

CONCUSSION MANAGEMENT PROTOCOL

for Educational Institutions and Recreational and Sports Activities

Warning

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

Scientific knowledge is updated regularly, and this document will be adjusted as needed. Please make sure you have the most recent version (www.education.gouv.qc.ca/).

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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, and it is this that causes a concussion. The signs observed by others and the symptoms reported by the victim may vary from one individual to the next, and may appear up to 48 hours after the impact.

Failure to detect a concussion, inadequate treatment or subsequent concussions sustained within a short period of time can all have repercussions on the victim's physical and psychological health. For the sake of caution, the ability to recognize the different signs and symptoms of concussion and knowledge of the circumstances in which concussions occur are very important. It is equally important to apply proven procedures, to avoid aggravating the injury and to promote the progressive return to intellectual, physical and sports activities.

In this document, the Ministère de l'Éducation et de l'Enseignement supérieur (MEES) sets out an approach based on the recommendations of the Task Force on Concussion (GTCC), tools available from the Institut national d'excellence en santé et en services sociaux (INESSS), discussions with health community representatives and the Berlin Consensus Statement (2017).

This protocol presents a set of basic concussion management measures complete with procedures, reference tools and a tracking sheet, to be applied whether a health care professional is present or not. In situations where the protocol is used by a professional care team (e.g. sports therapist, physiotherapist, kinesiologist) concussions and working under medical supervision, it can be applied with a certain degree of flexibility, to leave room for professional clinical judgment.

REMINDER: PREVENTION

To develop or maintain a healthy and safe environment, organizations, activity supervisors (coaches, referees, teachers, monitors, health professionals, etc.) and participants (students, athletes, players, etc.) must take a preventive approach before an incident occurs. One of the best ways of achieving this is to educate those concerned, not only to improve their knowledge, but also to make any needed changes of attitude or behaviour with respect to this type of injury.

To this end, certain measures can be implemented. These include providing awareness-raising activities and information for participants and their parents, training activity supervisors, gathering information on participants' previous concussions, analyzing the potential risks associated with the activity, introducing a monitoring mechanism, and appointing a person responsible for taking action in cases where a concussion is suspected (Comment 1).

COMMENT 1

In the protocol, this person is referred to as the "person responsible for health, well-being and safety." Where resources permit, he or she should be assigned exclusively to this task. This person may be, for example, a health professional (sports therapist, physiotherapist, kinesiologist, etc.), a first-aid attendant, a trainer or a safety officer. Where there are insufficient resources to allow for this, the person may also perform other duties, for example, as a coach, teacher, official, attendant or monitor.



RECOGNITION

1.1 REPORTING AN INCIDENT

Monitoring is a responsibility that is shared by everyone present at an activity. The activity supervisors (the person responsible for health, well-being and safety, or the coach, teacher, monitor, assistant, official, animator, etc.), and the participants all have a duty to report any incident suggesting that a person may have suffered a concussion (Comment 2). The information, once received, must be given immediately to the people with the authority to remove the potential victim from the activity.

COMMENT 2

An absence of signs or symptoms immediately after an incident is not necessarily a reliable indicator, because the signs and symptoms of a concussion may emerge up to 48 hours after the impact.

1.2 REMOVAL OF THE PARTICIPANT

In the presence of any one of these circumstances—an observed sign or a reported symptom, an incident witnessed and reported by another person, an impact or a sudden movement of the head that could have caused a concussion, or any doubt concerning the participant's concussion history or the information provided by the participant—it is important to take a cautious approach. This involves:

- immediately removing the participant from the activity
- never leaving the participant unattended
- directing the participant to the person responsible for health, well-being and safety, so that the relevant signs and symptoms can be checked (Comment 3)

COMMENT 3

The person responsible for health, well-being and safety should use the tracking sheet at the end of this protocol.

1.3 VERIFYING SIGNS AND SYMPTOMS

The person responsible for health, well-being and safety should use the tracking sheet at the end of the protocol to check for the presence of signs and symptoms, according to the following two situations.

If emergency warning signs (RED FLAGS) are present

- 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 for an immediate medical evaluation at a hospital emergency department.**
- Note down the warning signs (Section 5 of the sheet).
- Document the incident (Section 1 of the sheet).
- If the participant is a minor child, make sure the parents are informed of the situation as quickly as possible, and are told that a period of rest is required.

