

Appendix C-1

Concussion Protocol: Prevention, Identification and Management Procedures

INTRODUCTION

The Ministry of Education expects all school boards in Ontario to develop and maintain a policy on concussion as outlined in Policy/Program Memorandum No. 158: School Board Policies on Concussion. The Ministry of Education considers the concussion protocol outlined in this document (Ontario Physical Education Safety Guidelines Concussion Protocol) to be the minimum standard. Minimum does not refer to minimal safety standards but to the minimum requirements for safety standards that must be followed in school-based activities. The standards contained in the Guidelines must not be lowered.”

The concussion protocol, contained within this appendix, is based on the Canadian Guideline on Concussion in Sport¹ and the Berlin Consensus Statement on Concussion in Sport², and has been developed by Ophea in partnership with Parachute.

School boards may localize the components of the concussion protocol, to meet the specific needs of their school district, keeping in mind that they can raise the minimum standards but cannot lower the standards. Although it is important to be familiar with the Ontario Physical Education Safety Guidelines Concussion Protocol, educators must ensure that they use their own board’s concussion protocol.

¹ Parachute. (2017). *Canadian Guideline on Concussion in Sport*. Toronto: Parachute.

² 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.

The Ontario Physical Education Safety Guidelines Concussion Protocol (OPESGCP) is a living document. Concussion information and procedures for the components of prevention, identification and management are always evolving with new research and consensus guidelines. In order to keep users current with information and procedures this document will be reviewed and revised where necessary. School boards and users of the OPESGCP are advised to refer to safety.ophea.net every September for the current OPESGCP. Where revisions are of a critical nature Ophea will inform its users through electronic notification.

CONTEXT

Recent research indicates that a concussion can have a significant impact on a student's cognitive and physical abilities. In fact, research shows that activities that require concentration can actually cause a student's concussion symptoms to reappear or worsen. It is equally important to develop strategies to assist students as they "return to school" in the classroom, as it is to develop strategies to assist them as they "return to physical activity". The most recent research now indicates that prolonged rest until all symptoms resolve is no longer recommended. Without addressing identification and proper management, a concussion can result in permanent brain damage and in rare occasions, even death.

Research also suggests that a student who suffers a second concussion before they are symptom free from the first concussion is susceptible to a prolonged period of recovery, and possibly Second Impact Syndrome – a rare condition that causes rapid and severe brain swelling and often catastrophic results.

"Baseline testing is the practice of having an athlete complete certain concussion assessment tools before sport participation - usually before the start of a season - in order to get baseline or 'pre-injury' measurements. 'The most current research indicates "Baseline

testing is not required for post-injury care of youth athletes with suspected or diagnosed concussion and is not recommended.”³

Due to the seriousness of a concussion, school administrators, educators (including occasional teachers), school staff, students, parents/guardians, and identified school volunteers all have important roles to play in implementing the school board’s concussion protocols, i.e. prevention, identification, and ongoing monitoring and management of a student with a concussion.

CONCUSSION DEFINITION

A concussion:

- is a traumatic brain injury that causes changes in how the brain functions, leading to signs and symptoms that can emerge immediately or in the hours or days after the injury. It is possible for symptoms to take up to 7 days to appear.
- signs and symptoms can be physical (e.g., headache, dizziness), cognitive (e.g., difficulty concentrating or remembering), emotional/behavioural (e.g., depression, irritability) and/or related to sleep (e.g., drowsiness, difficulty falling asleep);
- may be caused by a jarring impact to the head, face, neck or body, with an impulsive force transmitted to the head, that causes the brain to move rapidly and hit the walls of the skull (for a visual description of how a concussion occurs, consult cdn.hockeycanada.ca/hockey-canada/Hockey-Programs/Safety/Concussion/Infographic/english.html);
- can occur even if there has been no loss of consciousness, (in fact most concussions occur without a loss of consciousness);
- cannot normally be seen on X-rays, standard CT scans or MRIs; and

³ Parachute. (2017). Statement on Concussion Baseline Testing in Canada. Toronto: Parachute

- is typically expected to result in symptoms lasting 1-4 weeks in children and youth (18 years or under), but in some cases symptoms may be prolonged.

CONCUSSION DIAGNOSIS

In Canada, only medical doctors and nurse practitioners are qualified to provide a concussion diagnosis. Medical doctors and nurse practitioners are the only healthcare professionals in Canada with licensed training and expertise to diagnose a concussion; therefore all students with a suspected concussion should undergo evaluation by one of these professionals. In rural or northern regions, the Medical Assessment may be completed by a nurse with pre-arranged access to a medical doctor or nurse practitioner.

COMPONENTS OF THE CONCUSSION PROTOCOL

PREVENTION COMPONENT

(for further information consult Appendix C-7– Sample Concussion Prevention Strategies)

Any time a student/athlete is involved in physical activity, there is a chance of sustaining a concussion. Therefore it is important to encourage a culture of safety mindedness and take a preventative approach when students are physically active.

Concussion prevention is important, "*...there is evidence that education about concussion leads to a reduction in the incidence of concussion and improved outcomes from concussion...*"⁴

Concussion education to stakeholders responsible for student safety should include information on:

⁴ Journal of Clinical Sport Psychology, 2012, 6, 293-301; Charles H. Tator, Professor of Neurosurgery, Toronto Western Hospital, Toronto, ON Can.

- Awareness (definition and the seriousness of concussion, possible mechanisms of injury, second impact syndrome);
- Prevention (steps that can be taken to prevent concussions and other injuries from occurring at schools and at off-site events);
- Identification (common signs and symptoms, safe removal of an injured student from the activity);
- Procedures for a student who has suffered a suspected concussion or more serious head injury (i.e., obtain a Medical Assessment);
- Management for a diagnosed concussion (including the Return to School and Return to Physical Activity Plan); and
- Return to Physical Activity Medical Clearance requirements⁵.

