



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, CATT is based upon the established principles of the Consensus Statement on Concussion in Sport. 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.

cattonline.com

Table of Contents

| | |
|---|-----------|
| List of Resources for Medical Professionals | 4 |
| A list of resources that could be useful when seeing patients with a concussion or suspected concussion. | |
| Management Resources for Patients | 6 |
| CATT Return to School: A tool providing a gradual, six-stage stepwise strategy for returning to school following a concussion. | 6 |
| CATT Return to Sport: A tool providing a gradual, six-stage stepwise strategy for returning to sport following a concussion. | 7 |
| CATT Return to Activity: A tool providing a gradual, six-stage stepwise strategy for returning to activity following a concussion. | 8 |
| CATT Return to Work: A tool providing a gradual, six-stage stepwise strategy for returning to work following a concussion. | 9 |
| CATT Medical Assessment Letter: A form completed by a licenced medical professional during the initial medical assessment. This form indicates whether or not a concussion has been diagnosed, and provides outlines for return to work, school, or activity. | 10 |
| CATT Medical Clearance Letter: A form completed by a licensed medical professional that clears the individual to participate in specific activities. | 13 |

Resources for Medical Professionals

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

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

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)

http://www.parachutecanada.org/downloads/injurytopics/Canadian_Guideline_on_Concussion_in_Sport-Parachute.pdf

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

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

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

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

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

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

CATT – SCAT5 and Child SCAT5 Online

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

Rivermead Post-Concussion Questionnaire (1995)

https://drive.google.com/viewerng/viewer?url=http://www.tbi-impact.org/cde/mod_templates/12_F_06_Rivermead.pdf

PECARN Pediatric Head CT Rule (younger than 2 years)

<https://drive.google.com/file/d/0B96hLIM4rbvuMzFVbndLa1hWeTQ/view>

PECARN Pediatric Head CT Rule (2 years or older)

<https://drive.google.com/file/d/0B96hLIM4rbvueVM0OGZSbjJiMHM/view>

Canadian Head CT Rule (2001)

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

Canadian C-Spine Rule (2001)

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

Concussions Ontario – Referral Indicators (2017)

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

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>

Resources for Medical Professionals

Staying Up-to-Date About Concussions

International Consensus Statement on Concussion in Sport

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

Concussion Awareness Training Tool

<https://cattonline.com/>

Ontario Neurotrauma Foundation

<http://onf.org/>

Parachute

<http://www.parachutecanada.org/injury-topics/item/concussion>

Canadian Concussion Collaborative

<https://casem-acmse.org/resources/canadian-concussion-collaborative/>

Centers for Disease Control and Prevention

<https://www.cdc.gov/headsup/index.html>

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: | |
| Physical & cognitive rest <ul style="list-style-type: none"> • Basic board games, crafts, talk on phone • Activities that do not increase heart rate or break a sweat Limit/Avoid: <ul style="list-style-type: none"> • Computer, TV, texting, video games, reading No: <ul style="list-style-type: none"> • School work • Sports • Work • Driving until cleared by a health care professional | Start with light cognitive activity: <p>Gradually increase cognitive activity up to 30 min. Take frequent breaks.</p> Prior activities plus: <ul style="list-style-type: none"> • Reading, TV, drawing • Limited peer contact and social networking Contact school to create Return to School plan. | When light cognitive activity is tolerated: <p>Introduce school work.</p> Prior activities plus: <ul style="list-style-type: none"> • School work as per Return to School plan Communicate with school on student's progression. | Back to school part-time <p>Part-time school with maximum accommodations.</p> Prior activities plus: <ul style="list-style-type: none"> • School work at school as per Return to School plan No: <ul style="list-style-type: none"> • P.E., physical activity at lunch/recess, homework, testing, sports, assemblies, field trips Communicate with school on student's progression. | Part-time school <p>Increase school time with moderate accommodations.</p> Prior activities plus: <ul style="list-style-type: none"> • Increase time at school • Decrease accommodations • Homework – up to 30 min./day • Classroom testing with adaptations No: <ul style="list-style-type: none"> • P.E., physical activity at lunch/recess, sports, standardized testing Communicate with school on student's progression. | Full-time school <p>Full days at school, minimal accommodations.</p> Prior activities plus: <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 No: <ul style="list-style-type: none"> • P.E., physical activity at lunch/recess, sports, standardized testing | Full-time school <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 No: <ul style="list-style-type: none"> • Full participation in P.E. or sports until Return to Sport protocol completed and written medical clearance provided |
| Rest <p>When symptoms start to improve OR after resting for 2 days max, BEGIN STAGE 2</p> | Gradually add cognitive activity including school work at home <p>Tolerates 30 min. of cognitive activity, introduce school work at home</p> | School work only at school <p>Tolerates 120 min. of cognitive activity in 30-45 min. intervals, BEGIN STAGE 4</p> | School work only at school <p>Tolerates 240 min. of cognitive activity in 45-60 min. intervals, BEGIN STAGE 5</p> | Work up to full days at school, minimal learning accommodations <p>Tolerates school full-time with no learning accommodations BEGIN STAGE 6</p> | Full academic load <p>Return to School 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: |
|---|--|--|--|--|--|
| No sporting activity Physical and cognitive rest until symptoms start to improve OR after resting for 2 days max. | Light aerobic exercise 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. | Sport-specific exercise Skating drills (ice hockey), running drills (soccer). No head-impact activities. | Non-contact drills Progress to complex training drills (e.g. passing drills). May start resistance training. | Full-contact practice Following medical clearance participate in normal training activities. | Back in the game Normal game play |
| Recovery Symptoms improve or 2 days rest max? Yes: Move to stage 2 No: Continue resting Time & Date completed: _____ | Increase heart rate No new or worsening symptoms for 24 hours? Yes: Move to stage 3 No: Return to stage 1 Time & Date completed: _____ | Add movement No new or worsening symptoms for 24 hours? Yes: Move to stage 4 No: Return to stage 2 Time & Date completed: _____ | Exercise, coordination, cognitive load Symptom-free for 24 hours? Yes: Move to stage 5 No: Return to stage 3 Time & Date completed: _____ | Restore confidence, assess functional skills Symptom-free for 24 hours? Yes: Move to stage 6 No: Return to stage 4 Time & Date completed: _____ | Note: Premature return to contact sports (full practice and game play) may cause a significant setback in recovery. |

