



# IOC WORLD CONFERENCE ON PREVENTION OF INJURY & ILLNESS IN SPORT



## MONACO 11 - 13 FEBRUARY 2021

IN COLLABORATION WITH



ORGANISED BY



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WITH THE SUPPORT OF





PROGRAMME AT A GLANCE

Thursday 11 February

08.00 Registration

09.00-09.30 OPENING OF THE SCIENTIFIC SESSIONS Room Salle des Princes

09.30-10.30 KEYNOTE 1 Room Salle des Princes
Injury prevention from a professional sports league perspective: the journey from theory to implementation
Speaker: Willem MEEUWISSE - Canada

10.30-11.00 Coffee Break

Session A • SYMPOSIUM 1
11.00-12.30 Room Salle des Princes
Load management in elite football: Does sexy research translate to real-world prevention?
Chairs: Thor Einar ANDERSEN - Norway, Alan McCALL - United Kingdom

Session B • SYMPOSIUM 2
11.00-12.30 Room Prince Pierre
Protecting the olympians of tomorrow; should we be cardiac screening the elite paediatric athlete?
Chair: Sanjay SHARMA - United Kingdom

Session C • SYMPOSIUM 3
11.00-12.30 Room Camille Blanc
Primary, secondary and tertiary prevention strategies for ankle sprains: an essential update and guide for clinicians working with field- and court-sport athletes
Chair: Eamonn DELAHUNT - Ireland

Session D
FREE COMMUNICATIONS
11.00-12.30 Room Auric
Youth athletes
Chairs: Kathryn ACKERMAN - USA, Natália F. N. BITTENCOURT - Brazil

Session E
FREE COMMUNICATIONS
11.00-12.30 Room Van Dongen
Team sports I
Chairs: Hideyuki KOGA - Japan, Nicola PHILLIPS - United Kingdom

10.30-11.00 Coffee Break

WORKSHOPS • 11.30-12.30
Session F Room Bosio 1
Art & science of lower limb injury prevention
Session G Room Bosio 2
Judo injuries prevention on the way to the Tokyo 2020 Olympic Games

WORKSHOP • 11.30-12.30
Session H Room Lifar
Learning to play again. Using deliberate play principles to prime for risk environments in canoe slalom athletes. Beating the Injury prevention blues

WORKSHOPS • 11.30-12.30
Session I Room Scotto
Sleeping your way to injury prevention - why sleep is essential for athlete fitness and overall wellbeing
Session J Room Poulenc 1
Bodies of gods, teeth of jobs. Oral health for individual and team performance

WORKSHOP • 11.30-12.30
Session K Room Genevoix 1
ECG interpretation in athletes: accurate use of the international criteria in 6-steps!

WORKSHOP • 11.30-12.30
Session L Room Genevoix 2-3
Striking while the iron's hot - reducing the tackler's risk of head contact in rugby

12.30-13.30 Lunch

Session A
HEAD-TO-HEAD DEBATE 1
13.30-14.30 Room Salle des Princes
Is it time to stop recommending cardiac screening in athletes and focus on reactive care?
Chair: Kimberly HARMON - USA

Session B • SYMPOSIUM 4
13.30-14.30 Room Prince Pierre
Injury prevention programmes in Rugby Union: across countries and into communities
Chair: Jon PATRICIOS - South Africa

Session C • SYMPOSIUM 5
13.30-14.30 Room Camille Blanc
Contact sports on artificial grass pitches: Getting beneath the surface of injury risk - How important is the divot?
Chair: Keith STOKES - United Kingdom

Session D • SYMPOSIUM 6
13.30-14.30 Room Auric
Do the three E's of injury prevention (education, enforcement, engineering) work in alpine skiing and snowboarding?
Chair: Claude GOULET - Canada

Session E • SYMPOSIUM 7
13.30-14.30 Room Van Dongen
Innovations to prevent running injuries
Chair: Leonardo METSAVAHT - Brazil

12.30-13.30 Lunch

WORKSHOPS • 13.30-14.30
Session F Room Bosio 1
Keeping golfers on course for glory: prevention of illness and injury in golf
Session G Room Bosio 2
#Playlikeagirl: keeping our female athletes healthy and performing!

WORKSHOP • 13.30-14.30
Session H Room Lifar
The SmarTHER way forward for British female Olympic and Paralympic athletes

WORKSHOPS • 13.30-14.30
Session I Room Scotto
Incidence, diagnosis and management of injury in sport climbing: A new Olympic discipline
Session J Room Poulenc 1
Travel advice that can help your athletes win a medal

WORKSHOP • 13.30-14.30
Session K Room Genevoix 1
Ten years of talent pathway health data in AFL - Collating this information with future injury and illness in the AFL

WORKSHOP • 13.30-14.30
Session L Room Genevoix 2-3
Food as medicine: optimizing nutrition and its role in sports injury prevention

Session A • SYMPOSIUM 8
14.30-15.30 Room Salle des Princes
Head and shoulders, knees and toes: Injury-specific prevention in female youth sports
Chair: Carolyn EMERY - Canada

Session B • SYMPOSIUM 9
14.30-15.30 Room Prince Pierre
Two decades of the TRIPP model: Has implementation made its mark?
Chair: TBA

Session C • SYMPOSIUM 10
14.30-15.30 Room Camille Blanc
Towards new horizons in injury prevention for Big Air and Slopestyle events in Beijing 2022 Winter Olympics
Chair: Torbjorn SOLIGARD - Norway/Switzerland

Session D • SYMPOSIUM 11
14.30-15.30 Room Auric
Preventing overuse injuries in team sports - Yes we can! As evidenced by the hit sport - volleyball!
Chairs: Natália F. N. BITTENCOURT - Brazil, Christopher SKAZALSKI - Qatar/Norway

Session E
FREE COMMUNICATIONS
14.30-15.30 Room Van Dongen
Head impacts & concussion
Chairs: Daniel T. P. FONG - United Kingdom, Karim KHAN - Canada

WORKSHOPS • 14.30-15.30
Session F Room Bosio 1
Injury risk profiling to prevent lower extremity injuries: which functional performance tests make sense and how to integrate adaptability?
Session G Room Bosio 2
Keeping swimmers in the pool - Prevention of overuse shoulder injuries

WORKSHOP • 14.30-15.30
Session H Room Lifar
Promoting fidelity when using injury prevention exercise programmes - Using the Knee Control programme as a model

WORKSHOPS • 14.30-15.30
Session I Room Scotto
Increased neck strength - a potential weapon against sports related concussion
Session J Room Poulenc 1
Injury prevention V performance: has the time come to mandate the use of mouth guards in all contact sports?

WORKSHOP • 14.30-15.30
Session K Room Genevoix 1
Down Under the foot - optimising foot function in sport

WORKSHOP • 14.30-15.30
Session L Room Genevoix 2-3
ACL secondary prevention: build hardware and think software

15.30-16.30 THEMATIC POSTERS SESSIONS Poster Area - Level -2 (from session 1 to session 20)

16.30-17.00 Coffee Break

Session A • SYMPOSIUM 12
17.00-18.00 Room Salle des Princes
Injury prevention in women's football: Difficult but not impossible!
Chair: Andrea MOSLER - Australia

Session B • SYMPOSIUM 13
17.00-18.00 Room Prince Pierre
Sleeping for success in sport
Chair: Christa JANSE VAN RENSBURG - South Africa

Session C • SYMPOSIUM 14
17.00-18.00 Room Camille Blanc
The power of athletes' stories for evidence-based injury prevention in sports
Chair: Evert VERHAGEN - The Netherlands

Session D • SYMPOSIUM 15
17.00-18.00 Room Auric
Primary prevention of mental health symptoms and disorders in elite athletes
Chair: Brian HAINLINE - USA

Session E • SYMPOSIUM 16
17.00-18.00 Room Van Dongen
Understanding, Prevention, Treatment and Rehabilitation of ACL injury - Insights from the Far East
Chair: Patrick Shu Hang YUNG - Hong Kong, China

16.30-17.00 Coffee Break

WORKSHOPS • 17.00-18.00
Session F Room Bosio 1
How to prevent fifth metatarsal stress fractures
Session G Room Bosio 2
Let's kick out of football... groin injuries! - blending science and practice in prevention of groin injuries in football

WORKSHOP • 17.00-18.00
Session H Room Lifar
The ball is in your court - methodological challenges when arranging RCT's in youth team sports

WORKSHOP • 17.00-18.00
Session I Room Scotto
Systemic approach of heart rate variability analysis: a tool to better understand and use fatigue typology and prevention

WORKSHOPS • 17.00-18.00
Session J Room Poulenc 1
"Adding insult to injury" - primary and secondary prevention as a field-of-play strategy
Session K Room Genevoix 1
Deep impact - Immersive and innovative concussion prevention for youth athletes

WORKSHOP • 17.00-18.00
Session L 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

Session A • SYMPOSIUM 17
18.00-19.00 Room Salle des Princes
Big computers, big data, big gains in injury prevention?
Chair: Evert VERHAGEN - The Netherlands

Session B • SYMPOSIUM 18
18.00-19.00 Room Prince Pierre
ACL-injury prevention: From risk factor identification to practical use - where are we (and what is missing)?
Chair: Jesper BENCKE - Denmark

Session C • SYMPOSIUM 19
18.00-19.00 Room Camille Blanc
Tackle risk in contact sports: Short-term pain for long-term salvation
Chair: Simon KEMP - United Kingdom

Session D • SYMPOSIUM 20
18.00-19.00 Room Auric
Sports injury prevention and harm reduction in the global south: Socioecological considerations for contextualised research, policy, and practice
Chair: Sheree BEKKER - South Africa/United Kingdom

Session E • SYMPOSIUM 21
18.00-19.00 Room Van Dongen
The Holy Grail: The primary prevention of both athlete injury + illness in sport: Relative Energy Deficiency in Sport (RED-S)
Chair: Margo MOUNTJOY - Canada

WORKSHOPS • 18.00-19.00
Session F Room Bosio 1
Climbing on the band wagon! - Heel hook injuries in climbers - medical management and injury prevention
Session G Room Bosio 2
The sporting spine - Getting to the core of injury prevention

WORKSHOP • 18.00-19.00
Session H Room Lifar
Mouthguards - protection, concussion and performance ... What is the connection?

WORKSHOP • 18.00-19.00
Session I Room Scotto
Injury prevention in elite karate: fantasy or reality?

WORKSHOP • 18.00-19.00
Session K Room Genevoix 1
Just ACT - Mindfulness and acceptance based techniques to prevent mental health problems in athletes

WORKSHOP • 18.00-19.00
Session L Room Genevoix 2-3
Making mass-participation endurance sports events safer - it starts with measuring, but how do I do it?



Friday 12 February

08.30-09.15 **KEYNOTE 2** Room Salle des Princes

**Injury prevention in youth sport: Why are we so afraid of change?**

Speaker: **Carolyn EMERY** - Canada

**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

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

**Session B • SYMPOSIUM 23**

09.30-11.00 Room Prince Pierre

Prevention of sudden cardiac death: Crossing the implementation gap

Chair: Jonathan DREZNER - USA

**Session C • SYMPOSIUM 24**

09.30-11.00 Room Camille Blanc

Injuries in runners: Epidemiology, risks and prevention

Chair: Evert VERHAGEN - The Netherlands

**Session D FREE COMMUNICATIONS**

09.30-11.00 Room Auric

Injury prevention I

Chairs: Roald BAHR - Norway/Qatar, Clare ARDERN - Sweden/Australia

**Session E FREE COMMUNICATIONS**

09.30-10.40 Room Van Dongen

Individual sports

Chairs: Margo MOUNTJOY - Canada, Jane THORNTON - Canada

**WORKSHOPS • 09.30-10.30**

**Session F** Room Bosio 1

Why we should keep doing preseason assessment in athletes?

**Session G** Room Bosio 2

Olympic athlete safety and performance: making sense of sensor fusion data

**WORKSHOP • 09.30-10.30**

**Session H** Room Lifar

Pain prevention: well-intentioned, but sometimes unrealistic and unhelpful?

**WORKSHOP • 09.30-10.30**

**Session I** Room Scotto

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

**WORKSHOP • 09.30-10.30**

**Session J** Room Poulenc 1

The important piece of the puzzle – end-users' perspectives in injury prevention training

**WORKSHOPS • 09.30-10.30**

**Session K** Room Genevoix 1

Physical literacy for sport injury prevention – Addressing sport injury as a public health issue

**Session L** Room Genevoix 2-3

Making it stick: adherence research in sports injury prevention

11.00-11.30 Coffee Break

**Session A • SYMPOSIUM 25**

11.30-13.00 Room Salle des Princes

Hamstring injury prevention IS possible... Maybe. Kind of. Ish.

Chairs: Tania PIZZARI - Australia, Johannes TOL - The Netherlands/Qatar

**Session B • SYMPOSIUM 26**

11.30-13.00 Room Prince Pierre

Evidence based prevention of illness associated with long-haul travel in elite athletes: Sorting the wheat from the chaff

Chair: Wayne DERMAN - South Africa

**Session C • SYMPOSIUM 27**

11.30-13.00 Room Camille Blanc

Injury prevention in youth sport: Where does the future lie?

Chair: Carolyn EMERY - Canada

**Session D FREE COMMUNICATIONS**

11.30-13.00 Room Auric

Risk factors etc.

Chairs: Clare ARDERN - Sweden/Australia, Martin SCHWELLNUS - South Africa

**Session E FREE COMMUNICATIONS**

11.30-13.00 Room Van Dongen

Team sports II

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

11.00-11.30 Coffee Break

**WORKSHOP • 11.30-12.30**

**Session F** Room Bosio 1

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

**WORKSHOPS • 11.30-12.30**

**Session G** Room Bosio 2

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

**Session H** Room Lifar

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

**WORKSHOPS • 11.30-12.30**

**Session I** Room Scotto

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

**Session J** Room Poulenc 1

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

**WORKSHOP • 11.30-12.30**

**Session K** Room Genevoix 1

Knowledge translation in injury and concussion prevention: Interdisciplinary perspectives to inform prevention in youth volleyball – an applied example

**WORKSHOP • 11.30-12.30**

**Session L** Room Genevoix 2-3

The effect of injury on performance: the gold medal analytical strategy

13.00-14.30 Lunch

13.00-14.30 Lunch

14.30-15.15 **KEYNOTE 3** Room Salle des Princes

**Tropical paradise or danger zone? Beat the heat to protect athletes in a sweltering 2020 Tokyo**

Speaker: **Sébastien RACINAIS** - Qatar

15.30-16.30 **THEMATIC POSTERS SESSIONS** Poster Area - Exhibition Hall Diaghilev (from session 21 to session 40)

16.30-17.00 Coffee Break

16.30-17.00 Coffee Break

**Session A • SYMPOSIUM 28**

17.00-18.00 Room Salle des Princes

The value of longitudinal data for the prevention of injury and illness. Lessons learned from international surveillance programs

Chair: Ian SHRIER - Canada

**Session B • SYMPOSIUM 29**

17.00-18.00 Room Prince Pierre

#MeTooSport – the prevention of non-accidental violence in sport settings: It's not just about one bad apple

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

**Session C • SYMPOSIUM 30**

17.00-18.00 Room Camille Blanc

Knowledge translation: Bridge between the evidence and real-world injury prevention impact

Chair: Kathrin STEFFEN - Norway

**Session D • SYMPOSIUM 31**

17.00-18.00 Room Auric

Prevention of injury in the overhead throwing athlete: Prediction, prevention and workload

Chair: Jason L. ZAREMSKI - USA

**Session E • SYMPOSIUM 32**

17.00-18.00 Room Van Dongen

The Effect of the 'Face to Face' education program to rugby medical on the severe head injury

Chair: Mutsuo YAMADA - Japan

**Session A HEAD-TO-HEAD DEBATE 2**

18.00-19.00 Room Salle des Princes

Kill the sacred cow: Return to play criteria should be trashed in favour of time (biology)-based criteria

Chair: Karim KHAN - Canada

**Session B • SYMPOSIUM 33**

18.00-19.00 Room Prince Pierre

Gastrointestinal issues in sport: Utilizing diet, the gut microbiota and probiotics for prevention of illness in athletes

Chair: Owen CRONIN - Ireland/United Kingdom

**Session C • SYMPOSIUM 34**

18.00-19.00 Room Camille Blanc

The 11+ journey: 14 years and still going strong?

