

Concussions & Rowan's Law: What you need to know

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Parachute

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Would you skydive without a parachute?

- Canada's national charity dedicated to preventing serious and fatal injuries
- Evidence-based solutions, advocacy, education



The Plan

- Review the basics of concussion
- Highlight work happening at the national level
- Provide an overview of Rowan's Law
- Ensure you are aware of resources available to support you



Concussion: The Basics

A concussion is a brain injury.

- It affects the way a person thinks, and can cause a variety of symptoms.
- It can't be seen on X-rays, CT or MRI scans.



A concussion can happen without a direct hit to the head.

A concussion can be caused by:

- a blow to the head, face or neck
- a blow to the body that causes a sudden jarring of the head



Most concussions are not sport-related.

- Concussions can occur during sport and non-sport activities
- Youth (10-19) are most likely to have a sport-related concussion
- Falls and motor vehicle collisions are common causes



Females are at risk, too.

- Higher number of concussions among males.
- Higher risk among females.
- Longer recovery among females.



Loss of consciousness is not required.

- Only about 10% of cases involve LOC
- LOC could be a sign of more severe injury
- The most common symptom? Headache.
- Symptoms can be:
 - ▶ Physical
 - ▶ Mental
 - ▶ Emotional
 - ▶ Sleep-related



Most people get better in 1 to 4 weeks.

- Youth (<18): up to 4 weeks
- Adults (18+): up to 2 weeks
- Longer than this? Persistent symptoms
 - ▶ individualized, medically-supervised interdisciplinary care





Concussion in Canada

A Canadian Approach

- “national strategy to raise awareness for parents, coaches, and athletes on concussion treatment” (Ministerial Mandate Letters, 2015)
- Need for consistency across Canada



