



Concussion Resources for Medical Professionals





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The Concussion Awareness Training Tool (CATT) is a series of online educational modules and resources with the goal of standardizing concussion recognition, diagnosis, treatment, and management. Good concussion management may decrease the risk of brain damage and potentially reduce long-term health issues.

Developed by Dr. Shelina Babul, Associate Director/Sports Injury Specialist with the BC Injury Research and Prevention Unit, BC Children's Hospital, and Clinical Associate Professor, Department of Pediatrics, University of British Columbia, CATT is based upon the established principles of the Consensus Statement on Concussion in Sport and other evidence-based resources. The 2017 Berlin Concussion in Sport Group Consensus Statement builds on the principles outlined in previous concussion statements and aims to develop better understanding of sport-related concussion.

Research and evidence on concussions is evolving and the knowledge base is continually changing. As a result, this website is updated on a regular basis to provide current information, tools, and resources to support concussion recognition, diagnosis, treatment, and management.

The information, including text and images of this package are intended for your information only, does not substitute professional medical advice, and is provided for educational purposes only. Always seek the advice of a physician or other qualified health care provider about any questions you may have regarding a medical condition.

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Return to School

This tool is a guideline for managing a student's return to school following a concussion and does not replace medical advice. Timelines and activities may vary by direction of a health care professional.

AT HOME		AT SCHOOL				
STAGE 1:	STAGE 2:		STAGE 3:	STAGE 4:	STAGE 5:	STAGE 6:
<p>Physical & cognitive rest</p> <ul style="list-style-type: none"> Basic board games, crafts, talk on phone Activities that do not increase your heart rate or cause you to break a sweat <p>Limit/Avoid:</p> <ul style="list-style-type: none"> Computer, TV, texting, video games, reading <p>No:</p> <ul style="list-style-type: none"> School work Sports Work Driving until cleared by a health care professional 	<p>Start with light cognitive activity:</p> <p>Gradually increase cognitive activity up to 30 min. Take frequent breaks.</p> <p>Prior activities plus:</p> <ul style="list-style-type: none"> Reading, TV, drawing Limited peer contact and social networking <p>Contact school to create Return to School plan.</p>	<p>When light cognitive activity is tolerated:</p> <p>Introduce school work.</p> <p>Prior activities plus:</p> <ul style="list-style-type: none"> School work as per <i>Return to School</i> plan <p>Communicate with school on student's progression.</p>	<p>Back to school part-time</p> <p>Part-time school with maximum accommodations.</p> <p>Prior activities plus:</p> <ul style="list-style-type: none"> School work at school as per <i>Return to School</i> plan <p>No:</p> <ul style="list-style-type: none"> P.E., physical activity at lunch/recess, homework, testing, sports, assemblies, field trips <p>Communicate with school on student's progression.</p>	<p>Part-time school</p> <p>Increase school time with moderate accommodations.</p> <p>Prior activities plus:</p> <ul style="list-style-type: none"> Increase time at school Decrease accommodations Homework – up to 30 min./day Classroom testing with adaptations <p>No:</p> <ul style="list-style-type: none"> P.E., physical activity at lunch/recess, sports, standardized testing <p>Communicate with school on student's progression.</p>	<p>Full-time school</p> <p>Full days at school, minimal accommodations.</p> <p>Prior activities plus:</p> <ul style="list-style-type: none"> Start to eliminate accommodations Increase homework to 60 min./day Limit routine testing to one test per day with adaptations <p>No:</p> <ul style="list-style-type: none"> P.E., physical activity at lunch/recess, sports, standardized testing 	<p>Full-time school</p> <p>Full days at school, no learning accommodations.</p> <ul style="list-style-type: none"> Attend all classes All homework Full extracurricular involvement All testing <p>No:</p> <ul style="list-style-type: none"> full participation in P.E. or sports until <i>Return to Sport</i> protocol completed and written medical clearance provided
	<p>No:</p> <ul style="list-style-type: none"> School attendance Sports Work 					
	<p>Gradually add cognitive activity including school work at home</p>		<p>School work only at school</p>	<p>Increase school work, introduce homework, decrease learning accommodations</p>	<p>Work up to full days at school, minimal learning accommodations</p>	<p>Full academic load</p>
<p>Rest</p> <p>When symptoms start to improve OR after resting for 2 days max, BEGIN STAGE 2</p>	<p>Tolerates 30 min. of cognitive activity, introduce school work at home</p>	<p>Tolerates 60 min. of school work in two 30 min. intervals, BEGIN STAGE 3</p>	<p>Tolerates 120 min. of cognitive activity in 30-45 min. intervals, BEGIN STAGE 4</p>	<p>Tolerates 240 min. of cognitive activity in 45-60 min. intervals, BEGIN STAGE 5</p>	<p>Tolerates school full-time with no learning accommodations BEGIN STAGE 6</p>	<p><i>Return to School</i> protocol completed; focus on RETURN TO SPORT</p>

Note: A student is tolerating an activity if symptoms are not exacerbated.

