewry, Martin Schwellnus, Sonja Swanevelder, Christa Janse van Rensburg, Esme Jordaan (South Africa)

- **10.50-11.00**
  - 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)
**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**

11.30-13.00

**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
DISTANCE RUNNING

Session D • FREE COMMUNICATIONS
Room Auric

Chair: Kathryn ACKERMAN - USA

11.30-12.30

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, Ernne Jordaan (South Africa)

11.40-11.50
- Risk factors associated with injuries in first-time marathon runners: a 12-week prospective study #1041
  Brent 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
  Tryste Fokkema, Robert-Jan de Vos, Sita M.A. Bierma-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 slower WBST are independent risk factors associated with medical encounters in 211 km and 50 km runners: a SAFER study in 76654 starters #1538
  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, Patria Hume - New Zealand
What are developing markets rugby-7s injury risks? What interventions improve developing nations performance? We discuss evidence-based solutions.
### 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 LAYER - 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 Askar - 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
  - Mitsuori 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 Litar
#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.

**Session J • WORKSHOP**
14.30-15.30
Room Poulenc 1
Youth elite football: Attacking injuries from an epidemiological and clinical perspective #1644
Olivier Materne - Qatar, Eirik Halvorsen Wik - Qatar/Norway
This workshop will highlight methodological and clinical considerations related to injury risk and youth football development.

**Session K • WORKSHOP**
14.30-15.30
Room Genevoix 1
KOJI AWARENESS™, the self-evaluation system for total body movement #1789
Koji Murofushi - Japan
Access to the appropriate body screening is significant for preventing injury. This workshop will highlight the new system, which does not require a specific tool.

**Session L • WORKSHOP**
14.30-15.30
Room Genevoix 2-3
Are running mechanics limiting the development of the endurance athlete? #1169
Chris Bramah - United Kingdom
The workshop aims to discuss whether we can optimise running mechanics to improve injury & performance outcomes amongst endurance runners.

**Session A • SYMPOSIUM 47**
15.30-16.30
Room Salle des Princes
INJURY PREVENTION APPS – CLAP OR SCRAP? [467]
Chair: Tron KROSSHAUG - Norway
15.30-15.35
Introduction
Tron Krosshaug - Norway
15.35-15.45
GET SET – the IOC/OSTRC app: The importance of user involvement
Kathrin Steffen - Norway
15.45-15.55
Real-world injury reduction after implementation of the Knee Control exercise based injury prevention programme: An app success story
Markus Waldén - Sweden
15.55-16.00
Taking it to the next level. Sophisticated 3D animations for injury prevention delivery
Tron Krosshaug - Norway
16.00-16.10
Injury prevention through apps, how to reach our audience?
Evert Verhagen - The Netherlands
16.10-16.30
Panel discussion: Injury prevention through mobile apps – how can we improve?
Krosshaug, Steffen, Waldén, Verhagen
Session B • SYMPOSIUM 48
Room Prince Pierre
15.30-16.30
PROTECTING RESPIRATORY HEALTH IN ATHLETES: WHAT CAN WE DO BETTER? [174]
Chairs: James Hull - United Kingdom, Michael Loosemore - United Kingdom

15.30-15.35
I Introduction
Michael Loosemore - United Kingdom

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

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

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

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

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

Session C • SYMPOSIUM 49
Room Camille Blanc
15.30-16.30
Chairs: Paul Dijkstra - Qatar, Andrea Mosler - Australia

15.30-15.42
I Our confusing hip language is undermining prevention and protection
Clare Ardern - Sweden/Australia

15.42-15.54
I To prevent and protect the hip, we have to understand primary cam morphology, its cause and prognosis – but can we yet?
Paul Dijkstra - Qatar

15.54-16.06
I Screening and intervention to prevent primary cam morphology – is too much sports medicine creating a mountain out of a molehill?
Andrea Mosler - Australia

16.06-16.18
I Protecting the athlete with primary cam morphology from developing femoroacetabular impingement syndrome and osteoarthritis
Sion Glyn-Jones - United Kingdom

16.18-16.30
I 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
## Session F • WORKSHOP

15.30-16.30 Room Bosio 1

**Bridging the gap to keep them in the game: sharing a successful knowledge translation initiative to upscale evidence-informed sport injury prevention programs #1678**

Carla Vandenberg - Canada, Kati Pasanen - Canada/Finland

I Sharing the KT process used to upscale injury prevention warm-ups in Canadian community sport: Tips on putting your research into practice.

## Session G • WORKSHOP

15.30-16.30 Room Bosio 2

**Gold standard with gold quality – tips on how to perform a randomized controlled trial (RCT) with high quality #1684**

Eva Skillgate - Sweden

I 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.

## Session H • WORKSHOP

15.30-16.30 Room Lifar

**Getting hip with injury prevention: how to perform an effective hip screening exam to identify the “hip at risk” #1705**

Marc Philippon - USA, Dustin Nabhan - USA

I We will discuss and demonstrate the importance of the hip screening exam in the understanding and prevention of FAI in athletes.

## Session I • WORKSHOP

15.30-16.30 Room Scotto

**Behave yourself, and avoid overuse injuries #1143**

Ulrika Tranaeus - Sweden, Andreas Ivarsson - Sweden

I 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!

## Session J • WORKSHOP

15.30-16.30 Room Poulenc 1

**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 #1473**

Nikki Rommers - Belgium, Jo Verschueren - Belgium

I Lessons learnt and results observed: how to improve functional performance testing in injury prevention practice in elite youth sport.
SESSION 1 • SHOULDER

Poster Area – Level -2

Chair: Elizabeth A. ARENDT - USA

The relationship between shoulder pain, physical exam findings, and structural pathology in elite wheelchair athletes #1430
Cheryl Blauwet (USA/Germany), Wayne Derman (South Africa), Nick Webborn (United Kingdom), Dylan Morrissey (United Kingdom), Julian Chakraverty (United Kingdom), Paul Martin (United Kingdom), Guzel Idrissova (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 #1103
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? #1702
Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), Juliana Ocarino (Brazil), Evert Verhagen (The Netherlands), Renan Resende (Brazil)

Risk factors for shoulder pain in junior flatwater kayak athletes #1142
Tatsuya Kasuyama, Kazuhisa Tsuzuki, Naoki Onoto (Japan)

Do clinical Pilates exercises affect scapular stabilization? #1669
Mehmet Micoogullari, S. Fatma Uygur, H. Baran Yosmaoglu, Bünuyarin Hakoever (Turkey)

Acute effect of vibration stimulus around shoulders on sensorimotor control #1107
Masanori Morikawa, Yukio Urabe, Junpei Sasadai, Somu Kotoshiba, Makoto Komya, Kazuki Fukui, Noritaka 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 #1516
Yuki Nomura, Hajime Toda, Masaki Katayose, Shun Watanabe, Masahiro Yoshida, Makoto Yoshida, Kozo Tarmaroko (Japan)