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

**Session D • SYMPOSIUM 35**

18.00-19.00 Room Auric

IOC consensus on methodology for recording and reporting of data for injury and illness surveillance

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

**Session E FREE COMMUNICATIONS**

18.00-19.00 Room Van Dongen

ACL injuries

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

**WORKSHOPS • 17.00-18.00**

**Session F** Room Bosio 1

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

**Session G** Room Bosio 2

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

**WORKSHOP • 17.00-18.00**

**Session H** Room Lifar

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

**WORKSHOPS • 17.00-18.00**

**Session I** Room Scotto

Heat illness in sport – prevention and management strategies

**Session J** Room Poulenc 1

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

**WORKSHOP • 17.00-18.00**

**Session K** Room Genevoix 1

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

**WORKSHOP • 17.00-18.00**

**Session L** Room Genevoix 2-3

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

20.00 **SPORTS CELEBRATION NIGHT**



Saturday 13 February

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

**Session A • SYMPOSIUM 36**  
09.30-11.00 Room Salle des Princes  
**Tokyo 2020: Protecting the athlete from environmental and logistical challenges**  
Chair: Lee TAYLOR - United Kingdom

**Session B • SYMPOSIUM 37**  
09.30-11.00 Room Prince Pierre  
**Concussion prevention in youth team sports: Evidence informing best practice and policy across five high risk sports**  
Chair: Carolyn EMERY - Canada

**Session C • SYMPOSIUM 38**  
09.30-11.00 Room Camille Blanc  
**Never mention prevention!**  
Chairs: Martin ASKER - Sweden, Rodney WHITELEY - Qatar

**Session D**  
**FREE COMMUNICATIONS**  
09.30-11.00 Room Auric  
**Injury Prevention II**  
Chairs: Jonathan DREZNER - USA, Erich MÜLLER - Austria

**Session E**  
**FREE COMMUNICATIONS**  
09.30-11.00 Room Van Dongen  
**Illness/injury epidemiology**  
Chairs: Nicola PHILLIPS - United Kingdom, Yorck Olaf SCHUMACHER - Qatar

**WORKSHOP • 09.30-10.30**  
**Session F** Room Bosio 1  
How can we prevent Exercise-Induced Laryngeal Obstruction (EILO) from obstructing the athletes' career?

**WORKSHOPS • 09.30-10.30**  
**Session G** Room Bosio 2  
Leadership for athlete health protection  
**Session H** Room Lifar  
Injury prevention: the role of video analysis

**WORKSHOP • 09.30-10.30**  
**Session I** Room Scotto  
Mirror mirror on the wall... What's the minimum machine learning I should know: a brief introduction to machine learning

**WORKSHOPS • 09.30-10.30**  
**Session J** Room Poulenc 1  
A practical guide to prevent injuries with load management in football  
**Session K** Room Genevoix 1  
Elite cycling: preventing injury and increasing rider safety

**WORKSHOP • 09.30-10.30**  
**Session L** 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

11.00-11.30 Coffee Break

**Session A • SYMPOSIUM 39**  
11.30-13.00 Room Salle des Princes  
**Training load and injury**  
Chair: Karim CHAMARI - Qatar

**Session B • SYMPOSIUM 40**  
11.30-13.00 Room Prince Pierre  
**The injury prevention (r)evolution - a primer for tomorrow**  
Chairs: Nicol VAN DYK - Qatar, Johann WINDT - Canada

**Session C • SYMPOSIUM 41**  
11.30-13.00 Room Camille Blanc  
**Injury prevention – what can you learn from our biggest mistakes?**  
Chair: Michael TURNER - United Kingdom

**Session D**  
**FREE COMMUNICATIONS**  
11.30-13.00 Room Auric  
**Distance running**  
Chair: Kathryn ACKERMAN - USA

**Session E**  
**FREE COMMUNICATIONS**  
11.30-13.00 Room Van Dongen  
**Para-athletes & special conditions**  
Chairs: Christa JANSE VAN RENSBURG - South Africa, Yannis PITSILADIS - United Kingdom

11.00-11.30 Coffee Break

**WORKSHOP • 11.30-12.30**  
**Session F** Room Bosio 1  
Stimulating talent development and preventing injuries simultaneously – bio-banded training in elite youth football

**WORKSHOPS • 11.30-12.30**  
**Session G** Room Bosio 2  
Performance driven injury prevention  
**Session H** Room Lifar  
The acute:chronic workload ratio: evolution or revolution?

**WORKSHOPS • 11.30-12.30**  
**Session I** Room Scotto  
Studying techniques to reduce the risk of injuries in contact sports - from the lab to the field  
**Session J** Room Poulenc 1  
Rugby-7s is fast, but are we running and about to knock-on! Evidence-based rugby-7s injury prevention concepts

**WORKSHOP • 11.30-12.30**  
**Session K** Room Genevoix 1  
An innovative approach to increasing concussion reporting: pre-game safety huddles

**WORKSHOP • 11.30-12.30**  
**Session L** Room Genevoix 2-3  
Sensorimotor education for the management of recurrent ankle instability

13.00-14.30 Lunch

**Session A • SYMPOSIUM 42**  
14.30-15.30 Room Salle des Princes  
**Heat injury and illness prevention for Tokyo 2020: What is the IOC doing?**  
Chair: Yannis PITSILADIS - United Kingdom

**Session B • SYMPOSIUM 43**  
14.30-15.30 Room Prince Pierre  
**Implementing change in performance and prevention: Persuasion, Perseverance, Passion**  
Chairs: Mario BIZZINI - Switzerland, Nicola PHILLIPS - United Kingdom

**Session C • SYMPOSIUM 44**  
14.30-15.30 Room Camille Blanc  
**Injury prevention in handball: What have we learned and where are we going?**  
Chairs: Lior LAVER - United Kingdom/Israel, Grethe MYKLEBUST - Norway

**Session D • SYMPOSIUM 45**  
14.30-15.30 Room Auric  
**It's not complicated: Injury prevention in sport through a complex systems approach**  
Chairs: Sheree BEKKER - South Africa/United Kingdom, Nicol VAN DYK - Qatar

**Session E • SYMPOSIUM 46**  
14.30-15.30 Room Van Dongen  
**Prevention of long-standing groin pain in athletes**  
Chair: Per HÖLMICH - Denmark

13.00-14.30 Lunch

**WORKSHOPS • 14.30-15.30**  
**Session F** Room Bosio 1  
Injury risk reduction in elite road cycling: shoulder performance matters!  
**Session G** Room Bosio 2  
Engaging with modern media: are sports medicine clinicians missing the mark for injury prevention?

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

**WORKSHOP • 14.30-15.30**  
**Session I** 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

**WORKSHOPS • 14.30-15.30**  
**Session J** Room Poulenc 1  
Youth elite football: Attacking injuries from an epidemiological and clinical perspective  
**Session K** Room Genevoix 1  
KOJI AWARENESS™, the self-evaluation system for total body movement

**WORKSHOP • 14.30-15.30**  
**Session L** Room Genevoix 2-3  
Are running mechanics limiting the development of the endurance athlete?

**Session A • SYMPOSIUM 47**  
15.30-16.30 Room Salle des Princes  
**Injury prevention apps – clap or scrap?**  
Chair: Tron KROSSHAUG - Norway

**Session B • SYMPOSIUM 48**  
15.30-16.30 Room Prince Pierre  
**Protecting respiratory health in athletes: What can we do better?**  
Chairs: James HULL - United Kingdom, Michael LOOSEMORE - United Kingdom

**Session C • SYMPOSIUM 49**  
15.30-16.30 Room Camille Blanc  
**Preventing primary cam morphology and femoroacetabular impingement syndrome in the young athlete: Is the 'hop' really the hip's demise?**  
Chairs: Paul DIJKSTRA - Qatar, Andrea MOSLER - Australia

**Session D • SYMPOSIUM 50**  
15.30-16.30 Room Auric  
**Health impact of life-long participation in Olympic sport**  
Chair: Yannis PITSILADIS - United Kingdom

**Session E**  
**FREE COMMUNICATIONS**  
15.30-16.30 Room Van Dongen  
**Injuries & load monitoring**  
Chair: Lars ENGBRETSSEN - Norway/Switzerland

**WORKSHOP • 15.30-16.30**  
**Session F** 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

**WORKSHOP • 15.30-16.30**  
**Session G** Room Bosio 2  
Gold standard with gold quality – tips on how to perform a randomized controlled trial (RCT) with high quality

**WORKSHOPS • 15.30-16.30**  
**Session H** Room Lifar  
Getting hip with injury prevention: how to perform an effective hip screening exam to identify the "hip at risk"  
**Session I** Room Scotto  
Behave yourself, and avoid overuse injuries

**WORKSHOP • 15.30-16.30**  
**Session J** 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

**WORKSHOPS • 15.30-16.30**  
**Session K** Room Genevoix 1  
Prevention of concussion in sport: cervical spine and vestibular considerations  
**Session L** Room Genevoix 2-3  
Sport related head injuries, "from the field-side whirlpool to recognize and remove"

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 HÄGGLUND** - 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

16.30-17.00 Coffee Break

18.05-18.15 **CLOSING CEREMONY** Room Salle des Princes

20.00 **FACULTY DINNER** (by invitation)

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**  
**OPENING OF THE SCIENTIFIC SESSIONS**

**09.00-09.30** Room Salle des Princes

**KEYNOTE 1**

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

**10.30-11.00** Coffee Break

**Session A • SYMPOSIUM 1**

**11.00-12.30** Room Salle des Princes

**LOAD MANAGEMENT IN ELITE FOOTBALL: DOES SEXY RESEARCH TRANSLATE TO REAL-WORLD PREVENTION?** [462]

**Chairs:** **Thor Einar ANDERSEN** - Norway, **Alan McCALL** - United Kingdom

- 11.00-11.05 | Load management: The hottest topic in injury prevention  
**Thor Einar Andersen** - Norway
- 11.05-11.20 | Load management in a professional club: Ideal conditions *versus* reality  
**Alan McCall** - United Kingdom
- 11.20-11.35 | Managing workload in a national team: Like a box of chocolates?  
**Grégory Dupont** - United Kingdom/France
- 11.35-11.50 | Managing load in an elite youth academy: A fine line  
**Michel S. Brink** - The Netherlands
- 11.50-12.05 | What's the evidence? The first RCT of load management as prevention  
**Torstein Dalen-Lorentsen** - Norway
- 12.05-12.15 | The future of load management in injury prevention: Where to now?  
**Alan McCall** - United Kingdom
- 12.15-12.30 | Panel discussion  
**Andersen, McCall, Dupont, Brink, Dalen-Lorentsen**

Thursday **11 February****Session B • SYMPOSIUM 2**

**11.00-12.30** Room Prince Pierre

**PROTECTING THE OLYMPIANS OF TOMORROW; SHOULD WE BE CARDIAC SCREENING THE ELITE PAEDIATRIC ATHLETE?** [497]

**Chair:** **Sanjay SHARMA** - United Kingdom

- 11.00-11.15 | Introduction: Sudden death in paediatric athletes; Magnitude of the problem  
**Demitri Constantinou** - South Africa
- 11.15-11.30 | Are we pushing kids too hard, too early? Physiological responses to training in elite paediatric athletes  
**Craig Williams** - United Kingdom
- 11.30-11.45 | Can we cardiologically evaluate kids using the tools made for adults?  
**Maria-Carmen Adamuz** - Qatar
- 11.45-12.00 | What to do with the elite paediatric athlete with suspected heart disease? Appraisal of current international guidelines  
**Guido Pieles** - United Kingdom
- 12.00-12.15 | Future strategies of cardiac care in elite paediatric athletes  
**Mathew Wilson** - United Kingdom
- 12.15-12.30 | Panel discussion: Striking a balance between child protection and developing the future Olympic superstars: Role of international sporting organisations  
**Sharma, Constantinou, Williams, Adamuz, Pieles, Wilson**

**Session C • SYMPOSIUM 3**

**11.00-12.30** Room Camille Blanc

**PRIMARY, SECONDARY AND TERTIARY PREVENTION STRATEGIES FOR ANKLE SPRAINS: AN ESSENTIAL UPDATE AND GUIDE FOR CLINICIANS WORKING WITH FIELD- AND COURT-SPORT ATHLETES** [292]

**Chair:** **Eamonn DELAHUNT** - Ireland

- 11.00-11.15 | The results of epidemiological and injury mechanism research are integral to the planning of effective ankle sprain injury prevention strategies  
**Eamonn Delahunt** - Ireland
- 11.15-11.30 | Preventing first-time ankle sprains in field- and court-sport athletes: what works and why?  
**Evert Verhagen** - The Netherlands
- 11.30-11.45 | Braces and tape: Integrating clinical expertise and best evidence to make informed decisions for the primary and secondary prevention of ankle sprains in field- and court-sport athletes  
**Claire Hiller** - Australia
- 11.45-12.00 | A guide to implementing effective therapeutic interventions to prevent ankle sprain injury recurrence and chronic ankle instability in field- and court-sport athletes  
**Phillip Gribble** - USA
- 12.00-12.15 | Managing the difficult ankle: optimal surgical approaches to prevent ongoing impairments following ankle sprain injury  
**Gino M.M.J. Kerkhoffs** - The Netherlands
- 12.15-12.30 | Panel discussion: Future directions for ankle sprain injury prevention research in field- and court-sport athletes and its uptake in clinical practice  
**Delahunt, Verhagen, Hiller, Gribble, Kerkhoffs**



**Session D • FREE COMMUNICATIONS**

11.00-12.30 Room Auric

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

- 11.00-11.10 | Coach awareness and practice in relation to growth/maturation and training load in young competitive gymnasts: implications for injury prevention **#591**  
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**  
Eirik Halvorsen Wik (Qatar/Norway), Daniel Martínez-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**  
Marleena Rossi (Finland), Kati Pasanen (Finland/Canada), Ari Heinonen (Finland), Sami Äyrämö (Finland), Anu Räisänen (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 Schuermans, Tine Willems, Erik Witvrouw (Belgium)
- 12.20-12.30 | Big data in youth elite football: could machine learning help us to better understand injury risk? **#1470**  
Nikki Rommers (Belgium), Roland Rössler (Switzerland), Evert Verhagen (The Netherlands), Florian Vandecasteele (Belgium), Steven Verstockt (Belgium), Matthieu Lenoir (Belgium), Eva D'Hondt (Belgium), Erik Witvrouw (Belgium)

**Session E • FREE COMMUNICATIONS**

11.00-12.30 Room Van Dongen

**TEAM SPORTS I****Chairs: Hideyuki KOGA** - Japan, **Nicola PHILLIPS** - United Kingdom

- 11.00-11.10 | Prevention of shoulder and elbow injuries in high school baseball players: a time-to-event analysis **#1187**  
Hitoshi Shitara, Tsuyoshi Tajika, Noritaka Hamano, Tsuyoshi Sasaki, Masataka Kamiyama, Kurumi Fukui, Hiroataka Chikuda (Japan)
- 11.10-11.20 | The relationship between tightness of the hip joint and shoulder/elbow injury in high school baseball pitchers – a prospective study **#1152**  
Noritaka Hamano, Hitoshi Shitara, Tsuyoshi Ichinose, Tsuyoshi Sasaki, Kamiyama Masataka, Miyamoto Ryosuke, Fukui Kurume, Tsuyoshi Tajika, Takuro Kuboi, Fumitaka Endo, Kenji Takagishi, Hiroataka Chikuda (Japan)
- 11.20-11.30 | How do football (soccer) injuries occur? A systematic video analysis of 345 moderate and severe match injuries **#1386**  
Christian Klein, Patrick Luig, Thomas Henke, Hendrik Bloch, Petra Platen (Germany)
- 11.30-11.40 | Prevalence of hip and groin pain and changes in Hip and Groin Outcome Score over a season in elite Gaelic Athletic Association players **#1315**  
Enda King (Ireland), Chris Richter (Ireland/United Kingdom), Kristian Thorborg (Denmark), Andrew Franklyn-Miller (Ireland/Australia), Eanna Falvey (Ireland), James O'Donovan (Ireland)
- 11.40-11.50 | Match injury incidence: comparisons between team and individual in Rugby Union **#1478**  
Leah Bitchell, Gemma Robinson, Victoria Stiles, Prabhat Mathema, Isabel Moore (United Kingdom)
- 11.50-12.00 | Epidemiology of injury in English schoolboy Rugby Union **#1440**  
Matthew Hancock, Simon Roberts, Craig Barden, Carly McKay, Simon Kemp, Keith Stokes (United Kingdom)
- 12.00-12.10 | A Comparison of Injuries between Male and Female Amateur Rugby Union Players **#1519**  
Caithriona Yeomans, Thomas M. Comyns, Roisin Cahalan, Giles D. Warrington, Andrew J. Harrison, Helen Purtill, Mark Lyons, Mark J. Campbell, Liam G. Glynn, Ian C. Kenny (Ireland)
- 12.10-12.20 | Effects of a strength and proprioceptive training programme on neck function and concussion injury risk in elite Scottish Rugby Union players **#1631**  
Stuart Bailey, Russell Martindale, Jen Sweeting, Jared Deacon, Florence Laing, Chris Leck, Debbie Palmer (United Kingdom)
- 12.20-12.30 | Comparison of injuries and illnesses between regular competition and short-term match congestion during a full season in elite male professional basketball **#1325**  
Steven Doeven, Michel S. Brink, Barbara Huijgen, Johan de Jong, Koen Lemmink (The Netherlands)