The concussion injury prevention approach includes primary, secondary, and tertiary strategies:⁶

- Primary – information/actions that prevent concussions from happening (e.g., rules and regulations, minimizing slips and falls by checking that classroom floor and activity environments provide for safe traction and are obstacle free);
- Secondary – expert management of a concussion (e.g., identification and management - Return to School and Return to Physical Activity) that is designed to prevent the worsening of a concussion;

⁵ Parachute. (2017). *Canadian Guideline on Concussion in Sport*. Toronto: Parachute.

⁶ Journal of Clinical Sport Psychology, 2012, 6, 293-301; Charles H. Tator, Professor of Neurosurgery, Toronto Western Hospital, Toronto, ON Can.

- Tertiary – strategies to help prevent long-term complications of a concussion (chronic traumatic encephalopathy) by advising the participant to permanently discontinue a physical activity/sport based on evidence-based guidelines.

Primary and secondary strategies are the focus of the concussion injury prevention information located in Appendix C-7 – Sample Concussion Prevention Strategies.

IDENTIFICATION COMPONENT

The Identification component is equivalent to the recognition component in the Canadian Guideline on Concussion in Sport.

Stakeholders identified by the school board/school (e.g., school administrators, teachers, coaches, school first aiders) who have been specifically trained to identify signs and symptoms of a suspected concussion (e.g., Appendix C-2 – Sample Tool to Identify a Suspected Concussion) are responsible for the identification and reporting of students who demonstrate observable signs of a head injury or who report concussion symptoms.

In some instances, the stakeholder may not observe any signs, or have any symptoms reported, but because of the nature of the impact, will suspect a concussion. This suspected concussion/concussion event must be reported for 24 hour monitoring.

The identification component includes the following:

- a) **Initial response** for safe removal of an injured student with a suspected concussion from the activity;
- b) **Initial identification of a suspected concussion** (e.g., Appendix C-2 – Sample Tool to Identify a Suspected Concussion);
- c) **Steps required following the initial identification of a suspected concussion;**
- d) **Steps required when sign(s) and or symptom(s) are not identified but a possible concussion event was recognized.**

Initial Response

(Teachers, Coaches, Trainers, Officials, Students)

Following a significant impact to the head, face, neck, or body, that is either observed or reported, and where the individual (e.g., teacher/coach) responsible for that student suspects a concussion the following immediate actions must be taken:

- Student stops participation and is prohibited from physical activity;
- Initiate the school board's/school's Emergency First Aid Response (e.g., basic principles of first aid).

Initial Identification of a Suspected Concussion

Use Appendix C-2 – Sample Tool to Identify a Suspected Concussion

Step 1.

Check for **Red Flag** sign(s) and/or symptom(s).

Table 1: Red Flags⁷

RED FLAGS		
Neck pain or tenderness	Severe or increasing headache	Deteriorating conscious state
Double vision	Seizure or convulsion	Vomiting
Weakness or	Loss of consciousness	Increasingly restless,

⁷Adapted from Davis GA, et al. Br J Sports Med 2017;0:1. doi:10.1136/bjsports-2017-097508CRT5

tingling/burning in arms or legs		agitated or combative
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If any Red Flag sign(s) and or symptom(s) are present, follow only the **Red Flag Procedure**.

Red Flag Procedure – 911 call

- Call 911.
- If there has been any loss of consciousness, assume there is a possible neck injury and do not move the student,
- Stay with the student until emergency medical services arrive.
- Contact the student’s parents/guardians (or emergency contact) to inform them of the incident and that emergency medical services have been contacted.
- Monitor and document any changes (i.e., physical, cognitive, emotional/behavioural) in the student.
 - Refer to your school board’s injury report form for documentation procedures.
- If the student has lost consciousness and regains consciousness, encourage them to remain calm and to lie still.
- Do not administer medication (unless the student requires medication for other conditions – e.g., insulin for a student with diabetes, inhaler for asthma).

Step 2.

If there are no Red Flag sign(s) and or symptom(s), remove the student from the current activity or game if the student can be safely moved. Observe and question the student to determine if Other Concussion Sign(s) and/ or Symptom(s) are present.

Table 2: Other Concussion Signs and Symptoms⁸

Other Concussion Signs: Visual cues (what you see) that suggests a possible concussion			
Lying motionless on the playing surface (no loss of consciousness)	Disorientation or confusion, or an inability to respond appropriately to questions	Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements	
Slow to get up after a direct or indirect hit to the head	Blank or vacant look	Facial injury after head trauma	
Other Concussion Symptoms as reported by student (what the student is saying):			
Headache	Blurred vision	More emotional	Difficulty concentrating
"Pressure in head"	Sensitivity to light	More irritable	Difficulty remembering

⁸ Adapted from Davis GA, et al. Br J Sports Med 2017;0:1. doi:10.1136/bjsports-2017-097508CRT5

Balance problems	Sensitivity to noise	Sadness	Feeling slowed down
Nausea	Fatigue or low energy	Nervous or anxious	Feeling like "in a fog"
Dizziness	"Don't feel right"		Drowsiness

Please Note: If any one or more sign(s) and/or symptom(s) are present, a concussion should be suspected but the full check should be completed (including the Quick Memory Function Check) to provide comprehensive information to parent/guardian and medical doctor/nurse practitioner.

- If any sign(s) and/or symptom(s) worsen, or red flags emerge, call 911 and follow Red Flag Procedure.
- **Note:**
 - Signs and/or symptoms can appear immediately after the injury or may take hours or days to emerge.
 - Signs and symptoms may be different for everyone.
 - A student may be reluctant to report symptoms because of a fear that they will be removed from the activity, their status on a team or in a game could be jeopardized or academics could be impacted.
 - It may be difficult for younger students (under the age of 10), students with special needs, or students for whom English/French is not their first language to communicate how they are feeling.
 - Signs for younger students (under the age of 10) may not be as obvious as in older students.