The immediate effects of serving on shoulder rotational range of motion in tennis players #938
Katy Williams, Clair Hebron (United Kingdom)

SESSION 2 • WATER SPORTS

Poster Area – Level -2

Chair: Margo MOUNTJOY - Canada

The incidence of injuries and illness during open-water swimming events: Optimising swimmer safety #1220
Amilia Alfrangis, Martin Suzan, Courtney Kipps (United Kingdom)

Swimming-related complications during triathlon event #1118
Amilia Alfrangis, Martin Suzan, Courtney Kipps (United Kingdom)

The incidence of scapholunate ligament disruption in competitive divers #1161
Alethea Beck (United Kingdom)

Physical risk factors for shoulder injuries in water polo #1339
Félix Croteau, Shawn Robbins, David Pearsall (Canada)

SESSION 3 • COMBAT SPORTS

Poster Area – Level -2

Chair: Hideyuki KOGA - Japan

Methods for monitoring training load in competitive swimming #1672
Stef Feijen (Belgium), Angela Tate (USA), Kevin Kuppens (Belgium), Filip Struyf (Belgium)

Swim-training volume and shoulder pain across the life span of the competitive swimmer: a systematic review #1652
Stef Feijen (Belgium), Angela Tate (USA), Kevin Kuppens (Belgium), Anke Claes (Belgium), Filip Struyf (Belgium)

Towards reducing time loss from play: illness and injury surveillance in an elite women’s water polo team #1610
Shauna Christine Hwei Sian Sim, Andrea Jiewen Chen, Uduwattage Dinesh Chaminda Sirisena (Singapore)

The incidence of swimmer’s shoulder and its relevance with the range of movement amongst young swimmers #1646
Károly Törös, Anna Schmidtk-Närväy, Gabriella Szendro, Lehel Bálint, Ágnes Mayer (Hungary)

Investigating the effect of mouth guard use on aerobic performance in amateur boxers #1066
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 #1741
Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), Juliana Ocarino (Brazil), Evert Verhagen (The Netherlands), Renan Resende (Brazil)

Injuries and illnesses severity and training hour profile of 121 Brazilian young judokas during the first eight weeks of season: a descriptive cohort study #1745
Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), George Sabino (Brazil), Juliana Ocarino (Brazil), Evert Verhagen (The Netherlands), Renan Resende (Brazil)

Video analysis of injury mechanisms in Taekwondo athletes #1547
Hee Seong Jeong (Republic of South Korea), David O’Sullivan (Republic of South Korea), Dae Hyun Jeong (USA), Sau Yong Lee (Republic of South Korea)

Biomechanical risks of knee injury in mixed martial arts: a video-based notation analysis #1059
Kam Ming Mok, Ivan YH Lau, Lobo Louie, Patrick Shu Hang Yung (Hong Kong, China)

Top-level karate athletes: are they implementing preventative injury measures? #1360
Montassar Tabben (Qatar), Dusana Cierna (Slovakia), Laura Perez Martin (Spain), Rafael Arriaza (Spain)

Injury analysis in mixed martial arts athletes #1304
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 #1032
Green Waggener (USA), Dimitri Papadopoulos (USA), David Murrie (United Kingdom), Mark Kasper (USA)
**SESSION 4 • FOOT - ANKLE**

**Poster Area – Level -2**

**Chair:** Daniel T. P. FONG - United Kingdom

- How does medicine decide a safe return-to-play after a lateral ankle sprain? #1449
  Aude Aguélianu (Belgium), Jean-Louis Crosier (Belgium), Cédric Schwartz (Belgium), Nasia Dardenne (Belgium), Peter D’Hooghe (Qatar), Yanis Zahracou (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 Estevés, Ricardo Dinis, Orlando Fernandes, Maria António Castro, Raul Oliveira, Pedro Pizarat 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 Fouchet, Atriom Ganche, 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 Mallu, 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, ATF pathology and the Balance Test #1162
  Shuichi Nakayama, Tsukimura Naoki, Iwakura Nahoko, Yamamoto Takayuki, Saku Isaku, Ito Eri, Takebayashi Tomomi, Uchino Sayuri, Numasawa Shun, Animoto Kumi, Ikeda Shigehiro (Japan)

**SESSION 5 • LOAD MONITORING**

**Poster Area – Level -2**

**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 Duignan, 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 Perla (Spain), Laurie Eisler (Canada), Carolyn O’Dwyer (Canada), Albert Altarriba-Bartés (Spain), Beatriz Gil (Spain), Cláudia Alba (Spain), Pierre Baudin (Canada)

**SESSION 6 • DANCE**

**Poster Area – Level -2**

**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 Sumon, 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
  Inna Zelenkova, Dmitriy Martinov, Sergey Zolkin, Elena Prosikurnina (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 Atansay, 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 Atansay, Busra Akgonul, Bugra Ayaz, Ayhan Nidem 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 #1292
  Neslihan Aksu, Vefa Atansay, Busra Akgonul, Ayhan Nidem Kara, Azmi Hamzaoglu (Turkey)
- Bone mineral density and associated factors: do young female dancers and other recreational sport athletes differ? #1559
  Meghan Critchley, Clodagh Toomey, Stacey M. Lobos, Luz Palacios-Derflinger, Sarah J. Kenny, Carolyn Emery (Canada)
- Association between baseline factors and risk of injury amongst pre-professional dancers #1576
  Sarah J. Kenny, Vineetha Warriya K. V., Luz Palacios-Derflinger, 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

- 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 Batty (United Kingdom)

- 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)

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

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

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

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

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

- 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

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

- Examining the relationship between identity and injury fear avoidance: The influence of masculine and athletic identities #1137
  - Ieuan Granrick, Ashley Jones, Phil Clarke, Tod David (United Kingdom)

- 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 Chaudhan (USA)

SESSION 9 • RISK FACTORS

**Chair:** Natália F. N. BITTENCOURT - Brazil

- Psychosocial factors are associated with lower re-injury risk in competitive athletes #1714
  - Adam Gedhilh, Ross Craig (United Kingdom)

- Psychological distress and wellbeing in UK Olympic and Paralympic athletes #1425
  - Craig Ranson, Sandra Leyland, Lisa Board, Rod Jaques, Alan Currie (United Kingdom)

- Mental fatigue interacts with brain activity during predefined and reactive balance tasks: is it time to add some more context to injury prevention screening? #1193
  - Bruno Tassinog (Belgium), Jo Verschueren (Belgium), Jeroen Van Cutsen (Belgium), Kevin De Paauw (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

