



# Raising Awareness of Concussions in BC

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# Purpose

- To highlight the need for **standardized concussion recognition, treatment and management**
- An overview of the burden of concussions/minor TBIs
- An orientation of the **Concussion Awareness Training Toolkit (CATT)**
  - Health Practitioners
  - Parents, Players and Coaches
  - Educators (*Sept 2014*)

How a concussion is handled in the minutes, hours and days after injury can **SIGNIFICANTLY** influence the extent of damage and recovery from this injury



# Concussion – Burden in BC

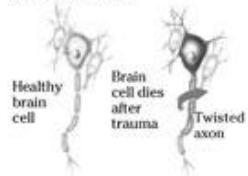
- **16,888** concussions seen in emergency departments throughout the BC Lower Mainland for all ages:
  - **6,651** from VCH (2011)
  - **8,959** from FH (2011/12)
  - **1,278** presenting to BCCH (2009)
- **39.5%** of the total - **children** and youth ages 0-19 years
- **59.4%** of the total – **males**
- **9,027** children & youth ages 0-19 years presented to **BCCH** with a concussion / minor head injury during the 2001-2009 period.

## IMPACT OF CONCUSSION ON ATHLETE'S BRAIN

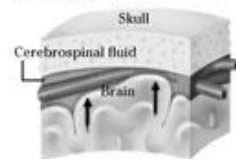
A concussion is a brain injury caused by a bump, blow or jolt to the head. Symptoms can appear right away or days later. A severe concussion has a dangerous cumulative effect and can cause debilitating memory loss, chronic headaches and clinical depression.

### What happens

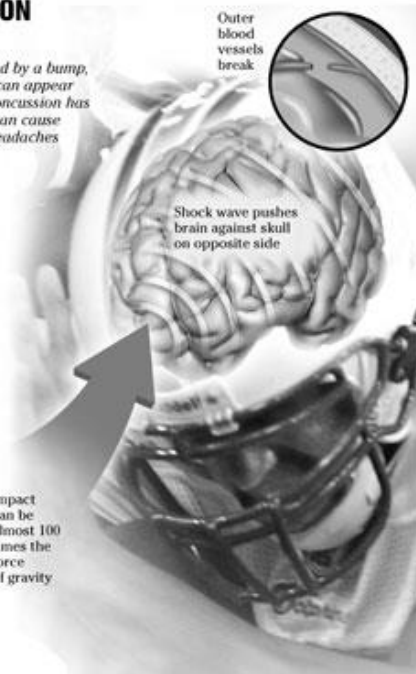
In a severe concussion, forces can twist and break the long, slender axons of brain cells



Fluid surrounding the brain can fail to protect blood vessels and nerves from damage



Impact can be almost 100 times the force of gravity



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

# Signs and Symptoms

## Physical

- Headache
- Nausea
- Vomiting
  
- Balance problems
- Dizziness
- Visual problems
- Fatigue
- Sensitivity to light
- Sensitivity to noise
- Numbness/  
Tingling
- Dazed or stunned

## Cognitive

- Feeling mentally “foggy”
- Feeling slowed down
- Difficulty concentrating
- Difficulty remembering
- Forgetful of recent information or conversations
- Confused about recent events
- Answers questions slowly
- Repeats questions

## Emotional

- Irritability
- Sadness
- More emotional
- Nervousness

## Sleep-related

- Drowsiness
- Sleeping less/more usual
- Trouble falling asleep

# Concussion – of note....

- An individual is **3-times** more likely to sustain a second concussion in recovery from a concussion.
- If a second concussion is sustained before recovering from the first, a condition known as second-impact syndrome (SIS) may occur: a swelling of the brain that can result in brain damage causing severe disability or even death.
- Repeated episodes may cause permanent deficits such as dementia, seizures, movement disorders, depression, possible death
- Children are at a greater risk for concussion than adults.
- Children can take longer to recover from a concussion than adults and are at higher risk for permanent damage.
- Each concussion **MUST** be treated on a case-by-case basis

# Concussions

**Good concussion management will potentially:**

- **Reduce future related-health problems**
- **Decrease the risk of long-term brain damage**
- **Lower total health care costs**



# What is the Key?

- **Accurate Detection**
- **Expert Management**



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.



### Medical Professionals

Learn the latest care and management of patients who have sustained a concussion. This includes a 40 minute online course that both physicians and nurses can take, as well as in-office assessments, printable resources for both the physician and patient, video commentary by experts and case studies.