**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 jobs. 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

13.30-13.35 Setting the scene - pre-debate audience vote

**Kimberly Harmon** - USA

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

**Mathew Wilson** - United Kingdom

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

**Sanjay Sharma** - United Kingdom

14.05-14.17 Rebuttals

**Mathew Wilson** - United Kingdom, **Sanjay Sharma** - United Kingdom

14.17-14.20 Chair's sum-up and post-debate audience vote

**Kimberly Harmon** - USA

14.20-14.30 Audience discussion



**Session B • SYMPOSIUM 4**

13.30-14.30 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**

13.30-14.30 Room Camille Blanc

**CONTACT SPORTS ON ARTIFICIAL GRASS PITCHES: GETTING BENEATH THE SURFACE OF INJURY RISK – HOW IMPORTANT IS THE DIVOT? [522]**

**Chair: Keith STOKES** - United Kingdom

- 13.30-13.42 | 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
- 13.42-13.54 | Differential injury rates on natural vs. artificial surfaces in the NFL: Lessons from American Football  
**Allen Sills** - USA
- 13.54-14.06 | Biomechanical Testing of Shoe-Surface Interactions and Footwear Design Implications  
**Richard Kent** - USA
- 14.06-14.18 | Strategies for injury reduction on artificial turf pitches  
**Simon Kemp** - United Kingdom
- 14.18-14.30 | Questions and panel discussion  
**Stokes, Sills, Kent, Kemp**



**Session D • SYMPOSIUM 6**

13.30-14.30 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**

13.30-14.30 Room Van Dongen

**INNOVATIONS TO PREVENT RUNNING INJURIES [319]**

**Chair: Leonardo METSAVAHT** - Brazil

- 13.30-13.40 | Problem overview: epidemiology  
**Mansueto Gomes-Neto** - Brazil
- 13.40-13.50 | The complexity of running injuries and its risk factors  
**Leonardo Metsavaht** - Brazil
- 13.50-14.00 | Costs for identifying running-related injury risks  
**Gustavo Leporace** - Brazil
- 14.00-14.10 | Neuromuscular training to prevent running-related injuries  
**Fábio Arcanjo** - Brazil
- 14.10-14.30 | Panel Discussion: Implementation of running-related injury prevention programs in clinical practice  
**Metsavaht, Gomes-Neto, Leporace, Arcanjo**





**Session F • WORKSHOP**

13.30-14.30 Room Bosio 1

**Keeping golfers on course for glory: prevention of illness and injury in golf #973****Andrew Murray** - United Kingdom, **Daniel Coughlan** - United Kingdom

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

**Session G • WORKSHOP**

13.30-14.30 Room Bosio 2

**#Playlikeagirl: keeping our female athletes healthy and performing! #976****Marie-Elaine Grant** - Ireland, **Margo Mountjoy** - Canada

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

**Session H • WORKSHOP**

13.30-14.30 Room Lifar

**The SmarHER way forward for British female Olympic and Paralympic athletes #983****Anita Biswas** - United Kingdom, **Richard Burden** - United Kingdom

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

**Session I • WORKSHOP**

13.30-14.30 Room Scotto

**Incidence, diagnosis and management of injury in sport climbing: A new Olympic discipline #984****Gareth Jones** - United Kingdom, **Volker Schöffl** - United Kingdom/Germany

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

**Session J • WORKSHOP**

13.30-14.30 Room Poulenc 1

**Travel advice that can help your athletes win a medal #1009****Nebojša Nikolić** - United Kingdom

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

**Session K • WORKSHOP**

13.30-14.30 Room Genevoix 1

**Ten years of talent pathway health data in AFL – Collating this information with future injury and illness in the AFL #1010****Peter Harcourt** - Australia, **Anik Shawdon** - Australia

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

**Session L • WORKSHOP**

13.30-14.30 Room Genevoix 2-3

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

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

**Session A • SYMPOSIUM 8**

14.30-15.30 Room Salle des Princes

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

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

**Carolyn Emery** - Canada, **Grethe Myklebust** - Norway

14.35-14.45 Preventing concussions in female youth sport

**Carolyn Emery** - Canada

14.45-14.55 Preventing shoulder injuries in overhead female youth sports

**Martin Asker** - Sweden

14.55-15.05 Preventing knee injuries in female youth team sports

**Grethe Myklebust** - Norway

15.05-15.15 Preventing ankle injuries in female youth team sports

**Kati Pasanen** - Canada/Finland

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

**Emery, Myklebust, Asker, Pasanen**

**Session B • SYMPOSIUM 9**

14.30-15.30 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 • SYMPOSIUM 10**

14.30-15.30 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 • SYMPOSIUM 11**

14.30-15.30 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**

14.30-15.30 Room Van Dongen

**HEAD IMPACTS & CONCUSSION****Chairs: Daniel T. P. FONG** - United Kingdom, **Karim KHAN** - Canada

14.30-14.40 | Evaluation of in-ear sensor systems for quantifying head impacts in youth football #1085  
**Stian Bahr Sandmo** (Norway), **Andrew S. McIntosh** (Australia),  
**Thor Einar Andersen** (Norway), **Inga K. Koerte** (Germany/USA), **Roald Bahr** (Norway)

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

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

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

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

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

**Session F • WORKSHOP**

14.30-15.30 Room Bosio 1

**Injury risk profiling to prevent lower extremity injuries: which functional performance tests make sense and how to integrate adaptability? #1019****Bruno Tassignon** - Belgium, **Jo Verschueren** - Belgium

| Integrating adaptability in functional performance tests: the added value of new functional neurocognitive tests in injury prevention?

**Session G • WORKSHOP**

14.30-15.30 Room Bosio 2

**Keeping swimmers in the pool - Prevention of overuse shoulder injuries #1030****Farhad Moradi Shahpar** - Switzerland/Islamic Republic of Iran,  
**Kevin Boyd** - Switzerland/United Kingdom

| Understand the demands on the swimmer's shoulder and learn simple interventions to keep your swimmers injury-free and training at their best.

**Session H • WORKSHOP**

14.30-15.30 Room Lifar

**Promoting fidelity when using injury prevention exercise programmes - Using the Knee Control programme as a model #1050****Hanna Lindblom** - Sweden, **Sofi Sonesson** - Sweden

| What to consider when using injury prevention exercise programmes?  
 How to structure preventive training and practically assess exercise technique.

**Session I • WORKSHOP**

14.30-15.30 Room Scotto

**Increased neck strength - a potential weapon against sports related concussion #1036****Kerry Peek** - Australia, **Don Gatherer** - United Kingdom

| This workshop will connect theory to practice regarding the role higher neck strength may play in reducing the risk of sustaining a sports related concussion.

**Session J • WORKSHOP**

14.30-15.30 Room Poulenc 1

**Injury prevention V performance: has the time come to mandate the use of mouth guards in all contact sports? #1043****Irfan Ahmed** - United Kingdom, **Peter Fine** - United Kingdom

| Is there any evidence to suggest that mouth guards use prevents injury or effects athletic performance? Is it time to mandate the use of mouth guards in contact sports?



**Session K • WORKSHOP**

14.30-15.30 Room Genevoix 1

**Down Under the foot – optimising foot function in sport #1047**

Susan Mayes - Australia

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

**Session L • WORKSHOP**

14.30-15.30 Room Genevoix 2-3

**ACL secondary prevention: build hardware and think software #1452**

Renato Andrade - Portugal, Rogério Pereira - Portugal

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

**THEMATIC POSTERS SESSIONS**

15.30-16.30 Poster Area – Level -2

Please refer to pages 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

**SESSION 9 - RISK FACTORS**

Chair: Natália F. N. BITTENCOURT - Brazil

Posters #1456 #1044 #1395 #1552 #1657 #1655 #1002 #1594

**SESSION 10 - HAMSTRING**

Chair: Clare ARDERN - Sweden/Australia

Posters #1483 #1383 #1658 #1662 #1520 #1613

**SESSION 11 - CONCUSSION I**

Chair: Jane THORNTON - Canada

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

**SESSION 12 - CONCUSSION II**

Chair: 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 ENGBRETSSEN - 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 #1260 #1637 #1130 #1313 #949 #1699

16.30-17.00 Coffee Break



**Session A • SYMPOSIUM 12**

17.00-18.00 Room Salle des Princes

**INJURY PREVENTION IN WOMEN'S FOOTBALL: DIFFICULT BUT NOT IMPOSSIBLE!** [236]**Chair: Andrea MOSLER** - Australia

- 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**

17.00-18.00 Room Prince Pierre

**SLEEPING FOR SUCCESS IN SPORT** [295]**Chair: Christa JANSE VAN RENSBURG** - South Africa

- 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**

17.00-18.00 Room Camille Blanc

**THE POWER OF ATHLETES' STORIES FOR EVIDENCE-BASED INJURY PREVENTION IN SPORTS** [170]**Chair: Evert VERHAGEN** - The Netherlands

- 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, **Evert Verhagen** - The Netherlands
- 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**

17.00-18.00 Room Auric

**PRIMARY PREVENTION OF MENTAL HEALTH SYMPTOMS AND DISORDERS IN ELITE ATHLETES** [572]**Chair: Brian HAINLINE** - USA

- 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 Goutteborge** - 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, Goutteborge, Hainline, Mountjoy, Purcell**



**Session E • SYMPOSIUM 16**

17.00-18.00 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**

17.00-18.00 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**

17.00-18.00 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 injures of football!

**Session H • WORKSHOP**

17.00-18.00 Room Lifar

**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**

17.00-18.00 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**

17.00-18.00 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**

17.00-18.00 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**

17.00-18.00 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 A • SYMPOSIUM 17**

18.00-19.00 Room Salle des Princes

**BIG COMPUTERS, BIG DATA, BIG GAINS IN INJURY PREVENTION?** [336]**Chair: Evert VERHAGEN** - The Netherlands

- 18.00-18.04 | Introduction  
**Evert Verhagen** - The Netherlands
- 18.04-18.16 | Is it possible to predict injury risk and performance in complex systems?  
**Stephen W. Marshall** - USA
- 18.16-18.28 | Artificial Intelligence: What computers can see that humans cannot  
**Tyrel Stokes** - Canada
- 18.28-18.40 | Decision-making: What humans know that computers do not  
**Ian Shrier** - Canada
- 18.40-19.00 | Panel discussion: What is the role of artificial intelligence in sport medicine research?  
**Verhagen, Marshall, Stokes, Shrier**

**Session B • SYMPOSIUM 18**

18.00-19.00 Room Prince Pierre

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

- 18.00-18.02 | Introduction - From scientist to coach perspective  
**Jesper Bencke** - Denmark
- 18.02-18.14 | The importance of trunk stability as a risk factor for ACL injuries – and how to measure it  
**Ajit Chaudhari** - USA
- 18.14-18.24 | Hip and knee strength as a risk factor for ACL injuries – is it important?  
**Jesper Bencke** - Denmark
- 18.24-18.36 | Taking knee and hip biomechanics measurements from the lab to the field: Is it possible?  
**Tron Krosshaug** - Norway
- 18.36-18.48 | Neuromuscular activation as a risk factor for ACL injuries: Importance for exercise selection  
**Mette Kreutzfeldt Zebis** - Denmark
- 18.48-19.00 | Panel discussion: How can science help coaches optimising and individualising injury prevention?  
**Chaudhari, Bencke, Krosshaug, Kreutzfeldt Zebis**

**Session C • SYMPOSIUM 19**

18.00-19.00 Room Camille Blanc

**TACKLE RISK IN CONTACT SPORTS: SHORT-TERM PAIN FOR LONG-TERM SALVATION** [477]**Chair: Simon KEMP** - United Kingdom

- 18.00-18.12 | What is it about the rugby tackle that needs to inform prevention?  
**Simon Kemp** - United Kingdom
- 18.12-18.24 | Football helmets and shoulder pads – part of the problem or part of the solution?  
**Allen Sills** - USA
- 18.24-18.36 | Evolution or Revolution – which is the most appropriate approach?  
**Keith Stokes** - United Kingdom
- 18.36-18.48 | Engineering approaches to the “Tackling Problem” – from field to laboratory  
**Chris Sherwood** - USA
- 18.48-19.00 | Panel discussion: Injury risk during contact events: Where do we go from here?  
**Kemp, Sills, Stokes, Sherwood**

**Session D • SYMPOSIUM 20**

18.00-19.00 Room Auric

**SPORTS INJURY PREVENTION AND HARM REDUCTION IN THE GLOBAL SOUTH: SOCIOECOLOGICAL CONSIDERATIONS FOR CONTEXTUALISED RESEARCH, POLICY, AND PRACTICE** [221]**Chair: Sheree BEKKER** - South Africa/United Kingdom

- 18.00-18.02 | Introduction  
**Sheree Bekker** - South Africa/United Kingdom
- 18.02-18.10 | Ensuring the global relevance of sports injury prevention and harm reduction: The imperative for contextualised research, policy, and practice  
**Sheree Bekker** - South Africa/United Kingdom
- 18.10-18.20 | Overcoming cultural stigma to promote safety and fair play for recreational athletes with impairment in sub-Saharan Africa: the Ghanaian and Kenyan experience  
**Yetsa A. Tuakli-Wosornu** - Ghana/USA
- 18.20-18.30 | The landscape of adopting, adapting and implementing sports injury prevention programs in sub-Saharan Africa: The Nigerian and South African experience  
**Ummukulthoum Bakare** - Nigeria/South Africa
- 18.30-18.40 | The complexity of injury prevention: The Brazilian experience  
**Luciana De Michelis Mendonça** - Brazil
- 18.40-19.00 | Discussion  
**Bekker, Tuakli-Wosornu, Bakare, De Michelis Mendonça**



**Session E • SYMPOSIUM 21**

18.00-19.00 Room Van Dongen

**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**

**Session F • WORKSHOP**

18.00-19.00 Room Bosio 1

**Climbing on the band wagon! - Heel hook injuries in climbers - medical management and injury prevention #1099****Uzo Ehiogu** - United Kingdom, **Volker Schöffl** - Germany

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

**Session G • WORKSHOP**

18.00-19.00 Room Bosio 2

**The sporting spine – Getting to the core of injury prevention #1117****Tim Allardyce** - United Kingdom, **Marie-Elaine Grant** - Ireland

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

**Session H • WORKSHOP**

18.00-19.00 Room Lifar

**Mouthguards – protection, concussion and performance ... What is the connection? #1136****Paul Piccininni** - Switzerland/Canada,  
**Anthony Clough** - Switzerland/United Kingdom

- | Mouthguards are one of the most effective pieces of protective equipment in sport. Can they play a role in concussion prevention and/or performance enhancement?

**Session I • WORKSHOP**

18.00-19.00 Room Scotto

**Injury prevention in elite karate: fantasy or reality? #1140****Montassar Tabben** - Qatar, **Rafael Arriaza** - Spain

- | Current perceptions and practices of top-level karate athletes concerning risk factors and injury prevention implementation, as well as events medical coverage.

**Session K • WORKSHOP**

18.00-19.00 Room Genevoix 1

**Just ACT – Mindfulness and acceptance based techniques to prevent mental health problems in athletes #1144****Ulrika Tranaeus** - Sweden, **Andreas Ivarsson** - Sweden

- | Mindfulness and Acceptance based techniques to prevent mental health problems in athletes.

**Session L • WORKSHOP**

18.00-19.00 Room Genevoix 2-3

**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

- | Measuring and preventing medical encounters at endurance events? Implementing pre-race medical screening/education? Practical and interactive solutions.