- Acute peripheral fatigue induces brain activity changes during predefined and reactive balance tasks: new insights concerning the fatigue-injury hypothesis #1200
  - Bruno Tassinog (Belgium), Jo Verschueren (Belgium), Sander De Bock (Belgium), Luk Buyse (Belgium), Kevin De Paauw (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

- Psychological factors for an injury free athletic career #1149
  - Ulrika Traneaus, Linn Hallgren, Hanna Jörland (Sweden)

- The fatigue-injury hypothesis: what is the effect of acute peripheral fatigue on functional and neurocognitive performance tests? #1176
  - Jo Verschueren (Belgium), Bruno Tassinog (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

- 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 Bieuzen, Jérémy Briand, Breault Pierre-Olivier, Sylvain Gaudet (Canada)

- 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 (Brazil), Marnee McKay (Australia), Justin Sullivan (Australia), Fabio Micolis de Azevedo (Brazil), Evangelos Pappas (Australia)

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

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

- Training protective factors for knee pain in Olympic class sailors #1552
  - Shawn Hunt, Katherine Stewart, Michael Twitty, Kaylee Van Deusen, Lei Zhang (USA)

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

- Perceived injury risk among elite track & field athletes – a questionnaire-based study #1655
  - Maria Mereman (Sweden)
SESSION 10 • HAMSTRING

Poster Area – Level -2

Chair: Clare ARDERN - Sweden/Australia

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

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

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

I 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)

I 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)

I Eccentric hamstring strength and sprinting performance changes during the off-season in Spanish footballers #1613
Jordi Viceni-Bordas (Spain), Ernest Esteve (Spain), Azahara Fort-Vanmeerhaeghe (Spain), Martí Casals (Spain), Thomas Bandholm (Denmark), Lasse Ishaø (Denmark), David Opar (Australia), Anthony Shield (Australia), Kristian Thorborg (Denmark)

SESSION 11 • CONCUSSION I

Poster Area – Level -2

Chair: Jane THORNTON - Canada

I High concussion rate amongst South African university rugby student tournament #964
James Craig Brown (South Africa), Lindsay Starling (South Africa), Keith Stokes (United Kingdom), Pierre Vives (South Africa), Sean Surmon (South Africa), Keith Derman (South Africa)

I Sport-related concussion in Japanese high school rugby players #1618
Mano Otoyo, Suguru Torii, Toru Fukubayashi (Japan)

I Gender differences in head impact rate and mechanism in high school lacrosse #1551
Declan Patton, Colin Huber, Valerie Lallo, Catherine McDonald, Kristy Arbogast (USA)

I Normative baseline SCAT5 scores in a population of United States Olympic athletes #1691
Lauren Pierpoint, Laura Zdziarski, David Taylor, William Moreau, Dustin Nabhan (USA)

I Concussions among female athletes in Iceland: stress, depression, anxiety and quality of life #1233
Silja Runolfsdottir, Maria K. Jonsdottir, Ingunn Kristensen, Helga Sigurjonsdottir, Lara Claessen, Hafun Kristjansdottir (Iceland)

I How do we do better? Managing community rugby concussions in a primary care setting #1504
Danielle Salmon (New Zealand), Janelle Romanchuk (New Zealand), Ian Murphy (New Zealand), John S. Sullivan (New Zealand), Simon Walters (New Zealand), Chris Whatman (New Zealand), Sierra Keung (New Zealand), Amanda Clacy (Australia)

I Preliminary exploration of baseline concussion measures among premier league football athletes in Zambia #1341
Jessica Wallace (USA), Davie Mulenga (Zambia), Philip Schatz (USA), Mark Lovell (USA), Tracey Covassin (USA)

I Normative baseline SCAT5 scores in a population of United States Paralympic athletes #1701
Laura Zdziarski, Lauren Pierpoint, David Taylor, Amber Donaldson, William Moreau, Dustin Nabhan (USA)

SESSION 12 • CONCUSSION II

Poster Area – Level -2

Chair: TBA

I Differences in neck proprioception post concussion, at return to play and at end of season in professional rugby union players #1372
Alan Barbero, Theo Farley (United Kingdom)

I Risk factors for post-concussion subsequent musculoskeletal injuries #1465
Thomas Buckley, Jessie Oldham, Caroline Howard, Robert Lynall, Buz Swanik, Nancy Getchell (USA)

I Clinical symptoms and condition-specific health-related quality of life impairments in amateur athletes following return-to-activity after sport-related concussion: a prospective, matched-cohort study #1285
Finn Büttrn (Ireland), David Howell (USA), Calibhe Doherty (Ireland), Catherine Blake (Ireland), John Ryan (Ireland), Eamonn Delahunt (Ireland)
Thematic posters sessions
Thursday 11 February - 15.30-16.30

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, Siw Carlfjord (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 Firhad Raja Aidin, Saliuddin Adil Bukry, Haizdrz Marif, Maria Justine, Hosni Hasan, Hashbullah Ismail, Rashama Sharif (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 Piccinino (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 Piccinino (Italy)

Thematic posters sessions
Thursday 11 February - 15.30-16.30

SESSION 14 • OLYMPICS
Poster Area – Level -2

Chair: Lars ENGBRETSSEN - Norway/Switzerland

I Need of specific sports physiotherapy preparation for the Olympic Games in dual polyclinics, experience from 2018 PyeongChang Winter Olympic Games #1204
Joon Young Chang (Republic of South Korea), Young Hee Lee (Republic of South Korea), Marie-Eline Grant (Switzerland/Ireland), Jung Ha Lee (Republic of South Korea), Joshua Sung H. You (Republic of South Korea), Tae Gyu Kim (Republic of South Korea), In Deok Kong (Republic of South Korea)

I Epidemiology of injury and retirement from sport among former international athletes #1355
Dale Cooper, Mark Batt, Debbie Palmer (United Kingdom)

I Epidemiology and impact of traveller’s diarrhoea on participants of the pre-Olympic test event “Ready Steady Tokyo 2019” #1008
Nebolja Nikolić (United Kingdom), Sergio Migliorini (Switzerland), Lidija Bilić-Zule (Croatia)

I The Retired Olympian Musculoskeletal Health Study (ROMHS) cohort: recruitment of 3,357 Olympians and 1,735 general population controls #1458
Debbie Palmer (United Kingdom), Dale Cooper (United Kingdom), Carolyn Emery (Canada), Mark Batt (United Kingdom), Lars Engerbretsen (Norway/Switzerland), Brigitte Scammell (United Kingdom), Torbjørn Soligard (Norway/Switzerland), Kathrin Steffen (Norway), Jackie Whittaker (Canada), Richard Budgett (Switzerland)

I Preventing heat stress before the Tokyo Olympic Games, the case of open water #1565
Robin Pla, Anaël Aubry (France)

