

## CONCUSSION

# MANAGEMENT PROTOCOL

For Use by Educational Institutions and  
in the Context of Recreational and Sports Activities

2nd EDITION  
2019

## Warning

This protocol should not be used to diagnose a concussion and is not a substitute for a medical opinion.

Scientific knowledge is continually evolving and this document will be adjusted as needed. Please make sure you have the most recent version ([www.education.gouv.qc.ca/en/concussions](http://www.education.gouv.qc.ca/en/concussions)).

## Produced by

The Ministère de l'Éducation et de l'Enseignement supérieur

## Coordination and content

Direction de la sécurité dans le loisir et le sport

## Title of original document

*Protocole de gestion des commotions cérébrales pour le milieu de l'éducation et dans le cadre d'activités récréatives et sportives*

## English version

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Direction du soutien au réseau éducatif anglophone  
Ministère de l'Éducation et de l'Enseignement supérieur

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This document is available on the Ministère's website:  
[www.education.gouv.qc.ca](http://www.education.gouv.qc.ca).

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Ministère de l'Éducation et de l'Enseignement supérieur, 2019  
ISBN 978-2-550-85184-4 (PDF)

Legal deposit – Bibliothèque et Archives nationales du Québec, 2019

# CONTEXT


A concussion is an invisible injury caused by a direct blow to the head or by an impact to any other part of the body that transmits an impulsive force to the head. The rapid back-and-forth movement of the head causes the brain to hit the walls of the skull. The symptoms observed by others and reported by the victim may vary from one individual to the next, and may appear up to 48 hours after the impact.

Since repeated concussions sustained within a short period of time, or inadequate treatment, can have repercussions on the victim's physical and psychological health, a cautious approach requires first of all being able to recognize the symptoms of concussion and being familiar with the circumstances in which a concussion may occur. It is then important to apply proven procedures, to avoid aggravating the injury and to promote the return to intellectual, physical and sports activities.

For these reasons, the Québec government is updating its concussion management protocol to align with the tools recommended by the Institut national d'excellence en santé et services sociaux (INESSS). The government is also drawing on international consensus and on the comments received from the sports, school and health communities with respect to the first version of the protocol.

This protocol recommends a set of basic concussion management measures complete with procedures, reference tools and a tracking sheet for identifying the signs and symptoms of potential concussions. The protocol can be used whether or not a healthcare professional is present. In situations where a professional healthcare team (e.g. athletic therapist, physiotherapist, kinesiologist) with concussion-related expertise working under medical supervision is present, this protocol can be applied with a degree of flexibility that leaves room for professional clinical judgment.

**The protocol is divided into the following sections:**

- 1. Recognition** (reporting an incident and removal of the participant)
- 2. Observation period** (checking for warning signs and symptoms)
- 3. Progressive return to activities** (intellectual, physical and sports)
- 4. Medical evaluations** (key situations) 
- 5. Communication and collaboration**
- 6. Flow chart of the stages involved in concussion management**
- 7. Tracking sheet**

## A REMINDER ABOUT PREVENTION

To develop or maintain a healthy and safe environment, organizations, activity supervisors (coaches, referees, teachers, monitors, healthcare professionals, etc.) and the participants (students, athletes, players, etc.) must adopt a preventive approach before an incident occurs.

Other measures can also be implemented, such as educating everyone concerned (training stakeholders and raising awareness among participants and parents), naming one person to be responsible for taking action in situations where a concussion is suspected and finding out if the participant has ever suffered a concussion before. Although prevention is a key element, this document is intended to provide a framework for concussion management.



# RECOGNITION

## 1.1 REPORTING AN INCIDENT

Everyone involved in an activity is responsible for monitoring. The staff supervising the activity and the participants have a duty to report any incident suggesting that a person may have suffered a concussion (Comment 1). This information must immediately be passed on to those who have the authority to remove the participant from the activity in accordance with the guidelines provided by the sports organization or the rules in effect in the educational setting.

