Joint Submission to the Subcommittee on Sport-Related Concussions in Canada

House of Commons Standing Committee on Health

Association chiropratique canadienne

Canadian Chiropractic Association

Canadian Chiropractic Guideline Initiative

ADVANCING EXCELLENCE IN CHIROPRACTIC CARE

CMCC

Canadian Memorial Chiropractic College

RCCSS(C) Royal College of Chiropractic Sports Sciences (Canada)

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ABOUT US

This submission is a result of collaboration between the Canadian Chiropractic Association (CCA), the Royal College of Chiropractic Sports Sciences Canada (RCSSC), the Canadian Memorial Chiropractic College (CMCC), the Canadian Chiropractic Guideline Initiative (CCGI) and Dr. Moshen Kazemi, Chiropractic Representative in the Canadian Concussion Collaborative (CCC).

Canadian Chiropractic Association (CCA)

CCA is a national, voluntary association that advocates on behalf of Canada's 9,000 licensed chiropractors and the 4.5 million Canadians they treat every year. Chiropractors are regulated in all provinces and are extensively trained to assess, diagnose, and treat conditions related to the musculoskeletal system.

Royal College of Chiropractic Sports Sciences Canada (RCCSSC)

RCCSS(C) is the national governing organization for sports chiropractic in Canada. The RCCSS(C) is an organization of chiropractors committed to excellence in the practice of evidence-informed chiropractic as it applies to all aspects of sport and physical activity. Fellows of the RCCSS(C) are leaders in their fields with specialized skills and training in the care of athletes and sport-related injuries such as concussions.

Canadian Memorial Chiropractic College (CMCC)

CMCC is an academic institution offering undergraduate degree and postgraduate and continuing education programs in chiropractic. CMCC is an evidence-based leader in chiropractic education and research with collaborative relationships with universities, hospitals and other chiropractic institutions worldwide.

Canadian Chiropractic Guideline Initiative (CCGI)

CCGI enhances the health of Canadians by fostering excellence in chiropractic care. The CCGI develops evidence-based clinical practice guidelines and best practice recommendations, and facilitates their dissemination and implementation within the chiropractic profession.

Dr. Mohsen Kazemi, Chiropractic Representative in the Canadian Concussion Collaborative (CCC)

The mission of the CCC is to create cooperation between health organizations concerned with concussions to improve education about concussions, and the implementation of best practices for the prevention and management of concussions. Dr. Mohsen Kazemi is the current chiropractic representative in the CCC. Dr. Kazemi is a Professor of Clinical Education and coordinator for the Graduate Studies Sports Sciences Residency program at CMCC. He is a Fellow of the RCCSS, and the assistant editor of the Journal of Canadian Chiropractic Association.

INTRODUCTION

We are pleased to provide this joint submission to the Subcommittee on Sports-Related Concussions in Canada (SCSC) of the House of Commons Standing Committee on Health, with our three key recommendations on how Canada can better protect athletes from concussions and make sport safer for youth.

We applaud the creation of this committee to study this important issue affecting many Canadians and look forward to further actions by the government to address the serious impacts of sport-related concussion on the health and well-being of Canadian youth athletes.

Context

There are more than 9,000 licensed chiropractors practicing in Canada and each practitioner has completed a rigorous academic and practical education to become a Doctor of Chiropractic (DC). This process includes meeting national standardized curriculum requirements and passing a licensing examination requiring a thorough comprehension of concussion care. Regulated in all provinces, chiropractors have the necessary competencies and training based on best available evidence in providing assessment, diagnosis and management of concussions for Canadians. Chiropractors understand the need for early detection and management in responding to a suspected concussion, particularly during sport-related activities where assessment can often be overlooked or delayed. As national representatives of the chiropractic profession, it is also our responsibility to advocate for Canada's approach to this serious public health issue to be consistent with the leading international authorities on sport-related concussions.

Recommendations

1. Ensure access to timely assessment and diagnosis of concussions in sports related-injuries for youth athletes.

2. Enhance the utilization of healthcare professionals who have the scope, competencies and training to provide sport-related concussion care.

3. Create greater alignment of Canada's concussion guidelines with internationally established guidelines on concussions.

Recommendation 1: Ensure access to timely assessment and diagnosis of concussions in sports related-injuries for youth athletes.