Friday 12 February

**KEYNOTE 2**

08.30-09.15 Room Salle des Princes

**INJURY PREVENTION IN YOUTH SPORT: WHY ARE WE SO AFRAID OF CHANGE?** [269]Speaker: **Carolyn EMERY** - Canada**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**



Friday 12 February

**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 Timpka** - 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, Timpka, Schwellnus, Malisoux, Nielsen, Hespanhol**



**Session D • FREE COMMUNICATIONS**

09.30-11.00 Room Auric

**INJURY PREVENTION I****Chairs: Roald BAHR** - Norway/Qatar, **Clare ARDERN** - Sweden/Australia

- 09.30-09.40 | 45% lower acute injury incidence but no effect on overuse injury prevalence in youth floorball players who used an injury prevention exercise programme: two-armed parallel-group cluster randomised controlled trial **#967**  
Ida Åkerlund, Markus Waldén, Sofi Sonesson, Martin Hägglund (Sweden)
- 09.40-09.50 | Does the Oslo Sports Trauma Research Center shoulder injury prevention program affect the risk factors external rotation strength and internal rotation range of motion? A randomized controlled study among adolescent handball players **#1148**  
Hilde Fredriksen (Norway), Ann Cools (Belgium), Roald Bahr (Norway/Qatar), Grethe Myklebust (Norway)
- 09.50-10.00 | Spraino® reduces the risk of lateral ankle sprain injury among indoor sport athletes: a pilot randomized controlled trial with 510 participants **#1627**  
Filip Gertz Lysdal (Denmark), Thomas Bandholm (Denmark), Janne Tolstrup (Denmark), Mikkel Clausen (Denmark), Stephanie Mann (Denmark), Pelle Petersen (Denmark), Thor 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, Maaïke Cornelissen, Vincent Gouttebauge (The Netherlands)

**Session E • FREE COMMUNICATIONS**

09.30-10.40 Room Van Dongen

**INDIVIDUAL SPORTS****Chairs: Margo MOUNTJOY** - Canada, **Jane THORNTON** - Canada

- 09.30-09.40 | Differences in injury characteristics between athletics disciplines during international athletics championships **#1250**  
Pascal Edouard (France/Switzerland), Laurent Navarro (France), Pedro Branco (Switzerland), Vincent Gremeaux (Switzerland), Toomas Timpka (Sweden), Astrid Junge (Germany/Switzerland)
- 09.40-09.50 | Injuries outside of race-day in Irish professional jockeys **#1336**  
Siobhán O'Connor, Elaine McDermott, Shane O'Brien, Giles Warrington, Jennifer Pugh, Adrian McGoldrick, Sarah Jane Cullen (Ireland)
- 09.50-10.00 | Barriers to wrist protector use in Swiss snowboarders **#1211**  
Flavia Buergi, Philip Derrer, Steffen Niemann, Othmar Bruegger (Switzerland)
- 10.00-10.10 | Musculoskeletal injuries among competitive Norwegian rhythmic gymnasts – a prospective cohort study of prevalence, incidence and risk factors **#1271**  
Marte Charlotte Dobbertin Gram, Benjamin Clarsen, Kari Bø (Norway)
- 10.10-10.20 | Respiratory viral infections in Team Finland during 2019 Nordic World Ski Championships: a controlled study **#1305**  
Maarit Valtonen, Wilma Gronroos, Raakel Luoto, Matti Waris, Matti Uhari, Olli Heinonen, Olli Ruuskanen (Finland)
- 10.20-10.30 | Positive findings in pre-participation examinations of middle-aged athletes, results of additional workup, and eventual disqualification rates **#1568**  
Gal Dubnov-Raz, Gil Neuman, Milman Anat, Ziv-Baran Tomer (Israel)
- 10.30-10.40 | Does acute fatigue negatively affect the lower extremity injury risk profile? A systematic and critical review **#1005**  
Jo Verschueren (Belgium), Bruno Tassignon (Belgium), Kevin De Pauw (Belgium), Matthias Proost (Belgium), Amber Teugels (Belgium), Jeroen Van Cutsem (Belgium), Bart Roelands (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)



**Session F • WORKSHOP**

09.30-10.30 Room Bosio 1

**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 Room Bosio 2

**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 Room Lifar

**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 Room Scotto

**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 Room Poulenc 1

**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 K • WORKSHOP**

09.30-10.30 Room Genevoix 1

**Physical literacy for sport injury prevention – Addressing sport injury as a public health issue #1219****Sarah Richmond** - Canada, **Ian Pike** - Canada

! Sport injury IS a public health issue - addressing injury prevention through the promotion of physical literacy

**Session L • WORKSHOP**

09.30-10.30 Room Genevoix 2-3

**Making it stick: adherence research in sports injury prevention #1224****Oluwatoyosi Owoeye** - USA/Canada

! Concepts in adherence research. Psychometric considerations. Step-by-step calculations and data analysis for team/coach and player adherence.

11.00-11.30 Coffee Break

**Session A • SYMPOSIUM 25**

11.30-13.00 Room Salle des Princes

**HAMSTRING INJURY PREVENTION IS POSSIBLE... MAYBE. KIND OF. ISH. [440]****Chairs: Tania PIZZARI** - Australia, **Johannes TOL** - The Netherlands/Qatar

- 11.30-11.33 ! Introduction  
**Johannes Tol** - The Netherlands/Qatar
- 11.33-11.43 ! Risk factors for hamstring injuries: Same old same old?  
**Tania Pizzari** - Australia
- 11.43-11.58 ! When you can't run slower: Can elite athlete monitoring prevent hamstring injuries in sprinters?  
**Noel Pollock** - United Kingdom
- 11.58-12.10 ! Workload associated with risk of hamstring injury: Stating the obvious, but where's the evidence?  
**Nicol van Dyk** - Qatar
- 12.10-12.25 ! Implementation of successful prevention systems: Challenges and opportunities  
**Martin Wollin** - Australia
- 12.25-12.40 ! "Put me in coach, I'm ready!" Refocusing return to sport and how prevention practices might influence our decision making  
**Arnlaug Wangensteen** - Norway
- 12.40-12.50 ! Can we prevent hamstring re-injuries?  
**Johannes Tol** - The Netherlands/Qatar
- 12.50-13.00 ! Panel discussion: Future directions for hamstring injury prevention and implementation  
**Pizzari, Tol, Pollock, van Dyk, Wollin, Wangensteen**



**Session B • SYMPOSIUM 26**

11.30-13.00 Room Prince Pierre

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

11.30-13.00 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  
**Kati Pasanen** - Canada/Finland
- 11.47-11.59 | Targeting sport specialization in youth sport: Isn't it clear?  
**Chris Whatman** - New Zealand
- 11.59-12.11 | Protective equipment in youth sport: Issues and recommendations  
**Brent E. Hagel** - Canada
- 12.11-12.23 | Apps and social media are the ticket to changing the culture for injury prevention in youth sport  
**Evert Verhagen** - The Netherlands
- 12.23-12.35 | Rule changes in youth sport: Evidence informing policy  
**Carolyn Emery** - Canada
- 12.35-12.40 | 5 minutes 5 slides: Highlighting 5 targets in injury prevention in youth sport  
**Carolyn Emery** - Canada
- 12.40-13.00 | Panel discussion: Where does the future lie in injury prevention in youth sport?  
**Emery, Pasanen, Whatman, Hagel, Verhagen**

**Session D • FREE COMMUNICATIONS**

11.30-13.00 Room Auric

**RISK FACTORS ETC.****Chairs: Clare ARDERN** - Sweden/Australia, **Martin SCHWELLNUS** - South Africa

- 11.30-11.40 | A systematic video analysis of the mechanism of injury of achilles tendon ruptures  
**#1242**  
**Seth O'Neill**, Nichola Gibson, Dawn Regan, Katriona Walton (United Kingdom)
- 11.40-11.50 | Injury surveillance at the 17/U & 19/U Australian National Netball Championships and the effect of a foot blister prevention intervention **#1314**  
**Erin Smyth**, Laura Piromalli, Alanna Antcliff, Phillip Newman, **Gordon Waddington**, Juanita Weissensteiner, Michael Drew (Australia)
- 11.50-12.00 | Does mental fatigue negatively affect functional performance tests used to screen for lower extremity injury risk? **#1013**  
**Jo Verschueren** (Belgium), Bruno Tassignon (Belgium), Jeroen Van Cutsem (Belgium), Bart Roelands (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)
- 12.00-12.10 | Strong predictive power of muscle fibre typology on hamstring strain injury risk in professional soccer **#1344**  
**Eline Lievens**, Kim Van Vossel, Freek Van de Castele, Evi Wezenbeek, Erik Witvrouw, Wim Derave (Belgium)
- 12.10-12.20 | Higher neck strength may lower head acceleration during purposeful heading in football: a systematic review **#1035**  
**Kerry Peek**, James M. Elliott, Rhonda Orr (Australia)
- 12.20-12.30 | Can we predict recovery and re-injury following calf muscle strain injury? **#1501**  
**Brady Green**, Monica Lin, Anthony Schache, Jodie McClelland, Adam Semciw, Andrew Rotstein, Jill Cook, Tania Pizzari (Australia)
- 12.30-12.40 | Criteria-based return to sport decision-making following lateral ankle sprain injury: a relevant part of the prevention – performance paradox for secondary and tertiary injury prevention? **#1012**  
**Bruno Tassignon** (Belgium), Jo Verschueren (Belgium), Eamonn Delahunt (Ireland), Michelle Smith (Australia), Bill Vicenzino (Australia), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)
- 12.40-12.50 | Heavy shoulder strengthening exercises in patients with hypermobility and long-lasting shoulder symptoms: a feasibility study **#994**  
**Behnam Liaghat**, Søren T. Skou, Uffe Jørgensen, Jens Sondergaard, Karen Søgaard, Birgit Juul-Kristensen (Denmark)
- 12.50-13.00 | Sonographic tendon abnormalities can predict symptomatic tendinopathy in marathon runners **#1371**  
**Sarah Eby**, Masaru Teramoto, Rudi Zurbuchen, Keith Cummings, Joy English, Daniel M. Cushman (USA)



**Session E • FREE COMMUNICATIONS**

11.30-13.00 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 Langlely**, **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), **Ari Heinonen** (Finland), **Kati Pasanen** (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. Eliason**, **Vineetha Warriyar K. V.**, **Luz Palacios-Derflingher**, **Amanda M. Black**, **Maciej Krolkowski**, **Nicole Spencer**, **Kathryn Schneider**, **Shelina Babul**, **Martin Mrazik**, **Constance 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 Maffiuletti**, **Karin Niedermann** (Switzerland)

**Session F • WORKSHOP**

11.30-12.30 Room Bosio 1

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

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

**Session G • WORKSHOP**

11.30-12.30 Room Bosio 2

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

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

**Session H • WORKSHOP**

11.30-12.30 Room Lifar

**Preventing low back pain in sports – should we image, and how do we interpret images? #1244****Kieran O'Sullivan** - Ireland, **Bruce Forster** - Canada

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

**Session I • WORKSHOP**

11.30-12.30 Room Scotto

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

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

**Session J • WORKSHOP**

11.30-12.30 Room Poulenc 1

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

| How to evaluate and use head impact sensors to quantify head loading in contact sports? We will take you through just that – step by step.



**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

**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

**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 #948 #1253 #1379 #958 #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

**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 ENGBRETSSEN** - Norway/Switzerland

Posters #1230 #1674 #989 #1420 #1726 #1630 #1405 #1569

**SESSION 31 - MSK RISK FACTORS**

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

Posters #999 #960 #1397 #1588 #1450 #1464 #1580 #1492

**SESSION 32 - HEALTH AND PROTECTIVE EQUIPMENT**

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

Posters #1679 #1693 #1037 #990 #1435 #1011 #1269 #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 #1523 #972

**SESSION 35 - COACHING ETC.**

Chair: **Yannis PITSILADIS** - United Kingdom

Posters #1057 #1365 #1282 #1608 #1218 #1423

**SESSION 36 - CYCLING**

Chair: **Yorck Olaf SCHUMACHER** - Qatar

Posters #1770 #1575 #1577 #1209 #1737 #1454 #1392

**SESSION 37 - TESTS ETC.**

Chair: **Erich 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 #1323 #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**

17.00-18.00 Room Salle des Princes

**THE VALUE OF LONGITUDINAL DATA FOR THE PREVENTION OF INJURY AND ILLNESS. LESSONS LEARNED FROM INTERNATIONAL SURVEILLANCE PROGRAMS [105]****Chair: Ian SHRIER** - Canada

- 17.00-17.04 | Introduction  
**Ian Shrier** - Canada
- 17.04-17.16 | Evaluating the implementation and results from prevention programs in Danish children age 6-11 years over 5.5 years  
**Niels Wedderkopp** - Denmark
- 17.16-17.28 | Keeping your athletes available throughout a season: The value and benefits of timely feedback informed by injury and illness monitoring  
**Evert Verhagen** - The Netherlands
- 17.28-17.40 | Informing and maintaining policy change through research findings: Experiences with body checking in Canadian youth hockey  
**Carolyn Emery** - Canada
- 17.40-18.00 | Panel discussion: How to reap athlete benefits from longitudinal data

**Session B • SYMPOSIUM 29**

17.00-18.00 Room Prince Pierre

**#METOOSPORT – 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**

17.00-18.00 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  
**Steffen, Perera, McKay, Hägglund**

**Session D • SYMPOSIUM 31**

17.00-18.00 Room Auric

**PREVENTION OF INJURY IN THE OVERHEAD THROWING ATHLETE: PREDICTION, PREVENTION AND WORKLOAD [51]****Chair: Jason L. ZAREMSKI** - USA

- 17.00-17.04 | Epidemiology of injury in the overhead throwing athlete  
**Jason L. Zaremski** - USA
- 17.04-17.16 | The etiology of throwing injury in an overhead throwing athlete: What are the contributing factors?  
**Merete Møller** - Denmark
- 17.16-17.26 | Measuring true volume of workload in baseball pitchers and applications to workload in overhead throwing athletes  
**Jason L. Zaremski** - USA
- 17.26-17.38 | Shoulder throwing injury prevention in handball players: The Oslo Sports Trauma Research Center experience  
**Stig Andersson** - Norway
- 17.38-17.50 | Factors that may predict injury in overhead throwing athletes: the range of motion debate  
**Rodney Whiteley** - Qatar
- 17.50-18.00 | Panel discussion: Future directions for research and implementation for best practice in the prevention of overuse throwing injury in sport  
**Zaremski, Møller, Andersson, Whiteley**



**Session E • SYMPOSIUM 32**

17.00-18.00 Room Van Dongen

**THE EFFECT OF THE 'FACE TO FACE' EDUCATION PROGRAM TO RUGBY MEDICAL ON THE SEVERE HEAD INJURY [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 | The effect of concussion education on the number of severe head injuries  
**Mutsuo Yamada** - Japan
- 17.48-18.00 | Panel discussion: The effect of concussion education and the risk of severe head injury in rugby  
**Yamada, Smith, Clarke**

**Session F • WORKSHOP**

17.00-18.00 Room Bosio 1

**Shining on centre stage: does sport injury prevention translate to dance? #1284****Sarah J. Kenny** - Canada, **Janine Stubbe** - The Netherlands

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

**Session G • WORKSHOP**

17.00-18.00 Room Bosio 2

**Prevention is better than cure: the role of psychological interventions in sports injury risk reduction #1293****Andreas Ivarsson** - Sweden, **Adam Gledhill** - United Kingdom

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

**Session H • WORKSHOP**

17.00-18.00 Room Lifar

**Looking to the past for the future of harm reduction in sport: a call for meaningful informed consent and health literacy initiatives in elite athlete development #1299****Asad Siddiqi** - USA

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

**Session I • WORKSHOP**

17.00-18.00 Room Scotto

**Heat illness in sport – prevention and management strategies #1300****Glen Bergeron** - Canada, **Brian Zeller** - Canada

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

**Session J • WORKSHOP**

17.00-18.00 Room Poulenc 1

**Top down or bottom up – Which way forward for youth sports health and safety #1303****Alex Diamond** - USA, **Allen Sills** - USA

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

**Session K • WORKSHOP**

17.00-18.00 Room Genevoix 1

**Peak performance without doping: using the innovations in anti doping, sport science and sport medicine for the illness and prevention and protection of the clean athlete #1322****Irina Zelenkova** - Russian Federation, **Yannis Pitsiladis** - United Kingdom

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

**Session L • WORKSHOP**

17.00-18.00 Room Genevoix 2-3

**Time to ditch the planks, listen to what athletes really need and want... and other useful strategies for preventing athlete low back pain #1324****Fiona Wilson** - Ireland, **Jane Thornton** - Canada

| How common is athlete LBP, what are the risk factors, and can we improve RTP? We address practical screening and preventive strategies from our collective experience.