The Path to Harmonization

Consensus Statement on Concussion in Sport



Canadian Guideline on Concussion in Sport



Canadian Harmonized Concussion Protocol Template

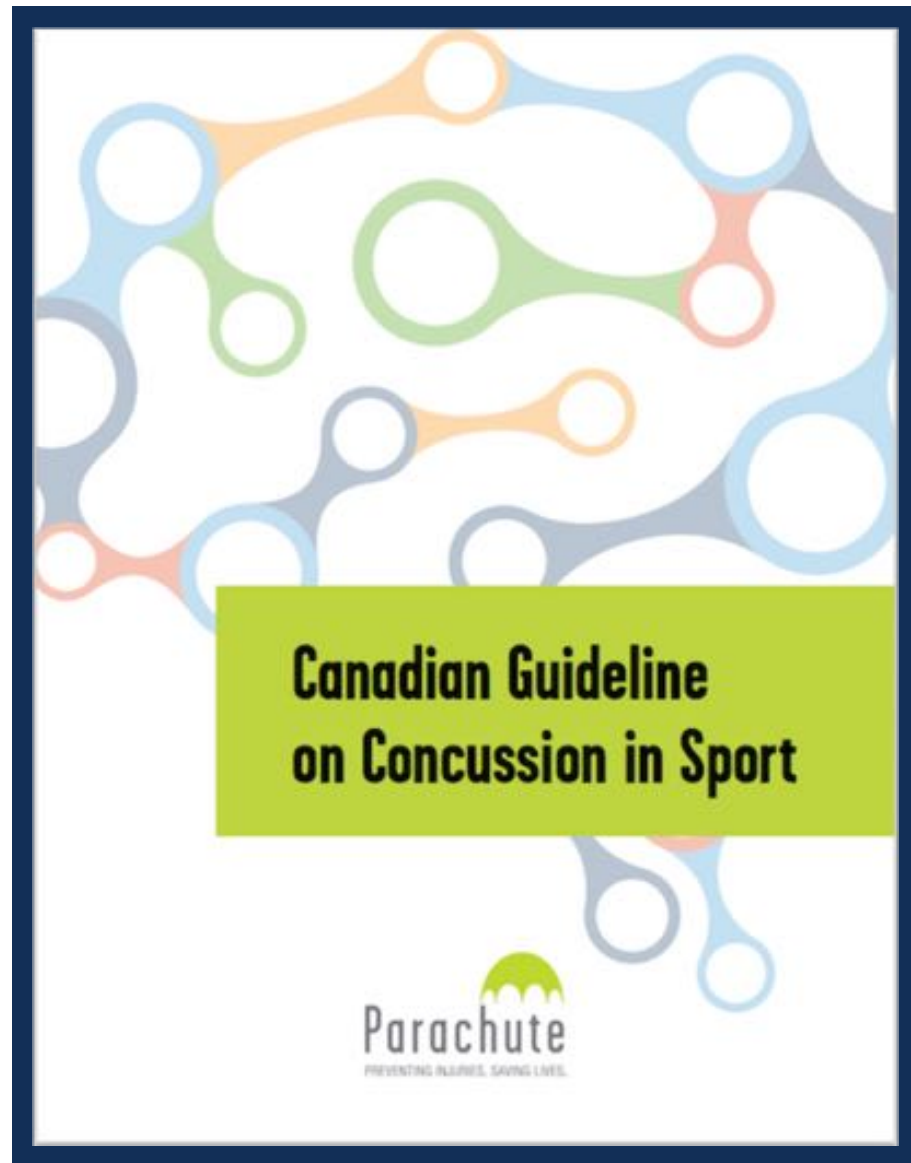


Harmonized Sport-Specific Concussion Protocols

Partners

- Parachute Concussion Expert Advisory Committee (co-chairs: Dr. Charles Tator and Dr. Michael Ellis)
- Public Health Agency of Canada
- Sport Canada
- F-P/T Working Group on Concussion in Sport
- Canadian Concussion Collaborative
- National Sport Organizations (NSOs)
- Multi-sport Service Organizations (MSOs)
- Dr. Jack Taunton

Canadian Guideline on Concussion in Sport



We reviewed current scientific evidence and expert consensus to develop guidance tailored to the Canadian sport and health contexts.

- ▶ parachutecanada.org/guideline
- ▶ parachutecanada.org/lignes-directrices

Best Practice for Concussion in Canada

- Seven areas:
 - ▶ 1. Pre-season education
 - ▶ 2. Head injury recognition
 - ▶ 3. Onsite medical assessment
 - ▶ 4. Medical assessment
 - ▶ 5. Concussion management
 - ▶ 6. Multidisciplinary concussion care
 - ▶ 7. Return to school and sport

Pre-Season Education

- **Everyone** should be aware of:
 - ▶ what a concussion is
 - ▶ potential causes and symptoms
 - ▶ how injury can be prevented in their context
 - ▶ what their organization's protocol is - agree to follow it
 - ▶ how to safely return to regular activities and sport

Head Injury Recognition

- **Everyone** has a role to recognize and report
- It only takes one sign or symptom
- Key resource: CRT5

Recognition is not diagnosis

Medical Assessment

- Everyone with a suspected head injury/ concussion should be seen by a medical doctor/nurse practitioner
 - ▶ Need to rule out other conditions with similar presenting symptoms
 - ▶ Other health professionals (e.g., PT, AT) can provide important information to assist with diagnosis

Management and Return to Sport

- 24-48 hours initial rest
- Return to School before Return to Sport
- Sport-specific return-to-sport strategy
- Medical clearance required for full contact/full competition
- If symptoms persist, individualized multidisciplinary care

Return-to-Sport Strategy

Stage	Aim	Activity
1	Symptom-limiting activity	Daily activities that do not provoke symptoms
2	Light aerobic activity	Walking or stationary cycling at slow to medium pace. No resistance training
3	Sport-specific exercise	Running or skating drills. No head impact activities.
4	Non-contact training drills	Harder training drills, i.e. passing drills. May start progressive resistance training.
5	Full contact practice	Following medical clearance.
6	Return to Sport	Normal game play.

McCrory et al. (2017).

NSO Protocol Harmonization

- Goal of harmonization:
 - ▶ NSOs have concussion protocols that align with current consensus evidence and the *Canadian Guideline on Concussion in Sport*
- Sport-specific customization:
 - ▶ Return-to-Sport Strategy
 - ▶ Appropriate for sport context (e.g., water)

NSO Engagement

- 42 NSOs engaged and growing
 - ▶ Summer and winter
 - ▶ “High” and “low” concussion risk
 - ▶ Range of experience with concussion policy
- Includes **Sail Canada** and **Rowing Canada**



Ontario: Rowan's Law

Rowan's Law (2018)