Perform Quick Memory Function Check:

- What room are we in right now?
- What field are we playing on today?
- Is it before or after lunch?
- What is the name of your teacher/coach?
- What school do you go to?

Questions may need to be modified for very young students, the situation/activity/sport, and/or students receiving special education programs and services.

Failure to answer any one of these questions correctly indicates a suspected concussion.

Steps Required Following the Initial Identification of a Suspected Concussion

The procedures in this section are to be followed if Other Sign(s) and/or Symptom(s) (consult Table 2) are observed, reported, and/or the student does not answer all of the Quick Memory Function Check questions correctly.

Teacher/Coach Response

- Do not allow the student to return to physical activity/practice/competition that day even if the student states that they are feeling better.
- The student must not be left alone until a parent/guardian arrives.
- Contact the student's parent/guardian (or emergency contact) to inform them:
 - of the incident;
 - that they need to come and pick up the student; and,
 - student needs urgent Medical Assessment (as soon as possible that day) by a medical doctor or nurse practitioner.
- Monitor and document any changes in the student. If any signs or symptoms worsen, call 911.
 - Refer to your school board's injury report form for documentation procedures.
- Do not administer medication (unless the student requires medication for other conditions – e.g., insulin for a student with diabetes, inhaler for asthma).

- The student must not operate a motor vehicle.

Information to be Provided to Parent/Guardian (e.g., by teacher, coach)

- Completed Appendix C-2 – Sample Tool to Identify a Suspected Concussion.
- Appendix C-3 – Sample Documentation of Medical Assessment.
- Parent/Guardian must be informed that:
 - the student needs an urgent Medical Assessment (as soon as possible that day) by a medical doctor or nurse practitioner;
 - the student must be accompanied home by a responsible adult;
 - the student must not be left alone;
 - they need to communicate to the school principal/designate the results of the Medical Assessment (i.e., the student does not have a diagnosed concussion or the student has a diagnosed concussion) prior to the student returning to school (refer to the sample reporting form Appendix C-3 – Sample Documentation of Medical Assessment).

Responsibilities of the School Principal/Designate

The school principal/designate must inform all school staff (e.g., classroom teachers, physical education teachers, intramural supervisors, coaches) and volunteers (prior to communicating with volunteers refer to school board protocol for sharing of student information) who work with the student that the student shall not participate in any learning or physical activities until the parent/guardian communicates the results of the Medical Assessment to the school principal/designate (e.g., by completing Appendix C-3 – Sample Documentation of Medical Assessment).

Steps Required when Sign(s) and/or Symptom(s) are Not Identified but a Possible Concussion Event was Recognized

The procedures in this section are to be followed if Other Sign(s) and/or Symptom(s) are NOT observed or reported and the student correctly answers all of the Quick Memory

Function questions (refer to Appendix C-2-Sample Tool to Identify a Suspected Concussion). However, the teacher/coach recognized that a possible concussion event occurred (due to the jarring impact) and since sign(s) and/or symptom(s) can occur hours to days later, the procedures below are to be followed.

Teacher/Coach Response

- The student's parent/guardian (or emergency contact) must be contacted, informed of the incident and provided with Appendix C-2 -Sample Tool to Identify a Suspected Concussion and Appendix C-3 –Sample Documentation of Medical Assessment.
- The student must be monitored by school staff for delayed sign(s) and/or symptom(s)
- If any sign(s) and/or symptom(s) emerge (observed or reported) during the school day, parent/guardian must be informed that the student needs an urgent Medical Assessment (as soon as possible that day).
- Student must not return to physical activity for 24 hours as signs and/or symptoms can take hours or days to emerge.
- After 24 hours under observation, if the student has not shown/reported any signs and/or symptoms, they may resume physical activity without Medical Clearance.

Information to be Provided to Parent/Guardian (e.g., by teacher, coach)

- Appendix C-2 -Sample Tool to Identify a Suspected Concussion
- Appendix C-3 –Sample Documentation of Medical Assessment
- the student can attend school but cannot participate in any physical activity for a minimum of 24 hours;
- the student will be monitored (at school and home) for the emergence of sign(s) and/or symptom(s) for 24 hours following the incident;

- continued monitoring by parent/guardian (beyond 24 hours) may be necessary as signs and/or symptoms may take hours or up to 7 days to emerge; and
- parent/guardian must communicate results of continued monitoring to principal/designate as per school board policy:
 - if any sign(s) and/or symptom(s) emerge (observed or reported), the student needs an urgent Medical Assessment (as soon as possible that day) by a medical doctor or nurse practitioner
 - if after 24 hours of observation sign(s) and/or symptom(s) do not emerge, the student may return to physical activity. Medical Clearance is not required.

Responsibilities of the School Principal/Designate

The school principal/designate must inform all school staff (e.g., classroom teachers, physical education teachers, intramural supervisors, coaches) and volunteers who work with the student of the following:

- the student is allowed to attend school.
- the student must not participate in physical activity and must be monitored by teacher(s) and parent/guardian for 24 hours for the emergence of delayed sign(s) and/or symptom(s).
- the results of the continued monitoring by teachers:
 - if any sign(s) and/or symptom(s) emerge the parent/guardian must be informed that the student needs an urgent Medical Assessment (as soon as possible that day) by a medical doctor/nurse practitioner
 - if sign(s) and/or symptom(s) do not emerge, the student is permitted to resume physical activity after 24 hours. Medical Clearance is not required

MANAGEMENT COMPONENT: PROCEDURES FOR A DIAGNOSED CONCUSSION- RETURN TO SCHOOL (RTS) AND RETURN TO PHYSICAL ACTIVITY (RTPA)

After a suspected concussion has been identified (i.e., sign(s) and/or symptom(s) are observed or reported), the student must be assessed by a medical doctor or nurse practitioner as soon as reasonably possible. The parent/guardian must communicate to the school the results of the Medical Assessment (consult sample reporting form, Appendix -3 – Sample Documentation of Medical Assessment).