**Session A • HEAD-TO-HEAD DEBATE 2**

18.00-19.00 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**

18.00-19.00 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**

18.00-19.00 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 look 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**

18.00-19.00 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**

18.00-19.00 Room Van Dongen

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

- 18.00-18.10 | The mechanisms of anterior cruciate ligament injuries in male professional football players in the Middle East: a systematic video analysis of 15 cases **#1584**  
**Raouf Nader Rekik**, Roald Bahr, Flavio Cruz, Pieter D'Hooghe, Paul Read, Montassar Tabben, Karim Chamari (Qatar)
- 18.10-18.20 | Soccer players who rupture their ACL demonstrate biomechanical risk factors while decelerating: a prospective cohort study **#1068**  
**Celeste Dix**, Amelia Arundale, Holly Silvers-Granelli, Ryan Zarzycki, Adam Marmon, Lynn Snyder-Mackler (USA)
- 18.20-18.30 | Lower extremity malalignments associated with ACL injury risks may also be related to decreased field performance **#1532**  
**Yohei Shimokochi**, Satoshi Kuwano, Shogo Uota, Wakana Sasakabe, Sakauchi Haruka, Takatsu Tomohiro, Shinshiro Mineta, Frederick Henderson, Takaaki Mishima, Moe Machida-Kosuga, Issei Ogasawara, Ken Nakata (Japan)
- 18.30-18.40 | The association between ACL injury and restricted hip range of motion among athletes **#1093**  
**Diego Escudeiro de Oliveira**, Pedro Baches Jorge, Marcos Vaz de Lima, Aires Duarte Junior, Cláudio Santili (Brazil)
- 18.40-18.50 | Age-appropriateness of common neuromuscular training exercises in ACL injury prevention programs **#1221**  
**Daphne Ling**, Caroline Boyle, Joseph Janosky, Brenda Chang, Naomi Roselaar, James Kinderknecht, Robert Marx (USA)
- 18.50-19.00 | Effect of six-week exercise training on reducing biomechanical re-injury risk factors of professional female basketball players with anterior cruciate ligament reconstruction during stop jump **#1207**  
**Jihong Qiu**, Patrick Shu Hang Yung (Hong Kong, China)

**Session F • WORKSHOP**

18.00-19.00 Room Bosio 1

**“Take my breath away”: asthma in female athletes, effects of reproductive hormones and strategies for screening and management #1362****Constance Lebrun** - Canada, **Patricia K. Doyle-Baker** - Canada

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

**Session H • WORKSHOP**

18.00-19.00 Room Lifar

**Modern day observations of golf injury etiology and physical assessment #1370****Gill Lance** - USA, **Mike Voight** - USA| Epidemiology of Injuries in Golf - Is this a problem?  
Golf Fitness Screening – the foundation to improving performance and preventing injury.**Session I • WORKSHOP**

18.00-19.00 Room Scotto

**Neuromuscular training vs. movement re-education for prevention of running related-injuries #1375****Gustavo Leporace** - Brazil, **Fábio Arcanjo** - Brazil| The rationale for approaching biomechanical risk factors.  
How to select adequate running re-education strategies and neuromuscular exercises for injury prevention?**Session J • WORKSHOP**

18.00-19.00 Room Poulenc 1

**EAT, SLEEP, SWIM, REPEAT: how to implement prevention strategies for overuse injuries in elite/competitive swimmers? – An integrated approach #1389****Kevin Kuppens** - Belgium, **Céline Labie** - Belgium

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

**Session K • WORKSHOP**

18.00-19.00 Room Genevoix 1

**The missing link: what to do when reality causes imperfect data collection #1399****Örjan Dahlström** - Sweden, **Chinchin Wang** - Canada| Proper handling of missing data is a challenge but essential to properly interpret results.  
We explore recent developments in this field.**Session L • WORKSHOP**

18.00-19.00 Room Genevoix 2-3

**Taping and bracing for injury prevention: a help, habit or hazard? #1419****Marie-Elaine Grant** - Ireland

| # Taping and Bracing for prevention: Review of the science, learn the criteria to make informed choices for prevention, avoid habitual or potentially hazardous use.

20.00

**SPORTS CELEBRATION NIGHT**

Saturday **13 February****KEYNOTE 4****08.30-09.15** Room Salle des Princes**INJURY PREVENTION: WHEN RETURN TO PLAY IS NOT THE WAY** [96]Speaker: **Michael TURNER** - United Kingdom**Session A • SYMPOSIUM 36****09.30-11.00** Room Salle des Princes**TOKYO 2020: PROTECTING THE ATHLETE FROM ENVIRONMENTAL AND LOGISTICAL CHALLENGES** [248]Chair: **Lee TAYLOR** - United Kingdom

- 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  
**Taylor, Janse van Rensburg, Schwellnus, Bougault, Mountjoy, Racinais**

Saturday **13 February****Session B • SYMPOSIUM 37****09.30-11.00** Room Prince Pierre**CONCUSSION PREVENTION IN YOUTH TEAM SPORTS: EVIDENCE INFORMING BEST PRACTICE AND POLICY ACROSS FIVE HIGH RISK SPORTS** [266]Chair: **Carolyn EMERY** - Canada

- 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**

09.30-11.00 Room Camille Blanc

**NEVER MENTION PREVENTION!** [371]**Chairs:** **Martin ASKER** - Sweden, **Rodney WHITELEY** - Qatar

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

**Session D • FREE COMMUNICATIONS**

09.30-11.00 Room Auric

**INJURY PREVENTION II****Chairs:** **Jonathan DREZNER** - USA, **Erich MÜLLER** - Austria

- 09.30-09.40 | Do non-elite soccer teams implement neuromuscular training to prevent non-contact anterior cruciate ligament injuries? #1217  
**Christophe Eechaute**, Lieselot Longé, Winnie Debecker, Lore Meganck, Lynn Leemans, Ronald Buyl, David Beckwée, Tim Hendrikx, Michel Stéphanie (Belgium)
- 09.40-09.50 | Implementing a School Prevention Program to Reduce Injuries through Neuromuscular Training (iSPRINT): A cluster-randomized controlled trial #1605  
**Carla Vandenberg** (Canada), **Carolyn Emery** (Canada), **Sarah Richmond** (Canada), **Luz Palacios-Derflingher** (Canada), **Carly McKay** (United Kingdom), **Patricia K. Doyle-Baker** (Canada), **Megan McKinlay** (Canada), **Clodagh Toomey** (Canada), **Alberto Nettel-Aguirre** (Canada), **Evert Verhagen** (The Netherlands), **Kathy Belton** (Canada), **Alison K. MacPherson** (Canada), **Brent E. Hagel** (Canada)
- 09.50-10.00 | Injury prevention: exploring factors affecting adherence to different exercise programmes in men's community rugby union #1320  
**Matthew Attwood**, **Carly McKay**, **Simon Roberts**, **Grant Trewartha**, **Keith Stokes** (United Kingdom)
- 10.00-10.10 | Kinematic and neuromuscular predictors of failed landings during unanticipated drop-jumps: implications for injury prevention #1579  
**Nicholas Romanchuk**, **Céline Girard**, **Daniel Benoit** (Canada)
- 10.10-10.20 | The preventive effect of targeted adductor training on groin pain from football players #997  
**Julia Smakal**, **Nadja Jamrog**, **Bartosz Wojanowski** (Germany)
- 10.20-10.30 | Supervised implementation of a neuromuscular training warm-up programme to improve adherence and reduce injuries in youth basketball: A cluster randomised trial #1437  
**Oluwatoyosi Owoeye** (USA/Canada), **Kati Pasanen** (Canada/Finland), **Anu Raisanen** (Canada), **Kimberley Befus** (Canada), **Tyler J. Tait** (Canada), **Carlyn Stilling** (Canada), **Vineetha Warriyar** (Canada), **Luz Palacios-Derflingher** (Canada), **Carolyn Emery** (Canada)
- 10.30-10.40 | Identifying the challenges to implementing a netball neuromuscular warm-up using concept mapping #1496  
**Erin Smyth**, **Renee Appaneal**, **Michael Drew**, **Alanna Antcliff**, **Gordon Waddington**, **Juanita Weissensteiner**, **Phillip Newman**, **Alex Donaldson** (Australia)
- 10.40-10.50 | Warm-up practices in high school basketball: Searching for clues to improve injury prevention program implementation strategies #1345  
**Anu Räisänen** (Canada), **Oluwatoyosi Owoeye** (Canada/USA), **Kimberley Befus** (Canada), **Carla Vandenberg** (Canada), **Kati Pasanen** (Canada/Finland), **Carolyn Emery** (Canada)
- 10.50-11.00 | The effectiveness of neuromuscular training warm-up programme to reduce knee and ankle injuries in youth basketball: A historical cohort study #1511  
**Oluwatoyosi Owoeye** (USA/Canada), **Kati Pasanen** (Canada/Finland), **Kimberley Befus** (Canada), **Carlyn Stilling** (Canada), **Brianna Ghali** (Canada), **Tyler J. Tait** (Canada), **Tate HubkaRao** (Canada), **Luz Palacios-Derflingher** (Canada), **Vineetha Warriyar** (Canada), **Carolyn Emery** (Canada)



**Session E • FREE COMMUNICATIONS**

09.30-11.00 Room Van Dongen

**ILLNESS/INJURY EPIDEMIOLOGY****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), **Lars Engebretsen** (Norway/Switzerland), **Brigitte Scammell** (United Kingdom), **Torbjørn Soligard** (Norway/Switzerland), **Kathrin Steffen** (Norway), **Jackie Whittaker** (Canada), **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. Charlton**, **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 **#961**  
**Daniel Garnett** (South Africa), **Chandra Adisha Bholah** (Mauritius), **Yannick D'Hotman** (Mauritius), **Krsna Sunasse** (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 SchwelInus**, **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 **#1312**  
**Francois du Toit**, **Martin SchwelInus**, **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 **#1533**  
**Jannelene Killops**, **Nicola Sewry**, **Martin SchwelInus**, **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 SchwelInus**, **Jannelene Killops**, **Sonja Swanevelder**, **Christa Janse van Rensburg**, **Esme Jordaan** (South Africa)

**Session F • WORKSHOP**

09.30-10.30 Room Bosio 1

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

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

**Session G • WORKSHOP**

09.30-10.30 Room Bosio 2

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

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

**Session H • WORKSHOP**

09.30-10.30 Room Lifar

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

- | How do we use video analysis with injury surveillance to understand injury risk? We will consider practical issues involved in video analysis.

**Session I • WORKSHOP**

09.30-10.30 Room Scotto

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

- | Machine Learning: What it is/is not and how some techniques work.  
We discuss concepts and applications with examples.

**Session J • WORKSHOP**

09.30-10.30 Room Poulenc 1

**A practical guide to prevent injuries with load management in football #1468****Torstein Dalen-Lorentsen** - Norway, **Johann Windt** - Canada

- | This workshop will give you the keys to talk to coaches about training load and make you able to translate load and injury research into practical solutions.



**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 Tassinon** - 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

**Session B • SYMPOSIUM 40**

11.30-13.00 Room Prince Pierre

**THE INJURY PREVENTION (R)EVOLUTION - A PRIMER FOR TOMORROW [362]****Chairs: Nicol van DYK** - Qatar, **Johann WINDT** - Canada

- 11.30-11.35 | Introduction: Back to the future for prevention?  
**Nicol van Dyk** - Qatar
- 11.35-11.45 | Injury surveillance has changed dramatically: What will it look like in 2024?  
**Torbjørn Soligard** - Norway/Switzerland
- 11.45-12.00 | Technology will change the game - and it already has  
**Lorena Torres Ronda** - USA
- 12.00-12.15 | Don't bring your opinion to a data fight: Analytics will enhance our prevention strategies  
**Johann Windt** - Canada
- 12.15-12.30 | Scaling up our prevention capacity - the key is context  
**Carly McKay** - United Kingdom
- 12.30-12.45 | Will future coaches be better partners to effectively drive injury prevention efforts? 5 ways you can make sure they are  
**Kerry MacDonald** - Canada
- 12.45-13.00 | Panel discussion and case study: We will illustrate an injury prevention strategy/intervention using a practical example  
**van Dyk, Soligard, Torres Ronda, Windt, McKay, MacDonald**

**Session C • SYMPOSIUM 41**

11.30-13.00 Room Camille Blanc

**INJURY PREVENTION - WHAT CAN YOU LEARN FROM OUR BIGGEST MISTAKES? [255]****Chair: Michael TURNER** - United Kingdom

- 11.30-11.45 | Epidemiological headaches  
**Evert Verhagen** - The Netherlands
- 11.45-12.00 | Injury prevention in youth sport: It isn't just about the research findings  
**Carolyn Emery** - Canada
- 12.00-12.15 | Sports medicine solutions that failed  
**Babette Pluim** - The Netherlands
- 12.15-12.30 | Trust your physio, we don't make mistakes  
**Caroline Bolling** - The Netherlands/Brazil
- 12.30-12.45 | Popular injury prevention myths that aren't supported by science  
**Michael Turner** - United Kingdom
- 12.45-13.00 | Panel Discussion:  
**Turner, Verhagen, Emery, Pluim, Bolling**



**Session D • FREE COMMUNICATIONS**

11.30-13.00 Room Auric

**DISTANCE RUNNING****Chair: Kathryn ACKERMAN** - USA

- 11.30-11.40 | Experienced runners with an above average training load have the highest risk of exercise associated muscle cramping (EAMC) **#1538**  
**Martin SchwelInus, Esme Jordaan** (South Africa)
- 11.40-11.50 | Risk factors associated with injuries in first-time marathon runners: a 12-week prospective study **#1041**  
**Brett Toresdahl, Kathryn McElheny, Mark Alan Fontana, Jordan Metz, Brittany Ammerman, James Kinderknecht** (USA)
- 11.50-12.00 | Primary or secondary injury prevention in recreational runners: does it differ? **#1427**  
**Tryntsje Fokkema, Robert-Jan de Vos, Sita M.A. 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 SchwelInus** (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 SchwelInus** (South Africa)
- 12.40-12.50 | Metabolic/endocrine disease, older females, longer race distance, slower race pace and higher WBGT are independent risk factors associated with medical encounters in 21.1 km and 56 km runners: a SAFER study in 76654 starters **#1536**  
**Martin SchwelInus** (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 SchwelInus** (South Africa)

**Session E • FREE COMMUNICATIONS**

11.30-13.00 Room Van Dongen

**PARA-ATHLETES & SPECIAL CONDITIONS****Chairs: Christa JANSE VAN RENSBURG** - South Africa,  
**Yannis PITSILADIS** - United Kingdom

- 11.30-11.40 | Promotion of para athlete well-being in South Africa (the PROPEL studies), part I: profiles and prevalence of psychological distress **#1439**  
**Marelise Badenhorst, Phoebe Runciman, James Craig Brown, Wayne Derman** (South Africa)
- 11.40-11.50 | Promotion of para athlete well-being in South Africa (the PROPEL studies), part II: identification of sleep-associated risk factors **#1444**  
**Wayne Derman, Phoebe Runciman, James Craig Brown, Marelise Badenhorst** (South Africa)
- 11.50-12.00 | Promotion of para athlete well-being in South Africa (the PROPEL studies), part III: factors associated with mental health **#1447**  
**Marelise Badenhorst, Phoebe Runciman, James Craig Brown, Wayne Derman** (South Africa)
- 12.00-12.10 | Suicidal ideation among elite Athletics athletes: cross-sectional study of associations with sexual and physical abuse victimization and psychological resourcefulness **#1570**  
**Toomas Timpka** (Sweden), **Armin Spreco** (Sweden), **Örjan Dahlström** (Sweden), **Jenny Jacobsson** (Sweden), **Jan Kowalski** (Sweden), **Victor Bargaría** (Sweden/Kenya), **Margo Mountjoy** (Canada), **Carl Göran Svedin** (Sweden)
- 12.10-12.20 | Athlete health monitoring in Paralympic athletes: a 52-week prospective study **#1462**  
**Kristina Fagher, Örjan Dahlström, Jenny Jacobsson, Toomas Timpka, Jan Lexell** (Sweden)
- 12.20-12.30 | The importance of health monitoring in competitive para athletes: results of the German injury and illness surveillance system **#1719**  
**Anja Hirschmüller** (Germany), **Katharina Fassbender** (Germany), **Johanna Kubosch** (Germany), **Rainer Leonhart** (Germany), **Kathrin Steffen** (Norway)
- 12.30-12.40 | Injury risk in school children with probable developmental coordination disorder or attention deficit hyperactivity disorder **#1488**  
**Kyle McCallum** (Canada), **Benjamin Tan** (Canada), **Rebecca Marjoram** (Canada), **Carly McKay** (United Kingdom), **Patricia K. Doyle-Baker** (Canada), **Tal Jarus** (Canada), **Deborah Dewey** (Canada), **Carolyn Emery** (Canada)
- 12.40-12.50 | Sport-related injury in high school students: checking in after a decade of injury prevention interventions **#1088**  
**Amanda M. Black, Derek Meeuwisse, Paul H. Eliason, Kathryn Schneider, Brent E. Hagel, Carolyn Emery** (Canada)
- 12.50-13.00 | The prevalence of indicators of Relative Energy Deficiency in Sport (RED-S) in Australian elite and pre-elite female athletes **#1636**  
**Margot Rogers, Nicole Vlahovich, David Hughes, David Pyne, Shona Halson, Gregory Lovell, Renee Appaneal, Nic West, Bronwen Lundy, Marijke Welvaert, Louise Burke, Gordon Waddington, Michael Drew** (Australia)



**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

I 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

I 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

I 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

I 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

I What are developing markets rugby-7s injury risks? What interventions improve developing nations performance? We discuss evidence-based solutions.

**Session K • WORKSHOP**

11.30-12.30 Room Genevoix 1

**An innovative approach to increasing concussion reporting: pre-game safety huddles #1571****Sara Chrisman** - USA, **Rachel Hays** - USA

I A practical approach to improving concussion safety. How can Pre-Game Safety Huddles increase concussion reporting? What is required to implement safety huddles?

**Session L • WORKSHOP**

11.30-12.30 Room Genevoix 2-3

**Sensorimotor education for the management of recurrent ankle instability #1573****Masafumi Terada** - Japan, **Phillip Gribble** - USA

I This workshop will discuss novel injury prevention and management strategies for recurrent ankle sprains to induce positive sensorimotor plasticity.