- Legislative requirements for "sports organizations":
 - ▶ Review approved concussion awareness resources before registering (parents, athletes, coaches, officials)
 - ▶ Concussion code of conduct
 - ▶ Protocol for removal from sport
 - ▶ Protocol for return to sport after concussion

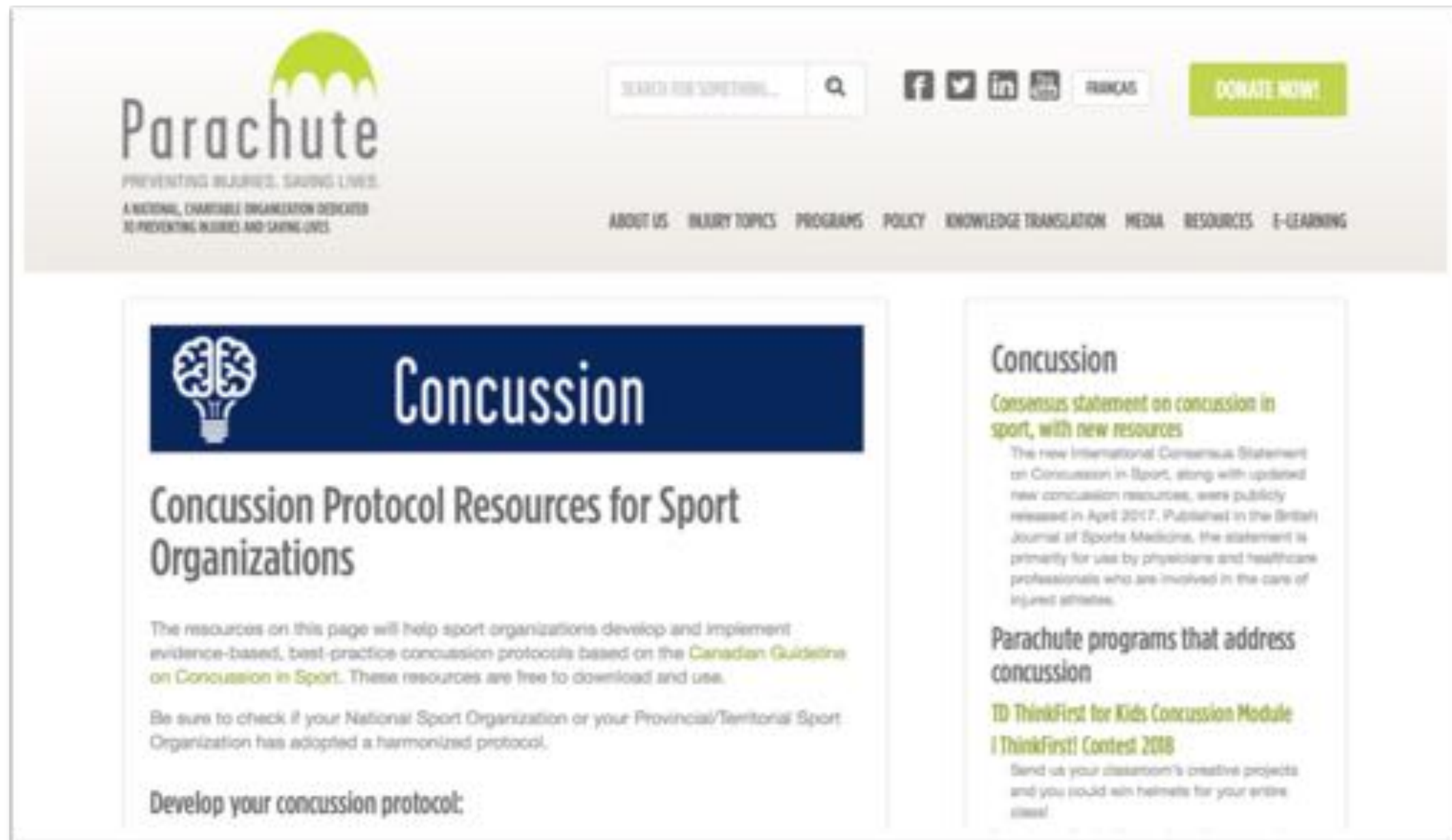
Rowan's Law: Status Update

- Regulations in development under Ministry of Tourism, Culture and Sport
- Only piece in effect is **Rowan's Law Day**
- Ministry updates:
www.mtc.gov.on.ca/en/sport/concussions.shtml