## 1.2 REMOVAL OF THE PARTICIPANT

It is important to be cautious when a symptom is observed or reported, or when an incident, a significant impact or a sudden movement of the head is witnessed or reported, or whenever there is any doubt regarding information obtained from a participant or a person's concussion history:

- Immediately remove the participant from the activity.
- Never leave the participant unattended.
- Direct the participant to the person responsible for health, well-being and safety, so that the symptoms can be checked (Comment 1).

### COMMENT 1

In this protocol and in the context of sports activities, one person is referred to as the "person responsible for health, well-being and safety" and **can be a healthcare professional, a first-aid attendant, a caregiver or a safety officer**. Where resources permit, this person should be assigned exclusively to this task. Otherwise, the person may also perform other duties, for example, as a coach, teacher, official, attendant or monitor.

In educational institutions, the person responsible for health, well-being and safety should use the tracking sheet available at the end of this document. Healthcare professionals may use other tools that have a well-established track record as recognition tools and that comply with the basic standards of the protocol.



### 1.3 CHECKING FOR WARNING SIGNS / SYMPTOMS

The person responsible for health, well-being and safety should use the tracking sheet at the end of the protocol to check for signs and symptoms of concussion. They should consider whether there are warning signs and whether or not there are symptoms (see “Observation period” section).

Tools that have a well-established track record and that comply with the basic standards of the protocol can be used to detect and check symptoms. SCAT5 and ChildSCAT5 tools are reserved exclusively for healthcare professionals, while Pocket CRT is a version designed for coaches, volunteers, teachers, parents, etc. The tracking sheet must always be filled out and it must be given to the parents.



#### Warning signs

(symptoms requiring an immediate medical evaluation at a hospital emergency department)

- Loss or deterioration of consciousness
- Confusion
- Repeated vomiting
- Convulsions
- Headaches getting worse
- Significant drowsiness
- Difficulty walking, speaking, recognizing people or places
- Double vision
- High state of agitation, excessive crying
- Serious balance problems
- Weakness, tingling or numbness in arms or legs
- Intense neck pain


#### Frequent symptoms\*

(symptoms experienced by the participant or observed by others present)

- Headaches
- Fatigue, difficulty sleeping
- Nausea
- Dizziness, vertigo
- Feeling slowed down
- Concentration or memory problems
- Blurred vision
- Sensitivity to light or noise
- Unusually emotional

*\*This list is not complete. See the tracking sheet for more symptoms.*

## In the presence of warning signs


- If the participant is unconscious:
  - never move the participant, except to clear the respiratory tract
  - do not remove the participant's helmet, unless you have been trained to do so
- **Obtain transportation to a hospital emergency department for an immediate medical evaluation.** 
- Write down the warning signs using the tracking sheet (Section 1 of the tracking sheet).
- Document the incident on the tracking sheet (Section 1 of the tracking sheet).
- If the participant is a **minor**, make sure the parents are informed of the situation as quickly as possible and give them the tracking sheet.

### COMMENT 2

If **warning signs** are present, or if **symptoms become worse** in the hours or days following the participant's removal from the activity, an **immediate medical evaluation at a hospital emergency department** is required. In the case of a **minor**, the role of the parents becomes crucial because they must act quickly if they observe a deterioration in their child's state of health.

The presence of warning signs does not automatically indicate the need for a brain scan. The medical evaluation will determine which tests, if any, need to be done.

## In the presence of symptoms (even of short duration) – without warning signs

- Document the incident on the tracking sheet.
- Question the participant about any symptoms that may be present and record the answer(s) on the tracking sheet (Section 1 of the tracking sheet).
- If the participant is a **minor**, make sure the parents are informed of the situation as quickly as possible and give them the tracking sheet.
- Obtain a medical evaluation. 
- Begin the initial rest period immediately.

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# OBSERVATION PERIOD

## 2.1 IN THE ABSENCE OF SYMPTOMS

If a participant is removed from an activity **for preventive reasons, when there are no symptoms of concussion**, the person in charge must:

- ensure that the participant does not take part, for 48 hours, in any activity involving a risk of contact, collisions or falls
- document the incident on the tracking sheet (Section 1 of the tracking sheet)
- ensure that, if the participant is a minor, the parents are informed of the situation as quickly as possible and given the tracking sheet

During this period, the student can continue intellectual activities at school but must avoid any physical and sports activities involving a risk of contact, collisions or falls.