13.00-14.30 Lunch

**Session A • SYMPOSIUM 42**

14.30-15.30 Room Salle des Princes

**HEAT INJURY AND ILLNESS PREVENTION FOR TOKYO 2020: WHAT IS THE IOC DOING? [354]****Chair: Yannis PITSILADIS** - United Kingdom14.30-14.42 I From risk analyses to evidenced based practice  
**Sébastien Racinais** - Qatar14.42-14.54 I Timing analyses for appropriate scheduling  
**Stéphane Bermon** - Monaco14.54-15.06 I Anticipating the treatment needs  
**Douglas J. Casa** - USA15.06-15.18 I Wearable technologies: Future challenges and opportunities for implementation in athlete healthcare  
**Yannis Pitsiladis** - United Kingdom15.18-15.30 I Panel discussion: Success, challenge and legacy of the IOC adverse weather impact expert working group for the Olympics Games Tokyo 2020  
**Racinais, Bermon, Casa, Pitsiladis**



**Session B • SYMPOSIUM 43**

14.30-15.30 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**

14.30-15.30 Room Camille Blanc

**INJURY PREVENTION IN HANDBALL: WHAT HAVE WE LEARNED AND WHERE ARE WE GOING? [568]****Chairs:** Lior **LAVER**- United Kingdom/Israel, Grethe **MYKLEBUST** - Norway

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

**Session D • SYMPOSIUM 45**

14.30-15.30 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**

14.30-15.30 Room Van Dongen

**PREVENTION OF LONG-STANDING GROIN PAIN IN ATHLETES [361]****Chair:** Per **HÖLMICH** - Denmark

- 14.30-14.42 | Prevention with athletic exercise based on pathology  
**Sadao Niga** - Japan
- 14.42-14.54 | Prevention of core muscle injuries in athletes  
**Alexander E. Poor** - USA
- 14.54-15.06 | Cross-motion swing produces effective pelvic motion for prevention by three-dimensional movement analysis  
**Mitsunori Kaya** - Japan
- 15.06-15.18 | Development of clinical entities, treatment, and prevention  
**Per Hölmich** - Denmark
- 15.18-15.30 | Panel discussion: Future strategies for long-standing groin pain prevention  
**Niga, Poor, Kaya, Hölmich**



**Session F • WORKSHOP**

14.30-15.30 Room Bosio 1

**Injury risk reduction in elite road cycling: shoulder performance matters! #1578****Kevin Kuppens** - Belgium, **Stefan Deckx** - Belgium

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

**Session G • WORKSHOP**

14.30-15.30 Room Bosio 2

**Engaging with modern media: are sports medicine clinicians missing the mark for injury prevention? #1589****Osman Ahmed** - United Kingdom, **Karen Litzzy** - 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 Lifar

**#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**

15.30-16.30 Room Prince Pierre

**PROTECTING RESPIRATORY HEALTH IN ATHLETES: WHAT CAN WE DO BETTER?** [174]**Chairs:** **James HULL** - United Kingdom, **Michael LOOSEMORE** - United Kingdom

- 15.30-15.35 | Introduction  
**Michael Loosemore** - United Kingdom
- 15.35-15.45 | Respiratory problems in athletic individuals: What's hot and what's not?  
**James Hull** - United Kingdom
- 15.45-15.55 | Allergy and pollution exposure when exercising: Can we do better to protect respiratory health?  
**Michael Koehle** - Canada
- 15.55-16.05 | Respiratory tract infections: The good, the bad and the ugly  
**Martin Schwelnus** - South Africa
- 16.05-16.15 | Delivery of optimal respiratory health in a world-class performance system: Can it be done?  
**Michael Loosemore** - United Kingdom
- 16.15-16.30 | Panel discussion: Future directions in respiratory health: how can we help improve the most important medical problem in athletes  
**Loosemore, Hull, Koehle, Schwelnus**

**Session C • SYMPOSIUM 49**

15.30-16.30 Room Camille Blanc

**PREVENTING PRIMARY CAM MORPHOLOGY AND FEMOROACETABULAR IMPINGEMENT SYNDROME IN THE YOUNG ATHLETE: IS THE 'HOP' REALLY THE HIP'S DEMISE?** [227]**Chairs:** **Paul DIJKSTRA** - Qatar, **Andrea MOSLER** - Australia

- 15.30-15.42 | Our confusing hip language is undermining prevention and protection  
**Clare Ardern** - Sweden/Australia
- 15.42-15.54 | 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 | 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 | Protecting the athlete with primary cam morphology from developing femoroacetabular impingement syndrome and osteoarthritis  
**Sion Glyn-Jones** - United Kingdom
- 16.18-16.30 | Panel Discussion : This discussion will focus on the current state of evidence on protecting athletes from developing cam morphology, femoroacetabular impingement syndrome and early hip osteoarthritis. The importance of multi-center collaboration for clinical research, to reach consensus on sharing data and experiences, and develop the foundations for a prospective Individual Patient Data Meta-analysis will also be discussed  
**Ardern, Dijkstra, Mosler, Glyn-Jones**

**Session D • SYMPOSIUM 50**

15.30-16.30 Room Auric

**HEALTH IMPACT OF LIFE-LONG PARTICIPATION IN OLYMPIC SPORT** [574]**Chair:** **Yannis PITSILADIS** - United Kingdom

- 15.30-15.42 | Too much of good thing? The cardiovascular profile of older habitual high volume training endurance athletes  
**Jeroen Swart** - South Africa
- 15.42-15.54 | The benefits and consequences of a life in competitive sport: A musculoskeletal perspective  
**James Bilzon** - United Kingdom
- 15.54-16.06 | The health impact of life-long participation in Olympic sport: Lessons from Tokyo 1964  
**Michiko Dohi** - Japan
- 16.06-16.18 | The legacy of the Olympic Games and major sporting events: new horizons for life expectancy and health  
**Victoriya Badtieva** - Russia
- 16.18-16.30 | Questions and panel discussion

**Session E • FREE COMMUNICATIONS**

15.30-16.30 Room Van Dongen

**INJURIES & LOAD MONITORING****Chair:** **Lars ENGBRETSSEN** - Norway/Switzerland

- 15.30-15.40 | Multiple workload spikes and the risk of shoulder injuries in adolescent competitive tennis players: the SMASH cohort study #1675  
**Eva Skillgate** (Sweden), **Ann Cools** (Belgium), **Jaime Fernandez-Fernandez** (Spain), **Fredrik Johansson** (Sweden)
- 15.40-15.50 | Training load management and prevention: effects on injury prevalence in high-level rugby center #599  
**Julien Paulus**, **Arnaud Laly**, **Sébastien Guns**, **Jean-François Kaux** (Belgium)
- 15.50-16.00 | Training load and other risk factors for soft tissue injury risk in professional rugby union: a 13 team, 2-season study of 383 injuries #1358  
**Stephen West**, **Sean Williams**, **Dario Cazzola**, **Matthew Cross**, **Simon Kemp**, **Keith Stokes** (United Kingdom)
- 16.00-16.10 | Match congestion and training load influence injury risk in collegiate men's and women's soccer #1461  
**Robert Huggins**, **Ryan Curtis**, **Courteney L. Benjamin**, **Yasuki Sekiguchi**, **Erin Wasserman**, **David Klossner**, **Douglas J. Casa** (USA)
- 16.10-16.20 | Monitoring workload to evaluate injury risk: the impact of missing data #1453  
**Lauren Benson** (Canada), **Carlyn Stilling** (Canada), **Oluwatoyosi Owoeye** (Canada/USA), **Carolyn Emery** (Canada)
- 16.20-16.30 | Workload weighted for tissue damage results in higher acute:chronic workload ratio for injured vs. uninjured athletes #1485  
**Lauren Benson** (Canada), **Oluwatoyosi Owoeye** (Canada/USA), **Carlyn Stilling** (Canada), **W. Brent Edwards** (Canada), **Carolyn Emery** (Canada)



**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

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

For participants to gain 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

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

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

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

**Session K • WORKSHOP**

15.30-16.30 Room Genevoix 1

**Prevention of concussion in sport: cervical spine and vestibular considerations #1730**

**Kathryn Schneider** - Canada

Addressing intrinsic and modifiable factors, such as sensorimotor function, may result in effective primary, secondary and tertiary prevention of concussion.

**Session L • WORKSHOP**

15.30-16.30 Room Genevoix 2-3

**Sport related head injuries, “from the field-side whirlpool to recognize and remove” #1766**

**Pierre Viviers** - South Africa, **Louis Holtzhausen** - Qatar

Equip side-line decision makers to recognize suspected sport related head injuries and enable effective communication of findings to all relevant stakeholders.

16.30-17.00 Coffee Break

**KEYNOTE 5**

17.00-17.45 Room Salle des Princes

**UNDERSTANDING THE BASIS OF SUCCESS: HOW FEWER INJURIES WILL HELP YOU WIN TROPHIES [483]**

Speaker: **Martin HÄGGLUND** - Sweden

**HONORARY KEYNOTE LECTURE**

17.45-18.05 Room Salle des Princes

**PUBLISHING IN EXERCISE AND SPORT SCIENCE: 1790-2020**

Speaker: **Howard G. KNUTTGEN** - USA

**CLOSING CEREMONY**

18.05-18.15 Room Salle des Princes

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20.00 **FACULTY DINNER (by invitation)**

**SESSION 1 • SHOULDER**

Poster Area – Level -2

**Chair: Elizabeth A. ARENDT** - USA

- I The relationship between shoulder pain, physical exam findings, and structural pathology in elite wheelchair athletes #1430**  
 Cheri Blauwet (USA/Germany), Wayne Derman (South Africa), Nick Webborn (United Kingdom), Dylan Morrissey (United Kingdom), Julian Chakraverty (United Kingdom), Paul Martin (United Kingdom), Guzel Idrisova (Russian Federation/Germany)
- I 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), Pierrette Baschung Pfister (Switzerland), Ann Cools (Belgium/Denmark)
- I 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)
- I Risk factors for shoulder pain in junior flatwater kayak athletes #1142**  
 Tatsuya Kasuyama, Kazuhisa Tsuzuki, Naoki Onoto (Japan)
- I Do clinical Pilates exercises affect scapular stabilization? #1669**  
 Mehmet Micoogullari, S. Fatma Uygur, H. Baran Yosmaoglu, Bünyamin Haksever (Turkey)
- I Acute effect of vibration stimulus around shoulders on sensorimotor control #1107**  
 Masanori Morikawa, Yukio Urabe, Junpei Sasadai, Somu Kotoshiba, Makoto Komiya, Kazuki Fukui, Noriaki Maeda (Japan)
- I 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, Keizo Yamamoto (Japan)
- I 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

- I The incidence of Injuries and illness during open-water swimming events: Optimising swimmer safety #1220**  
 Amilia Alifrangis, Martin Suzan, Courtney Kipps (United Kingdom)
- I Swimming-related complications during triathlon event #1118**  
 Amilia Alifrangis, Martin Suzan, Courtney Kipps (United Kingdom)
- I The incidence of scapholunate ligament disruption in competitive divers #1161**  
 Alethea Beck (United Kingdom)
- I 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

- I Methods for monitoring training load in competitive swimming #1672**  
 Stef Feijen (Belgium), Angela Tate (USA), Kevin Kuppens (Belgium), Filip Struyf (Belgium)
  - I 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)
  - I 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, Udawattage Dinesh Chaminda Sirisena (Singapore)
  - I The incidence of swimmer's shoulder and its relevance with the range of movement amongst young swimmers #1646**  
 Károly Törös, Anna Schmidtka-Várnagy, Gabriella Szendro, Lehel Bálint, Ágnes Mayer (Hungary)
- 
- I Investigating the effect of mouth guard use on aerobic performance in amateur boxers #1066**  
 Irfan Ahmed (United Kingdom)
  - I 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)
  - I Injuries and illnesses severity and training hour profile of 121 Brazilian young elite judokas during the first eight weeks of season: a descriptive cohort study #1745**  
 Thiago Ferreira (Brazil), Fernanda Madaleno (Brazil), George Sabino (Brazil), Juliana Ocarino (Brazil), Evert Verhagen (The Netherlands), Renan Resende (Brazil)
  - I Video analysis of injury mechanisms in Taekwondo athletes #1547**  
 Hee Seong Jeong (Republic of South Korea), David O'Sullivan (Republic of South Korea), Dae Hyoun Jeong (USA), Sae Yong Lee (Republic of South Korea)
  - I 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)
  - I Top-level karate athletes: are they implementing preventative injury measures? #1360**  
 Montassar Tabben (Qatar), Dusana Cierna (Slovakia), Laura Perez Martin (Spain), Rafael Arriaza (Spain)
  - I Injury analysis in mixed martial arts athletes #1304**  
 Mandy Zhang, Baoying Lim, Boon Hor Ho, Benedict Tan, Kelvin Chew (Singapore)
  - I 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

- I How physicians decide a safe return-to-play after a lateral ankle sprain? #1449**  
Aude Aguilaniu (Belgium), Jean-Louis Croisier (Belgium), Cédric Schwartz (Belgium), Nadia Dardenne (Belgium), Pieter D'Hooghe (Qatar), Yanis Zahraoui (Belgium), Romain Collin (Belgium), Jean-François Kaux (Belgium)
- I Balance control in chronic ankle instability and healthy subjects: traditional analysis of centre of pressure displacement and nonlinear analysis of its variability #1518**  
José Esteves, Ricardo Dinis, Orlando Fernandes, Maria António Castro, Raul Oliveira, Pedro Pezarat Correia (Portugal)
- I 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)
- I Effect of a single short electrostimulation session of the fibularis muscles on dynamic postural stability and evertor muscles strength #1466**  
François Fourchet, Artiom Ganchine, Antoine Seurot, Nicolas Le Coroller, Guillaume Servant, Boris Gojanovic (Switzerland)
- I Does ankle instability alter muscle activation of lower extremity and ground reaction force during landing? A meta-analysis #981**  
Sunghe Ha, Hyunggyu Jeon, Sae Yong Lee (Republic of South Korea)
- I Understanding the impact of ankle injuries among contemporary pre-professional dancers: incidence and risk factors #1334**  
Adinda Mailuhu, Rogier van Rijn, Janine Stubbe, Sita M.A. Bierma-Zeinstra, Marienke van Middelkoop (The Netherlands)
- I Epidemiology of Ankle Sprains in Elite High School Basketball Players: Medical and Physical Checkup Report, Relationships between Prevalence of Ankle Sprains, Unstable sensation, ATFL pathology and the Balance Test #1162**  
Shuichi Nakayama, Tsukimura Naoki, Iwakura Nahoko, Yamamoto Takayuki, Saku Isaku, Ito Eri, Takebayashi Tomomi, Uchino Sayuri, Numasawa Shun, Arimoto Kumi, Ikeda Shigehiro (Japan)

**SESSION 5 • LOAD MONITORING**

Poster Area – Level -2

**Chair: Karim KHAN** - Canada

- I 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, Cailbhe Doherty, Brian Caulfield, Catherine Blake (Ireland)
- I Monitoring training & match exposure in elite Scottish rugby union #1665**  
Cameron Paul, Tom Campbell, Stuart Yule, Debbie Palmer (United Kingdom)
- I Relationship between readiness indicators, training load and fatigue in collegiate female volleyball athletes #1619**  
Javier Peña (Spain), Laurie Eisler (Canada), Carolyn O'Dwyer (Canada), Albert Altarriba-Bartés (Spain), Beatriz Gil (Spain), Clàudia Alba (Spain), Pierre Baudin (Canada)



- I Monitoring internal load in professional female football players using urine metabolomics #1403**  
Guillermo Quintas, Eva Ferrer, Xavier Reche, Gil Rodas (Spain)
- I Perceptions of training load and wellness monitoring of Stellenbosch University high performance student-athletes #1382**  
Lindsay Starling, Grant Van Velden, Sean Surmon, Wayne Derman, James Craig Brown (South Africa)
- I Application of the acute:chronic workload ratio in children #1530**  
Chinchin Wang, Tyrel Stokes, Russell Steele, Ian Shrier (Canada)
- I 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)
- I Antioxidant blood plasma profiles during a period of high training loads at altitude in elite athletes #1317**  
Irina Zelenkova, Dmitry Martinov, Sergey Zotkin, Elena Proskurnina (Russian Federation)

**SESSION 6 • DANCE**

Poster Area – Level -2

**Chair: Yannis PITSILADIS** - United Kingdom

- I 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)
- I 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 Nedim Kara, Azmi Hamzaoglu (Turkey)
- I Association of spinopelvic alignment, lower extremity alignment, hamstring tightness, lower extremity range of motion with landing patterns in ballet dancers, folk dancers and football players #1292**  
Neslihan Aksu, Vefa Atansay, Busra Akgonul, Ayhan Nedim Kara, Azmi Hamzaoglu (Turkey)
- I 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-Derflingher, Sarah J. Kenny, Carolyn Emery (Canada)
- I Association between baseline factors and risk of injury amongst pre-professional dancers #1576**  
Sarah J. Kenny, Vineetha Warriya K. V., Luz Palacios-Derflingher, Jackie Whittaker, Carolyn Emery (Canada)
- I 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)
- I Musculoskeletal injuries and dance exposure across three years in elite adolescent ballet dancers: is there a pattern? #1561**  
Valeriya Volkova, Sarah J. Kenny (Canada)