Resources to Help You

- ▶ parachutecanada.org/concussion



The screenshot shows the Parachute Canada website. The header includes the Parachute logo with the tagline "PREVENTING INJURIES. SAVING LIVES." and a sub-tagline "A NATIONAL, CHARITABLE ORGANIZATION DEDICATED TO PREVENTING INJURIES AND SAVING LIVES." There is a search bar, social media icons for Facebook, Twitter, LinkedIn, YouTube, and Instagram, and a "DONATE NOW!" button. A navigation menu includes links for ABOUT US, INJURY TOPICS, PROGRAMS, POLICY, KNOWLEDGE TRANSLATION, MEDIA, RESOURCES, and E-LEARNING.

The main content area features a large blue banner with a brain icon and the word "Concussion". Below this, the heading "Concussion Protocol Resources for Sport Organizations" is displayed. The text states: "The resources on this page will help sport organizations develop and implement evidence-based, best-practice concussion protocols based on the [Canadian Guideline on Concussion in Sport](#). These resources are free to download and use." It also advises: "Be sure to check if your National Sport Organization or your Provincial/Territorial Sport Organization has adopted a harmonized protocol." A link "Develop your concussion protocol:" is provided.

To the right, a section titled "Concussion" highlights a "Consensus statement on concussion in sport, with new resources". It mentions that the new International Consensus Statement on Concussion in Sport, along with updated new concussion resources, were publicly released in April 2017. Below this, it lists "Parachute programs that address concussion", including the "TD ThinkFirst for Kids Concussion Module" and the "I ThinkFirst! Contest 2018".

Protocol Template

[ORGANIZATION NAME] CONCUSSION PROTOCOL

*Adapted from: Parachute. (2017). Canadian Guideline on Concussion in Sport.
www.parachutecanada.org/guideline*

[ORGANIZATION] has developed the **[ORGANIZATION NAME] Concussion Protocol** to help guide the management of athletes who may have a suspected concussion as a result of participation in **[ORGANIZATION NAME]** activities.

Purpose

This protocol covers the recognition, medical diagnosis, and management of **[ATHLETES, PLAYERS, SPORT PARTICIPANTS, CHOOSE TERM THAT IS MOST APPROPRIATE]** who may sustain a suspected concussion during a sport activity. It aims to ensure that athletes with a suspected concussion receive timely and appropriate care and proper management to allow them to return back to their sport safely. This protocol may not address every possible clinical scenario that can occur during sport-related activities but includes critical elements based on the latest evidence and current expert consensus.

Sailing-Specific RTSp Strategy

3	Sport-specific exercise	Activities such as tuning, trim work, and training in light to marginal conditions can begin at this step. There should be no capsizing, wire-to-wire tacking, or other jarring motions such as high-speed stops, kinetics or contact/collisions with other boats. No head impact activities.
4	Full intensity practice	Activities such as boat handling and training in moderate conditions can begin at this stage. Boat handling should be trained at a reduced intensity and should not involve drills with any risk of contact with the boom, of jarring capsizes, or of contact with other boats.

Source: Sail Canada

On the Water after Concussion

- Return to on-water training too early can lead to increased nausea and headaches
- On-water training should only be done when an athlete feels comfortable enough to be in a boat.
- First return to on-water activities:
 - ▶ personal flotation device
 - ▶ under supervision

Protocol Implementation Tools

- Pre-Season Education Sheet
- Medical Assessment Letter Template
- Medical Clearance Letter Template

Implement your concussion protocol:

- Pre-Season Concussion Education Sheet
- Pre-Season Concussion Education Presentation (ppt file will automatically download)
- Medical Assessment Letter
- Medical Clearance Letter
- Concussion Recognition Tool 5 (CRT5)
- Sport Concussion Assessment Tool 5 (SCAT5)
- Child SCAT5 (ages 5-12)

Education & Awareness

Insert Organization Logo(s) Here






Concussion:

An introduction

for all members of the sport community

Presented by:

[add presenter's name here]





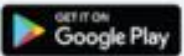
Concussion Ed

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Concussion guide for

PARENTS AND CAREGIVERS



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What is a concussion?

A concussion is a brain injury that cannot be seen on routine X-rays, CT scans, or MRIs. It affects the way an athlete may think and remember things, and can cause a variety of symptoms.