If there are no emergency warning signs (RED FLAGS)

- Write down the signs observed and question the participant about any symptoms (Section 5 of the sheet).
- Document the incident (Section 1 of the sheet).
- If the participant is a minor child, make sure the parents are informed of the situation as quickly as possible, and are told that a period of rest is required.

COMMENT 4

A participant who is removed from an activity because of a suspected concussion **must not resume the activity for at least 48 hours**, even if there are no signs or symptoms of concussion.

Reference tools to help recognize the signs and symptoms of concussion:

For activity supervisors:

Concussion Recognition Tool (Pocket CRT):

<http://fecst.inesss.qc.ca/fileadmin/documents/Publications/Scat5-pocket-EN.pdf>

For health professionals only:

Child SCAT5© Sport Concussion Assessment Tool for Children Ages 5 to 12 Years for Use by Medical Professionals Only:

<http://fecst.inesss.qc.ca/fileadmin/documents/Publications/Scat5-enfants-EN.pdf>

SCAT5© Sport Concussion Assessment Tool – 5th Edition:

<http://fecst.inesss.qc.ca/fileadmin/documents/Publications/Scat5-adultes-EN.pdf>

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OBSERVATION PERIOD

2.1 IF THERE ARE NO SIGNS OR SYMPTOMS

If a participant is removed from the activity **for preventive reasons, when there are no signs or symptoms of concussion**, he or she must not take part in any activity where there is a risk of contact, collisions or falls.

After 48 hours under observation, if the participant has not shown any signs or symptoms since being removed from the activity, he or she may resume the activity without going through the progressive return to intellectual, physical or sports activities procedure (Sections 3 and 6 of the sheet). **In this situation alone**, medical permission for an unrestricted return to training, or to competition for a sport with a risk of contact, collisions or falls, is not needed.

2.2 IF SIGNS OR SYMPTOMS ARE PRESENT OR APPEAR

If a person has exhibited or is exhibiting one or more signs or symptoms (Section 5 of the sheet), even for a short duration, it should be assumed that he or she has sustained a concussion. The person should immediately begin the Initial Rest step, and a medical evaluation should be obtained as quickly as possible.

COMMENT 5

If emergency warning signs (red flags) are observed, or if the signs and symptoms become worse in the hours or days following the participant's removal from the activity, a medical evaluation at a hospital emergency department is required. In the case of a minor, the parents play a crucial role since they must react quickly if their child's condition deteriorates.



3

PROGRESSIVE RETURN TO ACTIVITIES

3.1 INITIAL REST

Initial rest means that intellectual, physical and sports activities, as well as driving a motor vehicle, should be limited for a few days, to reduce brain activity and concussion symptoms and promote recovery. Activities such as listening to soft music, drawing, watching television for short periods and taking short walks are permitted.

Initial rest must last for at least 48 hours. The first steps in the progressive return to activities can be taken only if the conditions in Section 3.2 are met.

COMMENT 6

Participants and their parents are responsible for informing the educational institution or workplace, as well as organizations that offer the participant recreational and sports activities, about any restrictions that have been put in place to promote a progressive return to activities. Section 6 of the tracking sheet is designed to facilitate collaboration between the various people concerned.

3.2 PROGRESSIVE RETURN TO INTELLECTUAL, PHYSICAL AND SPORTS ACTIVITIES

It is important to wait **at least 24 hours** between each step of the progressive return to activities procedure.

If a medical evaluation cannot be obtained quickly, the first step in the progressive return to physical and sports activities (Section 6 of the sheet) may be taken, **but only if the following conditions are met:**

- There are no emergency warning signs (Section 5 of the sheet).
- The symptoms gradually decrease.
- The symptoms do not intensify after an activity.

Section 6 of the tracking sheet includes other restrictions, such as:

- Step 2 of the progressive return to physical and sports activities cannot take place until the participant has been examined by a physician.
- Step 3 (intellectual activities) and Step 4 (physical and sports activities) can take place only if the participant has no symptoms.
- In every case, a complete return to intellectual activities without any recurrence of symptoms should precede Step 4 (physical and sports activities).
- Medical permission is needed before the participant can take part in unrestricted training (Step 5) in a sport with a risk of contact, collisions or falls. A full, unrestricted training session must be completed without any recurrence of symptoms at least 24 hours before returning to competition.