During this 48-hour period:

- The parents of a minor must observe the child and promptly inform the school of any changes in the child's state of health.
- School staff must be vigilant with regard to any possible changes in the student's state of health. If symptoms do appear, they must be recorded on the tracking sheet and the parents must be informed.

After 48 hours, if no symptoms have appeared, the participant may resume activities without going through the stages involved in the progressive return to intellectual, physical and sports activities. **In this situation alone**, it is not necessary to obtain medical authorization for an unrestricted return to training or competition involving a risk of contact, collisions or falls.

### COMMENT 3

The absence of symptoms immediately after an incident is not necessarily a reliable indicator because the symptoms of a concussion may emerge up to 48 hours after the impact. This means that a participant who is removed from an activity because of a suspected concussion **must not return to any physical or sports activities involving a risk of contact, collisions or falls for at least 48 hours**, even if there are no symptoms of concussion.

### Warning

**In cases where a participant exhibits one or more warning signs or symptoms, even of short duration, the stages of the progressive return to activities must be followed.**



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# PROGRESSIVE RETURN TO ACTIVITIES

## 3.1 INITIAL REST PERIOD

During the initial **minimum rest period of 48 hours**, the participant must:

- limit intellectual activities that require concentration or that make symptoms worse
- avoid taking part in physical or sports activities
- seek a calm environment and avoid exposure to any type of screen
- limit activities to basic day-to-day requirements (e.g. getting dressed)
- respect food, hydration and sleep needs but avoid full bed rest during daytime
- avoid alcoholic beverages, energy drinks, drugs and sleep medications
- avoid driving as much as possible

Activities can resume when the conditions in Section 3.2 have been met.

## 3.2 PROGRESSIVE RETURN TO INTELLECTUAL, PHYSICAL AND SPORTS ACTIVITIES

It is important to wait **at least 24 hours** between each stage in the progressive return to intellectual, physical and sports activities.

If a medical evaluation cannot be obtained quickly, the first step in the progressive return to physical and sports activities may be initiated, but **only if the following conditions are met:**

- there are no warning signs
- the symptoms are gradually decreasing
- the symptoms do not intensify during or after these activities

The return to intellectual activities (Stages 1 to 4) and the return to physical and sports activities (Stages 1 to 3) can begin at the same time.





#### COMMENT 4

A progressive return to activities prevents complications, helps maintain social ties and respects the participant's capacity to recover. If symptoms reappear or intensify, it is essential to go back to the previous stage.

#### **The return to activities involves other limitations (Section 3 of the tracking sheet):**

- An initial evaluation by a doctor (to obtain a diagnosis) is required before starting Stage 2 of the progressive return to physical and sports activities.
- Stage 4 of the progressive return to intellectual, physical and sports activities can only begin once all symptoms have disappeared.
- Before initiating Stage 4 of the progressive return to physical and sports activities, symptoms must have disappeared when the participant is at rest and during the activities. In addition, the participant must have made a complete return to intellectual activities (Stage 4).
- Medical authorization is necessary prior to resuming unrestricted training (Stage 5) in a sport involving a risk of contact, collisions or falls. A complete session of this type of training must be completed, without recurrence of symptoms, at least 24 hours before returning to competition.

If symptoms persist for more than 14 days without obvious improvement, or if the participant is not symptom-free within one month, contact a family doctor or the specialized resource in your region.

#### COMMENT 5

Following a complete return to activities, it is important to take a cautious approach and remain vigilant in case any symptoms reappear.

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## MEDICAL EVALUATIONS

**There are five key situations in which a medical evaluation is needed.**

### **4.1 WHEN WARNING SIGNS ARE PRESENT IMMEDIATELY AFTER THE INCIDENT OR IN THE HOURS OR DAYS THAT FOLLOW**

An immediate medical evaluation at a hospital emergency department must be obtained.

### **4.2 WHEN SYMPTOMS APPEAR**

Even if an emergency consultation was not initially deemed necessary, it is important for a doctor to make a diagnosis as quickly as possible and to determine, if applicable, which type of support and care is needed.

