

# Improving concussion safety in Special Olympics Canada: A research partnership

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SIRC 2024 Concussion in Sport Symposium



*Special Olympics*  
*Olympiques spéciaux*  
Canada



# Background

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- All athletes are at risk of concussion<sup>1</sup>
- Concussions are difficult to diagnose in athletes with intellectual disability due to functional and behavioural differences that are similar to concussion signs and symptoms<sup>2-4</sup>
- Athletes with intellectual disability are left out of concussion research<sup>5</sup>
  - PubMed 2015-2020 search of “sport-related concussion” = 762 publications
  - Add “intellectual disability,” “Special Olympics,” or “cognitive impairment” to search = 0 publications



# About Special Olympics Canada (SOC)

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SOC provides Canadian athletes with intellectual disability with athletic training and competition opportunities

*Special Olympics*  
*Olympiques spéciaux*  
Canada



**Over  
45,000**

Canadian  
children, youth  
& adults

**18**

Olympic-type  
sports

**12**

Provincial &  
territorial  
chapters



# Concussion Landscape in SOC

## SAFE SPORT

SOC has **concussion resources, policies** and **protocols** on their Safe Sport page.

Concussion education for coaches is mandatory in Ontario and recommended in all other provinces.

### CONCUSSION RESOURCES

Special Olympics Canada recognizes that participation in any sport or physical activity has some risk of head injuries, including concussions. The information on this page will help you learn more about concussions and how Special Olympics Canada and its Chapters are addressing concussions to support the health and safety of all our athletes and volunteers.

#### Concussion Awareness Resources

A concussion is a type of brain injury that affects how a person's brain functions. Special Olympics Canada suggests the resources below to learn more about concussions and how to prevent, recognize and manage these injuries.

#### For Parents/Guardians

- [Concussion Guide for Parents and Caregivers](#)
- [Concussion Awareness Training Tool \(CATT\) for Parents and Caregivers e-learning](#)

#### For Coaches and Volunteers

- [Concussion Guide for Coaches](#)
- [NCCP Making Head Way in Special Olympics](#)

#### For Athletes

- [Concussion Guide for Athletes](#)
- [Concussion Education Video](#)

### Special Olympics Canada Concussion Policy, Protocol and Tools

The Special Olympics Canada Pan-Canadian Concussion Policy and Protocol will be followed at all organization-sanctioned events.

[Concussion Policy](#)

[Pan-Canadian Concussion Protocol](#)

*This protocol explains all the steps to follow, from annual concussion education through safe return-to-sport after a concussion.*

[Special Olympics Canada Concussion Recognition Tool](#)

*This tool can be used by anyone to help recognize a possible concussion in Special Olympics athletes. Any athlete with a suspected concussion must be removed from participation and medically assessed.*

[Medical Assessment Letter](#)

*This letter should be provided to athletes with a suspected concussion, to take to their doctor. It confirms whether a concussion has been diagnosed or not.*

[Medical Clearance Letter](#)

*This letter should be provided to athletes with a diagnosed concussion, to be signed by their doctor. It confirms when the athlete has recovered and can return to full sport participation with no restrictions.*

# Concussion Guide for Special Olympics Athletes



## What is a concussion?

A concussion is a brain injury. A hit to your head, neck or body that causes a sudden, rapid movement of your head can cause a concussion.

For example, you can get a concussion if you get hit in the head with a ball or other object, or fall down hard onto the floor.

## How you can help prevent a concussion

- Wear your equipment, make sure it is in good condition and fits you properly.
- Play by the rules of your sport. Play safely and fairly so you do not hurt yourself or all others playing.
- Learn about concussions by reading this resource.

## How do I know if I have a concussion?

A concussion may cause you to feel differently physically or emotionally. It may affect the way you think or remember things. A concussion may also affect how you sleep.