If a concussion is not diagnosed the student may resume full participation in learning and physical activity with no restrictions.

If a concussion is diagnosed by a medical doctor or nurse practitioner, the student follows a medically supervised, individualized, and gradual Return to School (RTS) and Return to Physical Activity (RTPA) Plan.

Knowledge of how to properly manage a diagnosed concussion is critical in a student's recovery and is essential in helping to prevent the student from returning to school or unrestricted physical activities too soon and risking further complications. Ultimately, this awareness and knowledge could help contribute to the student's long-term health and academic success.

The management of a student's concussion is a shared responsibility, requiring regular communication between the home, school (Collaborative Team), and outside sports team (where appropriate), with consultation from the student's medical doctor or nurse practitioner.

Other licensed healthcare providers (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) may play a role in the management of a diagnosed concussion. Examples include nurses, physiotherapists, chiropractors, and athletic therapists.

There are two parts to a student's RTS and RTPA Plan. The first part occurs at home and prepares the student for the second part which occurs at school.

The home stages of RTS and RTPA occur under the supervision of the parent/guardian in consultation with the medical doctor or nurse practitioner or other licensed healthcare provider.

Rationale: Initially the student requires cognitive and physical rest followed by stages of cognitive and physical activity which are best accommodated in the home environment. Refer to Table 3: Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA).

Responsibilities of the School Principal/Designate

Once the parent/guardian has informed the school principal/designate of the results of the Medical Assessment, the school principal/designate must:

- inform all school staff (e.g., classroom teachers, physical education teachers, intramural supervisors, coaches) and volunteers who work with the student of the results;
- communicate (e.g., in-person meeting, phone conference, video conference, email) with parent/guardian, and where appropriate the student;
 - to explain the stages of RTS and RTPA Plan that occur at home.
 - to provide and explain the purpose of Appendix C-4 - Sample Documentation for Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan (i.e., to document student's progress through the stages of RTS and RTPA).
 - the student must complete Stage 2 RTS and Stage 2b RTPA prior to returning to school; and

- completion must be documented and returned to the school using Appendix C-4 - Sample Documentation for Home Preparation for RTS and RTPS Plan.
- to provide information about concussion recovery:
 - Most students who sustain a concussion while participating in sport/physical activities will make a complete recovery and be able to return to full school and sport/physical activities within 1-4 weeks of injury.
 - Approximately 15-30% of individuals will experience symptoms that persist beyond this time frame.
 - Individuals who experience persistent post-concussion symptoms (> 4 weeks for youth athletes) may benefit from 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 sport medicine, neuropsychology, physiotherapy, occupational therapy, neurology, neurosurgery, and rehabilitation medicine.
- Ensure all documentation is filed as per school board policy (e.g., Appendix C-2 – Sample Tool to Identify a Suspected Concussion, Appendix C-3 – Sample Documentation of Medical Assessment, Appendix C-4 - Sample Documentation for Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan, Appendix C-5 – Sample Documentation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan, Appendix C -6 – Sample Documentation of Medical Clearance, and Collaborative Team’s learning strategies and adaptations for student recovery).

Student is at Home

For the associated General Procedures consult Appendix C-4 – Sample Documentation for Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan.

Table 3: Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan

Home Preparation for Return to School (RTS) Stages	Home Preparation for Return to Physical Activity (RTPA) Stages
Each stage must last a minimum of 24 hours.	Each stage must last a minimum of 24 hours.
<p><u>RTS–Initial Rest</u></p> <p>24 – 48 hours of relative cognitive rest (sample activities below):</p> <p><u>Sample activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Short board/card games ✓ Short phone calls ✓ Photography (with camera) ✓ Crafts <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ TV ✗ Technology use(e.g., computer, laptop, tablet, iPad)/cell phone (e.g., 	<p><u>RTPA –Initial Rest</u></p> <p>24 – 48 hours of relative physical rest (sample activities below):</p> <p><u>Sample activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Limited movement that does not increase heart rate or break a sweat ✓ Moving to various locations in the home ✓ Daily hygiene activities <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Physical exertion (increases breathing and heart rate and sweating)

<p>texting/games/photography)</p> <ul style="list-style-type: none"> ✘ Video games ✘ Reading ✘ Attendance at school or school-type work 	<ul style="list-style-type: none"> ✘ Stair climbing other than to move locations throughout the home ✘ Sports/sporting activity
<p>Student moves to RTS Stage 1 when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Symptoms start to improve or after resting 2 days maximum (whichever occurs first). 	<p>Student moves to RTPA Stage 1 when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Symptoms start to improve or after resting 2 days maximum (whichever occurs first).
<p><u>RTS – Stage1</u></p> <p>Light cognitive (thinking/memory/knowledge) activities (as per activities permitted listed below).</p> <p>Gradually increase cognitive activity up to 30 minutes. Take frequent breaks.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage ✓ Easy reading (e.g., books, magazines, newspaper) 	<p><u>RTPA – Stage1</u></p> <p>Light physical activities (as per activities permitted listed below) that do not provoke symptoms.</p> <p>Movements that can be done with little effort (do not increase breathing and/or heart rate or break a sweat).</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Daily household tasks (e.g., bed-making, dishes, feeding pets, meal preparation)