### **4.3 IF SYMPTOMS WORSEN IN THE HOURS OR DAYS FOLLOWING THE INCIDENT**

An immediate medical evaluation at a hospital emergency department must be obtained to make sure the participant has not sustained a more serious injury.

### **4.4 IF SYMPTOMS PERSIST FOR MORE THAN 14 DAYS WITHOUT NOTICEABLE IMPROVEMENT**

In most cases, concussion symptoms diminish noticeably within 14 days and disappear completely within one month. If the participant's state of health does not show obvious signs of improvement after 14 days, or if the symptoms persist beyond one month, contact a family doctor or the specialized resource in your region.

A medical evaluation will make it possible to document any functional impairment, identify any related problems and set up a personalized treatment plan.

### **4.5 BEFORE RESUMING UNRESTRICTED TRAINING IN A SPORT WHERE THERE IS A RISK OF CONTACT, COLLISIONS OR FALLS**

When all symptoms have disappeared and the participant has made a complete return to all intellectual activities, medical authorization is needed before returning to unrestricted training in sports with a risk of contact, collisions or falls. After obtaining medical authorization, the participant must complete one full training session without restriction and remain symptom-free for at least 24 hours before returning to competition.

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# COMMUNICATION AND COLLABORATION

**The return to activity involves many entities and partners, such as the family, healthcare system, school, workplace and sports environment. Good communication and collaboration between all these stakeholders is key in ensuring effective and cohesive monitoring.**

## 5.1 ROLES OF THE MAIN STAKEHOLDERS

The stakeholders listed below play a strategic role in the coordination and transmission of information.

- **The participants (students, athletes, players, etc.)** must:
  - report any symptoms that may be related to a concussion
  - report any incident they may have witnessed
  - comply with medical instructions and follow the procedure involved in the progressive return to activities
  - inform the various stakeholders of their state of health and any related restrictions
- **The parents of a participant who is a minor** must:
  - watch carefully for delayed symptoms of a concussion
  - take the steps needed to obtain proper care
  - inform the other stakeholders (educational and sports organizations) of their child's state of health
  - ensure that activities are resumed in accordance with medical instructions or the protocol
- **The person responsible for health, well-being and safety in sports and recreation** must:
  - check for symptoms when the participant is removed from the activity
  - inform the parents of a minor of the situation as quickly as possible and notify them of the rest period required (updated protocol and tracking sheet)
  - ensure that activities are resumed in accordance with medical instructions or the protocol
- **The person responsible for applying the protocol in an educational institution** must:
  - inform and equip the staff (updated protocol and tracking sheet)
  - coordinate the actions of the school staff as intellectual, physical and sports activities resume

## 5.2 PURPOSE OF THE TRACKING SHEET

The purpose of the tracking sheet in this protocol is to:

- inform the participant, parents and activity supervisors of the procedure to follow
- document the incident, the symptoms and the progressive return to activities
- facilitate the transmission of information to healthcare system personnel, especially in cases where the parents did not witness the incident or where the participant does not remember exactly what happened

### COMMENT 6

It is recommended that organizations inform the participant and parents (in the case of a minor) of the required medical follow-up. The tracking sheet was developed for this purpose.

## 5.3 USE OF THE TRACKING SHEET

Following the removal of a participant from an activity, the **person responsible for health, well-being and safety** fills out the Recognition section of the tracking sheet (Section 1) and then sends a copy of the tracking sheet to the parents or participant.

The **parents or the participant**, in turn, fill(s) out the Observation period section of the tracking sheet (Section 2) and can also complete the list of symptoms if there is a change in the participant's state of health (Section 1 of the tracking sheet). Then, the **parents or the participant** transmit(s) the information recorded in Section 1 of the tracking sheet to the healthcare system personnel and also, if applicable, to the person responsible for applying the protocol in the educational institution.

The **person responsible for applying the protocol in the educational institution** coordinates the actions of the staff regarding the participant's progressive return to intellectual, physical and sports activities (Section 3 of the tracking sheet).