# Concussion Education for Special Olympics Athletes



- HEADACHE OR PRESSURE IN YOUR HEAD
- FEELING SICK TO YOUR STOMACH
- TROUBLE REMEMBERING THINGS OR FEELING CONFUSED
- FEELING



Copy link



## SPECIAL OLYMPICS CANADA PAN-CANADIAN CONCUSSION PROTOCOL

1. Annual Pre-Season Education .....	2
2. Head Injury Recognition .....	3
3. Onsite Medical Assessment .....	4
3a. Emergency Medical Assessment .....	
3b. Sideline Medical Assessment .....	
4. Medical Assessment .....	
Return-to-Activities Strategy .....	
Return-to-Sport Strategy .....	
6. Multidisciplinary Concussion Care .....	
7. Return to Sport .....	
Special Olympics Canada Concussion Pathway	

## SPECIAL OLYMPICS CANADA CONCUSSION PATHWAY



# Concussion Landscape in SOC

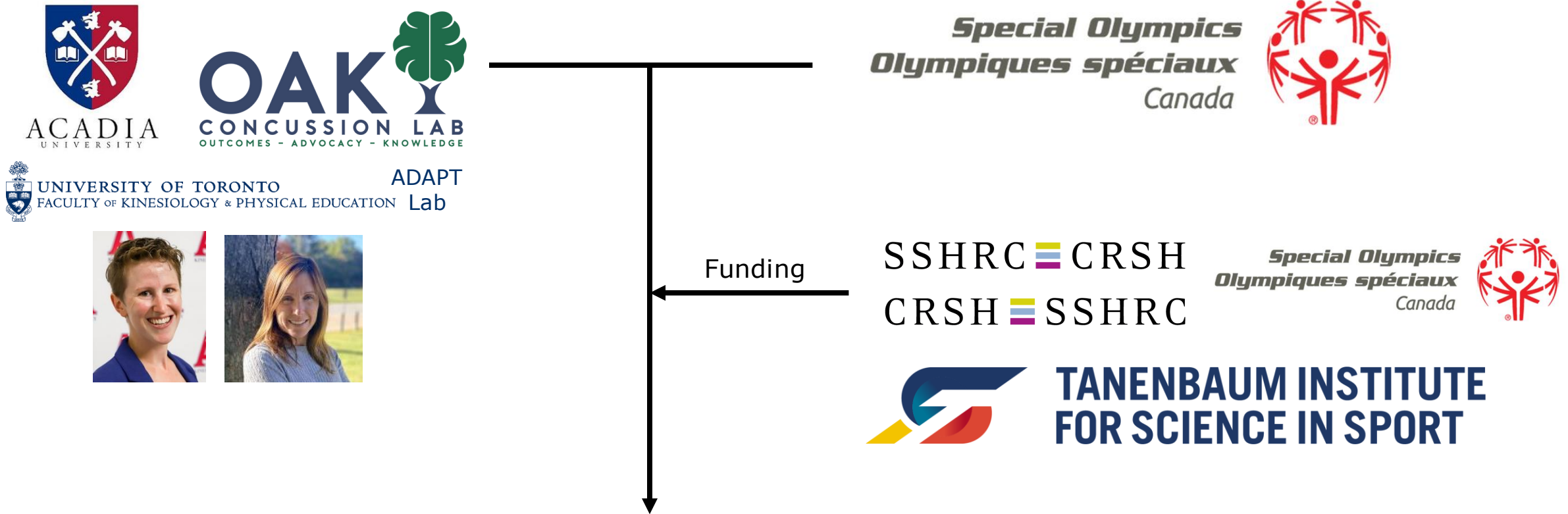
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There are many **unknowns**:

- Concussion incidence rates
- Correct return-to-sport protocol usage
- Concussion training rates for coaches and athletes
- Confidence of SOC community with concussion practices
- Effective concussion knowledge dissemination practices



# The Partnership



## Goals

- Increase concussion awareness in the SOC community
- Make sport safer for SOC athletes
- Improve concussion outcomes for SOC athletes



**5**

**ongoing  
research projects**



**Concussion Knowledge, Attitudes & Practices**  
Coaches & Caregivers

**SOC Concussion Advisory Committee**  
Athletes, Coaches, SOC Staff, Researchers, Injury Prevention Experts, Medical Professionals



**Development of a Concussion Education Toolkit**  
Athletes & Coaches

**Concussion Surveillance**  
Athletes

**Evaluating the Concussion Practice Toolkit**  
Coaches



# Study #1

## Concussion Knowledge, Attitudes & Practices

Funder:



**Special Olympics**  
**Olympiques spéciaux**  
Canada



# Concussion Knowledge, Attitudes & Practices

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## Aim

- Learn how much coaches and caregivers know about concussion, how they feel about concussion, and which concussions resources they have used

## Methods

- Online survey 
  - Asked about SOC role, concussion knowledge, attitudes about concussion, and intended practices (situational questions)



# Concussion Knowledge, Attitudes & Practices

## Participants

**93**  
coaches

**41**  
caregivers

## Results

Survey Question	Coaches	Caregivers
Received concussion education before	59%	27%
Motivated to learn about concussion	94%	85%
Used the SOC concussion resources	27%	10%



# *So what?* for sports

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The SOC community has lots to learn about concussion and are motivated to do so.