<ul style="list-style-type: none"> ✓ Limited TV ✓ Limited cellphone conversations ✓ Drawing/building blocks/puzzles ✓ Some contact with friends <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Technology use (e.g., computer, laptop, tablet, iPad)/cell phone (e.g., texting/games/photography) ✗ Attendance at school or school-type work 	<ul style="list-style-type: none"> ☐ Slow walking for short time <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Physical exertion (increases breathing and heart rate and sweating) ✗ Sports/sporting activity ✗ Stair climbing, other than to move locations throughout the home
<p>Student moves to RTS Stage 2 when:</p> <ul style="list-style-type: none"> ☐ Student tolerates 30 minutes of light cognitive activity (for example a student should be able to complete 3-4 of the permitted activities listed above) and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms. ☐ Student has completed a minimum of 24 hours at RTS – Stage 1. 	<p>Student moves to RTPA Stage 2a when:</p> <ul style="list-style-type: none"> ☐ Student tolerates light physical activities (completes both activities above) and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms. ☐ Student has completed a minimum of 24 hours at RTPA – Stage 1. ☐ Student has exhibited or reported a

<ul style="list-style-type: none"><input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.	<p>return of symptoms, or new symptoms and must return to the previous stage for a minimum of 24 hours.</p> <ul style="list-style-type: none"><input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.
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<p><u>RTS -Stage 2</u></p> <p>Gradually add cognitive activity (as per activities permitted listed below). When light cognitive activity is tolerated, introduce school work (at home and facilitated by the school).</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Activities from previous stage<input type="checkbox"/> School-type work in 30-minute increments<input type="checkbox"/> Crosswords, word puzzles, Sudoku, word search<input type="checkbox"/> Limited technology use (e.g., computer, laptop, tablet, iPad)/cell phone (e.g., texting/games/photography) starting with shorter periods and building up as tolerated <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none">✘ School attendance	<p><u>RTPA –Stage 2a</u></p> <p>Daily activities that do not provoke symptoms.</p> <p>Add additional movements that do not increase breathing and/or heart rate or break a sweat.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Activities from previous stage<input type="checkbox"/> Light physical activity (e.g., use of stairs)<input type="checkbox"/> 10-15 minutes slow walking 1-2x per day inside and outside (weather permitting) <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none">✘ Physical exertion (increases breathing and/or heart rate and sweating)✘ Sports✘ Sporting activities
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<p>Student moves to RTS Stage 3a when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Student tolerates the additional cognitive activity (for example a student should be able to complete 3-4 of the activities permitted) and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms <input type="checkbox"/> Student has completed a minimum of 24 hours at RTS – Stage 2. <input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner. 	<p>Student moves to RTPA Stage 2b when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Student tolerates daily physical activities (completes activities permitted listed above) and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms. <input type="checkbox"/> Student has completed a minimum of 24 hours at RTPA – Stage 2a. <input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.
	<p><u>RTPA- Stage 2b</u></p> <p>Light aerobic activity</p> <p><u>Activities permitted if tolerated by</u></p>

	<p><u>student</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Activities from previous stage <input type="checkbox"/> 20-30 minutes walking/stationary cycling/recreational (i.e., at a pace that causes some increase in breathing/heart rate but not enough to prevent a student from carrying on a conversation comfortably) <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Resistance or weight training <input checked="" type="checkbox"/> Physical activities with others <input checked="" type="checkbox"/> Physical activities using equipment
	<p>Student moves to RTPA Stage 3 when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Student tolerates light aerobic activities (completes activities above) and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms <input type="checkbox"/> Student has completed a minimum of 24 hours at RTPA – Stage 2b.

	<ul style="list-style-type: none"><input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.
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Responsibilities of Parent/Guardian

When the student has successfully completed the stages in Table 3: Home Preparation for Return to School (RTS) and Return to Physical Activity (RTPA) the parent/guardian informs the school principal:

- Student has completed Stage 2 RTS (tolerates up to 1 hour of cognitive activity in two 30 minutes intervals and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.) and is to begin RTS Stage 3a at school.
- Student has completed Stage 2b RTPA (activities are tolerated and has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.) and is to begin RTPA Stage 3 at school.

Student Returns to School

Responsibilities of the School Principal/Designate

Communicate (e.g., in-person meeting, phone conference, video conference, email) with parent/guardian, and where appropriate the student:

- to provide and explain the purpose of Appendix C-5 -Sample Documentation for School Concussion Management - Return to School (RTS) and Return to Physical Activity (RTPA) Plan,
- to explain the Collaborative Team approach and their role on the team when the student returns to school.

Return to School (RTS) and Return to Physical Activity (RTPA) Stages

Table 4: School Concussion Management Plan - Return to School (RTS) and Return to Physical Activity (RTPA) Stages, is provided for school administrators and school collaborative teams to use in the management of a student's return to school and return to physical activity following a diagnosed concussion. It does not replace medical advice. While the RTS and RTPA stages are inter-related they are not interdependent. A student's progress through the stages of RTS is independent from their progression through the RTPA stages. Different students will progress at different rates.

A student who has no symptoms when they return to school, must progress through all of the RTS and RTPA stages with each stage a minimum of 24 hours.

During all stages of RTS and during Stages 1-4 of RTPA:

- if symptoms re-appear, or new symptoms appear the student returns to previous stage for a minimum of 24 hours and only participates in activities that can be tolerated.
- if symptoms worsen over time, student must return to medical doctor or nurse practitioner.

During Stages 5-6 of RTPA, if symptoms re-appear or new symptoms appear, the student must return to medical doctor or nurse practitioner to have the Medical Clearance reassessed.

For the associated General Procedures consult Appendix C-5 -Sample Documentation for Return to School (RTS) and Return to Physical Activity (RTPA) Plan.

