



Concussion in British Columbia: An Invisible Epidemic & the Need to Standardize Care and Practice

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Immeasurable Benefits!





6 things you should know about concussions

- 1 Concussion is a brain injury.
- 2 A child's brain is still developing and requires a unique approach to care.
- 3 You can have a concussion without losing consciousness.
- 4 Concussion symptoms are more than just physical. They can be mental, emotional or behavioural.
- 5 Most concussions resolve quickly, however 30% of people have symptoms that last longer than 4 weeks.
- 6 It's essential for optimal recovery to rest your mind and body.

Holland Bloorview
Kids Rehabilitation Hospital | Concussion Centre

Trusted experts in youth concussion
hollandbloorview.ca/concussion

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- Brain Injury
- Complex
- Head or other part of the body
- Loss of consciousness?
- Imaging
- **Immediate or after several days**
- **Lasting days/weeks/months**



Who's Responsibility Is it?





Cattonline.com currently provides two free online concussion toolkits: the Concussion Clinical Toolkit for Medical Professionals and the Concussion Awareness Training Toolkit for Parents, Players, and Coaches.

Both websites provide up-to-date education, tools and resources to help prevent, recognize, treat and manage concussions as well as support decreasing the impact of concussion when they do occur.

These resources are updated on a monthly basis and will provide the latest evidence on how to deal with concussions.

The image shows three side-by-side screenshots of the CATT website toolkits. Each screenshot displays the header with the CATT logo and navigation menu. The first toolkit is for Medical Professionals, featuring a blue header and a video player with a doctor. The second toolkit is for Parents, Players, and Coaches, featuring an orange header and a video player with a person wearing a helmet. The third toolkit is for School Professionals, featuring a green header and a video player with a person. Below each screenshot is a caption and a brief description of the toolkit's purpose.

Medical Professionals

Learn the latest care and management of patients

Parents, Players, and Coaches

Learn how to recognize and respond to a

School Professionals

Coming Soon

How CATT is Unique

- Learner-centered model
- Free of charge
- Updated and reviewed every 2-4 weeks
- Available 24/7
- Evidence-based
- Evaluated
- Constant enhancements made to keep current

Ease of Navigation

Concussion Clinical Toolkit

HOME

LEARN

ASSESS

RESOURCES

EXPERTS TALK

FAQ

ABOUT US

Promoting Concussion Management

Based on the consensus of a panel of experts at the 4th International Conference on Concussion in Sport



Learn

Mainpro-M2 eligible

Up to date clinical management
Perspectives from concussion experts
Learner directed

[START LEARNING »](#)



Assess

With the online SCAT3 and Child-SCAT3

Quick and easy to fill out
Step-by-step evaluation
Optionally download or print the results

[BEGIN EVALUATION »](#)



Resources

For Health care professionals

Clinical tools and guidelines
Return to activity guidelines for patients
Journal articles and more

[BROWSE RESOURCES »](#)

Audience Overview

April 9, 2015 - Nov 9, 2015

Email Export Add to Dashboard Shortcut

All Sessions
100.00%

+ Add Segment

Consistent over 2 1/2 years

Overview

Sessions vs. Select a metric

Hourly Day Week Month

Sessions

200



Sessions

57,149

Users

39,472

Pageviews

146,887

Pages / Session

2.57

Avg. Session Duration

00:02:46

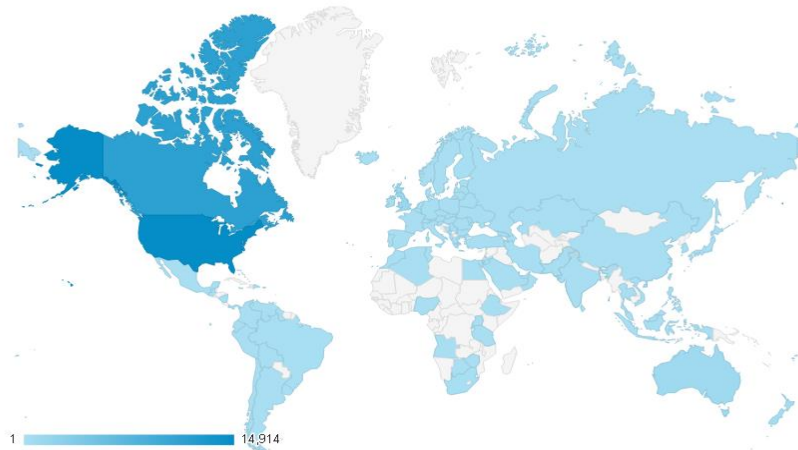
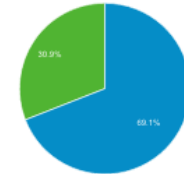
Bounce Rate