I Referees can prevent injuries in wrestling; an experience from the 2018 Youth Olympic Games #1774
Babak Shadgan (Switzerland/Canada), Loukas Konstantinou (Switzerland), Szabolcs Molnár (Switzerland)
**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, Alcindo 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, Tillay 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**  

**SESSION 16 • BIOMECHANICS**  
**Poster Area – Level -2**

**Chair:** Erich MÜLLER - Austria

- **Gender differences in landing mechanics after Anterior Cruciate Ligament Reconstruction #1629**  
  Ahmad Alanazi (Saudi Arabia), Faisal Al-Enezi (Saudi Arabia), Mishal Aldaihan (Saudi Arabia), Hamad Al Amer (Saudi Arabia), Alexis Ortiz (USA)

- **Relationship between pole vault biomechanics and previous injuries #1251**  
  Pascal Edouard (France/Switzerland), Hervé Sanchez (France), Cyprien Bourrinhon (France), Sébastien Homo (France), Julien Frère (France), Johan Cassirame (France)

- **Effect of prophylactic ankle taping on knee biomechanics during cutting and lateral jumping tasks in professional football (soccer) athletes #975**  
  Pakapon Issaragrisil (Thailand)

**SESSION 17 • INDOOR TEAM SPORTS**  
**Poster Area – Level -2**

**Chair:** Evert VERHAGEN - The Netherlands

- **Variables associated to knee valgus in male soccer players during a single leg vertical landing task #1493**  
  Gustavo Leporace, Matheus Vianna, Leonardo Mitasavah, Marcio Tannure, Alex Souto Maior (Brazil)

- **Biomechanical asymmetries persist in athletes who return to sports after anterior cruciate ligament reconstruction #1378**  
  Yumi Nomura, Masaaki Sugita, Toru Fukubayashi (Japan)

- **Rearfoot-strike induced hip internal rotation facilitates subsequent knee valgus and tibial internal rotation loadings in cuttings #1508**  
  Issel Ogasawara, Shimokochi Yohei, Nakata Ken (Japan)

- **Monitoring movements with high trunk acceleration during badminton games: an approach combining a microsensor unit and video analysis #1163**  
  Shogo Sasaki, Yasuharu Nagano, Yui Shimada, Hiroshi Ichikawa (Japan)

- **Prevention of ankle sprains, instability and fifth metatarsal fractures: A computer model assessment of the effect of hindfoot deformity on mechanical alignment of the lower extremity #1602**  
  Patrick Williamson, Naven Duggal, Ara Nazarian (USA)
SESSION 18 • FEMALE SPORTS

Chair: Kathryn ACKERMAN - USA

- Epidemiology of illness in female athletes: a systematic review #1687
  Thomas Axon (United Kingdom), Nirmala Perera (Sweden/United Kingdom/Australia)

- Anthropometrics and knee dynamic valgus as explanatory factors for landing kinetics and ACL
  injury risk: a female football cohort study #1411
  Eder Bikandi (Spain), Francisco Amú-Ruiz (Colombia), Alziber Gómez (Spain),
  Jose Antonio Lekue (Spain), Jon Larruskain (Spain), Xabier Monasterio (Spain), Julen Arce (Spain),
  Igor Setuain (Spain), Mikael Izquierdo (Spain)

- Monitoring wellbeing and perceived exertion in relation to injury risk in elite female football
  players over 2 seasons #1127
  Jon Larruskain (Spain), Ane Uría (Scotland), Maitalen Aida (Spain), Iraia Iturregi (Spain),
  Artz Yartzu (Spain), Eder Bikandi (Spain), Julen Arce (Spain), Xabier Monasterio (Spain),
  Jose Antonio Lekue (Spain), Imanol Martin-Garetxana (Spain)

- The prevalence and burden of pre-menstrual syndrome in the athletic population #1713
  Katie Lydon (Ireland), Sharon Madigan (Ireland), Alan Rankin (United Kingdom)

- Prevalence and burden of menstrual disorders in athletes: a questionnaire study #1740
  Katie Lydon (Ireland), Sharon Madigan (Ireland), Alan Rankin (United Kingdom)

- The Epidemiology of Injury in English Professional Women’s Football: A Prospective Cohort Study #1428
  Lawrence Mayhew, Peter Francis, Gareth Jones (United Kingdom)

- Epidemiology of sports injuries, including overuse injuries in female Japanese college basketball
  athletes #1119
  Yasuharu Nagano, Yui Shimada, Naoki Sasaki, Masaki Shibata (Japan)

- Longitudinal documentation of self-reported and physical function in female adolescent athletes
  with bilateral recurrent ankle sprains #1688
  Masafumi Terada, Kunihara Toshiyuki, Takashi Sugiyama, Yuki Kusagawa, Takahiro Tanaka,
  Kento Shimohi, Miyuki Horii, Tadao Issaka (Japan)

SESSION 19 • RUGBY

Chair: Christa JANSE VAN RENSBURG - South Africa

- Epidemiology of injuries in Scottish male professional rugby union #1626
  Stuart Bailey, Russell Martindale, James Robson, Debbie Palmer (United Kingdom)

- Utility of the Health Action Process Approach (HAPA) Model to predict intention and adoption of
  the Activate injury prevention exercise programme by school rugby coaches #1482
  Craig Barden, Carly McKay, Keith Stokes (United Kingdom)

- Safe and sound for performance’s sake? An exploration on health and safety awareness in elite
  rugby #1029
  Yanbing Chen, Conor Buggy, Seamus Kelly (Ireland)

- Knowledge of the importance of proper tackle contact techniques does not translate to proper
  tackle contact technique for injury prevention and performance #1649
  Steve den Hollander (South Africa), Mike Lambert (South Africa), Ben Jones (South Africa/United Kingdom/
  Australia), Sharief Hendricks (South Africa/United Kingdom)

- Perceptions and attitudes towards shoulder padding and shoulder injury in rugby union #1109
  Angus Hughes, Matt Carre (United Kingdom)

- U.S. rugby-7s players injury incidence, severity and burden effects by positions and levels of play
  #1548
  Victor Lopez Jr (USA/New Zealand), Shen-Ying Richard Ma (USA/New Zealand), Meryle G. Weinstein
  (USA), Patria A. Hum (New Zealand), Robert C. Cantu (USA/Ireland), Christian Victoria (USA),
  Sophie C. Queler (USA), Khalil J.A. Webb (USA), Answorth A. Allen (USA/New Zealand)

- The epidemiology of head, neck and face injuries of adult men’s and women’s U.S. rugby-7s
  players #1550
  Shen-Ying Richard Ma (USA/New Zealand), Christian Victoria (USA), Danielle C. Ompad (USA),
  Meryle G. Weinstein (USA), Robert C. Cantu (USA/Ireland), Jordan Genec (USA),
  Answorth A. Allen (USA/New Zealand), Victor Lopez Jr (USA/New Zealand)