# Study #2

**Co-creating a concussion  
education toolkit for  
SOC coaches to share with  
athletes & caregivers**

Funder:



**Special Olympics**  
**Olympiques spéciaux**  
Canada



# Co-creating the Concussion Practice Toolkit

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## Rationale

- Concussion education opportunities exist for athletes, but they are often not appropriate for the needs of athletes with intellectual disability



# Co-creating the Concussion Practice Toolkit

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## Aim

- Co-create a concussion education delivery mechanism for SOC coaches to teach athletes and their caregivers annually about concussion

## Methods

**4** focus groups

Discussed concussion knowledge & access to information, lived experiences, learning styles, toolkit delivery

- Used results to inform format & delivery of the toolkit





# Co-creating the Concussion Practice Toolkit

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## Participants

**11**  
coaches

**18**  
athletes

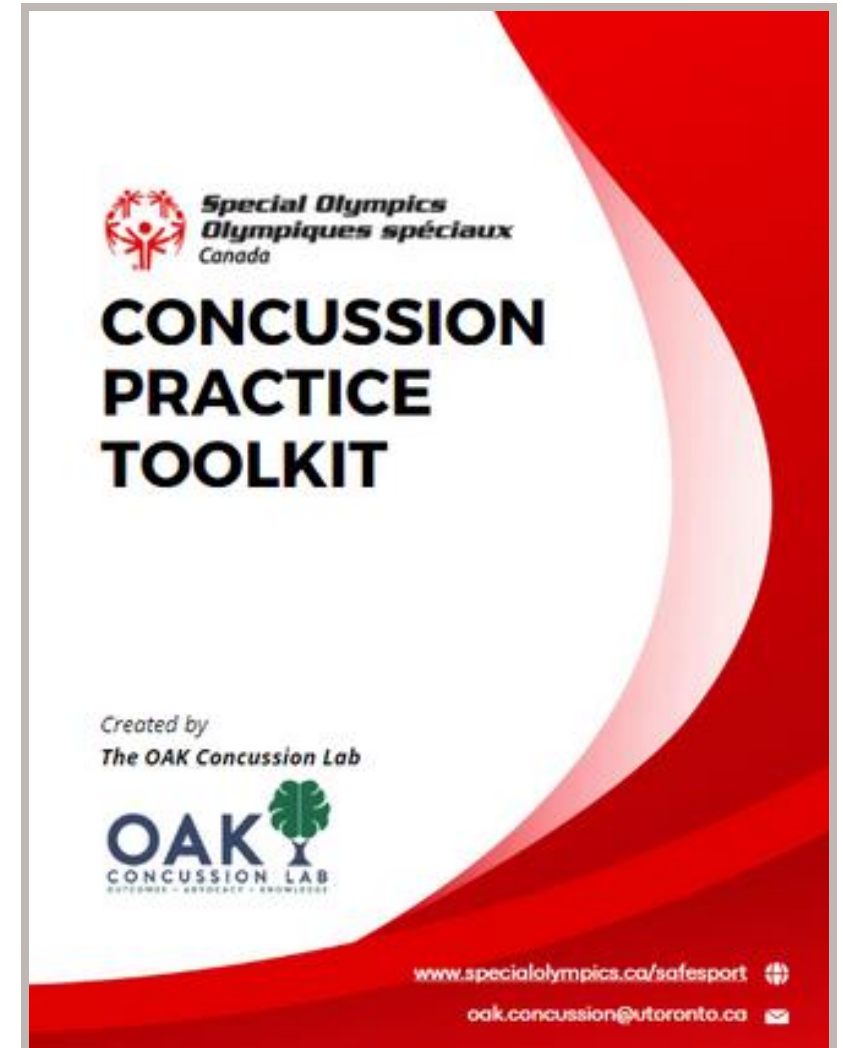
From across 9 provinces and 16 SOC sports



# Co-creating the Concussion Practice Toolkit

## The toolkit:

- Five distinct topics
- Focuses on athletes' actions
- Uses discussion opportunities
- Includes delivery recommendations and a script for coaches



# *So what?* for sports

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The Concussion Practice Toolkit fills a gap in concussion education for the entire SOC community—athletes, caregivers, and coaches.