42.68%

% New Sessions

69.03%

New Visitor Returning Visitor



Worldwide reach

Further Enhancements to Enhance Management (for example)

- **History**
 - Events
 - Patient (past/present/general)
- **Examination**
 - Focusing on
 - Neurological symptoms
 - Cranial Nerves
 - Motor and Sensory
 - Coordination (BESS)
 - Reflexes
- **Assessment**
 - Determine extent of injury (based on history and clinical exam)
 - Mental Health

Further Enhancements to Enhance Management Cont'd

- **Management Plan (immediate)**
 - Imaging rare unless significant concern
 - Optimal nutrition emphasis including hydration
 - Information on sleep hygiene
 - Discuss headache triggers
 - Physical activity limits
- **Management Plan (3 months post)**
 - Consider refer to mental health specialist, neuro-optometrist, neuro-psychologist, neurologist, physiatrist



Cattonline.com provides up-to-date concussion education for parents and coaches. It includes video lessons and resources to effectively prevent, recognize and manage a players recovery.

[BEGIN COURSE](#)



Parents

Information and resources for parents to help manage a child with a concussion

[PARENTS PAGE »](#)



Players

Helpful videos to teach players about concussions

[PLAYERS PAGE »](#)



Coaches

Information and tools to help coaches manage a player with a concussion

[COACHES PAGE »](#)

• SMARTPHONE/IPAD FILLABILITY

Concussion Response Tool

Child's name: _____ Age: _____

Name of parent/guardian: _____

Name of person monitoring child at scene: _____

Date of incident: _____ Time: _____

Description of incident: Blow to the head Hit to the body

What happened? _____

At the scene of the incident

Step 1: Determine if this is a medical emergency

a) Follow basic first aid:

- Danger
- Response
- Airway
- Breathing
- Circulation

b) CALL 911 if the child shows any of these Red Flag Symptoms at any time.

RED FLAG SYMPTOMS

You see:	The child complains of:	The child is showing:
<input type="checkbox"/> Repeated vomiting <input type="checkbox"/> Seizure or convulsion <input type="checkbox"/> Deteriorating or loss of consciousness	<input type="checkbox"/> Neck pain <input type="checkbox"/> Double vision <input type="checkbox"/> Weakness or tingling/burning in the arms or legs <input type="checkbox"/> Severe or increasing headache	<input type="checkbox"/> Unusual behavior <input type="checkbox"/> Increasing confusion or irritability

Questions to Ask Your Doctor

If you suspect your child may have a concussion, you should see your doctor right away. This is a list of questions you can take with you.

Caring for my child

What kind of medication can I give my child? _____

Does someone need to be with my child at all times? _____

What my child can do

Can my child eat? Will they have an upset stomach? _____

What kind of activities can my child do at this stage of their recovery? _____

Can my child read/use the computer/play video games? _____

When can my child go back to school or work? _____

When can my child return to physical activity? _____

Can my child drive? _____

Symptoms

What symptoms should I be watching for? _____

How soon will symptoms begin to improve? _____

How long will these problems last? _____

The risks

What is the risk of a future concussion? _____

What is the risk of long term complications? _____

Follow-up with the doctor

When should we come back to see you? _____

Under what circumstances should I call you? _____

Should a specialist be consulted? _____

Are there any resources you recommend? _____

Return to Play Communication Tool

Return to Learn should be completed before Return to Play.

STAGE 1:	STAGE 2:	STAGE 3:	STAGE 4:	STAGE 5:	STAGE 6:
No sporting activity	Light aerobic exercise	Sport-specific exercise	Non-contact drills	Full-contact practice	BACK IN THE GAME Normal game play
Symptom-limited physical and cognitive rest	Walking, swimming, stationary cycling. No resistance training. Heart rate <70%	Skating drills (ice hockey), running drills (soccer). No head-impact activities	Progress to complex training drills (e.g., passing drills). May start resistance training	Following medical clearance participate in normal training activities	
Recovery	Increase heart rate	Add movement	Exercise, coordination, cognitive load	Restore confidence; assess functional skills	
Symptom-free for 24 hours? Yes: Begin Stage 2 No: Continue resting Time & date completed:	Symptom-free for 24 hours? Yes: Move to Stage 3 No: Return to Stage 1 Time & date completed:	Symptom-free for 24 hours? Yes: Move to Stage 4 No: Return to Stage 2 Time & date completed:	Symptom-free for 24 hours? Yes: Move to Stage 5 No: Return to Stage 3 Time & date completed:	Symptom-free for 24 hours? Yes: Return to play No: Return to Stage 4 Time & date completed:	

If symptoms reappear at any stage, go back to the previous stage until symptom-free for 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



BC INJURY research and prevention unit

Return to Learn Communication Tool Return to Learn should be completed before Return to Play.