Clinical Toolkit



### Parents, Players, and Coaches

Learn how to recognize and respond to a concussion and manage a player's recovery through a variety of web-based tools and resources. This includes a 30 minute online course as well as printable resources, online videos and additional handouts for parents.

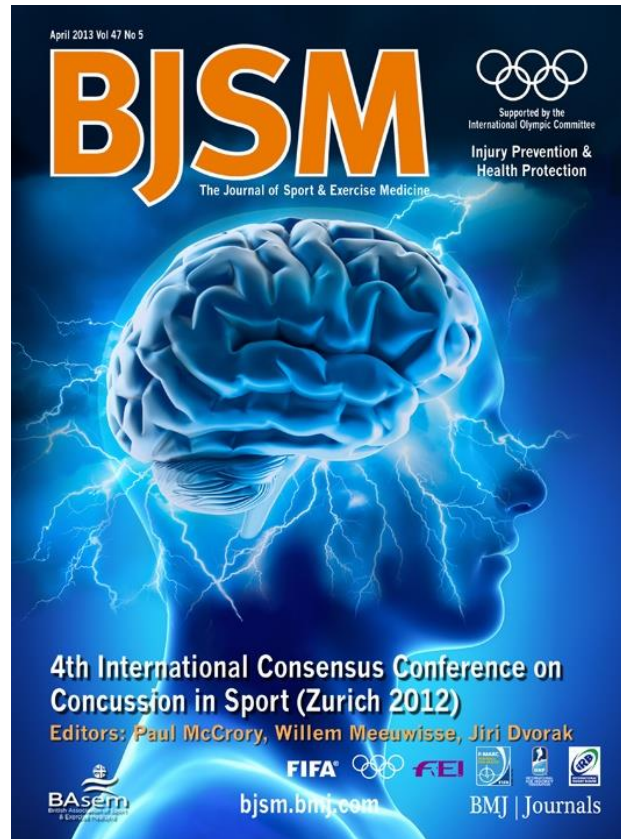
Awareness Toolkit



### Educators

Available Fall 2014

# Consensus Statement on Concussion in Sport



# CATT Goals

- **Training**
- **Quick and easy access**
- **Additional resources**
- **Links**
- **Printable resources**
- **FAQs**

# CATT Development

## Look & Feel:

- **Multisensory content via text, audio and video**  
*(based on focus group discussion)*
- **Culturally appropriate for Canada**
- **Interviews with Canadian experts**

**Extensive external review & revisions (provincial and national)**

# CATT for Health Practitioners

Concussion Clinical Toolkit

HOME

LEARN

ASSESS

RESOURCES

EXPERTS TALK

FAQ

ABOUT US



Concussion Toolkit for Parents/Players/Coaches coming Spring 2014  
Concussion Toolkit for Educators Fall 2014