Adapted from the Return to Learn protocol by G.F. Strong School Program (Vancouver School Board), Adolescent and Young Adult Program, G.F. Strong Rehabilitation Centre.

Return to Sport

This tool is a guideline for managing an individual's return to sport following a concussion and does not replace medical advice. Timelines and activities may vary by direction of a health care professional.

STAGE 1:	STAGE 2:	STAGE 3:	STAGE 4:	STAGE 5:	STAGE 6:
<p>No sporting activity</p> <p>Physical and cognitive rest until symptoms start to improve OR after resting for 2 days max.</p>	<p>Light aerobic exercise</p> <p>Walking, swimming, stationary cycling. No resistance training. The pace of these activities should be at the point where you are still able to have a conversation.</p>	<p>Sport-specific exercise</p> <p>Skating drills (ice hockey), running drills (soccer). No head-impact activities.</p>	<p>Non-contact drills</p> <p>Progress to complex training drills (e.g. passing drills). May start resistance training.</p>	<p>Full-contact practice</p> <p>Following medical clearance participate in normal training activities.</p>	<p>Back in the game</p> <p>Normal game play</p>
Recovery	Increase heart rate	Add movement	Exercise, coordination, cognitive load	Restore confidence; assess functional skills	<p>Note: Premature return to contact sports (full practice and game play) may cause a significant setback in recovery.</p>
<p>Symptoms improve or 2 days rest max?</p> <p>Yes: Move to stage 2 No: Continue resting</p> <p>Time & Date completed:</p> <hr/>	<p>No new or worsening symptoms for 24 hours?</p> <p>Yes: Move to stage 3 No: Return to stage 1</p> <p>Time & Date completed:</p> <hr/>	<p>No new or worsening symptoms for 24 hours?</p> <p>Yes: Move to stage 4 No: Return to stage 2</p> <p>Time & Date completed:</p> <hr/>	<p>Symptom-free for 24 hours?</p> <p>Yes: Move to stage 5 No: Return to stage 3</p> <p>Time & Date completed:</p> <hr/>	<p>Symptom-free for 24 hours?</p> <p>Yes: Move to stage 6 No: Return to stage 4</p> <p>Time & Date completed:</p> <hr/>	

If new or worsening symptoms are experienced at any stage, go back to the previous stage for at least 24 hours. You may need to move back a stage more than once during the recovery process.

Medical clearance required before moving to stage 5

BOTH TOOLS CAN BE USED IN PARALLEL; HOWEVER, RETURN TO SCHOOL SHOULD BE COMPLETED BEFORE RETURN TO SPORT IS COMPLETED

Return to Activity

This tool is a guideline for managing an individual's return to activity following a concussion and does not replace medical advice. Timelines and activities may vary by direction of a health care professional.

STAGE 1:	STAGE 2:	STAGE 3:	STAGE 4:	STAGE 5:
<p>Initial rest</p> <ul style="list-style-type: none"> Stay home in a quiet and calm environment. Limit your screen time (computer, television, and smartphone use). Keep any social visits brief. Sleep as much as your body needs while trying to maintain a regular night sleeping schedule. <p>Note: The goal for each stage is to find the 'sweet spot' between doing too much and too little.</p>	<p>Prepare to return to activity</p> <ul style="list-style-type: none"> Test your readiness by trying some simple, familiar tasks such as reading, using the computer, or shopping for groceries. Keep the time on each activity brief (e.g., less than 30 minutes) and take regular rest breaks. Go for walks or try other light physical activity (e.g., swimming, stationary bike), without becoming short of breath. Keep bed rest during the day to a minimum. It is unlikely to help your recovery. 	<p>Increase your activity</p> <ul style="list-style-type: none"> Gradually return to usual activities and decrease rest breaks. Start with less demanding activities before harder ones. Physical activity might include jogging, lifting light weights, or non-contact sport drills, gardening, dancing. <p>Note: You could start returning to school or work on a part-time basis (e.g., a few hours per day).</p>	<p>Gradually resume daily activities</p> <p>Resuming daily activities can be challenging because your energy and capacity for activities may be variable, but should improve day-to-day or week-to-week.</p> <p>Students and workers may require accommodations, such as reduced hours, reduced workload, extra time for assignments, or access to a quiet distraction-free work environment.</p>	<p>Full return to activity</p> <ul style="list-style-type: none"> Full class schedule, with no rest breaks or accommodations. Full work schedule with usual expectations for productivity Student athletes should not return to sport competition until they have fully returned to school. <p>Only return to contact sports or dangerous job duties (e.g., operating heavy equipment, working from heights) when cleared by your doctor.</p>
Rest	Get ready to return	Start your return	Continue your return	
When symptoms start to improve OR after resting for 2 days max, BEGIN STAGE 2	Tolerates simple, familiar tasks, BEGIN STAGE 3	Tolerates further increase in level of activity, BEGIN STAGE 4	Tolerates partial return to usual activities, BEGIN STAGE 5	

