



Concussion Protocol Harmonization Project: Pan-Canadian Harmonized School Concussion Protocol Template

Purpose

This template provides an example of a concussion protocol that aligns with the *Canadian Guideline on Concussion in Sport*.

How to use this tool

To use this template directly, insert the relevant information where indicated, e.g., **[Name of School Board/District]**. Alternatively, you can use this protocol template as a model for drafting your own protocol.

This template may require some customization for your Provincial/Territorial context.

[NAME OF SCHOOL BOARD/DISTRICT] CONCUSSION PROTOCOL

Adapted from: Parachute. (2017). Canadian Guideline on Concussion in Sport.

www.parachute.ca/concussion

[Name Of School Board/District] has developed the [Name Of School Board/District] **Concussion Protocol** to help guide the management of students who sustain a suspected concussion as a result of participation in [Name Of School Board/District] activities.

Purpose

This protocol covers the recognition, medical diagnosis, and management of students who may sustain a suspected concussion during a school activity. It aims to ensure that students with a suspected concussion receive timely and appropriate care and proper management to allow them to return back to their school activities and sports safely. This protocol may not address every possible clinical scenario that can occur during school activities, but includes critical elements based on the latest evidence and current expert consensus.

Who should use this protocol?

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

1. Concussion Awareness Education

Despite recent increased attention focusing on concussion there is a continued need to improve concussion education and awareness. Optimizing the prevention and management of concussion depends highly on annual education of all stakeholders (students, parents/guardians, teachers, administrators, coaches, officials, trainers, and licensed healthcare professionals) on current evidence-informed approaches that can prevent concussion and more serious forms of head injury and help identify and manage a student with a suspected concussion.

Concussion education should include information on:

- the definition of concussion
- possible mechanisms of injury
- common signs and symptoms
- steps that can be taken to prevent concussions and other injuries from occurring
- what to do when a student has suffered a suspected concussion or more serious head injury
- what measures should be taken to ensure proper medical assessment
- Return-to-School and Return-to-Sport Strategies for students diagnosed with concussion

- Return-to-Sport medical clearance requirements

All [Name Of School Board/District] students and their parents/guardians are encouraged to review the *Concussion Awareness Education Sheet* prior to the first day of school. In addition to reviewing information on concussion, it is also important that all stakeholders have a clear understanding of the [Name Of School Board/District] Concussion Protocol.

- **Who:** Students, parents/guardians, teachers, administrators, coaches, officials, trainers, and licensed healthcare professionals
- **How:** *Concussion Awareness Education Sheet*

2. Head Injury Recognition

Although the formal diagnosis of concussion should be made following a medical assessment, all school and sport stakeholders including students, parents/guardians, teachers, administrators, coaches, officials, trainers, and licensed healthcare professionals are responsible for the recognition and reporting of students who may demonstrate visual signs of a head injury or who report concussion-related symptoms.

A concussion should be suspected:

- in any student who sustains a significant impact to the head, face, neck, or body and demonstrates ANY of the visual signs of a suspected concussion or reports ANY symptoms of a suspected concussion as detailed in the *Concussion Recognition Tool 5*.
- if any student reports ANY concussion symptoms to one of their peers, parents/guardians, teachers, or coaches or if anyone witnesses a student exhibiting any of the visual signs of concussion.

In some cases, a student may demonstrate signs or symptoms of a more severe head or spine injury including convulsions, worsening headaches, vomiting or neck pain. If a student demonstrates any of the 'Red Flags' indicated by the *Concussion Recognition Tool 5*, a more severe head or spine injury should be suspected.

- **Who:** Students, parents/guardians, teachers, administrators, coaches, officials, trainers, and licensed healthcare professionals
- **How:** *Concussion Recognition Tool 5*

3. Initial Response

Depending on the suspected severity of the injury, an initial assessment may be completed by emergency medical professionals or by an on-site licensed health professional where available.

3a. Emergency Response (Red Flag Procedure)

If a student is suspected of sustaining a more severe head or spine injury during a game, practice, or other school activity, an ambulance should be called immediately to transfer the student to the nearest emergency department for further medical assessment. Coaches, teachers, administrators, parents/guardians, officials, and trainers should not make any effort to remove equipment or move the student until an ambulance has arrived. The student must not be left alone until the ambulance arrives. The student's parents/guardians (or emergency contact) should be contacted immediately to inform them of the student's injury and that emergency medical services have been contacted.

- ▶ **How:** *Concussion Recognition Tool 5 (Step 1: Red Flags)*

3b. If No Red Flags Are Present

If a student is suspected of sustaining a concussion and there is no concern for a more serious head or spine injury, the student should be immediately removed from the field of play or setting in which the injury occurred.