If the symptoms last for more than ten days with no noticeable improvement, a second medical evaluation should be obtained to personalize the treatment plan and decide whether or not psychosocial support is required.

COMMENT 7

A progressive return to activities prevents complications, helps maintain social ties and respects the participant's capacity to recover. However, if symptoms reappear, it is essential to go back to the previous step (see Section 6 of the sheet).

Reference tools for initial rest and a progressive return to intellectual activities and physical and sports training activities:

INESSS, Advice Following a Mild Traumatic Brain Injury (MTBI), 2014

Children under 16 years of age:

https://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/TraumatismeCraniocerebrale/DEPLIANT_TCC_Pediatrique_EN_8092016.pdf

INESSS, Advice Following a Mild Traumatic Brain Injury (MTBI), 2014

Adults, 16 years of age or over:

https://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/TraumatismeCraniocerebrale/DEPLIANT_TCC_ADULTE_EN_08092016.pdf



MEDICAL EVALUATIONS

There are five key situations in which a medical evaluation is needed (Section 4 of the tracking sheet).

4.1 WHEN EMERGENCY WARNING SIGNS (RED FLAGS) ARE PRESENT IMMEDIATELY AFTER THE INCIDENT

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

4.2 WHEN EMERGENCY WARNING SIGNS (RED FLAGS) APPEAR, OR IF THE SIGNS OR SYMPTOMS BECOME WORSE 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.

4.3 IF SIGNS OR SYMPTOMS ARE PRESENT OR STARTING TO APPEAR

It is important to have a physician make a diagnosis as quickly as possible and, if applicable, decide which types of support and care are needed.

4.4 IF SIGNS OR SYMPTOMS PERSIST FOR MORE THAN TEN DAYS WITHOUT NOTICEABLE IMPROVEMENT

Most concussions begin to resolve within ten to fourteen days. A participant whose signs or symptoms persist for more than ten days without noticeable improvement should be re-evaluated to understand what is happening, document any functional impairment, identify any related problems and set up a personalized treatment plan.

4.5 BEFORE RESUMING UNRESTRICTED TRAINING IN SPORTS WITH A RISK OF CONTACT, COLLISIONS OR FALLS

When all signs and symptoms have disappeared and the participant has made a complete return to all his or her intellectual activities, medical permission must be obtained before returning to any unrestricted training in sports with a risk of contact, collisions or falls. After obtaining medical permission, the participant must complete one full sports-training session with physical contact and remain symptom free for at least 24 hours before returning to competition.

COMMENT 8

We recommend that organizations inform participants and parents (in the case of a minor child) of the medical follow-up that is required. Section 4 of the tracking sheet can be used for this purpose.



5

COMMUNICATION

5.1 THE IMPORTANCE OF COMMUNICATION

The healing process involves many entities and partners, such as the family, the health care system, educational institutions, the workplace or the sports team. Good communication and collaboration between all these actors is key in ensuring effective, consistent supervision. The organizations concerned should review their communication processes from time to time, to identify any weaknesses and make any necessary adjustments.

5.2 THE ROLES OF THE MAIN STAKEHOLDERS

The key actors shown below play a strategic role in coordinating and transmitting information.

- **The participants** (students, athletes, players, etc.) must report any potential concussion-related symptoms they are experiencing, as well as any incident they have witnessed that might conceivably cause a concussion. If applicable, participants must also comply with medical instructions and the progressive return to activities. Participants are responsible, moreover, for informing the other stakeholders about their state of health and any restrictions on their activities.
- **The parents of a participant who is a minor child** must watch carefully for delayed signs and symptoms of concussion. The parents are also responsible for taking the steps needed to obtain proper care for their child, and for informing the other stakeholders about their child's health.
- **The person responsible for health, well-being and safety** must check for the presence of signs or symptoms as soon as the participant is removed from the activity. If the participant is a minor child, the parents must be notified as quickly as possible, and informed about the rest period. The person responsible for health, well-being and safety must then ensure that activities are resumed in accordance with the protocol or with medical instructions.
- **The person responsible for applying the protocol in an educational institution** should introduce mechanisms to manage the student's return to class and the progressive return to physical and sports activities, with due consideration for the student's health and any activity restrictions. This person is also responsible for informing, and coordinating the actions of, the school staff.