If new or worsening symptoms are experienced at any stage, go back to the previous stage for at least 24 hours. You may need to move back a stage more than once during the recovery process.

Each person will progress at his/her own pace. It is best not to "push" through symptoms. If you do too much, your symptoms may worsen. Decrease your activity level and your symptoms should settle. Then continue to gradually increase your activity in smaller increments.



Medical Assessment Letter

Medical Office, please complete:	
M.D. / N.P. Name	
Medical License #	
Email / Contact #	
Date of event / injury	
Date of assessment	

To Whom It May Concern:

Any individual who sustains a blow or impact to the head, face, neck or body and demonstrates any visual signs of concussion or reports any of the symptoms of concussion is recommended to be assessed by a licensed medical professional. Accordingly, I have personally completed a medical assessment on this patient.

Name of Patient: _____

Results of the Medical Assessment

This patient has not been diagnosed with a concussion or other injury and can return, with full participation to work, school, or physical activities without restriction.

This patient has not been diagnosed with a concussion but the assessment led to the following diagnosis and recommendations:

This patient HAS been diagnosed with a concussion. *See below for concussion management protocol.*

This patient has been instructed to avoid all activities that could potentially place them at risk of another concussion or head injury, or activities with implications for the safety of others (e.g., driving, dangerous job duties, and contact sports) until a licensed physician or nurse practitioner provides a Medical Clearance Letter.

Yours Sincerely,

Signature _____ M.D / N.P. (Please circle appropriate designation)¹

Stamp

1 Depending upon physician or nurse practitioner access, the Medical Assessment Letter may be completed by a nurse with access to a licensed physician or nurse practitioner. Forms completed by other health care professionals (e.g., physiotherapists, chiropractors, and other allied health care professionals) should not be accepted. It is recommended that this document be provided to the patient without charge.

Concussion Management

The goal of concussion management is to allow complete recovery through a safe and gradual return to work, school and physical activities following a staged approach. *Note: a patient's progress through the return to activity stages is unique to the individual.* After Stage 2, if new or worsening symptoms are experienced, the patient may need to return to the previous stage for 24 hours and consider reassessment by their physician/nurse practitioner. For more detailed information on management and resources, please refer to the Concussion Awareness Training Tool (CATT) at cattonline.com.

Stage 1: Initial Rest

In the first 24-48 hours the patient has been instructed to have complete physical and cognitive rest prior to initiating a return to work or activity.

Not yet completed
 Completed on (dd/mm/yyyy) _____
 Time period has passed

Stage 2: Prepare to return to activity at home

The patient can begin the return to activity process at home by undertaking brief familiar tasks until no new or worsening concussion symptoms are experienced.

Not yet completed
 Completed on (dd/mm/yyyy) _____
 Time period has passed

Stage 3 & 4: Prepare to return to work, school, and physical activity and gradually resume daily activities

The patient can initiate a graduated return to work, school, and physical activities on a part-time basis, by increasing and gradually resuming usual activities (supported with accommodations, modifications, and restrictions as needed) as tolerated and only at a level that does not bring on new or worsening concussion symptoms.

Not yet completed
 Completed on (dd/mm/yyyy) _____
 Time period has passed

Restrictions/Accommodations	Details	Timeline

Stage 5 & 6: Full return to work, school, and physical activities

The patient can return with full participation to work, school, and physical activities.

Not yet completed
Completed on (dd/mm/yyyy) _____
Time period has passed

Restrictions/Accommodations	Details	Timeline

Yours Sincerely,

Signature _____ M.D / N.P. (Please circle appropriate designation)²

Stamp 

² Depending upon physician or nurse practitioner access, the Medical Assessment Letter may be completed by a nurse with access to a licensed physician or nurse practitioner. Forms completed by other health care professionals (e.g., physiotherapists, chiropractors, and other allied health care professionals) should not be accepted. It is recommended that this document be provided to the patient without charge.