## 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

Apr 15, 2013 - May 7, 2014

Email Export Add to Dashboard Shortcut

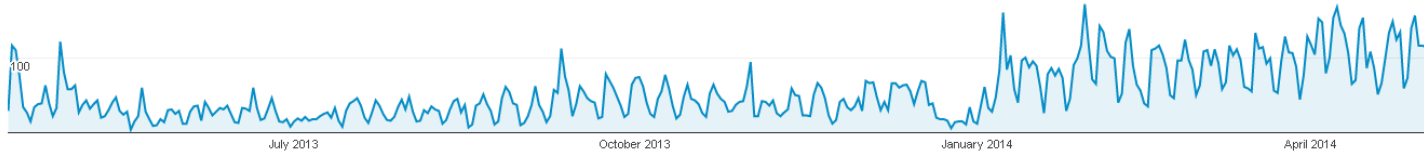
All Sessions 100.00%

## Overview

Sessions vs. Select a metric

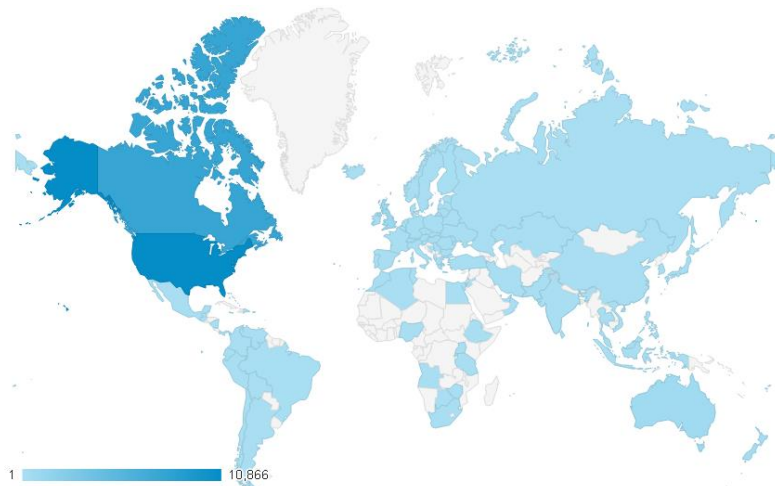
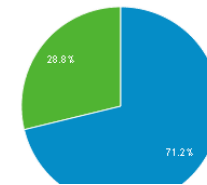
Hourly Day Week Month

Sessions 200



<b>Sessions</b> 21,265	<b>Users</b> 15,162	<b>Pageviews</b> 54,268	<b>Pages / Session</b> 2.55
<b>Avg. Session Duration</b> 00:02:26	<b>Bounce Rate</b> 44.00%	<b>% New Sessions</b> 71.16%	

New Visitor Returning Visitor



Primary Dimension: Country / Territory City Continent Sub Continent Region

# CATT for Parents, Players and Coaches

Concussion Awareness Training Tool

HOME PARENTS ▾ PLAYERS ▾ COACHES ▾ RESOURCES ▾ ABOUT US



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 »](#)

Sidney Crosby



Peter Mansbridge interviews Sidney Crosby to discuss how to cope with concussion





# CATT PPC - Parents

## Parents

- Central to the management of their child's concussion recovery
- Responsible for monitoring their child on a day-to-day basis
- Responsible for seeking medical attention for their child
- Responsible for ensuring their child follows recommended treatment

# CATT PPC - Players

## Players

- Need to understand what a concussion is and how it occurs
- Need to understand what the symptoms are
- Need to understand the importance of acknowledging a potential concussion

# CATT PPC - Coaches

## **Coaches**, including community volunteer coaches

- Need to know the principles of concussion management
- Need to identify high-risk activities
- Need to compile pre-participation information
- Need to take appropriate action when a player sustains an injury that could cause a concussion

# CATT PPC Online training module

## Welcome to CATTonline.com for Coaches and Parents

This 30-minute course provides concussion education for both coaches and parents. Although the courses are the same for coaches and parents, the quizzes within the course are different for each audience.

Please choose which course you would like to complete

COACHES

PARENTS

#### SITEMAP

[Home](#)  
[Coaches](#)  
[Parents](#)  
[Players](#)  
[Resources](#)  
[About Us](#)

#### ADDRESS

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## CONCUSSION AWARENESS INTRODUCTION

# CATT PPC Frequently Asked Questions

1. [What is a concussion?](#)
2. [Does my child have a concussion?](#)
3. [What do I do if I think my child has a concussion?](#)
4. [My child has a concussion. What is the recovery process?](#)
5. [How does my child successfully return to school and play?](#)
6. [How can I help to prevent concussions?](#)

## Red Flag Symptoms

If your child shows any of the following Red Flag Symptoms call 911 immediately.

- Neck pain
- Increased confusion or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness in arms/legs
- Tingling or burning in arms/legs
- Deteriorating consciousness
- Loss of consciousness
- Severe or increasing headache
- Unusual behaviour change
- Double vision

# CATT PPC Players section

Concussion Awareness Training Tool

HOME PARENTS ▾ PLAYERS ▾ COACHES ▾ RESOURCES ▾ ABOUT US

HOME / PLAYERS / WHAT IS A CONCUSSION?

What is a concussion?

Concussion Stories

Recovering from a concussion

Complications of concussion

Playing smart



## Brain 101: What's a Concussion

An animated, informative video that provides an overview of what a concussion is, signs and symptoms and emphasizes the importance of working together to recognize, respond and report concussions.



## Concussion 101: A Primer for Kids and Parents

A whiteboard video providing an overview of concussion including cause, signs and symptoms and recovery.



## Concussion 101: Symptoms, Risk and Return to Play

Concussion experts discuss signs and symptoms of concussion and what you can do to help prevent head injuries.



## Concussions in Teens - Teenology 101

Provides an overview on how you get a concussion and what signs and symptoms to look for.