STAGE 1: Restricted cognitive activity Cognitive rest at home. Restrict cognitive activities (i.e., schoolwork, reading, texting, video games, computer).	STAGE 2: Gradual reintroduction of cognitive activity Add cognitive activities. Start with 5-15 minutes at a time. Build to a 60-minute session without a break.	STAGE 3:	STAGE 4:	STAGE 5:	STAGE 6:
Recovery	Add cognitive activity				
Symptom-free for 24 hours? Yes: Begin Stage 2 No: Continue resting Time & date completed: _____ _____ _____	Tolerates cognitive activity for 1 hour without a break? Yes: Move to Stage 3 No: Return to Stage 1 Time & date completed: _____ _____ _____				

If symptoms reappear at any stage, go back to the p to move back a stage more than once during the rec
 Physical activity during Return to Learn is restricted



Return to Learn Protocol

This tool is a guideline for managing a student's return to school following a concussion. 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, photography Physical activities that do not increase heart rate or break a sweat Avoid: <ul style="list-style-type: none"> Computer, TV, texting, video games, reading No: <ul style="list-style-type: none"> School work Sports Driving Work 	Start with light cognitive activity: Gradually increase cognitive activity up to 30 min. of activity Prior activities plus: <ul style="list-style-type: none"> Reading, TV, drawing, Lego Limited peer contact and social networking Take frequent breaks Contact school to plan return to learn	Then when light cognitive activity tolerated: Introduce school work Prior activities plus: <ul style="list-style-type: none"> School work as per return to learn plan Communicate with school on student's progression	Back to school: part time Part-time school with maximum accommodations Prior activities plus: <ul style="list-style-type: none"> School work at school as per return to learn 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 Increase school time with moderate accommodations 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 Full days at school, minimal accommodations 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
Rest	Gradually add cognitive activity including school work at home	Schoolwork only at school	Increase schoolwork, introduce homework, decrease learning accommodations	Work up to full days at school, minimal learning accommodations	Full academic load
When symptom-free for 24 hours begin STAGE 2	Tolerates 30 min. of cognitive activity, introduce school work at home	Tolerates 60 min. of school work in two 30 min. intervals, begin STAGE 3	Tolerates 120 min. of cognitive activity in 30 to 45 min. intervals, begin STAGE 4	Tolerates 240 min. of cognitive activity in 45 to 60 min. intervals, begin STAGE 5	Tolerates school full-time with no learning accommodations begin STAGE 6
					Return to Learn protocol completed focus on Return to Play

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



BC INJURY research and prevention unit



Audience Overview

Apr 1, 2013 - Jan 11, 2016

Email Export Add to Dashboard Shortcut

All Sessions
100.00%

+ Add Segment

Overview

Sessions vs. Select a metric

Hourly Day Week Month

Sessions



Sessions
22,558

Users
15,873

Pageviews
76,952

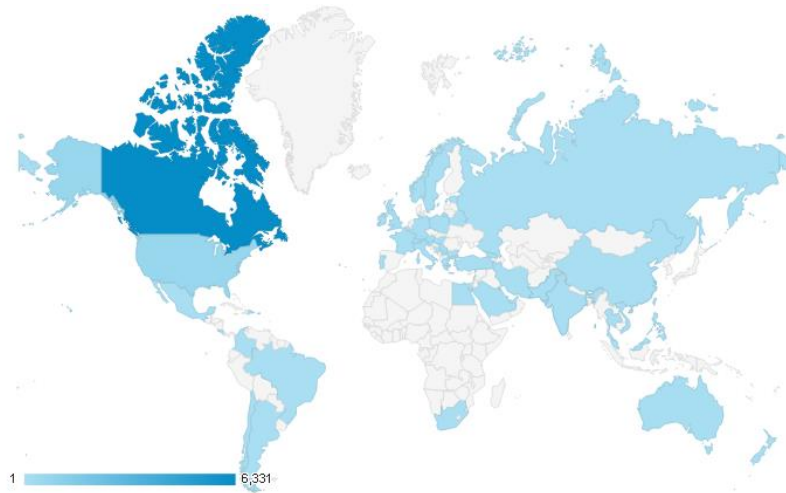
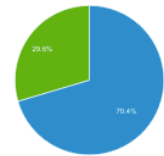
Pages / Session
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Avg. Session Duration
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Bounce Rate
40.17%

% New Sessions
70.37%

New Visitor Returning Visitor



CATT for School Professionals

(January 2016)

Concussion Toolkit for Educators

SCHOOL PROFESSIONALS ▾ PARENTS ▾ STUDENTS ▾ RESOURCES ▾ ABOUT US



School Professionals

Information and tools to help school professionals manage a student with a concussion

[SCHOOL PROFESSIONALS PAGE »](#)



Parents

Information and resources for parents to help manage a child with a concussion

[PARENTS PAGE »](#)



Students

Helpful videos to teach students about concussions

[STUDENTS PAGE »](#)

CATT for School Professionals

RECOGNIZE the signs and symptoms of a concussion.