Each year a significant number of youth athletes experience concussions during sport-related activities, sometimes ending in tragic circumstances. Nearly a third of concussions reported in Canada occur to children and youth from 12 to 19 years of age, with 60% these incidents being sports-related.[1]

Evidence shows that early assessment, diagnosis and subsequent treatment of concussions leads to reduced post-concussion systems and faster recovery times for patients.[2] Timely detection and assessment is therefore extremely important, and unfortunately often delayed, in managing the long-term impact of concussions for youth athletes. According to the Ontario Neurotrauma Foundation, a concussed patient must wait a mean wait time of 18 days to see a primary care physician and in excess of 250 days to see a neurologist.[3]

The lengthier the wait for an athlete to be assessed for a suspected concussion, the greater the risk of re-injury and much more serious consequences.[4] According to Public Health Canada, approximately 46,000 youth were diagnosed with a concussion by hospital emergency departments between 2016-17, and the majority of these injuries occurred during sports and recreational activities.[5] These youth athletes may have waited hours or even days before their assessment and/or diagnosis. Furthermore, studies indicate that a large number of concussions are never reported.[6]

To ensure more injured athletes are assessed in a timely manner, regulated healthcare professionals with the scope, and extensive skills to assess and diagnose concussions, such as chiropractors, should be recognized for their critical role in providing early access to concussion assessment and diagnosis. However, the Canadian government's recently released guideline on concussion in sport, created by Parachute Canada, restricts assessment and diagnosis to solely physicians and nurse practitioners. This not aligned with international guidelines and limits time and access in guiding Canadians to seek

[1] Canadian Association of Occupational Therapy, Occupational therapy and Concussion Fact Sheet, https://www.caot.ca/document/4049/Concussion%20-%20Fact%20Sheet.pdf
[2] Nygren-de Boussard, C., Holm, L. W., Cancelliere, C., Godbolt, A. K., Boyle, E., Stålnacke, B. M., ... & Borg, J. (2014). Nonsurgical interventions after mild traumatic brain injury: a systematic review. Results of the International Collaboration on Mild Traumatic Brain Injury Prognosis. Archives of physical medicine and rehabilitation, 95(3), S257-S264.
[3] Ontario Neurotrauma Foundation, Survey of Ontario Clinics Providing Concussion Services, 2016, http://concussionsontario.org/wp-content/uploads/2016/07/Survey-of-Clinics-Providing-Concussion-Services-2016.pdf
[4] Gioia, G. A., Collins, M., & Isquith, P. K. (2008). Improving identification and diagnosis of mild traumatic brain injury with evidence: psychometric support for the acute concussion evaluation. The Journal of head trauma rehabilitation, 23(4), 230-242.
[5] Government of Canada, Concussion in Sport: Sport and Recreation-related Traumatic Brain Injuries among Canadian Children and Youth, Public Health Canada, Accessed April 5, 2019. https://www.canada.ca/en/public-health/services/diseases/concussion-sign-symptoms/concussion-sport-infographic.html
[6] Canadian Association of Occupational Therapy, Occupational therapy and Concussion Fact Sheet, https://www.caot.ca/document/4049/Concussion%20-%20Fact%20Sheet.pdf

assessments and diagnosis from qualified healthcare professionals, potentially undermining the safety and protection of youth athletes.

Chiropractors across Canada are members of multidisciplinary healthcare teams for professional sports teams, Olympic teams, and amateur sports teams. In these settings, a chiropractor can act as a team's first responder to provide timely access and response for concussion assessment and diagnosis, yet this is not reflected in the current Canadian guideline.

Recommendation 2: Enhance the utilization of healthcare professionals who have the extensive scope, competencies and training to provide sport-related concussion care.

In Canada, chiropractors and other licensed, regulated healthcare professionals who possess the scope, competencies and training to provide comprehensive concussion care are being underutilized. Recognizing and fully optimizing the expertise which exists in these professions, can have a meaningful impact in responding to the alarming growth of sport-related concussion in Canada. Concussions are the most common type of head injury, with an incidence of 210,000 per year in Canada, and sport-related brain injuries have increased at the highest rate in the 0-9 age group. [7,8]

There is an exhaustive academic and clinical process a licensed and practicing chiropractor in Canada must first undergo to achieve and maintain their ability to provide a comprehensive level of concussion care, including diagnosis. The thorough education, training, and testing involved in this process needs to be better understood and optimized in Canada's approach to improving concussion response and management for youth athletes.

Chiropractic Education [9]

Chiropractic is a rigorous academic program, encompassing both practical and theoretical education. Chiropractors are required to complete arduous training exceeding 4200 hours, which provides an in-depth knowledge of concussion care, including diagnosis. The topic of concussion is covered expansively in areas such as clinical practice, systems pathology, emergency care, child care, clinical psychology, and rehabilitation in chiropractic practice. With respect to concussion, curriculum typically begins with the study of normal anatomy and physiology of the central and peripheral nervous systems, then progresses to the epidemiology, pathophysiology and mechanism of brain injury and trauma. Finally, the curriculum proceeds to the assessment of brain injury related to cognitive impairment, leading to the diagnosis of concussion, and the treatment and rehabilitation of patients suffering from a concussion.