- Immediate effect of Argentine Tango practice on persistent symptoms and postural control deficits associated with concussion #1295

Lise Worthen-Chaudhari, Catherine Quatman-Yates, W. Jerry Mysiw, Eugenia Costa-Giomi, Ajit Chaudhari (USA)

### SESSION 7 • LOW BACK & PELVIS

Poster Area – Level -2

**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 Batt (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

Sahin 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

Poster Area – Level -2

**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 #1337

Ieuan Cranswick, Ashley Jones, Phil Clarke, Tod David (United Kingdom)



- Psychosocial factors are associated with lower re-injury risk in competitive athletes #1714

Adam Gledhill, 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 Tassignon (Belgium), Jo Verschueren (Belgium), Jeroen Van Cutsem (Belgium), Kevin De Pauw (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 Tassignon (Belgium), Jo Verschueren (Belgium), Sander De Bock (Belgium), Luk Buyse (Belgium), Kevin De Pauw (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

- Psychological factors for an injury free athletic career #1149

Ulrika Tranaeus, Linn Hallgren, Hanna Jörlund (Sweden)

- The fatigue-injury hypothesis: what is the effect of acute peripheral fatigue on functional and neurocognitive performance tests? #1176

Jo Verschueren (Belgium), Bruno Tassignon (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

### SESSION 9 • RISK FACTORS

Poster Area – Level -2

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

- 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 (Australia/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 Blaiser, Roel De Ridder, Tine Willems, Stefan Vermeulen, Lieven Danneels, Philip Roosen (Belgium)

- Training protective factors for knee pain in Olympic class sailors #1552

Shawn Hunt, Kathryn Roach, Eryn Milian, Katie Dabrowski, Nathan Kuck, Peter Modera, Courtney Ross, 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 Kurihara, Masafumi Terada (Japan)

- Perceived injury risk among elite track & field athletes – a questionnaire-based study #1655

Maria Mereman (Sweden)



Running style-dependent risk factors for patellofemoral pain #1002

Julia Smakal, Nadja Jamrog, Bartosz Wojanowski (Germany)

A risk factor analysis for head, neck, and face injuries between US men and women rugby-7s players by age-groups #1594

Christian Victoria (USA), Danielle C. Ompad (USA), Shen-Ying Richard Ma (USA/New Zealand), Meryle G. Weinstein (USA), Robert C. Cantu (USA/Ireland), Answorth A. Allen (USA), Victor Lopez Jr (USA/New Zealand)

**SESSION 10 • HAMSTRING**

Poster Area – Level -2

**Chair: Clare ARDERN** - Sweden/Australia

Biceps femoris muscle is activated by performing Nordic hamstrings exercise at shallow knee flexion angle #1483

Norikazu Hirose (Japan), Masaaki Tsuruike (USA)

Clinically-oriented assessments of hamstring muscle strength are reliable #1383

Ellevyn Irwin, Grainne O'Callaghan, Aine Tunney, Eamonn Delahunt, Ulrik McCarthy Persson (Ireland)

The Nordic Hamstring exercise – is it a part of the weekly training in female elite football? #1658

Connie Linnebjerg, Hansen Mette, Clausen Mikkel Bek, Jesper Bencke, Mikkel Oxfeldt, Mads Bjørndal Sonne, Mads Karlsson, Per Hölmich, Mette Kreutzfeldt Zebis (Denmark)

Predictors of time to return to play and reinjury following hamstring strain injuries with and without tendon involvement in professional football #1662

Scott McAuley, Nick Dobbin, Peter Goodwin (United Kingdom)

HaOS or CHaOS? The relation between the hamstring outcome score (HaOS) and hamstring injuries #1520

Sander van de Hoef, Michel S. Brink, Nick van der Horst, Maarten van Smeden, Frank Backx (The Netherlands)

Eccentric hamstring strength and sprinting performance changes during the off-season in Spanish footballers #1613

Jordi Vicens-Bordas (Spain), Ernest Esteve (Spain), Azahara Fort-Vanmeerhaeghe (Spain), Martí Casals (Spain), Thomas Bandholm (Denmark), Lasse Ishoi (Denmark), David Opar (Australia), Anthony Shield (Australia), Kristian Thorborg (Denmark)



**SESSION 11 • CONCUSSION I**

Poster Area – Level -2

**Chair: Jane THORNTON** - Canada

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 Viviers (South Africa), Sean Surmon (South Africa), Keith Derman (South Africa)

Sport-related concussion in Japanese high school rugby players #1618

Mana Otomo, Suguru Torii, Toru Fukubayashi (Japan)

Gender differences in head impact rate and mechanism in high school lacrosse #1551

Declan Patton, Colin Huber, Valerie Lallo, Catherine McDonald, Kristy Arbogast (USA)

Normative baseline SCAT5 scores in a population of United States Olympic athletes #1691

Lauren Pierpoint, Laura Zdziarski, David Taylor, William Moreau, Dustin Nabhan (USA)

Concussions among female athletes in Iceland: stress, depression, anxiety and quality of life #1233

Silja Runolfsdottir, María K. Jónsdóttir, Ingunn Kristensen, Helga Sigurjonsdottir, Lara Claessen, Hafrun Kristjansdottir (Iceland)

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)

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)

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**

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)

Risk factors for post-concussion subsequent musculoskeletal injuries #1465

Thomas Buckley, Jessie Oldham, Caroline Howard, Robert Lynall, Buz Swanik, Nancy Getchell (USA)

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

Fionn Büttner (Ireland), David Howell (USA), Cailbhe Doherty (Ireland), Catherine Blake (Ireland), John Ryan (Ireland), Eamonn Delahunt (Ireland)





- I MSK injury likelihood is increased during the 4-month period after a concussion #1412**  
 Lee Herrington, Joshua Wass, Moses Wootten, Caroline Lander (United Kingdom)
- I Testing neurocognitive function and balance following sport concussion - do we need baselines? #1755**  
 Michael Hutchison, Alex Di Battista, Kyla Pyndiura, Doug Richards (Canada)
- I Subsequent injury risk is not specific to concussion in Rugby Union #1208**  
 Isabel Moore, Danielle Vicary, Jim Rafferty, Prabhat Mathema (United Kingdom)
- I An assessment of injuries sustained to professional rugby union players following a sports related concussion #1708**  
 Stuart O'Flanagan, Jordan Joe (Ireland)
- I Safety of an early, active concussion rehabilitation protocol among professional, collegiate/ university, and interscholastic athletes: the active rehab study #1348**  
Johna Register-Mihalik (USA), Kevin Guskiewicz (USA), Stephen Marshall (USA), Karen McCulloch (USA), Jason P. Mihalik (USA), Martin Mrazik (Canada), Ian Murphy (New Zealand), Dhiren Naidu (Canada), Shabbar Ranapuwala (USA), Kathryn Schneider (Canada), Paula Gildner (USA), Vasiliki Kostogiannes (USA), Michael McCrea (USA)

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

- I Developmental changes in quadriceps and hamstring muscle strength from youth to senior: a cross-sectional study in 125 elite football players #1563**  
Lasse Ishøj, Kasper Krommes, Mathias Nielsen, Kasper Thornton, Per Hölmich, Per Aagaard, Jacob Penalver, Kristian Thorborg (Denmark)
- I Effects of the Knee Control programme on jump-landing technique and performance in youth players #1294**  
 Hanna Lindblom, Martin Hägglund, Markus Waldén, Siw Carlford (Sweden)
- I The effects of fatigue induced by high intensity soccer-specific simulation on jump-landing mechanics and functional hamstrings to quadriceps ratio in youth players #1638**  
Raja Mohammed Firhad Raja Azidin, Saiful Adli Bukry, Haidzir Manaf, Maria Justine, Hosni Hasan, Hashbullah Ismail, Raihana Sharir (Malaysia)
- I Prevention of fifth metatarsal bone stress fracture in youth Japanese soccer players #1615**  
Yoshitomo Saita, Nagao Masashi, Kobayashi Yohei, Kobayashi Keiji, Wakayama Takanori, Ikeda Hiroshi (Japan)
- I Acute effects of small-sided games on the lower limb functional asymmetry in young soccer players #1039**  
Italo Sannicandro, Giacomo Cofano, Anna Rosa Rosa, Paolo Traficante, Andrea Piccinno (Italy)
- I Acute fatigue effects after Small-Sided Games on functional asymmetry and short sprint performance in young soccer players #1040**  
Italo Sannicandro, Giacomo Cofano, Anna Rosa Rosa, Paolo Traficante, Andrea Piccinno (Italy)



- I Intra-and interrater reliability of subjective assessment of the drop vertical jump and tuck jump in youth football players #1318**  
Sofi Sonesson, Hanna Lindblom, Martin Hägglund (Sweden)
- I Managing vitamin D supplementation in elite academy footballers #1727**  
 Amit Verma, Thomas Maynard, Jim Moxon (United Kingdom)

**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-Elaine Grant (Switzerland/Ireland), Jong 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**  
Nebojša 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 Engebretsen (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 Molnar (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, Titilayo 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, Vasileios Sideris, Vasileios Korakakis, Rodney Whiteley (Qatar)

- Running pattern asymmetry evaluation after anterior cruciate ligament reconstruction could be a way to detect re-injuries **#1185**

Alexandre Rambaud, Thomas Neri, Jean-Benoit Morin, Remi Philippot, Jeremy Rossi, Pierre Samozino, Pascal Edouard (France)

- Responsiveness of the Anterior Cruciate Ligament - Return to Sports after Injury (ACL-RSI) and Injury – Psychological Readiness to Return to Sport (I-PRRS) scales **#991**

Anton Slagers, Johannes Zwerver (The Netherlands)

- Challenging ACL reconstructed athletes and their sensorimotor system at return-to-sport: a vital step towards exposing the roots of their neuromuscular deficits **#1414**

Annemie Smeets, Sabine Verschueren, Filip Staes, Steven Claes, Hilde Vandenneucker, Jos Vanrenterghem (Belgium)

**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 Bourrillon (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)



- Variables associated to knee valgus in male soccer players during a single leg vertical landing task **#1493**

Gustavo Leporace, Matheus Vianna, Leonardo Metsavaht, 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**

Issei 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 17 • INDOOR TEAM SPORTS**

Poster Area – Level -2

**Chair: Evert VERHAGEN** - The Netherlands

- Understanding health problems of basketball referees **#1651**

Daniela Annanias Gimenes de Paula, Luiz Augusto Borges Gomes, Ronaldo Alves da Cunha, Carlos Vicente Andreoli (Brazil)

- Injury prevalence in Dutch handball over the season 2018-2019 **#1521**

Maarten Barendrecht, Tim Arnts, Linda van Maanen-Coppens (The Netherlands)

- Injury prevention policies in Dutch handball clubs **#1527**

Maarten Barendrecht, Davey Driessen, Linda van Maanen-Coppens (The Netherlands)

- Description of the context for injury prevention interventions development and implementation in youth Brazilian basketball: a cross-sectional study **#1661**

Luiz Augusto Borges Gomes, Carlos Vicente Andreoli, Ronaldo Alves da Cunha, Helena Santos de Oliveira, Benno Ejnisman, Moises Cohen (Brazil)

- Is gluteus medius muscle strength important in preventing injuries to elite female handball players? Relationship between balance and jump performance **#1593**

Bünyamin Haksever, Mehmet Micoogullari, Ozge Ozalp, Gul Baltaci (Turkey)

- The prevention of musculoskeletal injuries in basketball players: the systematic development of an intervention and its feasibility **#1596**

Marina Stefani Souza Silva (Brazil)



**SESSION 18 • FEMALE SPORTS**

Poster Area – Level -2

**Chair: Kathryn ACKERMAN** - USA

- I Epidemiology of illness in female athletes: a systematic review #1687**  
Thomas Axon (United Kingdom), Nirmala Perera (Sweden/United Kingdom/Australia)
- I 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), Aitziber Gómez (Spain), Jose Antonio Lekue (Spain), Jon Larruskain (Spain), Xabier Monasterio (Spain), Julen Arce (Spain), Igor Setuain (Spain), Mikel Izquierdo (Spain)
- I Monitoring wellbeing and perceived exertion in relation to injury risk in elite female football players over 2 seasons #1127**  
Jon Larruskain (Spain), Ane Uria (Scotland), Maialen Aldalur (Spain), Iraia Iturregi (Spain), Aritz Yarritu (Spain), Eder Bikandi (Spain), Julen Arce (Spain), Xabier Monasterio (Spain), Jose Antonio Lekue (Spain), Imanol Martin-Garetxana (Spain)
- I The prevalence and burden of pre-menstrual syndrome in the athletic population #1713**  
Katie Lydon (Ireland), Sharon Madigan (Ireland), Alan Rankin (United Kingdom)
- I Prevalence and burden of menstrual disorders in athletes: a questionnaire study #1740**  
Katie Lydon (Ireland), Sharon Madigan (Ireland), Alan Rankin (United Kingdom)
- I The Epidemiology of Injury in English Professional Women's Football: A Prospective Cohort Study #1428**  
Lawrence Mayhew, Peter Francis, Gareth Jones (United Kingdom)
- I Epidemiology of sports injuries, including overuse injuries in female Japanese college basketball athletes #1119**  
Yasuharu Nagano, Yui Shimada, Naoki Sasaki, Masaki Shibata (Japan)
- I Longitudinal documentation of self-reported and physical function in female adolescent athletes with bilateral recurrent ankle sprains #1688**  
Masafumi Terada, Kurihara Toshiyuki, Takashi Sugiyama, Yuki Kusagawa, Takahiro Tanaka, Kento Shimoho, Miyuku Hori, Tadao Isaka (Japan)

**SESSION 19 • RUGBY**

Poster Area – Level -2

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

- I Epidemiology of injuries in Scottish male professional rugby union #1626**  
Stuart Bailey, Russell Martindale, James Robson, Debbie Palmer (United Kingdom)
- I 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)
- I 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)
- I 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)
- I Perceptions and attitudes towards shoulder padding and shoulder injury in rugby union #1109**  
Angus Hughes, Matt Carre (United Kingdom)
- I 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. Hume (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)
- I 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 Genece (USA), Answorth A. Allen (USA/New Zealand), Victor Lopez Jr (USA/New Zealand)
- I New Zealand super rugby injury surveillance: match injuries from 2015-2018 #1622**  
Danielle Salmon, Ian Murphy, Kenneth Quarrie, Greg MacLeod, Asheer Singh, Adam Letts, John Roche, Deborah Robinson, Martin Swan, Theo Dorfling, Cameron Shaw, Katherine Rottier, 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, Paola de Figueiredo Caldeira, Robson José Rodrigo Tavares de Almeida, Jomar Jorge Ottoni, Gustavo Damásio Magliocca, Luciana De Michelis 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 Grazioli, 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**  
 Josefine 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 Franklyn-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**  
 Youngjun Kim, Sejun 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), Carlyn 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 Grønhaug (Norway)
- Why not? Use of healthcare and reasons not to seek healthcare by Norwegian climbers with chronic injuries **#1091**  
 Gudmund Grønhaug, 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/United Kingdom), Nur Amino (South Africa), Ruan Schlebusch (South Africa), JP Van Wyk (South Africa), Stephen Mellalieu (United Kingdom), Vincent Gouttebauge (The Netherlands)



■ The characterisation of Dupuytren's 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

Chair: **Carolyn EMERY** - Canada

■ 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)

■ Using infographics and video to prevent injuries and illnesses in athletics #1253

Pascal Edouard (France/Switzerland), Pedro Branco (Switzerland), Danny Glover (United Kingdom), Jennifer Duncan (United Kingdom), Andy Richardson (United Kingdom), Marianna Kiss (Switzerland/Hungary), Frederic Depiesse (France), Andrew Murray (United Kingdom)

■ Field Hockey injuries and personal protective equipment: a status survey of German national teams #1379

Sabrina Gorks, Thomas Henke, Petra Platen (Germany)

■ Kinesiotaping; does it really prevent sports injuries? #958

Yonatan Kaplan (Israel)

■ The relationship between exercise frequency and development of knee osteoarthritis (OA) in young & middle-aged population using National Health Insurance Sharing Service (NHIS) #1614

Soyoung Lee, Sae Yong Lee (Republic of South Korea)

■ 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)

■ 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)

■ 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

Chair: **Karim KHAN** - Canada

■ Prevalence of CrossFit® related injuries in France: a retrospective study on 3023 participants #1310

