



# **Canadian Guideline on Concussion in Sport**

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# Overview

## Purpose

This guideline covers pre-season education and the recognition, medical diagnosis, and management of athletes who sustain a suspected concussion during a sport activity. It aims to ensure that athletes with a suspected concussion receive timely and appropriate care, and proper management to allow them to return to their sport. This guideline may not address every possible clinical scenario that can occur but is intended as a general overview that includes critical elements based on the latest evidence and current expert consensus.

## Application to non-sport related concussion

This guideline has been developed based on a review of the current scientific evidence and expert consensus on best practices for the evaluation and management of Canadian athletes who sustain a concussion during a sport activity. However, the management principles described in this guideline should also be applied to children, adolescents and adults who sustain a concussion outside of a sporting environment and are returning to activity (in school, in the workplace, and so on).

Certain terminology has been used to make this guideline as specific as possible and to directly reflect the *International Consensus Statement on Concussion in Sport*. These terms may be new to some readers and two examples are worth noting. A Return-to-School Strategy is recommended to address the process commonly known as “return to learn”. The Return-to-School Strategy focuses on the individual returning to a formal, structured learning environment rather than engaging more broadly in cognitive day-to-day activities. A Return-to-Sport Strategy is recommended to address the process known as “return to play”. The Return-to-Sport Strategy focuses on individuals returning to training, practice, and competition in organized sport, not unstructured day-to-day activity or play. For further information on terminology used in this guideline, please see the “Key Term Definitions” section.

## Who should use this guideline?

This guideline is intended for use by all stakeholders who interact with athletes inside and outside the context of school and non-school based organized sports activity, including athletes, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals.

## How to read this guideline

This guideline addresses 7 areas in the prevention, recognition, diagnosis, and management of sport-related concussion:

1. Pre-season education
2. Head injury recognition
3. Onsite medical assessment
4. Medical assessment
5. Concussion management
6. Multidisciplinary concussion care
7. Return to sport

For each area, recommendations are provided, along with:

- ▶ **Who:** Who are the people that play a key role to implement the recommendations in this area.
- ▶ **How:** What are the key tools and documents people can use to implement the recommendations in this area. All tools are included directly in this guideline.

## Role of clinical judgment

Several recommendations in this guideline are aimed at licensed healthcare professionals with the aim of helping them make informed decisions about their patients. However, this guideline is not intended to take the place of clinical judgment in diagnosing and treating concussion. Healthcare professionals must make their own decisions about care after consultation with their patients, using their clinical judgement, knowledge and expertise.

## Key Term Definitions

**Concussion:** A form of traumatic brain injury induced by biomechanical forces that result in signs and symptoms that typically resolve spontaneously within 1-4 weeks of injury.<sup>1</sup>

**Athlete:** Any youth or adult participating in a school or non-school based sport activity, competing at any level of play (amateur or national team). This term refers to all sport participants and players. The most appropriate term will vary across different sports and settings.

**Youth or youth athlete:** An athlete or sport participant who is less than 18 years of age.

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<sup>1</sup>McCrary et al. (2017). Consensus statement on concussion in sport – the 5<sup>th</sup> international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, 51(11), 838-847.



**Sport or sport activity:** A school or non-school based physical activity that can be played as an individual or a team including games and practices.

**Recognition:** The detection of an event (i.e. a suspected concussion) occurring during sports or a sport activity.

**Exercise:** Any physical activity that requires bodily movement including resistance training as well as aerobic and anaerobic exercise or training.

**Persistent symptoms:** Concussion symptoms that last longer than 2 weeks after injury in adults and longer than 4 weeks after injury in youth.

**Licensed healthcare professional:** A healthcare provider who is licensed by a national professional regulatory body to provide concussion-related healthcare services that fall within their licensed scope of practice. Examples include medical doctors, nurses, physiotherapists, and athletic therapists.

Among licensed healthcare professionals, only medical doctors and nurse practitioners are qualified to conduct a comprehensive medical assessment and provide a concussion diagnosis in Canada. The types of medical doctors qualified to do such an evaluation are: pediatricians; family medicine, sports medicine, emergency department and rehabilitation (physiatrists) physicians; neurologists; and neurosurgeons.

**Medical Assessment:** The evaluation of an individual by a licensed healthcare professional to determine the presence or absence of a medical condition or disorder, such as a concussion.

**Treatment:** An intervention provided by a licensed healthcare professional to address a diagnosed medical condition/disorder or its associated symptoms, such as physical therapy.

**Multidisciplinary concussion clinic:** A facility or network of licensed healthcare professionals that provide assessment and treatment of concussion patients and are supervised by a physician with training and experience in concussion.

**Tool:** A standardized instrument or device that can be used to help recognize an event (i.e. a suspected concussion) or assess an individual with a suspected medical diagnosis (i.e. Sport Concussion Assessment Tool 5).

**Document:** A standardized written letter or form that can help facilitate communication between sport stakeholders.

**Concussion Recognition Tool – 5th Edition (CRT5):** A tool intended to be used for the identification of suspected concussion in children, youth, and adults. Published in 2017 by the Concussion in Sport Group, the CRT5 replaces the previous Pocket Concussion Recognition Tool from 2013.

**Sport Concussion Assessment Tool – 5th Edition (SCAT5):** A standardized tool for evaluating concussions in individuals aged 13 years or older, designed for use by physicians and licensed healthcare professionals. Published in 2017 by the Concussion in Sport Group, the SCAT5 replaces the previous SCAT3 from 2013.

**Child Sport Concussion Assessment Tool – 5th Edition (Child SCAT5):** A standardized tool for evaluating concussions in individuals aged 5 to 12 years, designed for use by physicians and licensed healthcare professionals. Published in 2017 by the Concussion in Sport Group, the Child SCAT5 replaces the previous Child SCAT3 from 2013.

**Return-to-School Strategy:** A graduated stepwise strategy for the process of recovery and return to academic activities after a concussion. The broader process of returning to cognitive activities has commonly been referred to as “return to learn”.

**Return-to-Sport Strategy:** A graduated stepwise strategy for the process of recovery and then return to sport participation after a concussion. The broader process of returning to unstructured and structured physical activity has commonly been referred to as “return to play”.