What are the signs and symptoms of a concussion?

An athlete does not need to be knocked out (lose consciousness) to have had a concussion. The athlete might experience one or more of the following:

Thinking Problems	Athlete's Complaints	Other Problems
- Does not know time, date, place, period of game, opposing team, score of game - General confusion - Cannot remember things that happened before and after the injury - Knocked out	- Headache - Dizziness - Feeling dazed - Feeling "dinged" or stunned; "having my bell rung" - Seeing stars, flashing lights - Ringing in the ears - Sleepiness - Loss of vision - Seeing double or blurry vision - Stomachache, stomach pain, nausea	- Poor co-ordination or balance - Blank stare/glassy-eyed - Vomiting - Slurred speech - Slow to answer questions or follow directions - Easily distracted - Poor concentration - Strange or inappropriate emotions (i.e., laughing, crying, getting mad easily) - Not playing as well

Get medical help immediately if an athlete has any "red flag" symptoms such as neck pain, repeated vomiting, growing confusion, seizures, and weakness or tingling in their arms or legs. These may be signs of a more serious injury.



Parachute is Canada's leading national charity dedicated to injury prevention.



The concussion info on the go. Download the app.

Education & Awareness



Update November 2018

Statement on Concussion Baseline Testing in Canada

Parachute is releasing this updated statement to clarify the role of concussion baseline testing for Canadian youth and adult athletes. Members of Parachute's [Concussion Expert Advisory Committee](#) and the [Canadian Concussion Collaborative](#) were consulted in the development of this updated statement.

Background

On July 28, 2017, Parachute released the *Canadian Guideline on Concussion in Sport*. This Guideline was developed based on the published systematic reviews that informed the 5th International Consensus Conference on Concussion in Sport (McCrory et al., 2017; Davis et al., 2017), expert consensus opinion from the Parachute Concussion Expert Advisory Committee, and input from important stakeholders in Canadian sport, health, government, and education. The overall goal of the *Canadian Guideline on Concussion in Sport* is to provide clear and consistent information to all Canadian sport stakeholders (including athletes, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals) on evidence-informed approaches that can prevent concussion and more serious forms of traumatic brain injury and help identify and manage an athlete with a suspected concussion.

Concussion:

BASELINE TESTING



Parachute
Concussion Series

What is baseline testing?

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. In the event of a suspected concussion, assessment is done again and these post-injury measurements are compared to the baseline measurements. The goal of this testing is to identify cognitive differences in the athlete before and after the injury. Baseline testing does not refer to one specific tool or test, but can refer to many forms of assessment, such as computerized, pencil-and-paper, and sport-specific skill testing.

Should I have my child, players or students undergo baseline testing?

This is a common question and here are the key messages parents, sport organizations, and educators should know about baseline testing and concussion:

- 1. Baseline testing is not required for post-injury care of youth athletes with suspected or diagnosed concussion and mandatory testing is not recommended.**
- 2. Recognize and remove.** Rather than using resources for baseline testing, sport organizations are encouraged to develop processes within their organizations to "recognize and remove" an athlete when a suspected concussion has occurred.
- 3. Appropriate medical assessment, management, and return to sport are key.** Concussion management and return-to-sport decisions are inter-disciplinary and should be made on an individualized basis, not by using any one specific test or group of tests. It is important that an individual with a suspected concussion be seen by a medical doctor or nurse practitioner with experience in concussion management for appropriate care as soon as possible following injury.

Where can I get more information?

- Parachute's *Statement on Concussion Baseline Testing in Canada* provides recommendations on concussion baseline testing for athletes. The full statement is available here: parachutecanada.org/concussion.
- The *Canadian Guideline on Concussion in Sport* offers recommendations and tools for concussion prevention, recognition, and management. Visit parachutecanada.org/guideline.

Sources: McCrory, P., 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), 836-847; Parachute. (2018). *Statement on Concussion Baseline Testing in Canada*. Toronto: Parachute.