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

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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>Rest</p> <p>When symptoms start to improve OR after resting for 2 days max, BEGIN STAGE 2</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>Get ready to return</p> <p>Tolerates simple, familiar tasks, BEGIN STAGE 3</p> | <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>Start your return</p> <p>Tolerates further increase in level of activity, BEGIN STAGE 4</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>Continue your return</p> <p>Tolerates partial return to usual activities, BEGIN STAGE 5</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> |

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.

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Adapted from Noah D. Silverberg, PhD



ATT

CONCUSSION AWARENESS
TRAINING TOOL

BC INJURY research and
prevention unit

www.injuryresearch.bc.ca

Return to Work

This tool is a guideline for managing an individual's return to work following a concussion and does not replace medical advice. The goal for each stage is to find the 'sweet spot' between doing too much and doing too little. Timelines and activities may vary by direction of a health care professional.

| AT HOME | | | AT WORK | | | |
|--|---|--|---|--|--|---|
| <p>STAGE 1:</p> <p>Initial physical and cognitive rest</p> <ul style="list-style-type: none"> Rest in a quiet and calm environment. Try activities that do not aggravate symptoms (e.g., listening to quiet music or colouring). Sleep as much as your body needs while trying to maintain a regular night sleeping schedule. <p>Limit:</p> <ul style="list-style-type: none"> Lengthy social visits. Screen time (smartphone, computer, television) and reading. <p>Avoid:</p> <ul style="list-style-type: none"> Sports or physical activities that increase your heart rate or cause you to break a sweat. <p>NOTE: It is recommended to discuss driving with a licensed medical professional for safety considerations.</p> | <p>STAGE 2:</p> <p>Light activity</p> <ul style="list-style-type: none"> Gradually increase cognitive activity by trying simple, familiar tasks (e.g., reading, watching TV, using the computer or drawing). Go for walks or try other light physical activity (e.g., swimming, stationary bike, light housework), without becoming short of breath. Take frequent rest periods; keep napping to a minimum. Begin with brief periods of activity, up to 30 minutes. Start thinking about returning to work: communicating with the workplace, a return to work plan, and your commute. | <p>STAGE 3:</p> <p>Prepare to return to work—at home</p> <ul style="list-style-type: none"> Continue to increase cognitive activity. Continue to return to pre-injury physical activities (e.g., grocery shopping, gardening, jogging, light weight training). Contact workplace to discuss a tailored Return to Work plan. Attempt to commute to work to assess if it aggravates symptoms or drains energy. A regular sleeping schedule supports a successful return to work. Work your way up to 2 hours of activity, with breaks as needed. | <p>STAGE 3:</p> <p>Prepare to return to work—at work</p> <ul style="list-style-type: none"> Work accommodations can include: flexible hours, reduced workload, extra time for tasks, access to a quiet, distraction-free work environment. Arrange to return to work on a graduated basis. Consider number of hours per day and appropriate accommodations. Work your way up to an additional 2 hours of activity, with breaks as needed. Have a plan to leave work and return to Stage 2 if symptoms worsen. | <p>STAGE 4:</p> <p>Begin graduated return to work</p> <ul style="list-style-type: none"> Return to work according to your graduated return to work plan, with the agreed upon number of hours per day and accommodations. At work, start with less demanding activities before more difficult ones. Gradually increase working hours week-to-week, or sooner, as appropriate. | <p>STAGE 5:</p> <p>Regular work hours with modifications, as needed</p> <ul style="list-style-type: none"> Decrease accommodations as energy and capacity increases. Accommodations can be phased out in "trial" periods, to ensure that they are no longer needed. Monitor energy levels for completing household tasks and participating in social or recreational activities after the work day. | <p>STAGE 6:</p> <p>Full return to work</p> <ul style="list-style-type: none"> Full regular work schedule with usual expectations for productivity, without accommodations. <p>NOTE: Only return to job duties that may have safety implications for you or others when cleared by a licensed medical professional (e.g., operating heavy equipment, working from heights, driving).</p> |
| <p>Rest</p> <p>When symptoms start to improve OR after resting for 2 days max, BEGIN STAGE 2</p> | <p>Gradually increase activity</p> <p>When 30 minutes of activity is tolerated, BEGIN STAGE 3</p> | <p>Prepare to return to work</p> <p>When 4 hours of activity is tolerated, with breaks as needed, BEGIN STAGE 4</p> | | <p>Return to work with accommodations and a personalized Return to Work plan</p> <p>When ready for regular work hours with accommodations, BEGIN STAGE 5</p> | <p>Adjust workplace accommodations, as needed</p> <p>When regular work hours are tolerated with min. accommodations, BEGIN STAGE 6</p> | <p>Full return to work</p> <p>Once you have COMPLETED STAGE 6, Return to Work strategy completed</p> |

Recognizing that workplace environments vary by industry and occupation, returning to work may focus more on a return to cognitive activity, physical activity, or a combination of both. It is normal to experience symptoms during recovery; you do not have to wait to be symptom free before returning to work. However, after Stage 2, if new or worsening symptoms appear 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 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.