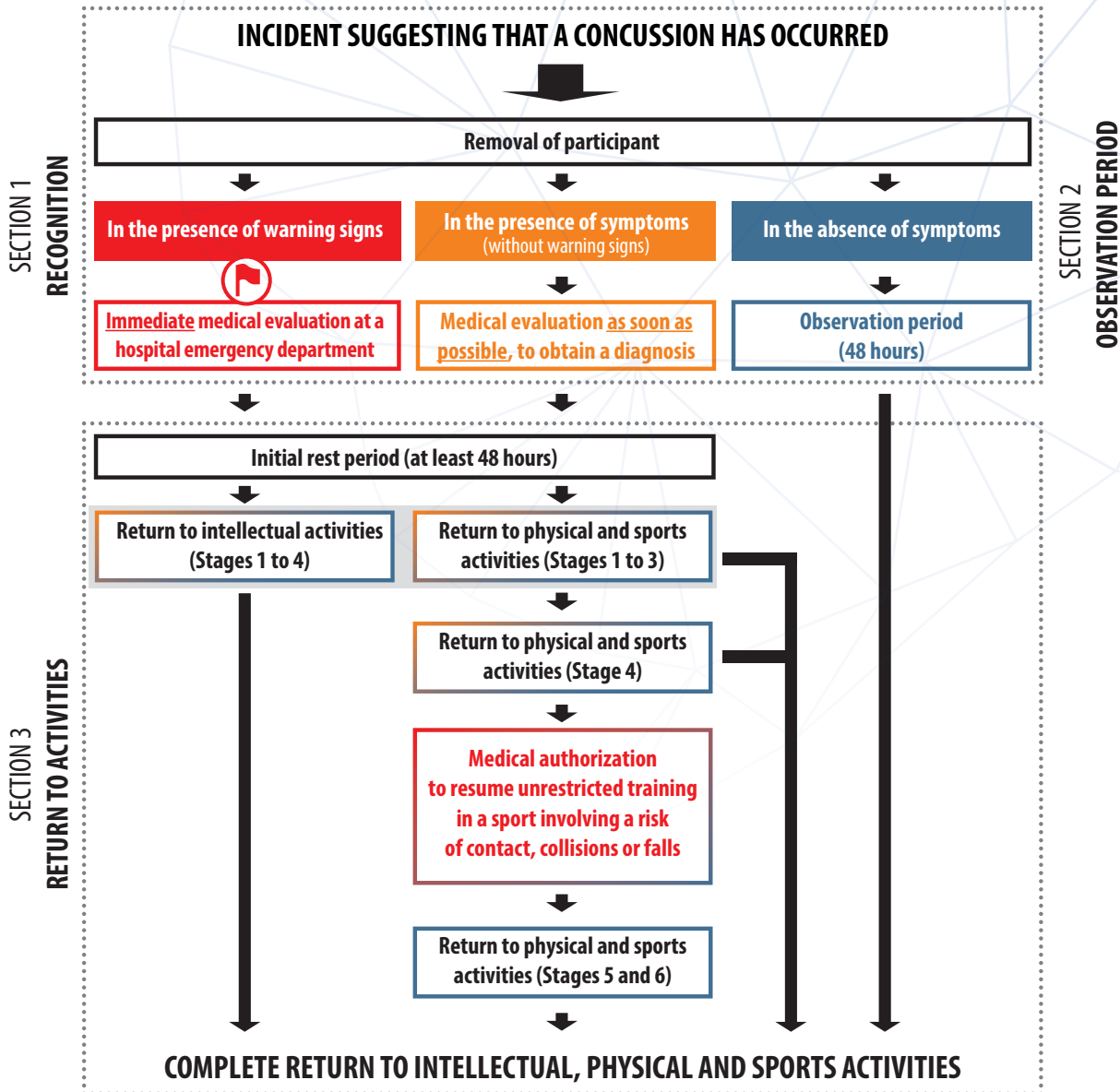
The **person responsible for health, well-being and safety** in sports coordinates the actions of the sports staff regarding the participant's progressive return to physical and sports activities (Section 3 of the tracking sheet).