Table 4: School Concussion Management Plan - Return to School (RTS) and Return to Physical Activity (RTPA) Stages

Return to School (RTS) Stages	Return to Physical Activity (RTPA) Stages
<p><u>RTS - Stage 3a</u></p> <p>Student begins with an initial time at school of 2 hours.</p> <p>The individual RTS Plan is developed by Collaborative Team following the student conference and assessment of the student's individual needs determining possible strategies and/or approaches for student learning (consult Table 5 in Appendix C-1).</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage (consult Appendix C-1 – Sample Documentation for Concussion Management – Home Preparation for RTS and RTPA) ✓ School work for up to 2 hours per day in smaller chunks (completed at school) working up to a 1/2 day of cognitive 	<p><u>RTPA –Stage 3</u></p> <p>Simple locomotor activities/sport-specific exercise to add movement.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage (20-30 minutes walking/stationary cycling/elliptical/recreational dancing at a moderate pace) ✓ Simple individual drills (e.g., running/throwing drills, skating drills in hockey, shooting drills in basketball) in predictable and controlled environments with no risk of re-injury ✓ Restricted recess activities (e.g., walking) <p><u>Activities that are not permitted at this stage</u></p>

<p>activity</p> <p>✓ Adaptation of learning strategies and/or approaches</p> <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Tests/exams ✗ Homework ✗ Music class ✗ Assemblies ✗ Field trips 	<ul style="list-style-type: none"> ✗ Full participation in physical education or DPA ✗ Participation in intramurals ✗ Full participation in interschool practices ✗ Interschool competitions ✗ Resistance or weight training ✗ Body contact or head impact activities (e.g., heading a soccer ball) ✗ Jarring motions (e.g., high speed stops, hitting a baseball with a bat)
<p><u>School</u></p> <p><input type="checkbox"/> Student has demonstrated they can tolerate up to a half day of cognitive activity.</p> <p><input type="checkbox"/> C-5 sent home to parent/guardian.</p> <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date:_____</p>	<p><u>School</u></p> <p><input type="checkbox"/> Student has demonstrated they can tolerate simple individual drills/sport-specific drills as listed in permitted activities.</p> <p><input type="checkbox"/> C-5 sent home to parent/guardian.</p> <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date:_____</p>

<p><u>Home</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.<input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours.<input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.<input type="checkbox"/> C-5 sent back to school. <p>Parent/Guardian:</p> <p>Signature: _____</p> <p>Date: _____</p> <p>Comments: _____</p>	<p><u>Home</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.<input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours.<input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.<input type="checkbox"/> C-5 sent back to school. <p>Parent/Guardian:</p> <p>Signature: _____</p> <p>Date: _____</p> <p>Comments: _____</p>
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<p><u>RTS - Stage 3b</u></p> <p>Student continues attending school half time with gradual increase in school attendance time, increased school work and a decrease in the adaptation of learning strategies and/or approaches.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage ✓ School work for 4-5 hours per day, in smaller chunks (e.g., 2-4 days of school/week) ✓ Homework – up to 30 minutes per day ✓ Decrease adaptation of learning strategies and/or approaches ✓ Classroom testing with accommodations. <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Standardized tests/exams 	
<p><u>School</u></p> <p><input type="checkbox"/> Student has demonstrated they can tolerate up to 4-5 hours of the cognitive activities listed above.</p>	

<p><input type="checkbox"/> C-5 sent home to parent/guardian.</p> <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date: _____</p>	
<p><u>Home</u></p> <p><input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.</p> <p><input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours.</p> <p><input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner.</p> <p><input type="checkbox"/> C-5 sent back to school.</p> <p>Parent/Guardian:</p> <p>Signature: _____</p> <p>Date: _____</p>	

Comments: _____	
<p><u>RTS– Stage 4 a</u></p> <p>Full day school, minimal adaptation of learning strategies and/or approaches</p> <p>Nearly normal workload.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage ✓ Nearly normal cognitive activities ✓ Routine school work as tolerated ✓ Minimal adaptation of learning strategies and/or approaches <ul style="list-style-type: none"> • Start to eliminate adaptation of learning strategies and/or approaches • Increase homework to 60 minutes per day • Limit routine testing to one test per day with accommodations (e.g., supports - such as more time) 	<p><u>RTPA –Stage 4</u></p> <p>Progressively increase physical activity.</p> <p>Non-contact training drills to add coordination and increased thinking.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Activities from previous stage ✓ More complex training drills (e.g., passing drills in soccer and hockey) ✓ Physical activity with no body contact (e.g., dance, badminton) ✓ Participation in practices for non-contact interschool sports (no contact) ✓ Progressive resistance training may be started ✓ Recess – physical activity running/games with no body contact ✓ DPA (elementary)

<p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✘ Standardized tests/exams 	<p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✘ Full participation in physical education ✘ Participation in intramurals ✘ Body contact or head impact activities (e.g., heading a soccer ball) <p>Participation in interschool contact sport practices, or interschool games/competitions (non-contact and contact)</p>
<p><u>School</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has demonstrated they can tolerate a full day of school and a nearly normal workload with minimal adaptation of learning strategies and/or approaches. <input type="checkbox"/> C-5 sent home to parent/guardian. <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date: _____</p>	<p><u>School</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has completed the activities in RTPA Stage 4 as applicable. <input type="checkbox"/> C-5 sent home to parent/guardian. <input type="checkbox"/> C -6 – Sample Documentation for Medical Clearance sent home to parent/guardian. <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date: _____</p>

<p><u>Home</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms. <input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner. <input type="checkbox"/> C-5 sent back to school. <p>Parent/Guardian: Signature: _____ Date: _____ Comments: _____</p>	<p><u>Home</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms. <input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours. <input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner. <input type="checkbox"/> C-5 sent back to school. <p>Parent/Guardian: Signature: _____ Date: _____ Comments: _____</p>
<p><u>RTS - Stage 4b</u></p> <p>At school: full day, without adaptation of learning strategies and/or approaches</p> <p>✓ <u>Activities permitted if tolerated by</u></p>	<p><u>Before progressing to RTPA Stage 5, the student must:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> have completed RTS Stage 4a and 4b (full day at school without adaptation