Medical Clearance Letter

Medical Office, please complete:	
M.D. / N.P. Name	
Medical License #	
Email / Contact #	
Date of Clearance Letter	

M.D. / N.P. / Patient please complete:	
Date of Concussion	
Date of Concussion Diagnosis	
Organization/Individual Requesting Medical Clearance	

To Whom It May Concern:

Patients with a concussion should be assessed and managed by a medical professional. The goal of concussion management is to support the patient’s complete recovery from concussion by promoting a safe and gradual return to activity following a staged approach. For more detailed information and resources, please refer to the Concussion Awareness Training Tool (CATT) at cattonline.com.

As part of the strategy, this patient had previously been instructed to avoid all activities that could potentially place them at risk of another concussion or head injury until a medical clearance letter is provided (due to organizational requirements, dangerous job duties, contact sports, etc.). This patient has explained the organizational requirements and the duties/activities they participate in, and I have personally completed a medical clearance on this patient.

Name of Patient: _____

Note that the patient’s recovery is individual. After Stage 2, if new or worsening concussion symptoms are experienced the patient has been instructed to return to the previous stage of the strategy for 24 hours.

This patient can return with full participation to work, school, or physical activities **without restriction**.

This patient can return to work, school, or physical activities **with the following restriction(s)**:

Restriction(s) Physical & Cognitive	Details	Timeline

This patient can return with full participation to work, school, or physical activities **without accommodation**.

This patient can return to work, school, or physical activities **with the following accommodation(s)**:

Accommodation(s) Physical & Cognitive	Details	Timeline

Your understanding and support are critical components in this patient's continuing recovery.

Yours Sincerely,

Signature _____ M.D / N.P. (Please circle appropriate designation)¹

Stamp 

¹ Depending upon physician or nurse practitioner access, the Medical Clearance Letter may be completed by a nurse with access to a licensed physician or nurse practitioner. Forms completed by other health care professionals (e.g., physiotherapists, chiropractors, and other allied health care professionals) should not be accepted. It is recommended that this document be provided to the patient without charge.

Additional Resources

Brain Injury Guidelines (Ontario Neurotrauma Foundation)

<https://braininjuryguidelines.org/>

British Journal of Sports Medicine- International Consensus Statement on Concussion in Sport (2017)

<https://bjsm.bmj.com/content/bjsports/51/11/838.full.pdf>

British Journal of Sports Medicine- The Child Sport Concussion Assessment Tool 5th Edition (Child SCAT5) (2017)

<https://bjsm.bmj.com/content/bjsports/51/11/862.full.pdf>

British Journal of Sports Medicine- The Sport Concussion Assessment Tool 5th Edition (SCAT5)

<https://bjsm.bmj.com/content/bjsports/51/11/851.full.pdf>

Canadian C-Spine Rule (2001)

<https://www.mdcalc.com/canadian-c-spine-rule>

Canadian Concussion Collaborative - 4 Characteristics of a Good Concussion Clinic

<http://casem-acmse.org/wp-content/uploads/2018/06/CCES-PUB-CCC-4Qs-E-FINAL.pdf>

Canadian Head CT Rule (2001)

<https://www.mdcalc.com/canadian-ct-head-injury-trauma-rule>

CATT - SCAT 5 and Child SCAT5 Online

<https://cattonline.com/scat/>

Concussions Ontario - Referral Indicators (2017)

<https://concussionsontario.org/healthcareprofessionals/standards/tools-resources/referral-indicators/>

Concussions Ontario (Ontario Neurotrauma Foundation)

<https://concussionsontario.org/>

Heads Up Clinicians - Acute Concussion Evaluation (ACE) (2006)

https://www.cdc.gov/headsup/pdfs/providers/ace_v2-a.pdf

ONF Standards for Post-Concussion Care

<https://concussionsontario.org/healthcareprofessionals/standards/>

Ontario Neurotrauma Foundation - Guideline for Concussion/Mild Traumatic Brain Injury & Persistent Symptoms 3rd Edition (2018)

<http://braininjuryguidelines.org/concussion/>

Parachute - Canadian Guideline on Concussion in Sport (2017)

<https://www.parachute.ca/en/professional-resource/concussion-collection/canadian-guideline-on-concussion-in-sport/>

Parachute- Concussion Resources for Health Professionals

<https://www.parachutecanada.org/en/professional-resource/concussion-collection/concussion-resources-for-health-professionals/>

PECARN Pediatric Head CT Rule (2 years or older)