If a licensed healthcare professional is present, the student should be taken to a quiet area and undergo sideline medical assessment using the Sport Concussion Assessment Tool 5 (SCAT5) or Child SCAT5. The SCAT5 and Child SCAT5 are clinical tools that should only be used by a licensed medical professional who has experience using these tools. It is important to note that the results of SCAT5 and Child SCAT5 testing can be normal in the setting of acute concussion. As such, these tools can be used by licensed healthcare professionals to document initial neurological status but should not be used to make sideline return-to-sport decisions.

Any student who is suspected of having sustained a concussion must not return to the activity (game, practice, physical education class, etc.) and must be referred to a medical doctor or nurse practitioner for medical assessment. The student must not be left alone until a parent/guardian arrives.

If a student is removed from an activity following a significant impact but there are NO visual signs of a concussion and the student reports NO concussion symptoms, the student can remain at school but should not participate in physical activity and should be monitored for delayed symptoms¹. The student's parents/guardians should be informed of the incident and that the student should be monitored for emerging symptoms.

- ▶ **How:** *Concussion Recognition Tool 5; Child Sport Concussion Assessment Tool 5 (Child SCAT5); Sport Concussion Assessment Tool 5 (SCAT5)*

¹ In the province of Québec, the student must be monitored for 48 hours before they can return to physical activity. See the [Government of Quebec's Concussion Management Protocol](#).

4. Medical Assessment

In order to provide comprehensive evaluation of students with a suspected concussion, the medical assessment must:

- rule out more serious forms of traumatic brain and spine injuries,
- rule out medical and neurological conditions that can present with concussion-like symptoms, and
- make the diagnosis of concussion based on findings of the clinical history and physical examination and the evidence-based use of adjunctive tests as indicated (i.e., CT scan).²

In addition to nurse practitioners, medical doctors that are qualified to evaluate patients with a suspected concussion include pediatricians, family medicine, sports medicine, emergency department and rehabilitation (physiatrists) physicians as well as neurologists and neurosurgeons.

In geographic regions of [Name Of Province/Territory] with limited access to medical doctors (i.e., rural or northern communities), a licensed healthcare professional (i.e., nurse) with pre-arranged access to a medical doctor or nurse practitioner can facilitate this role.

The medical assessment is responsible for determining whether the student has been diagnosed with a concussion or not. Students with a diagnosed concussion should be provided with a Medical Assessment Letter indicating a concussion has been diagnosed. Students that are determined to have not sustained a concussion must be provided with a Medical Assessment Letter indicating a concussion has not been diagnosed and the student can return to school and sports activities without restriction.

Because the Medical Assessment Letter contains personal health information, it is the responsibility of the student or their parent/guardian to provide this documentation to the school.

- **Who:** Medical doctor, nurse practitioner, nurse
- **How:** Medical Assessment Letter

5. Concussion Management

² Medical doctors and nurse practitioners are the only healthcare professionals in Canada with licensed training and expertise to meet these needs, therefore all students with a suspected concussion should undergo evaluation by one of these professionals.

When a student is diagnosed with a concussion, the student and their parents/guardians should be provided with education about the signs and symptoms of concussion, strategies about how to manage their symptoms, the risks of returning to sport without medical clearance and recommendations regarding a gradual return to school and physical activities.

Students diagnosed with a concussion are to be managed according to their Return-to-School and Return-to-Sport Strategy under the supervision of a medical doctor or nurse practitioner. When available, student-athletes should be encouraged to work with the team athletic therapist or physiotherapist to optimize progression through their Sport-Specific Return-to-Sport Strategy.

Once students have completed their Return-to-School and Return-to-Sport Strategies and are deemed to be clinically recovered from their concussion, the medical doctor or nurse practitioner can consider the athlete for a return to full sports activities.

Return-to-School Strategy

The following is an outline of the Return-to-School Strategy that should be used to help students, parents/guardians, the school, and healthcare professionals to collaborate in allowing the student to make a gradual return to school activities. Each stage is a minimum of 24 hours. Depending on the severity and type of symptoms present, students will progress through the stages at different rates.

If the student experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. An initial period of 24-48 hours of rest is recommended before starting the Return-to-School Strategy.