### COMMENT 7

It is up to the participant and the parents to inform the educational institution or workplace and the organizations offering recreational, sports and health activities about any restrictions that have been put in place to promote a progressive return to activities. Section 3 of the tracking sheet has been prepared to facilitate collaboration between the various people concerned.

# FLOW CHART

## Stages involved in concussion management



### COMMENT 8

If your condition does not improve significantly after 14 days, if symptoms persist after 1 month or if you are concerned about your condition, contact a family doctor or the specialized resource in your region.



# ADDITIONAL INFORMATION

For non-urgent medical questions, please contact Info-Santé 811 or consult a doctor.

For general information on concussions, or to find documents pertaining to concussions, visit the Concussions section of the website of the Ministère de l'Éducation et de l'Enseignement supérieur at [www.education.gouv.qc.ca/en/concussions](http://www.education.gouv.qc.ca/en/concussions).

For additional information on this protocol, contact the Direction de la sécurité dans le loisir et le sport (Secteur du loisir et du sport) of the Ministère de l'Éducation et de l'Enseignement supérieur, by telephone at **1-800-567-7902** or by email at [promotionsecurite@education.gouv.qc.ca](mailto:promotionsecurite@education.gouv.qc.ca).

# TRACKING SHEET – CONCUSSION MANAGEMENT PROTOCOL – 2019

This sheet is used to record and transmit information to the participant, parents, educational and sports organizations concerned and healthcare system personnel. It should not be used to diagnose a concussion, and it is not a substitute for a medical opinion. \*\*\* For more detailed information on the use of this sheet, go to Section 5.3 of the protocol.

NAME: \_\_\_\_\_ AGE: \_\_\_\_\_ DATE OF THE INCIDENT: \_\_\_\_\_

## 1. RECOGNITION

Immediately remove the participant from the activity, **never leave the participant unattended** and direct the participant to the person responsible for checking symptoms.

**In the presence of warning signs** (obtain transportation to a hospital emergency department):

FILL OUT THE WARNING SIGNS SECTION AND THE SYMPTOMS SECTION.

**In the presence of symptoms** (seek a medical evaluation as soon as possible to obtain a diagnosis):  
FILL OUT THE SYMPTOMS SECTION.

**In the absence of symptoms**  
Preventive removal of the participant due to:

- an impact or a sudden movement of the head
- doubt regarding the information provided
- history of concussions

In the case of a minor, inform the parents as quickly as possible.  
Circumstances of the incident:

## WARNING SIGNS (IMMEDIATE MEDICAL EVALUATION AT A HOSPITAL EMERGENCY DEPARTMENT REQUIRED)

- Loss or deterioration of consciousness
- Confusion
- Repeated vomiting
- Convulsions
- Headaches getting worse
- Significant drowsiness
- Difficulty walking, speaking, recognizing people or places
- Double vision
- High state of agitation, excessive crying
- Serious balance problems
- Weakness, tingling or numbness in arms or legs
- Intense neck pain

## SYMPTOMS

	UNDER 24 HOURS	BETWEEN 24 AND 48 HOURS
Headaches or pressure in the head	<input type="checkbox"/>	<input type="checkbox"/>
Fatigue, drowsiness	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty sleeping	<input type="checkbox"/>	<input type="checkbox"/>
Nausea	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting	<input type="checkbox"/>	<input type="checkbox"/>
Dizziness, vertigo	<input type="checkbox"/>	<input type="checkbox"/>
Feeling slowed down	<input type="checkbox"/>	<input type="checkbox"/>
Concentration problems	<input type="checkbox"/>	<input type="checkbox"/>
Memory problems	<input type="checkbox"/>	<input type="checkbox"/>
Blurred vision	<input type="checkbox"/>	<input type="checkbox"/>
Sensitivity to light	<input type="checkbox"/>	<input type="checkbox"/>
Sensitivity to noise	<input type="checkbox"/>	<input type="checkbox"/>
Unusually emotional, irritable, sad	<input type="checkbox"/>	<input type="checkbox"/>
Nervous, anxious	<input type="checkbox"/>	<input type="checkbox"/>
Neck pain	<input type="checkbox"/>	<input type="checkbox"/>
Searches for words or repeats them	<input type="checkbox"/>	<input type="checkbox"/>

## 2. OBSERVATION PERIOD

**The participant has not shown any symptoms** since removal from the activity, has successfully completed the 48-hour observation period, and can resume activities without having to go through the stages involved in a progressive return to activities.