AND COLLABORATION

5.3 THE TRACKING SHEET

The concussion tracking sheet that forms part of this protocol is used for the following purposes:

- Informing the participant and, in the case of a minor, his or her parents and activity supervisors about the procedure to be followed
- Documenting the incident, the concussion-related signs and symptoms and the progressive return to activities
- Facilitating the transmission of information to health care personnel, especially in cases where the parents did not witness the incident or where the participant does not remember exactly what happened
- Ensuring that the intellectual and physical dimensions are given equal consideration during the healing process
- Enabling organizations offering recreational and sports activities, as well as educational institutions, to gather data on this type of injury

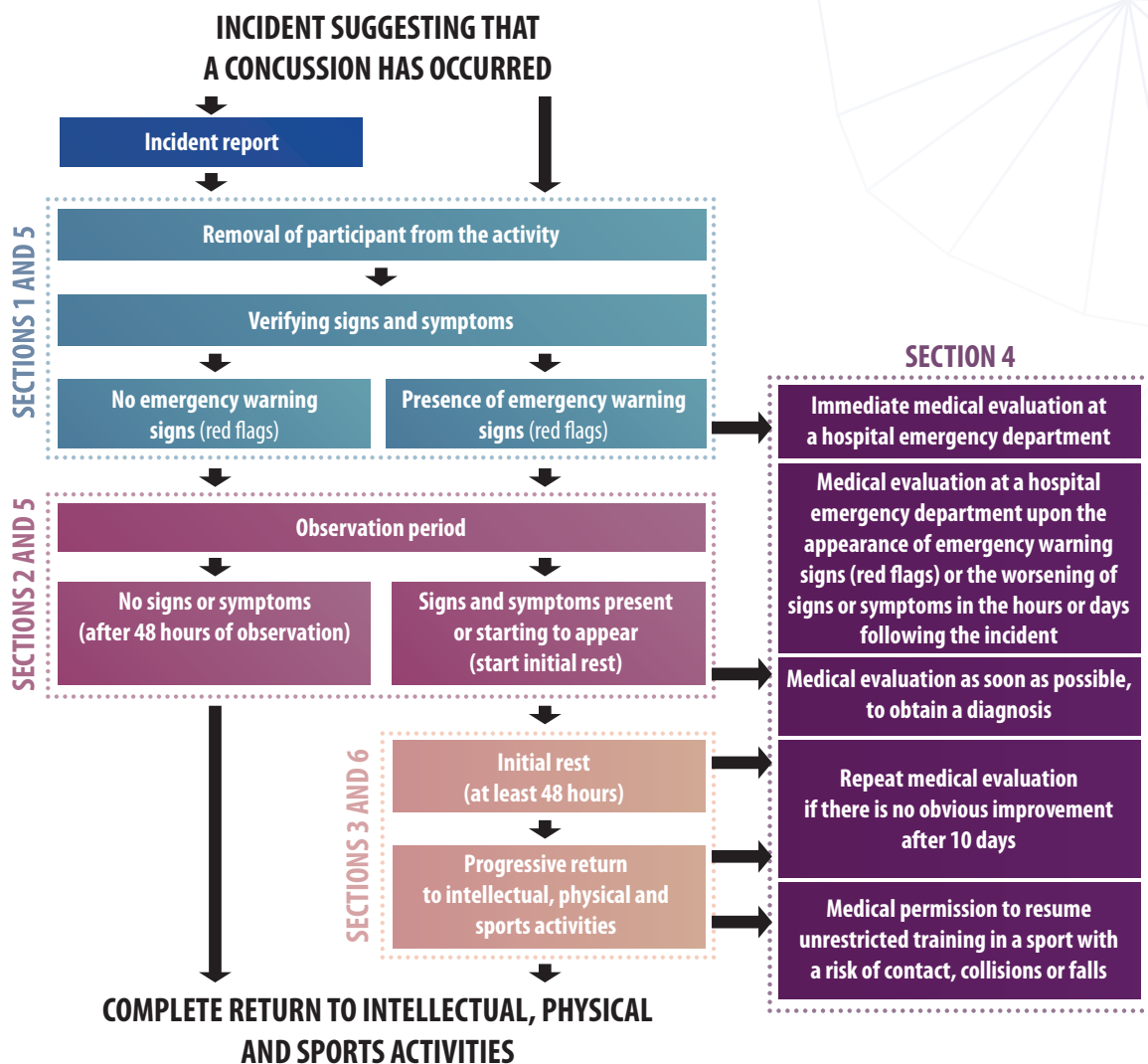
5.4 USE OF THE TRACKING SHEET

Once the participant has been removed from the activity, the person responsible for health, well being and safety completes Section 5 of the tracking sheet (Details of Signs and Symptoms), where applicable, and then completes Section 1 (Recognition). He or she then sends a copy of the sheet to the parents or participant.