Flavio Bonnet, Hemrick Verwaerde (France)

■ 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)

■ Injury burden in American football #1670

Samuel Johnson, Douglas Aukerman, Cathleen Brown, Marc Norcross (USA)

■ Incidence, severity, and burden of hip, groin, and thigh muscle injuries in Division I collegiate American football #1659

Marc Norcross, Douglas Aukerman, Cathleen Brown, Samuel Johnson (USA)

■ Epidemiology in the Japanese Deaf Football National Team in international tournaments #1597

Yasuaki Saho, Tateishi Tomohiko (Japan)

■ Injury rates and mechanisms of injury in female high school rugby #1603

Isla Shill, Amanda M. Black, Stacy Sick, Ash Kolstad, Luz Palacios-Derflinger, Kathryn Schneider, Brent E. Hagel, Carolyn Emery (Canada)

■ Surveillance: Injury incidence and injury patterns in professional football players registered in Egyptian Football league #1643

Mohamed Yahia (Egypt)

■ Futbol Club Barcelona ACL injury epidemiology #1467

Javier Yanguas Leyes, Sandra Mechó Meca, Xavier Alomar Serrallach, Ricard Pruna Grivé, Gil Rodas (Spain)

**SESSION 25 • MEDICINE**

Poster Area - Exhibition Hall Diaghilev

Chair: **Jonathan DREZNER** - USA

■ Mysterious breathing problems in athletes – what can it be? #1445

Hege Clemm, Ida Hammer, Maria Vollsæter, Ola Røksund, Thomas Halvorsen (Norway)

■ 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, Marcas Bamman (USA)

■ 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)



- 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 Goff (Belgium), Jean-François Kaux (Belgium), Laurence Seidel (Belgium), Laurent Gergelé (France), Grégoire Millet (Switzerland), Magali Viallon (France), Pierre Croisille (France), Etienne 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 26 • YOUTH ATHLETES***Poster Area - Exhibition Hall Diaghilev*

**Chair: Jane THORNTON** - Canada

- The Oslo Sports Trauma Research Center questionnaire on Health problems (Spanish version) compared to a traditional surveillance method for injury detection and severity estimation in youth sports: an observational study **#1283**

Javier Bailón-Cerezo (Spain), Benjamin Clarsen (Norway), María Torres-Lacomba (Spain)

- Epidemiology of youth injuries across seven sports at a single college in England **#1258**

Craig Barden (United Kingdom), Ken Quarrie (New Zealand), Carly McKay (United Kingdom), Keith Stokes (United Kingdom)

- Youth volleyball, basketball and futsal athletes performance on Y-Test over the sports season **#1506**

Renato de Paula da Silva, Ellen Exmalte de Castro Aguiar, Leandro César Garcia, Felipe Ribeiro Pereira, Silvanio Miranda Signoretti Júnior, Renan Alves Resende, Natália F. N. Bittencourt (Brazil)

- Injury burden and characteristics in aesthetic sports among high school adolescents **#1717**

Sheila Downie, Amanda M. Black, Paul H. Eliason, Carolyn Emery, Sarah J. Kenny (Canada)

- Injury incidence in child athletics: A prospective 52-week study **#1676**

Anna Ek, Jan Kowalski, Örjan Dahlström, Jenny Jacobsson (Sweden)

- How much is too much? Stress in young elite athletes is precursor for illness and injury **#1296**

Yaso Kathiravel, Michael Hamlin, Catherine Lizamore, Catherine Elliot, Ellie Wilkes (New Zealand)

- The prevalence and burden of health problems in competitive adolescent distance runners: A prospective study in England **#1108**

Robert Mann, Alan Barker, Craig Williams, Bryan Clift (United Kingdom)

- Connective tissue dysplasia – a potential risk factor of arrhythmias in young athletes? **#1556**

Kamiliia Mekhdieva, Varvara Timokhina (Russian Federation)

**SESSION 27 • FOOTBALL***Poster Area - Exhibition Hall Diaghilev*

**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 **#1441**

Kieran Austin (United Kingdom), Ben Lee (United Kingdom), Tessa Flood (United Kingdom), Jamie Toombs (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, Afxentios 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 Lawrance (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, Heita 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 Janosky, Daphne Ling, James Kinderknecht, Robert Marx (USA)
- Injuries according to the percentage of adult height in an elite football academy #1421**  
Xabier Monasterio, Susana María Gil, Iraia Bidaurrezaga-Letona, Jose Antonio Lekue, Gontzal Diaz-Beitia, 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. Owoeyea (Canada/USA), Lauren Benson (Canada), Kati Pasanen (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), Siobhán 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 Glang, Tamerah Hunt, Rachel Hays, Kimberly Garrett, Maria Manzueta, Frederick Rivara (USA)
- Lifetime prevalence and one-year incidence of sport-related concussion in adolescents #1735**  
Jocelyn McCallum, Carolyn Emery, Paul H. Eliason, 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, Vasiliki 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 ENGBRETSSEN** - Norway/Switzerland

- Risk factors for injuries in recreational runners with a history of running injuries #1230**  
Tryntsje 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 Hijmans (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**  
Carel Viljoen (South Africa), Christa Janse van Rensburg (South Africa), Evert Verhagen (The Netherlands), Willem van Mechelen (The Netherlands/Australia/South Africa/Ireland), Rita Tomas (Portugal), Marlene Schoeman (South Africa), Susan Scheepers (South Africa), Elzette 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 Blaiser, Tine Willems, 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 Michelis 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 Romanchuk, 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, Paulo 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)





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

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

**Microbiome analysis in elite sport #1269**

Ian Needleman (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 Ruedl, Markus Posch, Katja Tecklenburg, Martin Faulhaber, Martin Burtscher (Austria)

**SESSION 33 • EPIDEMIOLOGY METHODOLOGY**

Poster Area - Exhibition Hall Diaghilev

**Chair: Elizabeth A. ARENDT** - USA**Using time to event methods to evaluate sports participation, specialization, and injury #1056**

Julie Agel, Todd Rockwood, Anne Eaton (USA)

**Reporting recurrent and subsequent injuries in professional sport: A systematic review #1475**

Leah Bitchell, Jo Varley-Campbell, Gemma Robinson, Victoria Stiles, Prabhat Mathema, Isabel Moore (United Kingdom)

**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)

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

Kornkit Chaijenkij, Kittinad Kaewkul, Sasima Thongsai (Thailand)

**The design and implementation of sport injury surveillance system #1410**

Mojtaba Ebrahimi Varkiani, Mohammad Hossien Alizadeh, Reza Rajabi, Hooman Minoonejad (Islamic Republic of Iran)

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

Steffen Niemann, Philip Derrer, Flavia Buergi, Mirjam Baechli, Othmar Bruegger (Switzerland)

**Epidemiologic concerns regarding denominator selection for sports injury studies #1747**

David Swedler, Charlotte Baker, Zachery Kerr, Karen Liller, Joseph Janosky, Bayat Dunya, Molly Simmons, Erin Wasserman, Katie Schaffer (USA)

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

Poster Area - Exhibition Hall Diaghilev

**Chair: Kathryn ACKERMAN** - USA**Vitamin D status and muscle injury risk in elite male football players over 3 seasons #1415**

Julen Arce, Toscana Viar, Jose Antonio Lekue, Paco Angulo, Imanol Martin-Garetxana, Eder Bikandi, Xabier Monasterio, Jon Larruskain (Spain)

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

Courteney L. Benjamin, Yasuki Sekiguchi, Margaret C. Morrissey, Cody R. Butler, Erica M. Filep, Rebecca L. Stearns, Douglas J. Casa (USA)

**Can ibuprofen prevent acute mountain sickness in moderate altitude? #601**

Ana Carolina Côrte, Roberto Nahon, Breno Schor, Felipe Hardt, Rodrigo Sasson (Brazil)

**Self-medication in fitness centers #1368**

Julien Dellatte, Victoria Leclercq, 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)

**SESSION 35 • COACHING ETC.**

Poster Area - Exhibition Hall Diaghilev

**Chair: Yannis PITSILADIS** - United Kingdom**The impact of sport specialization on injury, success, and perceptions of health #1057**

Julie Agel, Todd Rockwood, Anne Eaton (USA)

**US Youth Soccer coaches do not possess adequate knowledge of Non-Contact ACL injuries and injury prevention programs #1365**

Shelly Fetchen DiCesaro (USA)

**Coach education as a strategy to improve adherence to ACL injury prevention programs: a cluster-randomized controlled trial #1282**

Daphne Ling, Caroline Boyle, Brandon Schneider, Joseph Janosky, James Kinderknecht, Robert Marx (USA)

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

Yuki Nakamura (Japan)

**MOVE HEALTHY–The identification of current national injury prevention programs and beliefs of coaches and youth regarding injury prevention in 6 European countries #1218**

Joske Nauta (The Netherlands), Johan de Jong (The Netherlands), Kristine De Martelaer (Belgium), Paul Dragos (Romania), Remo Mombarg (The Netherlands), Danielle Nørager Johansen (Denmark), Thomas Skovgaard (Denmark), Paul Szabo-Alexi (Romania), Evert Verhagen (The Netherlands), Anne Benjaminse (The Netherlands)



- Shining a Light on Injury Status: Developing an effective method to monitor player availability and improve communication between coaches and medical staff #1423

Ciarán Purcell, Catherine Blake, Ulrik McCarthy Persson, Sinead McMahon, Caitriona Cunningham, Frank Kenny (Ireland)

**SESSION 36 • CYCLING***Poster Area - Exhibition Hall Diaghilev*

**Chair: Yorck Olaf SCHUMACHER** - Qatar

- The ban of tramadol and hazard prevention in cycling #1770

Xavier Bigard, Angeline Turin, Olivier Salamin, Raphael Faiss, Youssef Daali, Serge Rudaz, Francesca Rossi, Martial Saugy (Switzerland)

- Injuries among youth mountain bike racing coaches: first year data from a nation-wide injury surveillance system in the United States #1575

Meredith Ehn, Daniel Cushman, Masaru Teramoto, Chris Spencer, Stuart Willick (USA)

- Injuries among youth mountain bike racers: first year data from a nation-wide injury surveillance system in the United States #1577

Meredith Ehn, Daniel Cushman, Masaru Teramoto, Chris Spencer, Stuart Willick (USA)

- Sports-Related Concussion (SRC) in Road Cycling: Establishing the Roadside head injury assessment (RIDE) for Elite Road Cycling #1209

Neil 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 Schweltnus (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)

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

**Chair: Erich MÜLLER** - Austria

- Using a MOTIFS intervention to influence patient-reported outcomes: a randomized cross-over plausibility study #1635

Niklas Cederström, Simon Granér, Gustav Nilsson, Eva Ageberg (Sweden)

- The upper limb rotation test: reliability and validity study of a new upper extremity physical performance test #1086

Philippe Declève, Trystan Attar, Tasnim Benameur, Valentine Gaspar, Joachim Van Cant, Ann Cools (Belgium)

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

Marijeanne Liederbach (USA)

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

Gemma Parry (United Kingdom)

- Test-retest reliability of the reactive balance test: A neurocognitive functional test to evaluate adaptability within injury risk profiling #1006

Jo Verschuere (Belgium), Bruno Tassignon (Belgium), Jeroen Van Cutsem (Belgium), Bert Pluym (Belgium), Kevin De Pauw (Belgium), Evert Verhagen (The Netherlands), Romain Meeusen (Belgium)

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

**Chair: Evert VERHAGEN** - The Netherlands

- Maximising the relevance and dissemination of the IOC medical consensus statements: Key stakeholder's perceptions of the IOC consensus statements in a developing country (South Africa) #1621

Marelise Badenhorst (South Africa), Lauren Fortington (Australia), Caroline Bolling (The Netherlands/Brazil), Evert Verhagen (The Netherlands), Carolyn Emery (Canada), Martin Schweltnus (South Africa), Kati Pasanen (Canada), Wayne Derman (South Africa), Caroline Finch (Australia)

- Maximising the relevance and dissemination of the IOC medical consensus statements: Key stakeholder's perceptions of the IOC medical consensus statements in a developed country (Australia) #1624

Marelise Badenhorst (South Africa), Lauren Fortington (Australia), Caroline Bolling (The Netherlands/Brazil), Kati Pasanen (Canada), Wayne Derman (South Africa), Evert Verhagen (The Netherlands), Martin Schweltnus (South Africa), Carolyn Emery (Canada), Caroline Finch (Australia)

- Maximising the relevance and dissemination of the IOC medical consensus statements: What are the consensus statements and how are they used in literature? #1616

Caroline Finch (Australia), Lauren Fortington (Australia), Marelise Badenhorst (South Africa), Rebecca Handcock (Australia), Evert Verhagen (The Netherlands), Martin Schweltnus (South Africa), Carolyn Emery (Canada), Kati Pasanen (Canada), Wayne Derman (South Africa)



■ Maximising the relevance and dissemination of the IOC medical consensus statements: a knowledge management perspective #1625

Lauren Fortington (Australia), Ashlee Morgan (Australia), Ruth Sibson (Australia), Marelise Badenhorst (South Africa), Carolyn Emery (Canada), Wayne Derman (South Africa), Kati Pasanen (Canada), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Caroline Finch (Australia)

■ Maximising the relevance and dissemination of the IOC medical consensus statements: Which consensus statements are used in practice, and how are they used? #1620

Lauren Fortington (Australia), Marelise Badenhorst (South Africa), Caroline Bolling (The Netherlands/Brazil), Evert Verhagen (The Netherlands), Martin Schwellnus (South Africa), Wayne Derman (South Africa), Carolyn Emery (Canada), Kati Pasanen (Canada), Caroline Finch (Australia)

■ Barriers and facilitators for developing mandated school athletics emergency action plans #1664

Samuel Johnson, Viktor Bovbjerg, Michael Koester, Kylee Gehring, Mackenzie Marques, Marc Norcross (USA)

■ Prevention in sports: international survey among members of the worlds' second largest sports orthopedics society (GOTS) #1381

Christoph Lutter (Germany), Romain Seil (Luxembourg), Capser Grim (Germany), Thomas Tischer (Germany)

■ Knowledge, attitudes and behaviors of New Zealand physiotherapists to sports-related concussion #978

Duncan Reid, Patria Hume, Chris Whatman, Alice Theadom, Simon Walters, Mark Fulcher (New Zealand)

**SESSION 39 • MULTI-SPORTS**

*Poster Area - Exhibition Hall Diaghilev*

**Chair: Clare ARDERN** - Sweden/Australia

■ 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), Sharon Kearney (New Zealand), Praimanand Singh (South Africa), Arnold Devos (Australia), Martin Schwellnus (South Africa), Tanita Cronje (South Africa)

■ More than 80% of illnesses at the 2019 International Netball World Cup Competition are only reported on match day: Is there not a need to educate players? #1642

Audrey Jansen van Rensburg (South Africa), Christa Janse van Rensburg (South Africa), Grace Bryant (Australia), Sharon Kearney (New Zealand), Praimanand Singh (South Africa), Arnold Devos (Australia), Martin Schwellnus (South Africa), Tanita Cronje (South Africa)

■ Do gender differences exist in the injury profile of collegiate Gaelic footballers? #1333

Siobhán O'Connor, Calvin Teahan, Enda Whyte (Ireland)



■ Psychological response to injury in collegiate male and female Gaelic games players #1335

Siobhán O'Connor, Aishling Sheridan, Shaunagh Brady, Conor Bruce, Enda Whyte (Ireland)

■ The reliability and association of the repeated Copenhagen Adduction Exercise to Gaelic football players with a history of groin injury: A pilot study #1586

Rachel Tierney, Ahmad Salma, Ulrik McCarthy Persson (Ireland)

■ Weekly and seasonal patterns of daily wellbeing in rugby union players participating in a national collegiate competition #1729

Pierre Viviers, Lindsay Starling, Esmé Jordaan, Wayne Derman, James Craig Brown (South Africa)

**SESSION 40 • WINTER SPORTS**

*Poster Area - Exhibition Hall Diaghilev*

**Chair: Hideyuki KOGA** - Japan

■ Terrain park feature compliance with Québec ski area safety recommendations #1424

Olivier Audet, Alison K. MacPherson, Pierre Valois, Brent E. Hagel, Benoit Tremblay, Claude Goulet (Canada)

■ Development and validation of an evaluation tool assessing the quality of terrain park features in Québec ski areas #1417

Olivier Audet, Pierre Valois, Alison K. MacPherson, Brent E. Hagel, Benoit Tremblay, Claude Goulet (Canada)

■ The prevalence and burden of health problems in male senior ice hockey: a prospective study in the Norwegian professional league #1031

Anine Nordstrøm, Roald Bahr, Ove Talsnes, Benjamin Clarsen (Norway)

■ Promotion for Japan skiing safety #1203

Yukio Urabe, Kazuki Fukui, Junpei Sasadai, Makoto Komiya, Masanori Morikawa, Noriaki Maeda (Japan)