RESPOND to a concussion event.

Understand what a student needs to **RECOVER** from a concussion

PREPARE for a student's return to school

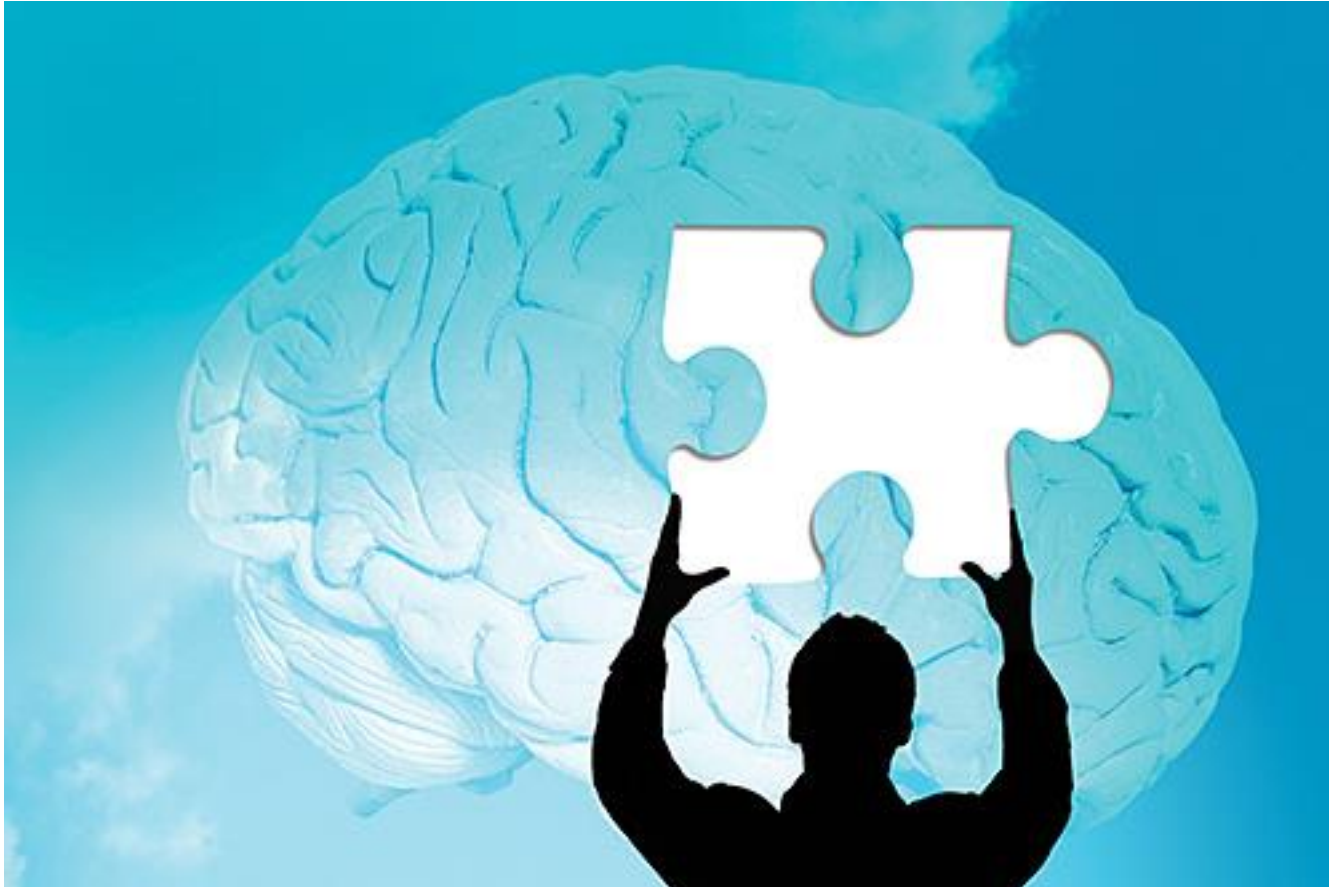
Support a student's **RETURN** to learn and activities

PREVENT and support **PRACTICE** through strategies and **POLICIES**

Further Enhancements/Additional Components

- Revisions
- Mental health
- Translation into other languages (*french*)
- Supplements (mood changes, sleep hygiene, headaches)

Complex & Multifaceted



In Conclusion

1. Astute Detection
2. Accurate Diagnosis
3. Optimal Management
4. Appropriate Follow-Up

Thank You