Parents or participants then complete Section 2 (Observation Period). When concussion-related signs or symptoms are present, they complete Section 5 (Details of Signs and Symptoms), Section 4 (Medical Evaluations) and the Initial Rest portion of Sections 3 and 6.

Parents or participants then send the information on the tracking sheet to the relevant health care personnel and the other stakeholders, especially the person responsible for applying this protocol in an educational institution. These stakeholders can then provide the supervision needed and document the progressive return to intellectual, physical and sports activities using Sections 3, 4 and 6 of the sheet.

CHART SHOWING THE PROTOCOL STEPS AND THE TRACKING SHEET SECTIONS



TRACKING SHEET – CONCUSSION MANAGEMENT PROTOCOL, JUNE 2017

This sheet must not be used to diagnose a concussion and is not a substitute for a medical opinion. It is a recording tool, to be used to transmit information to the participant, the parents, the organizations concerned and the health network. For further details, please see the Protocol at <http://www.education.gouv.qc.ca/>.

NAME : _____ AGE : _____ DATE OF INCIDENT: _____

RECOGNITION ← ①

- Remove participant from activity, **do not leave him/her unattended**, and send him/her to the designated person for a checkup
- Check for signs and symptoms **CHOOSE ONE OF THE FIVE OPTIONS**
- Preventive removal due to:
 - an impact or a brusque movement of the head**
 - doubts about the information provided**
 - past history of concussions**
- If the participant is a minor child, inform the parents of the situation and procedure as quickly as possible.
- Circumstances of the incident (activity, causes, type of impact, part of body affected, etc.):

Presence of signs or symptoms
 ... → COMPLETE SECTION 5 OVERLEAF

Presence of emergency warning signs
 (Obtain transportation to a hospital emergency department)
 ... → COMPLETE SECTION 5 OVERLEAF

OBSERVATION PERIOD ← ②

- Has not shown** any signs or symptoms since being removed from the activity, has successfully completed the 48-hour observation period and may resume activities without following the progressive return to activity procedure. **PROCEDURE COMPLETED**
- Has shown or is showing** signs or symptoms and must immediately start initial rest (Section 3).
COMPLETE SECTION 5 OVERLEAF

PROGRESSIVE RETURN TO ACTIVITIES ← ③

- Initial rest completed (minimum of 48 hours)
- Steps completed for intellectual activities 1 2 3
- Steps completed for physical and sports activities 1 2 3 4 5 6

MEDICAL EVALUATIONS ← ④

GIVE THIS TRACKING SHEET TO HEALTH NETWORK PERSONNEL

- Immediate medical evaluation at a hospital emergency department**
 Health network personnel must refer to the current practical guide: *Algorithme décisionnel pour la gestion du risque de complications neurologiques graves à la suite d'un TCCL.*
- Medical evaluation at a hospital emergency department if warning signals appear (see Section 5) or if signs and symptoms become worse in the hours or days following the incident**
- Medical evaluation as quickly as possible, for diagnosis**
- Second medical evaluation if no noticeable improvement after 10 days**
- Medical permission to return to unrestricted training in a sport with a risk of contact, collisions or falls**

Direction de la promotion de la sécurité (Secteur du loisir et du sport), ministère de l'Éducation et de l'Enseignement supérieur
 1 800 567-7902 ■ promotionsecurite@education.gouv.qc.ca

DETAILS OF SIGNS AND SYMPTOMS

5

EMERGENCY WARNING SIGNS (RED FLAGS, CALL 911)

- Loss of consciousness
- Repeated vomiting
- Severe balance problems
- Feeling gradually weaker
- Severe or worsening headaches
- Problems with speech
- Severe drowsiness or difficulty waking
- Weakness, tingling or numbness
- Epileptic fits or convulsions
- Intense neck pain
- Deteriorating conscious state
- Unusual behaviour
- Increasing confusion or irritability
- Double vision
- Failure to recognize places or people