- New Zealand super rugby injury surveillance: match injuries from 2015-2018 #1622
  Danielle Salmon, Ian Murphy, Kenneth Quarrie, Greg MacLeod, Asher Singh, Adam Letts,
  John Roche, Deborah Robinson, Martin Swan, Theo Dorling, Cameron Shaw, Katherine Röttier,
  Kevin Bell, Stephen Kara, James McGarvey (New Zealand)
SESSION 20 • SCREENING AND PHE
Poster Area – Level -2

Chair: Jonathan DREZNER - USA

- Relationship between balance and lower extremity ROM, H/Q ratio, hamstring tightness, beighton score in professional folk dancers and professional football players #1058
  Busra Akgonul, Vefa Atansay, Ayhan Nedim Kara, Azmi Hamzaoglu, Neslihan Aksu (Turkey)
- Pre-season clinical assessment of the hip extensors, external rotators and abductors in competitive sprinters #1515
  Pedro Luiz Flores Fagnani (Spain), Natália F. N. Bittencourt (Brazil), Fabian Peralta (Spain)
- Risk management through an assertive preseason assessment #1260
  Natália F. N. Bittencourt, Renato de Paula da Silva, Paíla de Figueiredo Caldeira, Robson José Rodrigo Tavares de Almeida, Jomar Jorge Ottoni, Gustavo Damásio Magioca, Luciana De Michielis Mendonça (Brazil)
- Isokinetic profile and contralateral deficit of the lower limbs of artistic gymnastics athletes #1637
  Stefânia Gonçalves Dias, Natália Batista Albuquerque Goulart Lemos, Morgana Lunardi, Fernando de Aguiar Lemos, Caroline Pieta Dias, João Carlos Oliva, Marco Aurélio Vaz (Brazil)
- The differences of static lower extremity alignment between female ballet students and female non-ballet students #1130
  Min Jin Kim, Sae Yong Lee (Republic of South Korea)
- Sport Pre-participation health evaluation in elite athletes from a multisport club: proposal for a personalized protocol #1313
  Ramon Pi, María Sanz de la Garza, Gonzalo Grazioi, Gil Rodas, Manel García, Marta Sitges, Francheck Drobnic (Spain)
- Should the side-hop test be reduced from 40 cm to 30 cm when used in developmental athletes? #949
  Isabel Schneider, Nicolai Kammann, Oliver Haertel (Germany)
- Injuries in long distance racecar drivers: A longitudinal study of pre participation examinations #1699
  Joselina Stoll, Lucie Risch, Michael Cassel, Frank Mayer (Germany)

SESSION 21 • MSK AND REHAB
Poster Area - Exhibition Hall Diaghilev

Chair: Nicola PHILLIPS - United Kingdom

- Stress fractures during top-level international Athletics championships #1249
  Pascal Edouard (France/Switzerland), Anders Vinther (Denmark)
- The benefit of subgroup analysis when predicting rehabilitation outcomes in athletic groin pain patients #1416
  Shane Gore, Chris Richter, Andrew Franklin-Miller, Eanna Falvey, Enda King, Kieran Moran (Ireland)
- Expert opinion on the assessment and management of calf muscle strain injuries in sport #1503
  Brady Green, Anthony Schache, Jodie McClelland, Adam Semciw, Tania Pizzari (Australia)
- Return to play from previous injury within 1 years may be an important risk factors to be considered in order to prevent recurrent injury during major events for young athletes #1612
  Youngun Kim, Seun Kim, Hee Seong Jeong, Sae Yong Lee (Republic of South Korea)
- A randomised controlled trial investigating the cross-education of strength and power following at-home unilateral calf exercises #1564
  Niall Simmons, Sumona Mandal, Liang Zhi Wong, Andreas Mirallais, Flaminia Ronca, Bhavesh Kumar (United Kingdom)
- A systematic review of musculoskeletal injuries in professional golfers #1769
  Patrick Robinson, Lain Murray, Andrew Duckworth, Roger Hawkes, Danny Glover, Nigel Tilley, Rob Hillman, Chris Oliver, Andrew Murray (United Kingdom)
- Commercially-available inertial measurement unit underestimates number of jumps for females more than males: implications for load monitoring and injury prevention #1650
  Tyler J. Tait (Canada), Lauren Benson (Canada), Kimberley Befus (Canada), John Choi (Canada), Colin Hillson (Canada), Carly Stilling (Canada), Sagar Grewal (Canada), Kerry MacDonald (Canada), Kati Pasanen (Canada/Finland), Carolyn Emery (Canada)

SESSION 22 • CRICKET AND CLIMBING
Poster Area - Exhibition Hall Diaghilev

Chair: Martin SCHWELLNUS - South Africa

- The influence of BMI on chronic injuries and performance in climbing #1090
  Gudmund Grenhaug (Norway)
- Why not? Use of healthcare and reasons not to seek healthcare by Norwegian climbers with chronic injuries #1091
  Gudmund Grenhaug, Atle Hole Sæterbakken (Norway)
- Profile of injuries and illness in elite Pakistan cricketers: a longitudinal injury surveillance study over a season (52-weeks) #1562
  Shane Hayes (Pakistan), Nirmala Perera (United Kingdom/Sweden/Australia)
- Risk factors associated with anxiety and depression in professional cricketers #1206
  Sharief Hendricks (South Africa), Nur Amino (South Africa), Ruan Schiebusch (South Africa), JP Van Wyk (South Africa), Stephen Mellalieu (United Kingdom), Vincent Gouttebarge (The Netherlands)
The characterisation of Dupuytrens disease in climbers #1062
Gareth Jones, Mark Johnson, Cara Woodards, Tim Halsey (United Kingdom)

Epidemiology of hospital treated cricket-related hand injuries over a 5-year period in Victoria, Australia #1100
Karishma Shah (United Kingdom), Nirmala Perera (United Kingdom/Sweden/Australia)

SESSION 23 • INJURY PREVENTION MEASURES Poster Area - Exhibition Hall Diaghilev

I Impact of specific prevention training measured by the Star Excursion Balance Test modified (SEBTm) in young female soccer: a cluster randomised controlled trial #948
Hugo Del Rabal, Brice Picot, Alexandre Rambaud (France)

I Using infographics and video to prevent injuries and illnesses in athletics #1253
Pascal Edouard (France/Switzerland), Pedro Branco (United Kingdom), Jennifer Duncan (United Kingdom), Marianna Kiss (Switzerland/Hungary), Frederic Depiesse (France), Andrew Murray (United Kingdom)