# Study #3

**Exploring the value of a  
Concussion Practice Toolkit to  
share concussion education with  
SOC athletes**

Funder:



***Special Olympics***  
***Olympiques spéciaux***  
*Canada*



# Concussion Practice Toolkit Uptake

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## Aim

- Evaluate the satisfaction with and usability of the Concussion Practice Toolkit from the perspective of SOC coaches



# Concussion Practice Toolkit Uptake

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## Methods

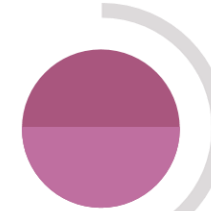
### Phase 1: Pilot Testing

- 1 Evaluation Survey**  
Will hold concussion education sessions where participants will complete a survey to evaluate the toolkit at the end.
- 2 Pilot Test with Teams**  
Coaches will use the toolkit and provide feedback about how it went



### Phase 2: Implementation

Finalize toolkit and translate into French.



Committee creates implementation plan



Nation-wide evaluation survey





For Phase 1

# PARTICIPATE IN RESEARCH

**Are you a Special Olympics  
coach who teaches athletes &  
caregivers about concussion?**

## JOIN A CONCUSSION EDUCATION SESSION

Feb 8 @ 7PM EST

Feb 10 @ 2PM EST

Mar 5 @ 7PM EST

Mar 10 @ 12PM EST

Mar 19 @ 6PM EST

## HELP US WITH RESEARCH BY:

- Learning about concussion
- Learning about our new Concussion Practice Toolkit
- Navigating the toolkit
- Completing a survey about the usability of and your satisfaction with the toolkit



If interested, contact the research team at [oakresearch@utoronto.ca](mailto:oakresearch@utoronto.ca) for more information.

Principal Investigator:  
Dr. Nick Reed | OSOT,  
University of Toronto



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# *So what?* for sports

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Win-win opportunity: Coaches receive concussion education specific to athletes with intellectual disability and we get their feedback on the toolkit





# Study #4

## **Athlete concussion surveillance in SOC sports: Updating the PRIVIT tool**

Funder:



**TANENBAUM INSTITUTE  
FOR SCIENCE IN SPORT**



# Concussion Surveillance

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## Aim

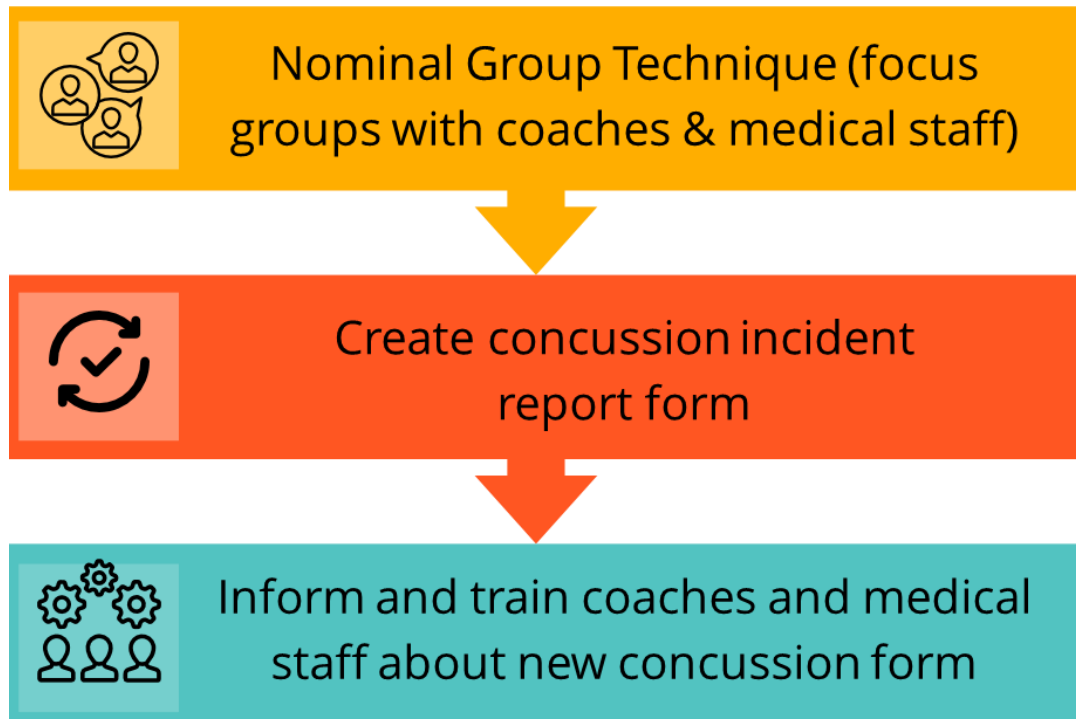
- Surveil concussion rates at Special Olympics Canada competitions to explore additional research questions