SIGNS OBSERVED

	UNDER 24 HOURS	BETWEEN 24 AND 48 HOURS
Clutching head	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting	<input type="checkbox"/>	<input type="checkbox"/>
Problems standing, walking and running	<input type="checkbox"/>	<input type="checkbox"/>
Clumsiness	<input type="checkbox"/>	<input type="checkbox"/>
Confusion	<input type="checkbox"/>	<input type="checkbox"/>
Searches for words or answers slowly	<input type="checkbox"/>	<input type="checkbox"/>
Repeats what he/she said	<input type="checkbox"/>	<input type="checkbox"/>
Blank or vacant look	<input type="checkbox"/>	<input type="checkbox"/>
Becomes more emotional, irritable or sad	<input type="checkbox"/>	<input type="checkbox"/>
Nervousness or anxiety	<input type="checkbox"/>	<input type="checkbox"/>
Drowsiness	<input type="checkbox"/>	<input type="checkbox"/>

SYMPTOMS REPORTED

	UNDER 24 HOURS	BETWEEN 24 AND 48 HOURS
Headache or pressure in head	<input type="checkbox"/>	<input type="checkbox"/>
Neck pain	<input type="checkbox"/>	<input type="checkbox"/>
Dizziness or balance problems	<input type="checkbox"/>	<input type="checkbox"/>
Nausea	<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"/>
Fatigue or low energy	<input type="checkbox"/>	<input type="checkbox"/>
Feeling slowed down or in a fog	<input type="checkbox"/>	<input type="checkbox"/>
"Doesn't feel right"	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty concentrating or remembering	<input type="checkbox"/>	<input type="checkbox"/>
Sleeplessness	<input type="checkbox"/>	<input type="checkbox"/>

WHEN ALL STEPS HAVE BEEN SUCCESSFULLY COMPLETED

6

INITIAL REST

Intellectual, physical and sports activities and driving a motor vehicle should be limited for a minimum of 48 hours until the symptoms gradually decrease.

DATE

The return to intellectual, physical and sports activities can take place at the same time, as long as there is compliance with the procedures shown in the two tables.

For Steps 1 and 2 (regarding intellectual activities) and Steps 1, 2 and 3 (regarding physical and sports activities) to be completed successfully, symptoms must gradually decrease. If symptoms do not decrease, go back to the previous step. For the following steps, symptoms must not reappear. If symptoms reappear, go back to the previous step.

INTELLECTUAL ACTIVITIES

	STEP/DATE
Engage in intellectual activities for periods of 15 to 20 minutes (e.g. reading, television, music). It is important to limit these activities for a few days, to ensure proper rest.	1 / / /
Gradually resume structured intellectual activities (e.g. school work, music, singing, theatre).	2 / / /
Do not move to the next step until symptoms have disappeared	
Resume the normal school activities (e.g. exams, projects), work, artistic or recreational routine.	3 / / /

For physical activities and sports, at least 24 hours must elapse between each step.

PHYSICAL AND SPORTS ACTIVITIES

	STEP/DATE
Light training exercises (e.g. rapid walking, jogging, swimming, biking on flat surfaces).	1 / / /
Do not move to the next step without an initial medical evaluation	
Training specific to the physical activity or sport, practised individually (no contact, spinning or jumping)	2 / / /
Training specific to the physical activity or sport, practised individually or with a teammate (e.g. resistance training, passing exercises)	3 / / /
Do not move to the next step until the participant has resumed normal intellectual activities and symptoms have disappeared	
Training specific to the physical activity or sport, practised as a team (no contacts or scrums) (normal duration, increased resistance).	4 / / /
Do not move to the next step without medical permission to return to unrestricted training in a sport with a risk of contact, collisions or falls	
Full practice with physical contact (e.g. contact, scrums).	5 / / /
Return to competition (at least 24 hours after successfully completing unrestricted training).	6 / / /



ADDITIONAL INFORMATION

If you have non-urgent medical questions, please contact Info-Santé 811, or consult a physician.

For general information on concussions, or to learn more about concussion prevention, please visit the Concussions section of the MEES website: <http://www.education.gouv.qc.ca/>.

For additional information on this protocol, please contact the Direction de la promotion de la sécurité (Secteur de 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.

