

Concussion in sport: the consensus process continues

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Our understanding of the prevention, detection, management and potential longer-term effects of concussions in sport have evolved rapidly over the last 20 years. In 2001, the International Ice Hockey Federation (IIHF) initiated a meeting to discuss the diagnosis and management of sport-related concussion (SRC).¹ This meeting was held in conjunction with the International Olympic Committee (IOC) and Fédération Internationale de Football Association (FIFA) in Vienna, Austria.

Every 4 years researchers and clinicians with expertise in SRC are brought together to summarise the published literature and provide updated, evidence-informed recommendations regarding the evaluation and management of concussions.^{1–5} To date,

there have been five consensus statements. This 20-year journey has been supported by sports organisations including the IOC, IIHF, FIFA and later by Fédération Equestre Internationale, World Rugby and the Fédération Internationale de l'Automobile. The sporting bodies are then able to take the evidence summaries and consensus recommendations that are created and develop concussion guidelines specific to their sports.

The authorship group of the Consensus Statements has led the development and writing of the resulting output of the meetings including a quadrennial consensus statement and the accompanying Concussion Recognition Tool and Sports Concussion Assessment Tools (SCAT) for adults and children.⁴ Authors have been selected based on their research and clinical expertise in the area of concussion, including consideration for representation from broad geographical and content areas. The concussion consensus group remains aware of the need for a rigorous scientific process and has ensured since its inception that all outputs are made freely available to athletes and their medical providers.

AN EVER-CHANGING 'FIELD'

As the evidence has evolved, so too have the recommendations. The SCAT Card, first published in Prague, 2004 has evolved to include the evaluation of additional domains such as balance assessment, cervical spine evaluation and a neurological screen in its most comprehensive iteration, the SCAT5 (fifth International Consensus Conference in Berlin, 2016).^{6,7} Gone are the days of resting for a prolonged time period in a dark room or 'grading' a concussion. Previous recommendations were to rest until asymptomatic and then gradually introduce increased levels of physical and cognitive exertion. However, given the mounting evidence for a more active approach to recovery following SRC, the current return-to-play progression evolved to advocate for a brief period of 24–48 hours of relative cognitive and physical rest prior to progressing to activities of daily living and then proceeding through a

subsymptom threshold graduated return to sport strategy.^{4,8} The literature continues to evolve as we learn more about this common and heterogeneous injury. It will be exciting to see where the discoveries in the next 20 years will take us!

PLANNING AHEAD: THE PROCESS

The sixth International Consensus Conference on Concussion in Sport was first postponed to October of 2021 due to the pandemic. Given the interactive nature of the conference, the consensus format lends itself far better to an engaged on-site meeting rather than an online or hybrid format. Global time zones posed additional challenges in agreeing on optimal scheduling of key sessions online. Unfortunately, due to travel limitations and the lack of ability to have participants from around the globe participate meaningfully in two full days of meetings followed by the expert panel consensus seminar, virtually or in a hybrid format, the Conference was again rescheduled—this time to Amsterdam on 27 October 2022–29 October 2022. This conference brings together researchers, clinicians and stakeholders with an interest in concussion in adults, children and athletes with disabilities, to summarise and present the latest science, discuss the current state of the evidence and write the sixth International Consensus Statement on Concussion in Sport.

A series of systematic reviews on key topics in SRC (acute screening, follow-up postinjury evaluation, rest and exercise, treatment/rehabilitation, persistent symptoms, recovery, return to sport, residual/long-term effects, retirement, risk reduction/prevention) are currently in preparation. The conference begins with 2 days of open meetings where the latest evidence is summarised and discussed. The accepted abstracts for each topic area will be presented as posters and the two top ranked abstracts in each category will be presented as podium presentations at the beginning of each topic of discussion. Each systematic review will then be presented, followed by a discussion period, which will be scribed for reference during the panel meeting. The third day is a consensus meeting that focuses on answering predetermined clinically relevant questions. The participants in the consensus meeting have been selected based on their expertise and/or publishing record in SRC, while keeping in mind geographical and specific areas of content knowledge. Finally, the fourth day will focus on development and updating of tools such as the SCAT. The scientific committee is cognisant that SRC is a critical area of public health interest and

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will embrace a broader spectrum of topics, experts and participants than ever before. A separate manuscript will describe the details of the methodology used. While consensus will be sought, dissenting opinions will be acknowledged and taken into full consideration. Athletes' input will also be sought as part of this process. The science will be robust, the emerging advice will be athlete-centred, and the accompanying tools freely accessible.

ABSTRACTS

In order to acknowledge the work of researchers in the build-up to 2020/2021 and delays due to the COVID-19 pandemic, the scientific committee has decided to publish a first group of abstracts. These abstracts have undergone a peer-review process and cover all aspects of concussion science and clinical care. We invite you to submit your current research on concussion in sport during the second call for abstracts, which will close on 15 June 2022. Following the conference, the systematic reviews, methodology paper, abstracts submitted during the second call, and updated tools that result from the meeting will be submitted for publication and external peer-review alongside the consensus statement. Of note, the resulting papers are completed and approved by the co-authors of each manuscript, with no review or requirement for approval from the Sport Organisations who contribute educational grants and funding for the meeting.

SEE YOU THERE!

Since the conference was delayed for 2 years, when we meet again it will be 6 years since our fifth Consensus Statement on Concussion in Sport was published. We look forward to seeing you in Amsterdam on 27 October 2022–29 October 2022 to discuss concussions in sport! For more details on the conference, please see: <https://www.concussionconference.org>

Correction notice This article has been corrected since it published Online First. Typographical errors have been corrected.

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Collaborators Lars Engebretsen is signing on behalf of the Organising Committee of the 6th International Consensus Conference on Concussion Sport.

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draft of the work which was critically reviewed and edited by all other authors.

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