	Stage	Aim	Activity	Goal of each step
At Home	1	Daily activities that do not give the student symptoms	Typical activities during the day as long as they do not increase symptoms. Start at 5-15 minutes at a time and gradually build up.	Gradual return to typical activities
	2	School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work
At School	3	Return to school part-time	Gradual introduction of schoolwork. May need to start with a partial school day or with increased breaks during the day.	Increase academic activities
	4	Return to school full-time	Gradually progress, reduce modifications or adaptations until the student can handle a full day with no modifications or adaptations.	Return to full academic activities and catch up on missed school work

Adapted from: McCrory et al. (2017). Consensus statement on concussion in sport – the 5th international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, 51(11), 838-847.

Return-to-Sport Strategy

The following is an outline of the Return-to-Sport Strategy that should be used to help students, parents/guardians, the school, and healthcare professionals to collaborate in allowing the student to make a gradual return to school activities to partner in allowing the student to make a gradual return to sport and physical activities. Each stage is a minimum of 24 hours.

Depending on the severity and type of symptoms present, students will progress through the following stages at different rates.

If the student experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. It is important that students return to full-time school activities before progressing to stage 5 and 6 of the Return-to-Sport Strategy. It is also important that all students provide the school with a Medical Clearance Letter prior to returning to full sports activities.

An initial period of 24-48 hours of rest is recommended before starting the Return-to-Sport Strategy.

Stage	Aim	Activity	Goal of each step
1	Symptom-limiting activity	Daily activities that do not provoke symptoms.	Gradual reintroduction of work/school activities
2	Light aerobic activity	Walking or stationary cycling at slow to medium pace. No resistance or weight training. No physical activities with others or using equipment.	Increase heart rate
3	Sport-specific exercise, simple locomotor activities	Simple individual drills (e.g., running/throwing drills, shooting drills) in predictable and controlled environments with no risk of re-injury. No resistance or weight training.	Add movement
4	Non-contact training drills	Progressively increase physical activities. More complex training drills (e.g., passing drills). May start progressive resistance training.	Exercise, coordination and increased thinking
5	Full contact practice	Following return to full-time school and medical clearance.	Restore confidence and assess functional skills by supervising staff
6	Return to sport	Full participation in sports and physical activity with no restrictions.	

Adapted from: McCrory et al. (2017). Consensus statement on concussion in sport – the 5th international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, 51(11), 838-847.

- ▶ **Who:** Students, parents/guardians, the school, and healthcare professionals
- ▶ **How:** Return-to-School Strategy, Return-to Sport Strategy, Medical Clearance Letter

6. Multidisciplinary Concussion Care

Most students who sustain a concussion will make a complete recovery and be able to return to full school and physical activities within one to four weeks of injury. However, approximately 15 to 30% of individuals will experience symptoms that persist beyond this time frame.

Students who experience persistent post-concussion symptoms (>4 weeks) may benefit from their doctor making a referral to a medically-supervised multidisciplinary concussion clinic that has access to professionals with licensed training in traumatic brain injury that may include experts in neurosurgery, sport medicine, neuropsychology, physiotherapy, and occupational therapy.

Referral to a multidisciplinary clinic for assessment should be made on an individualized basis at the discretion of the student's medical doctor or nurse practitioner.

- ▶ **Who:** Multidisciplinary medical team, medical doctor with clinical training and experience in concussion (e.g. a sports medicine physician, neurologist, or rehabilitation medicine physician), licensed healthcare professionals

7. Medical Clearance for Return to Sport

Students who have been diagnosed with a concussion and have successfully completed their Return-to-School and Return-to-Sport Strategies can be considered for return to full sports and physical activities. The final decision to medically clear a student to return to unrestricted activities should be based on the clinical judgment of the medical doctor or nurse practitioner taking into account the student's past medical history, clinical history, physical examination findings and the results of other tests and clinical consultations where indicated (i.e. neuropsychological testing, diagnostic imaging).

Prior to returning to full contact practice and games/competition, the student or parent/guardian must provide the school with a Medical Clearance Letter specifying that a medical doctor or nurse practitioner has personally evaluated the student and has cleared them for return to sports.

Students who have been provided with a Medical Clearance Letter may return to full sport and physical activities as tolerated. If the student experiences any new concussion-like symptoms while returning to play, they should be instructed to stop playing immediately, notify their parents/guardians, teachers, administrators, or coaches, and undergo follow-up medical assessment.

In the event that the student sustains a new suspected concussion, the [Name Of School Board/District] Concussion Protocol should be followed as outlined here.

- **Who:** Medical doctor, nurse practitioner
- **How:** Medical Clearance Letter

Additional Resources

For more detailed concussion procedures for the school setting, please visit [insert the name and website url to your province/territory's school safety guidelines]

For more information on concussion, please visit www.parachute.ca/concussion.