# Concussion Surveillance

## Methods

### Part 1: Choose data to collect



### Part 2: Surveil concussions





For Part 1



## PARTICIPATE IN RESEARCH

Are you a coach or medical professional with Special Olympics and interested in concussion?



Join our focus group to develop a **concussion surveillance tool**.

You will receive a \$40 gift card.



**If interested, contact us at:  
oakresearch@utoronto.ca**



UNIVERSITY OF TORONTO  
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION



Special Olympics  
Olympiques spéciaux  
Canada



# *So what?* for sports

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By understanding concussion rates, we can help make SOC sports safer.



# Study #5

## Establishing concussion priorities and taking action through a Concussion Advisory Committee

Funder:

SSHRC  CRSH

CRSH  SSHRC



# Concussion Advisory Committee

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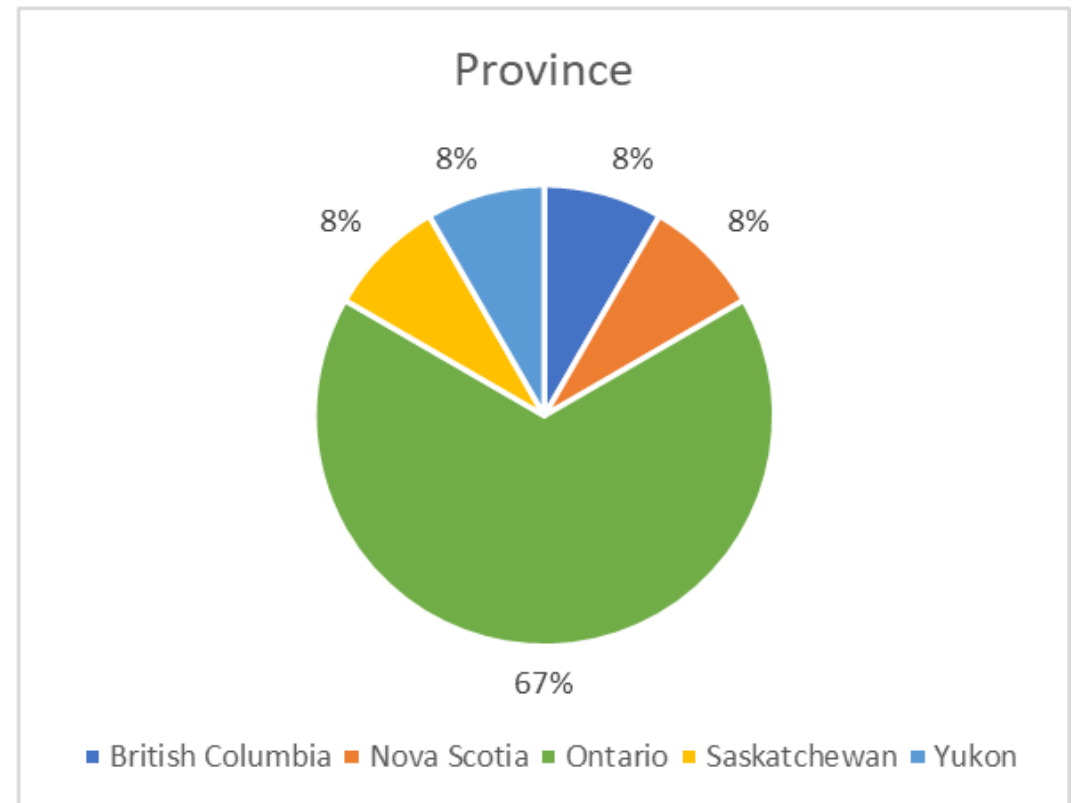
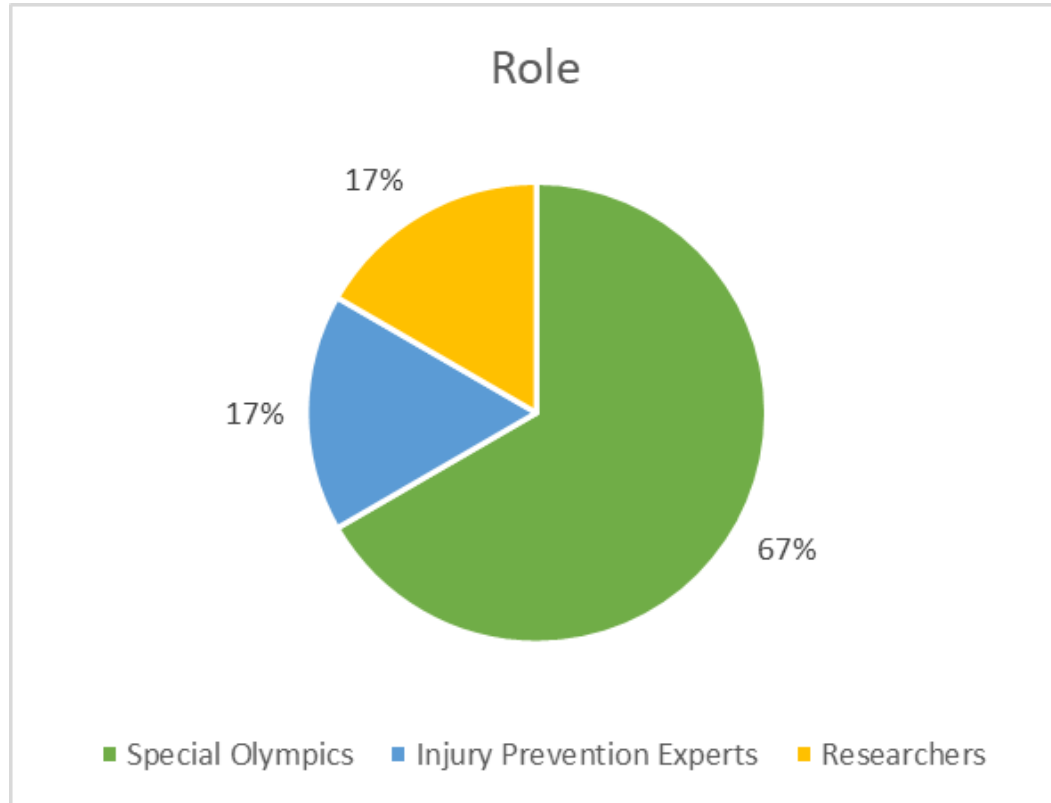
## Aims of the Committee:

- Build concussion knowledge for the SOC community
- Establish a positive concussion culture by understanding the needs of the SOC community,
- Create action plans for sharing concussion education with the SOC community.



# Committee Members

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# *So what?* for sports

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The committee supports concussion culture and research endeavours that are important to the SOC community.



# Importance of our Partnership

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***Special Olympics***  
***Olympiques spéciaux***  
*Canada*



# Thank you to our...

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Partner

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Canada



Funders

SSHRC  CRSH

CRSH  SSHRC

*Special Olympics*  
*Olympiques spéciaux*  
Canada



**TANENBAUM INSTITUTE  
FOR SCIENCE IN SPORT**

All our research participants from  
the SOC community!

Study Team:

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Katherine Wilson, UofT

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Zac Scanlan, UofT

Rumi Dolmaya, UofT

Megan Sager, UofT

Emma Bercovitch, UofT

Anna Kang, UofT

Dr. Mike Hutchison, UofT



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Coaches & Caregivers

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