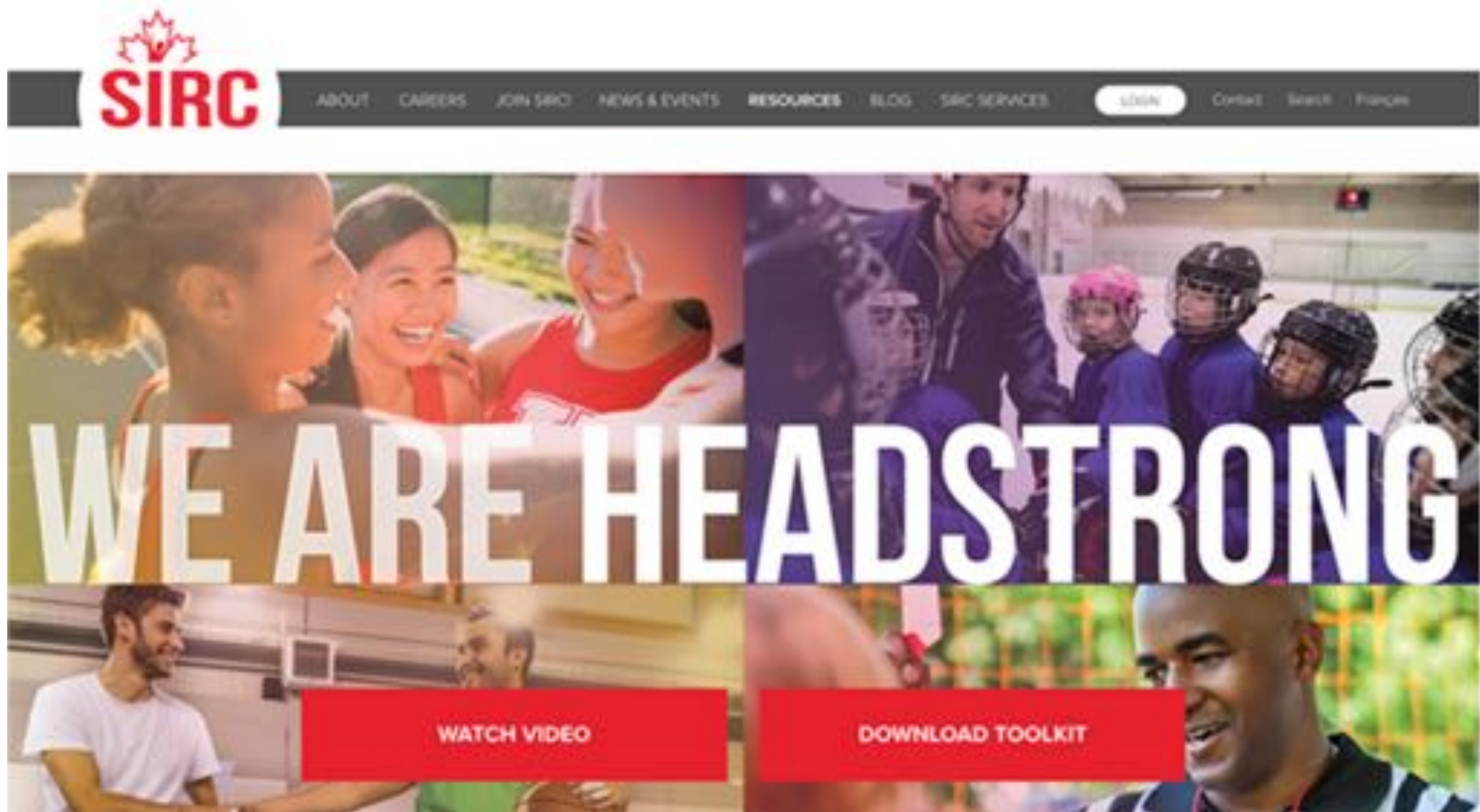
Parachute is Canada's
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parachutecanada.org

on the go

Education & Awareness



- Visit sirc.ca/concussion for more information

Free Online Training



CONCUSSION AWARENESS
TRAINING TOOL

www.cattonline.com



Making Head Way

<https://coach.ca/making-head-way-concussion-elearning-series-p153487>

Final Thoughts

- This is the first national effort to harmonize concussion protocols in Canada.
- We are just getting started!
 - ▶ Use and share – *Canadian Guideline on Concussion in Sport*, protocol template, concussion education resources
 - ▶ Share solutions to emerging challenges
 - ▶ Ongoing collaboration between the health and sport systems is necessary for concussion outcome optimization in Canada

Thank you



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www.parachutecanada.org