PROCEDURE COMPLETED

**The participant has presented or presents symptoms** and must immediately begin the initial rest period.

FILL OUT THE BACK OF THE TRACKING SHEET

## 3. RETURN TO INTELLECTUAL, PHYSICAL AND SPORTS ACTIVITIES

### INITIAL REST PERIOD

Intellectual, physical and sports activities and driving a motor vehicle should be limited for at least 48 hours or until symptoms gradually decrease.

INTELLECTUAL ACTIVITIES	DATE / STAGE COMPLETED
<b>1. At home:</b> <ul style="list-style-type: none"> <li>Short periods of intellectual activities (15–20 minutes)</li> </ul>	1 / / /
<b>2. Progressive return to structured activities (part time):</b> <ul style="list-style-type: none"> <li>Start with half days, and increase gradually</li> <li>As needed, move to a calm setting or take breaks throughout the activity</li> </ul>	2 / / /
<b>3. Return to activities (full time):</b> <ul style="list-style-type: none"> <li>Resume normal school activities (e.g. exams, presentations) if tolerated</li> </ul>	3 / / /
<b>Move to Stage 4 only if symptoms have subsided during activity and at rest.</b>	
<b>4. Complete return to activities:</b> <ul style="list-style-type: none"> <li>Return to activities without accommodations</li> </ul>	4 / / /

No increase of symptoms



PHYSICAL AND SPORTS ACTIVITIES	DATE / STAGE COMPLETED
<b>1. Very light activity:</b> <ul style="list-style-type: none"> <li>Resume simple day-to-day domestic activities, for short periods of time (15–20 minutes) (e.g. taking short walks, tidying, sweeping)</li> </ul>	1 / / /
<b>Move to Stage 2 only after an initial medical evaluation</b>	
<b>2. Light aerobic activities (performed individually):</b> <ul style="list-style-type: none"> <li>Resume activities that increase heart rate slightly, for short periods of time (20–30 minutes) (e.g. rapid walking, stationary bike)</li> </ul>	2 / / /
<b>3. Specific exercises (performed individually):</b> <ul style="list-style-type: none"> <li>Gradually increase activity intensity and duration</li> <li>Start exercises related to the activity (e.g. throwing a ball, dribbling)</li> </ul>	3 / / /
<b>Move to Stage 4 only:</b> <ul style="list-style-type: none"> <li>if no symptoms are felt during activity and at rest</li> <li>after complete return to intellectual activities</li> </ul>	

Avoid activities involving a risk of contact, collisions or falls

Following the initial 48-hour rest period, the return to intellectual activities (Stages 1 to 4) and physical and sports activities (Stages 1 to 3) can begin at the same time even in the presence of mild symptoms. You must go back to the previous stage if symptoms worsen or reappear.

It is important to wait at least 24 hours between each stage in the progressive return to intellectual, physical and sports activities.



<b>4. More strenuous exercises or workouts (with or without teammates)</b> <ul style="list-style-type: none"> <li>Start more complex technical exercises (e.g. passing drills, practising a choreography)</li> <li>Increase intensity of activity</li> <li>Introduce resistance training</li> </ul>	4 / / /
<b>Medical authorization is required before moving to Stage 5 for all activities involving a risk of contact, collisions or falls</b>	
<b>5. Unrestricted training:</b> <ul style="list-style-type: none"> <li>Resume complete training, including activities involving a risk of contact, collisions or falls</li> </ul>	5 / / /
<b>6. Return to competition:</b> <ul style="list-style-type: none"> <li>At least 24 hours after successfully completing unrestricted training with no symptoms</li> </ul>	6 / / /

For additional information or to consult the protocol:

[www.education.gouv.qc.ca/en/concussions](http://www.education.gouv.qc.ca/en/concussions)