I Field Hockey injuries and personal protective equipment: a status survey of German national teams #1379
Sabrina Gorks, Thomas Henke, Petra Platen (Germany)

I Kinesiotaping; does it really prevent sports injuries? #958
Yonatan Kaplan (Israel)

I The relationship between exercise frequency and development of knee osteoarthritis (OA) in young & middle-aged population using National Health Insurance Sharing Service (NHISS) #1614
Soyoung Lee, Sae Yong Lee (Republic of South Korea)

I Injury prevention in professional football: perceptions and strategies of 72 brazilian football clubs #1289
Christiane de Souza Guerino Macedo, Fernando Cassiolato Freitas, Dirce Shizuko Fujisawa (Brazil)

I Preventive strategies to control delayed onset muscle soreness and muscle fatigue in Brazilian paracanoe athletes #1290
Christiane de Souza Guerino Macedo, Fernanda Bortolo Pesenti, Gelson Moreira Souza (Brazil)

I A "step" towards prevention of OA in physically active amputees using a novel foot prosthesis: a randomised controlled cross-over trial #1640
Phoebe Runciman, John Cockcroft, Wayne Derman (South Africa)

SESSION 24 • INJURY SURVEILLANCE Poster Area - Exhibition Hall Diaghilev

I Prevalence of CrossFit® related injuries in France: a retrospective study on 3023 participants #1310
Flavio Bonnet, Hemrick Verwaerde (France)

I The clinical burden of severe sports injuries in England and Wales #1697
Madeleine Davies, Tom Lawrence, Antoinette Edwards, Fiona Lecky, Carly McKay, Keith Stokes, Sean Williams (United Kingdom)

I Injury burden in American football #1670
Samuel Johnson, Douglas Aukerman, Cathleen Brown, Marc Norcross (USA)

I Incidence, severity, and burden of hip, groin, and thigh muscle injuries in Division I collegiate American football #1699
Marc Norcross, Douglas Aukerman, Cathleen Brown, Samuel Johnson (USA)

I Epidemiology in the Japanese Deaf Football National Team in international tournaments #1597
Yasuaki Saho, Tateishi Tomohiko (Japan)

I Injury rates and mechanisms of injury in female high school rugby #1603
Isla Shill, Amanda M. Black, Stacy Sick, Ash Kolstad, Luz Palacios-Derflingher, Kathryn Schneider, Brent E. Hagel, Carolyn Emery (Canada)

I Surveillance: Injury incidence and injury patterns in professional football players registered in Egyptian Football league #1643
Mohamed Yaha (Egypt)

I Futbol Club Barcelona ACL injury epidemiology #1467
Javier Yanguas Leyes, Sandra Mechó Meca, Xavier Alomar Serrallach, Ricard Pruna Grive, Gil Rodas (Spain)

SESSION 25 • MEDICINE Poster Area - Exhibition Hall Diaghilev

I Mysterious breathing problems in athletes – what can it be? #1445
Hege Clemm, Ida Hammer, Maria Vollseter, Ola Røksund, Thomas Halvorsen (Norway)

I Preventing injury to the fetus: Using 3-Dimensional power flow Doppler ultrasonography to analyze placental blood flow during resistance training in pregnant athletes to guard against fetal hypoperfusion #1544
Sara Gould, Chase Cawyer, Louis Dell’Italia, Lorie Harper, Marcos Bammann (USA)

I Impact of inhaler therapy on hyperpnoea-induced bronchoconstriction in elite swimmers, and test-retest repeatability of EVH challenge in those non-adherent to therapy #1003
William Gowers, Guy Evans, Jane Carré, Matt Ashman, Anna Jackson, James Hopker, John Dickinson (United Kingdom)
SESSION 26 • YOUTH ATHLETES
Poster Area - Exhibition Hall Daghliev

Chair: Jane THORNTON - Canada

- Effects of salbutamol prior to diesel exhaust exposure does not affect dyspnea despite reducing the work of breathing in individuals with exercise-induced bronchoconstriction #1094
  Sarah Koch (Canada), Joseph Welch (USA), Andrew Ramsook (Canada), Christopher Carlsten (Canada), Jordan A. Guenette (Canada), Michael Stephen Koehle (Canada)

- Cardiac fibrosis markers: Galectin-3 and Suppression of Tumorigenicity 2 measurement in participant at the Tor des Géants #1135
  Caroline Le Got (Belgium), Jean-François Kaux (Belgium), Laurence Seidel (Belgium), Laurent Gergéle (France), Grégore Millet (Switzerland), Magali Vallon (France), Pierre Croisille (France), Étienne Cavalier (Belgium)

- Attitudes of elite athletes and their support staff to the influenza vaccine #1276
  Frank O'Leary, James O'Donovan (Ireland)

- Asthma-related sudden death in competitive athletes #1671
  Oliver Price (United Kingdom), Kristen Kucera (USA), Hannah Price (USA), Jonathan Drezner (USA), Andrew Menzies-Gow (United Kingdom), James Hull (United Kingdom)

SESSION 27 • FOOTBALL
Poster Area - Exhibition Hall Daghliev

Chair: Markus WALDÉN - Sweden

- Does the FIFA 11+ shoulder injury prevention program reduce the incidence of upper extremity injuries among soccer goalkeepers? A randomised controlled trial #1022
  Wesam Saleh A Al Attar (Saudi Arabia), Mansour Abdullah Alshehri (Saudi Arabia/Australia)

- Increased acute exposure to soccer ball heading shows no response from biochemical markers for axonal injury risk #1441
  Kieran Austin (United Kingdom), Ben Lee (United Kingdom), Tessa Flood (United Kingdom), Jamie Tomombs (United Kingdom), Mina Borisova (United Kingdom), Neal Smith (United Kingdom), Amanda Heslegrave (United Kingdom), Henrik Zetterberg (Sweden/United Kingdom)

- Mental well-being and help-seeking in professional football #1158
  Charles Ballet (United Kingdom)

- Skeletal muscle contractile properties before, during and after muscle injury in male professional football players #1151
  Ashley Jones (United Kingdom), Karen Hind (United Kingdom), Gareth Jones (United Kingdom), Hannah V. Wilson (United Kingdom), Peter Francis (United Kingdom/Ireland)

- The effect of a 90-min soccer match and fatigue on eccentric hamstring strength: implications for hamstring injury risk #1308
  Georgios Kakavas, Athentios Kekelekis (Greece)

- Heading a soccer ball and the characterization of parameters that influence its peak impact force #1172
  Nicolas Leiva Molano, Joshua Auger, Justin Markel, Dimitri D. Pecoski, Tom M. Talavage, Larry Leverenz, Francis Shen, Eric A. Nauman, Scott Lawrence (USA)