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[7] Canadian Psychological Association, "Psychology Works Fact Sheet: Concussions," https://cpa.ca/docs/File/Publications/FactSheets/PsychologyWorksFactSheet_Concussions.pdf

[8] Canadian Institute for Health Information, "Head's Up on Sport-Related Injuries", https://www.cihi.ca/en/heads-up-on-sport-related-brain-injuries-0

[9] Canadian Memorial Chiropractic College (CMCC) Doctor of Chiropractic Program Curriculum: https://www.cmcc.ca/academic-programs/doctor-of-chiropractic-program

The curriculum pertaining to neurodiagnosis includes the study of cranial and tract localization, traumatic brain injury, mechanism, lobular presentations, vascular lesions, whiplash associated disorder, vertigo, disequilibrium, central pain, management, and pain medication. From a pathological perspective, the curriculum includes study of the consequences of head trauma including cerebral concussion, with specific emphasis on chronic posttraumatic encephalopathy, posttraumatic dementia, epilepsy, and mental health.

As a result of this rigorous education and training, chiropractors are prepared to recognize red flags, CT head and C-spine rules, provide emergency care, and complete field and sideline assessments. Chiropractors are trained in using standardized assessment scales (i.e. Rivermead Postconcussion Symptom scale, PCSS, SCAT5) to document and monitor somatic, cognitive and emotional symptoms post-injury and can provide a return-to-sport strategy.

Certification Entry-to-Practice: Concussion

All chiropractors are assessed on their competency for entry-to-practice by passing three examinations administered by the Canadian Chiropractic Examining Board (CCEB). The examination has items that deal with the underlying anatomy/neuroanatomy related to assessment of head trauma and on the diagnosis, assessment and management of head trauma and concussion. At the conclusion of the CCEB examinations, chiropractors have demonstrated their competence for entry-to-practice and receive a CCEB certificate.

Chiropractors must demonstrate they can manage and co-manage patients based on presenting symptoms that are within their scope of practice. Examples include pain with a musculoskeletal component, lifestyle factors, exercise, rehabilitation such as vestibulo-ocular rehabilitation, balance, cognitive behavioural therapy, educating patients on lifestyle management and facilitating return to school or work. In addition, chiropractors are skilled to identify medical conditions that can co-exist with or can mimic acute or sub-acute concussions.

Recommendation 3: Create greater alignment of Canada's concussion guidelines with internationally established guidelines on concussions.

To allow young athletes to fully benefit from the important role healthcare professionals, such as chiropractors, play in providing concussion care, we recommend creating greater alignment of Canada's current concussion guidelines with internationally established guidelines on concussion.

In July 2017, Parachute Canada released the *Canadian Guideline on Concussion in Sport*. This new guideline was a result of the Public Health Agency of Canada (PHAC) funding and placing a substantial responsibility on Parachute Canada to develop a Canadian guideline on concussion in sport using the *Fifth International Consensus Statement on Concussion in Sport (Berlin Statement),* October 2016. One of the most significant strengths of the *Berlin Statement* is its ardent support for an inclusive and multidisciplinary approach to concussion care, with a clear recommendation that any assessment of concussion needs to be done by a physician or other licensed healthcare provider in a timely manner.

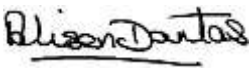
Similarly, in September 2018, the United States Centre for Disease Control (CDC) published their *Guideline to Pediatric Mild Traumatic Brain Injury (mTBI)* after a rigorous process guided by the American Academy of Neurology, the 2010 National Academy of Sciences methodologies and an extensive review of scientific literature, spanning twenty-five years of research. The *mTBI Guideline* was created for healthcare providers offering concussion assessment and care in primary care, outpatient specialty, inpatient and emergency settings. Like the *Berlin Statement*, the *mTBI Guideline* also recommends multidisciplinary concussion care and assessments to be conducted by healthcare professionals.

We encourage the Canadian government to work with us to revise and update the current Canadian guidelines. Together with the government, Parachute Canada, other healthcare professions and stakeholders, we would be pleased to support and disseminate an updated guideline.

CONCLUSION

Thank you for the opportunity to provide feedback and contribute our perspective to the valuable work being done by the SCSC. This is an important step in better protecting athletes from concussions and making sport safer for youth in Canada. We believe by ensuring timely access to assessment and diagnosis, enhancing the utilization of healthcare professionals like chiropractors who possess expertise in this area, and embracing a more multidisciplinary and internationally aligned approach in providing sport-related concussion care, Canada can greatly reduce the impact of sports-related concussions on athletes. We look forward to continuing to engage with you on this critical topic and welcome the opportunity to answer any questions you may have regarding our submission.

Respectfully submitted,



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