<https://drive.google.com/file/d/0B96hLIM4rbvueVM0OGZSbjJiMHM/view?resourcekey=0-e3HgO1OyKFexFn11huWFqQ>

Additional Resources

PECARN Pediatric Head CT Rule (younger than 2 years)

<https://drive.google.com/file/d/0B96hLIM4rbvuMzFVbndLa1hWeTQ/view?resourcekey=0-rlWNx2RDv5IFb1BgA50kGA>

PedsConcussion - Living Guideline for Pediatric Concussion Care

<https://pedsconcussion.com/>

Rivermead Post-Concussion Questionnaire (1995)

<http://braininjuryguidelines.org/concussion/fileadmin/media/appendices/appendix-1-5.pdf>

Physiotherapists

Clearance to return to sports activities following a mild TBI or concussion: Update regarding the participation of physiotherapists. Joint Announcement of the Collège des Médecins du Québec and the Ordre professionnel de la physiothérapie du Québec

<http://www.cmq.org/pdf/activites-partages-physio/avis-conjoint-cmq-oppq-commotions-sports-en-def.pdf>

Concussion Management: A Toolkit for Physiotherapists. Physiotherapy Alberta College + Association

https://www.physiotherapyalberta.ca/files/concussion_toolkit.pdf

Living Guideline for Diagnosing and Managing Pediatric Concussion. PedsConcussion. Section B Managing Concussion Symptoms. Domain 10 Vision, Vestibular and Oculomotor Function

<https://pedsconcussion.com/section/b/#domain-10>

Physical Therapy Evaluation and Treatment after Concussion/Mild Traumatic Brain Injury (2020). J Orthop Sports Phys Ther. 2020;50(4).

<https://www.jospt.org/doi/pdfplus/10.2519/jospt.2020.0301>

Sports Concussions A Complete Guide to Recovery and Management. 2018. Ed. I Gagnon and A Ptito. Chapter 8 Physiotherapy and concussion: What can the physiotherapist do? KJ Schneider, I Gagnon.

<https://www.routledge.com/Sports-Concussions-A-Complete-Guide-to-Recovery-and-Management/Gagnon-Ptito/p/book/9780367871451>

The Role of the Physiotherapist in the Assessment and Management of Concussions. Position Statement by the Canadian Alliance of Physiotherapy Regulators (CAPR)

<https://www.alliancept.org/announcement/capr-launches-position-statement-regarding-concussions/>

Occupational Therapists

Occupational Therapy and Concussion Management. Canadian Association of Occupational Therapists, British Columbia (CAOT BC)

https://caot.ca/document/6994/CAOTBC_OTConcussionManagment_Final.pdf

Occupational Therapy and Concussion. Canadian Association of Occupational Therapists (CAOT)

<https://www.caot.ca/document/4049/Concussion%20-%20Fact%20Sheet.pdf>

Living Guideline for Diagnosing and Managing Pediatric Concussion. PedsConcussion. Section B Managing Concussion Symptoms. Domain 10 Vision, Vestibular and Oculomotor Function.

<https://pedsconcussion.com/section/b/#domain-10>

Additional Resources

Sports Concussions A Complete Guide to Recovery and Management. 2018. Ed. I Gagnon, A Ptito. Chapter 10: The role of the occupational therapist in concussion management: What can the occupational therapist do? C DeMatteo, N Reed.

<https://www.routledge.com/Sports-Concussions-A-Complete-Guide-to-Recovery-and-Management/Gagnon-Ptito/p/book/9780367871451>

Patient Resources

CATT & Parachute Patient Information Sheet: Caring for Your Concussion

<https://cattonline.com/wp-content/uploads/2019/10/Parachute-Caring-for-Your-Concussion-2018.pdf>

CATT Concussion Pathway

<https://cattonline.com/wp-content/uploads/2021/06/CATT-Poster-Concussion-Pathway-V3-2021-11x17-WEB.pdf>

CATT Managing Mental Health Symptoms

<https://cattonline.com/wp-content/uploads/2019/06/CATT-Managing-Mental-Health-Symptoms-V2-Sep-2020.pdf>

Concussion and You Handbook

<https://hollandbloorview.ca/concussion-handbook>

The Concussion Legacy Foundation Canada HelpLine

<https://www.concussionfoundation.ca/helpline>

University of Georgia - Driving after a Concussion: Is It Safe to get Behind the Wheel?

<https://cattonline.com/wp-content/uploads/2020/07/Driving-After-Concussion-Is-It-Safe-to-Get-Behind-The-Wheel-2020.pdf>