- Studying of selected performance and skill test batteries for prediction of severity of injury in Iran premier league football players aged 16-21 years old #1406
  Negar Momeni, Mohammad Hossein Alizadeh, Hooman Minoonejad, Mostafa Zarei (Islamic Republic of Iran)

- Rising solar radiation in the late morning increases thermoregulatory strain during 2-h football training under a clear sky in the heat #1222
  Hidenori Otani, Takayuki Goto, Hitof Goto, Yuri Hosokawa, Minayuki Shirato (Japan)

- Rising solar radiation in the late morning increases thermoregulatory strain during 2-h football training under a clear sky in the heat #1222
  Hidenori Otani, Takayuki Goto, Hitof Goto, Yuri Hosokawa, Minayuki Shirato (Japan)
SESSION 28 • GROWTH AND MATURATION
Poster Area - Exhibition Hall Diaghilev

Chair: Fares HADDAD - United Kingdom

❙ Rectus femoris and iliopsoas contracture as a risk factors for Osgood-Schlatter disease in high performance youth athletes #1164
Carlos Alonso Gomez Lopez, Citlali Martinez Martinez, Humberto Lopez Garcia (Mexico)

❙ A controlled trial of the effects of neuromuscular training on biomechanical efficiency in adolescent student-athletes #1749
Joseph Jarosky, Daphne Ling, James Kinderknecht, Robert Marx (USA)

❙ Injuries according to the percentage of adult height in an elite football academy #1421
Xabier Monasterio, Susana Maria Gil, Iria Bidaurreta-Letona, Jose Antonio Lekue, Gontzal Diaz-Belita, Juan Maria Santisteban, Imanol Martin-Garetxana, Eder Bikandi, Julen Arce, Jon Larruskain (Spain)

❙ A Qualitative scoring system of unilateral loading, assessment of movement quality in youth multisport athletes during growth #1353
Gemma Parry (United Kingdom)

❙ Effect of maturation on knee extensor and flexor strength in male and female adolescent athletes #1639
Kerry Peek (Australia), Kevin Ford (USA), Gregory Myer (USA), Timothy Hewett (USA), Evangelos Pappas (Australia)

❙ Knee and ankle overuse injuries in youth basketball players #1490
Carlyn Stilling (Canada), Oluwatoyosi B.A. Owodeye (Canada/USA), Lauren Benson (Canada), Kati Paasinen (Canada/Finland), Carolyn Emery (Canada/USA)

SESSION 29 • CONCUSSION III
Poster Area - Exhibition Hall Diaghilev

Chair: Margo MOUNTJOY - Canada

❙ Concussion publicity and differences in collegiate athletes’ concussion awareness, understanding, and reporting behaviors in different countries #1246
Erica Beidler (USA), Alia Alghwiri (Jordan), Jessica Wallace (USA), Siobhan O’Connor (Ireland)

❙ Increased cervical strength is associated with reduced head impact magnitude in International Blind Football #1000
Daniel Fitzpatrick, Peter Thompson, Courtney Kipps, Nick Webborn (United Kingdom)

❙ Using implementation science to optimize the impact of concussion education #1502
Emily Kroshus, Sara Chrisman, Ann Gleng, Tamerah Hunt, Rachel Hays, Kimberly Garrett, Maria Marzuela, Frederick Rivara (USA)

❙ Lifetime prevalence and one-year incidence of sport-related concussion in adolescents #1735
Jocelyn McCallum, Carolyn Emery, Paul H. Elison, Kathryn Schneider, Amanda M. Black (Canada)

❙ Middle school sport parent reported norms concerning youth athlete concussion care-seeking and playing behaviors: implications for concussion prevention #1347
Johna Register-Mihalik, Avinash Chandran, Aliza Nedimyer, Melissa Kay, Christine Callahan, Paula Gildner, Vasilki Kostogiannes, Stephanie Krieg, Zachary Kerr (USA)

❙ Knowledge of sports related concussion in young sports athletes #979
Duncan Reid, Patria Hume, Chris Whatman, Alice Theadom, Simon Walters, Mark Fulcher, Maureen O'Reilly, Susan Mahon, Jules Lough (New Zealand)

❙ Playing the game or gaming the system: are US private high school student-athletes reporting, hiding or faking concussions? #1778
Katherine Snedaker, Jason Bouton (USA)

❙ Effects of design elements of state-level traumatic brain injury laws on rates of new and recurrent concussions #1216
Jingzhen Yang (USA), Hosea Harvey (USA), Lindsay Sullivan (USA), Lihong Huang (USA/China)
**SESSION 30 • RUNNING**

**Poster Area - Exhibition Hall Diaghilev**

**Chair:** Lars ENGEBRETSEN - Norway/Switzerland

- Risk factors for injuries in recreational runners with a history of running injuries #1230
  Tyntje Fokkema, Robert-Jan de Vos, Sita M.A. Bierma-Zeinstra, Marienke van Middelkoop (The Netherlands)

- Prediction of running related injury incidence from training sessions descriptors of amateur trail runners #1674
  Gabriela Gonzalez-Saez, Pablo Huijse, Ruben Gajardo (Chile)

- Leg compartment pressures in collegiate runners: a comparison of symptomatic and asymptomatic athletes #989
  Timothy Miller, Nicholas Early, Christopher Kaeding (USA)

- The effect of changing foot progression angle using real-time visual feedback on rearfoot eversion during running #1420
  Seyed Hamed Mousavi (The Netherlands), Laurens van Kouwenhove (The Netherlands), Reza Rajabi (Islamic Republic of Iran), Johannes Zwerver (The Netherlands), Juha Hjamins (The Netherlands)

- Long-term medical conditions (LTMCs) in marathon participants #1726
  Ashley Ridout, Laura Connolly, Deepa Bala, Courtney Kipps (United Kingdom)

- Training factors and acute illness in marathon running event participants #1630
  Ashley Ridout, Laura Connolly, Deepa Bala, Courtney Kipps (United Kingdom)

- What are the main risk factors for lower-extremity running-related injuries? A retrospective survey-based on 3669 respondents #1405
  Damien Sanfilippo, Charlotte Beaudart, Olivier Bruyère, Jean-François Kaux (Belgium)

- Epidemiology of injury and illness among trail runners: a systematic review #1569
  Carol Viljoen (South Africa), Christa Janse van Rensburg (South Africa), Evert Verhagen (The Netherlands), Willem van Mechelen (The Netherlands/Australia/South Africa/Ireland), Rita Tomás (Portugal), Marlene Schoeman (South Africa), Susan Schepers (South Africa), Ezette Korkie (South Africa)