<p><u>student</u></p> <ul style="list-style-type: none"> ✓ Normal cognitive activities ✓ Routine school work ✓ Full curriculum load (attend all classes, all homework, tests) ✓ Standardized tests/exams ✓ Full extracurricular involvement (non-sport/non-physical activity - e.g., debating club, drama club, chess club) 	<p>of learning strategies and/or approaches),</p> <ul style="list-style-type: none"> <input type="checkbox"/> have completed RTPA Stage 4 and be symptom-free, and <input type="checkbox"/> obtain a signed Medical Clearance from a medical doctor or nurse practitioner. <p><i>Please Note:</i> Premature return to contact sports (full practice and game play) may cause a significant setback in recovery.</p>
<p><u>School</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has demonstrated they can tolerate a full day of school without adaptation of learning strategies and/or approaches <input type="checkbox"/> C-5 sent home to parent/guardian. <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date: _____</p>	

<p><u>Home</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Student has not exhibited or reported a return of symptoms, new symptoms, or worsening symptoms.<input type="checkbox"/> Student has exhibited or reported a return of symptoms, or new symptoms, and must return to the previous stage for a minimum of 24 hours.<input type="checkbox"/> Student has exhibited or reported a worsening of symptoms and must return to medical doctor or nurse practitioner. <p>Parent/Guardian:</p> <p>Signature: _____</p> <p>Date: _____</p> <p>Comments: _____</p>	
	<p><u>RTPA–Stage 5</u></p> <p>Following medical clearance, full participation in all non-contact physical activities (i.e., non-intentional body contact) and full contact training/practice</p>

	<p>in contact sports.</p> <p><u>Activities permitted if tolerated by student</u></p> <ul style="list-style-type: none"> ✓ Physical Education ✓ Intramural programs ✓ Full contact training/practice in contact interschool sports <p><u>Activities that are not permitted at this stage</u></p> <ul style="list-style-type: none"> ✗ Competition (e.g., games, meets, events) that involves body contact
	<p><u>School</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has successfully completed the applicable physical activities in RTPA Stage 5. <input type="checkbox"/> C-5 sent home to parent/guardian. <p>School Initial (e.g., collaborative team lead/designate):</p> <p>_____</p> <p>Date: _____</p>

	<p><u>Home</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has not exhibited or reported a return of symptoms or new symptoms. <input type="checkbox"/> Student has exhibited or reported a return of symptoms or new symptoms and must return to medical doctor or nurse practitioner for Medical Clearance reassessment. <input type="checkbox"/> C-5 sent back to school. <p>Parent/Guardian: Signature: _____ Date: _____ Comments: _____</p>
	<p><u>RTPA - Stage 6</u></p> <ul style="list-style-type: none"> ✓ Unrestricted return to contact sports. Full participation in contact sports games/competitions
	<p><u>School</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Student has successfully completed

	<p>full participation in contact sports.</p> <p><input type="checkbox"/> C-5 sent home to parent/guardian.</p> <p>School Initial (e.g., collaborative team lead/designate): _____</p> <p>Date: _____</p>
	<p><u>Home</u></p> <p><input type="checkbox"/> Student has not exhibited or reported a return of symptoms or new symptoms.</p> <p><input type="checkbox"/> Student has exhibited or reported a return of symptoms or new symptoms and must return to medical doctor or nurse practitioner for Medical Clearance reassessment.</p> <p><input type="checkbox"/> C-5 sent back to school for documentation purposes.</p> <p>Parent/Guardian: Signature: _____ Date: _____ Comments: _____</p>

The Collaborative Team Approach

The school collaborative team provides an important role in a student's recovery. In consultation with the parent/guardian, the team identifies the student's needs and provides learning strategies and approaches (consult Table 5) for the prescribed stages in Table 4: Return to School (RTS) and Return to Physical Activity (RTPA). Led by the school principal/designate, the team should include:

- the concussed student;
- the student's parents/guardians;
- teachers and volunteers who work with the student; and
- the medical doctor or nurse practitioner and/or appropriate licensed healthcare provider.

The management of a student concussion is a shared responsibility, requiring regular communication between the home, school (Collaborative Team), and outside sports team (where appropriate), with consultation from the student's medical doctor or nurse practitioner and/or other licensed healthcare providers (e.g., nurses, physiotherapists, chiropractors, and athletic therapists).

Designated School Staff Lead of Collaborative Team

One school staff lead (i.e., a member of the collaborative team, either the school principal/designate, or another staff person designated by the school principal) needs to serve as the main point of contact for the student, the parents/guardians, other school staff, and volunteers who work with the student, and the medical doctor or nurse practitioner and/or licensed healthcare providers.

The designated school staff lead will monitor the student’s progress through the Return to School and Return to Physical Activity Plan. Ongoing communication between parent/guardian and the collaborative team is essential throughout the process.

The members of the collaborative team must factor in special circumstances which may affect the setting in which the stages may occur (i.e., at home and/or school), for example:

- the student has a diagnosed concussion just prior to winter break, spring break or summer vacation; in this circumstance, the collaborative team must ensure that the student has:
 - completed RTS Stage 1 – 4b (full day at school without adaptation of learning strategies and/or approaches);
 - completed RTPA Stage 1 – 4 and is symptom free; and
 - obtained a signed Medical Clearance Letter from a medical doctor or nurse practitioner (consult Appendix 6 – Sample Documentation of Medical Clearance) that indicates the student is able to return to full participation in Physical Education, intramural activities, Interschool sports (non-contact) and full contact training/practice in contact interschool sports.
- the student is neither enrolled in Health and Physical Education class, nor participating on a school team, the collaborative team must ensure that the student has:
 - completed RTS Stage 1 – 4b (full day at school without adaptation of learning strategies and/or approaches);
 - obtained a signed Medical Clearance Letter from a medical doctor or nurse practitioner (consult Appendix 6 – Sample Documentation of Medical Clearance) that indicates the student is able to return to full participation in Physical Education, intramural activities, interschool sports (non-contact) and full contact training/practice in contact interschool sports.