# CATT PPC Resources

**Concussion Awareness Training Tool**

[HOME](#)

[PARENTS](#) ▾

[PLAYERS](#) ▾

[COACHES](#) ▾

[RESOURCES](#) ▾

[ABOUT US](#)

[HOME](#) / [RESOURCES](#) / [HANDOUTS](#)

[Handouts](#)

[Related Websites](#)

[Additional Resources](#)

[Journal Articles](#)

[Clinical Resources](#)

[Playing Smart](#)

[Videos](#)

## **Concussion Response Tool**

BC Injury Research and Prevention Unit

## **Concussion Response Tool (user fillable)**

BC Injury Research and Prevention Unit

## **Questions To Ask Your Doctor**

BC Injury Research and Prevention Unit

## **Return to Learn Communication Tool**

BC Injury Research and Prevention Unit

## **Return to Play Communication Tool**

BC Injury Research and Prevention Unit

## **Concussion Fact Sheet**

BC Injury Research and Prevention Unit

## **Concussion Guidelines for Coaches/Trainers**

Parachute

## **Concussion Guidelines for Parents/Caregivers**

Parachute

## 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

## • SMARTPHONE/IPAD FILLABILITY

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

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

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**

# CATT Evaluation

## Parents, Players and Coaches

- Parents with a child registered in soccer, hockey, lacrosse and/or gymnastics
- Pre/post survey design using FluidSurveys
- Measuring changes in Knowledge, Attitudes & Practices

# CATT Dissemination

## Parents, Players and Coaches (Provincial / National)

- Face-to-Face Meetings
- Presentations
- Newsletters/Newspapers
- Websites
- Sports Organizations
- Arenas, soccer fields, libraries, etc.

# Social Marketing

THE COMMUNITY AGAINST  
**preventable**  
INJURIES

[Learn More](#)

[Our Work](#)

[Media Room](#)



## Not just pro-athletes get concussions

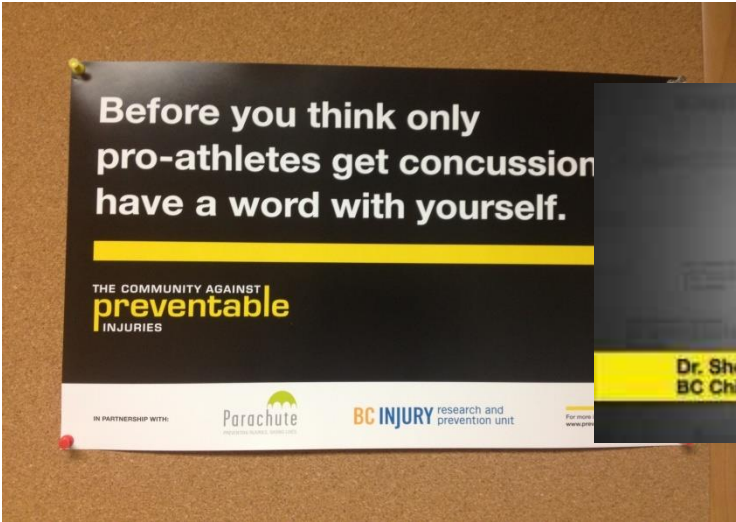
Our concussion campaign gets the message out to Canadians about the importance of concussion recognition and management. This initiative is the result of a partnership between Preventable, [Parachute](#), and the [BC Injury Research and Prevention Unit](#). Through partnerships with various sports organizations and health and recreation agencies, we placed key messages in select recreational centers, ice rinks, soccer pitches and libraries

Our goal is simple: encourage Canadians to recognize the potential severity of concussions. This starts with recognizing that concussions can happen to anyone.



Before you think  
only other driver  
cut off cyclists,  
have a word  
with yourself.

# Preventable



## **In Conclusion....**

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

“We’re at the end of the  
beginning...we know so  
much, yet so little”

# Acknowledgement

## **CATT for Health Practitioners funded by:**

- Child Health BC
- BC Children's Hospital Foundation

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## **BCCH Project Team for CATT- HP:**

- Dr. Shelina Babul (PI)
- Dr. Paul Korn
- Dr. Ran Goldman
- Dr. Ian Pike
- Ms. Christy Hay
- Ms. Kate Turcotte

[www.cattonline.com](http://www.cattonline.com)

Thank you

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