**SESSION 31 • MSK RISK FACTORS**

**Poster Area - Exhibition Hall Diaghilev**

**Chair:** Natália F. N. BITTENCOURT - Brazil

- Relationship of patellofemoral angles and tibiofemoral rotational angles with jumper's knee in professional folk dancers: an MRI analysis #999
  Neslihan Aksu, Vefa Atansay, Isik Karalok, Ayhan Nedim Kara, Azmi Hamzaoglu (Turkey)

- Calcaneal bone density and bone stress injury in NCAA division I Athletes and non-intercollegiate athlete college students #960
  Jason Bennett, Tricia Austin, Ann Hayes, Mark Reinking (USA)

- Kinematic risk factors of lower extremity overuse injuries during landing tasks in a physically active population: a systematic review and meta-analysis #1397
  Camilla De Bleecker, Stefan Vermeulen, Cedric De Blaer, Tine Willemans, Joke Schuermans, Roel De Ridder, Philip Roosen (Belgium)

- Are lower limb isometric muscle torque and dorsiflexion range of motion associated with calf and Achilles tendon injuries among runners? A prospective study #1588
  Sarah Dillon, Enda Whyte, Aoife Burke, Siobhan O'Connor, Shane Gore, Kieran Moran (Ireland)

- Hip extensor weakness is associated with lower limb muscle strain in male elite volleyball athletes #1450
  Natália F. N. Bittencourt, Renato de Paula da Silva, Paola de Figueiredo Caldeira, Alysson Lima Zuin, Daniel Bornelli Campos Serio, Petterson Moura da Silva, Luciana De Michielis Mendonça (Brazil)

- Variation of Tuck Jump Assessment kinetics in female athletes #1464
  Lucy Kember, Isabel Moore, Rhodri Lloyd (United Kingdom)

- Alterations in whole-body biomechanics during failed and successful unanticipated single-leg landings: implications for injury prevention #1580
  Nicholas Pomeranchuk, Kenneth Smale, Michael Del Bel, Daniel Benoit (Canada)

- Does hip strength predict dynamic valgus in female recreational runners? #1492
  Gabriel Zeitoune, Jurandir Nadal, Luiz Alberto Batista, Leonardo Metsavaht, Paolo Lucareli, Gustavo Leporace (Brazil)

**SESSION 32 • HEALTH AND PROTECTIVE EQUIPMENT**

**Poster Area - Exhibition Hall Diaghilev**

**Chair:** Daniel T. P. FONG - United Kingdom

- Short Track vs Hockey Helmets: Investigating Impact Attenuation Properties of Helmets in two skating sports #1679
  Daniel Aponte, Suzanne Leclerc, David Pearsall (Canada)

- Short Track vs Hockey Helmets: Using Finite Element Analysis to compare strain to the brain #1693
  Daniel Aponte, Suzanne Leclerc, David Pearsall (Canada)

- Do mouthguards prevent oro-facial trauma in sport: a systematic review #1037
  Peter Fine (United Kingdom)
Epidemiologic concerns regarding denominator selection for sports injury studies

The Swiss registry of fatalities in sports: How to overcome data gaps

The design and implementation of sport injury surveillance system

Validity and reliability of the ostrc questionnaire on overuse injury and health problems: thai version #935

The Swiss registry of fatalities in sports: How to overcome data gaps #1205

Chair: Elizabeth A. ARENDT - USA

Julie Gallagher, Paul Ashley, Ian Needelman (United Kingdom)

Using time to event methods to evaluate sports participation, specialization, and injury #1056

Julie Agel, Todd Rockwood, Anne Eaton (USA)

Recording injuries only during winter competitive season underestimates injury incidence in elite athletes of the French Ski Federation: a two-year prospective cohort study #1707

Nicolas Bouscaren (Reunion, France), Alice Guyon (France), Stephane De Jesus (France)

Two-year health surveillance and recommended methods for an international short-track speed skating team #1361

Michael Brownlow, Steve McCaig (United Kingdom)

The relationship between the injuries in elementary PE and the stages of teacher professional development #1608

Yuki Nakamura (Japan)

Can a behaviour change intervention improve athlete oral health? #990

Julie Gallagher, Paul Ashley, Ian Needelman (United Kingdom)

Eye injuries in sports: an update #1435

Thomas Henke, Gernot Jendrusch, Petra Platen (Germany)

How can we protect athletes from dental erosion? #1011

Hesham Matabdin, Paul Ashley, Pete Wilde, Ian Needelman (United Kingdom)

Microbiome analysis in elite sport #1269

Ian Needelman (United Kingdom), Brian Klein (USA), Jared Hendrickson (USA), Mehmet Davrandi (United Kingdom), Julie Gallagher (United Kingdom), Paul Ashley (United Kingdom), David Spratt (United Kingdom)

Equipment-related risk factors for ACL injury among recreational skiers – a case control study #1098

Gerhard Ruedi, Markus Posch, Katja Tecklenburg, Martin Faulhaber, Martin Burtscher (Austria)

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 #1365

Shelly Fetchen DiCesaro (USA)

Can ibuprofen prevent acute mountain sickness in moderate altitude? #961

Ana Carolina Corte, Roberto Nahon, Breno Schor, Felipe Hatt, Rodrigo Sasson (Brazil)

Self-medication in fitness centers #1368

Julien Dellalette, Victoria Leducq, 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 Magnussen (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)

Vitamin D status and muscle injury risk in elite male football players over 3 seasons #1415

Julien Arce, Toscana Viar, Jose Antonio Lekue, Paco Angulo, Imanol Martin-Garaetxana, Eder Bkandi, Xabier Monasterio, Jon Larruzkun (Spain)

Individual and combined effects of hydration status and ice water dousing on physiological and performance indices during intermittent exercise in the heat #1718

Courtsey L. Benjamin, Yasuaki 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 Hatt, Rodrigo Sasson (Brazil)
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 Fais, 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 Heron, 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)
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), 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), Casper Grim (Germany), Thomas Tischer (Germany)

Knowledge, attitudes and behaviors of New Zealand physiotherapists to sports-related concussion #978
Duncan Reid, Patria Hume, Chris Whatman, 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 Slevin, 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), Sha Sunakha (New Zealand), Vron Swart (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
Siobhan O’Connor, Calvin Teahan, Enda Whyte (Ireland)

Psychological response to injury in collegiate male and female Gaelic games players #1335
Siobhan O’Connor, Aishling Sheridan, Shaunaagh 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, Esme Jorda, Wayne Derman, James Craig Brown (South Africa)

The prevalence and burden of health problems in male senior ice hockey: a prospective study in the Norwegian professional league #1031
Anine Nordstrom, Roald Bahr, Ove Talsnes, Benjamin Claussen (Norway)

Promotion for Japan skiing safety #1203
Yukio Urabe, Kazuki Fukui, Junpei Sasada, Makoto Komiya, Masanori Morikawa, Noriaki Maeda (Japan)