The Medical Clearance form must be provided by the student’s parent/guardian to the school principal/designate and kept on file (e.g., in the student OSR).

Return to School Strategies and/or Approaches

Consult Table 5: Sample Return to School Strategies and /or Approaches

It is important for the designated school staff lead, in consultation with other members of the collaborative team, to identify the student’s symptoms and the ways they respond to various learning activities in order to develop appropriate strategies and/or approaches that meet the changing needs of the student. School staff and volunteers who work with the student need to be aware of the possible difficulties (i.e., cognitive, emotional/behavioural) a student may encounter when returning to learning activities following a concussion. These difficulties may be subtle and temporary, but may significantly impact a student’s performance⁹.

⁹ Davis GA, Purcell LK. The evaluation and management of acute concussion differs in young children. Br J Sports Med. Published Online First 23 April 2013 doi:10.1136/bjsports-2012-092132

Table 5: Sample Return to School Strategies and/or Approaches¹⁰

COGNITIVE DIFFICULTIES		
Post Concussion Symptoms	Impact on Student's Learning	Potential Strategies and/or Approaches
Headache and fatigue	Difficulty concentrating, paying attention, or multitasking	<p>Ensure instructions are clear (e.g., simplify directions, have the student repeat directions back to the teacher)</p> <p>Allow the student to have frequent breaks or return to school gradually (e.g., 1-2 hours, half-days, late starts)</p> <p>Keep distractions to a minimum (e.g., move the student away from bright lights or noisy areas)</p> <p>Limit materials on the student's desk or in their work area to avoid distractions</p> <p>Provide alternative assessment opportunities (e.g., give tests orally, allow the student to dictate responses to tests or assignments, provide access to technology)</p>
Difficulty remembering or	Difficulty retaining new information, remembering instructions, and	<p>Provide a daily organizer and prioritize tasks</p> <p>Provide visual aids/cues and/or advance</p>

¹⁰ Adapted from Davis GA, Purcell LK. The evaluation and management of acute concussion differs in young children. Br J Sports Med. Published Online First 23 April 2013 doi:10.1136/bjsports-2012-092132

<p>processing speed</p>	<p>accessing learned information</p>	<p>organizers (e.g., visual cueing, non-verbal signs)</p> <p>Divide larger assignments/assessments into smaller tasks</p> <p>Provide the student with a copy of class notes</p> <p>Provide access to technology</p> <p>Repeat instructions</p> <p>Provide alternative methods for the student to demonstrate mastery</p>
<p>Difficulty paying attention/ concentrating</p>	<p>Limited/short-term focus on schoolwork</p> <p>Difficulty maintaining a regular academic workload or keeping pace with work demands</p>	<p>Coordinate assignments and projects among all teachers</p> <p>Use a planner/organizer to manage and record daily/weekly homework and assignments</p> <p>Reduce and/or prioritize homework, assignments, and projects</p> <p>Extend deadlines or break down tasks</p> <p>Facilitate the use of a peer note taker</p> <p>Provide alternate assignments and/or tests</p> <p>Check frequently for comprehension</p> <p>Consider limiting tests to one per day and student may need extra time or a quiet environment</p>

EMOTIONAL/BEHAVIOURAL DIFFICULTIES		
Post Concussion Symptoms	Impact on Student's Learning	Potential Strategies and/or Approaches
Anxiety	<p>Decreased attention/concentration</p> <p>Overexertion to avoid falling behind</p>	<p>Inform the student of any changes in the daily timetable/schedule</p> <p>Adjust the student's timetable/schedule as needed to avoid fatigue (e.g., 1-2 hours/periods, half-days, full-days)</p> <p>Build in more frequent breaks during the school day</p> <p>Provide the student with preparation time to respond to questions</p>
Irritable or frustrated	Inappropriate or impulsive behaviour during class	<p>Encourage teachers to use consistent strategies and approaches</p> <p>Acknowledge and empathize with the student's frustration, anger, or emotional outburst, if and as they occur</p> <p>reinforce positive behaviour</p> <p>Provide structure and consistency on a daily basis</p>

		<p>Prepare the student for change and transitions</p> <p>Set reasonable expectations</p> <p>Anticipate and remove the student from a problem situation (without characterizing it as punishment)</p>
Light/noise sensitivity	Difficulties working in classroom environment (e.g., lights, noise)	<p>Arrange strategic seating (e.g., move the student away from window or talkative peers, proximity to the teacher or peer support, quiet setting)</p> <p>Where possible provide access to special lighting (e.g., task lighting, darker room)</p> <p>Minimize background noise</p> <p>Provide alternative settings (e.g., alternative work space, study carrel)</p> <p>Avoid noisy crowded environments such as assemblies and hallways during high traffic times</p> <p>Allow the student to eat lunch in a quiet area with a few friends</p> <p>Where possible provide ear plugs/headphones, sunglasses</p>
Depression/	Withdrawal from participation	Build time into class/school day for

withdrawal	in school activities or friends	socialization with peers Partner student with a “buddy” for assignments or activities
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Please Note: “Compared to older students, elementary school children are more likely to complain of physical problems or misbehave in response to cognitive overload, fatigue, and other concussion symptoms.”¹¹

¹¹ Concussion in the Classroom. (n.d.). Upstate University Hospital Concussion Management Program. Retrieved from <http://www.upstate.edu/pmr/healthcare/programs/concussion/pdf/classroom.pdf>