

# Participate in Research

## Measuring how brain signals change during a dual task in youth

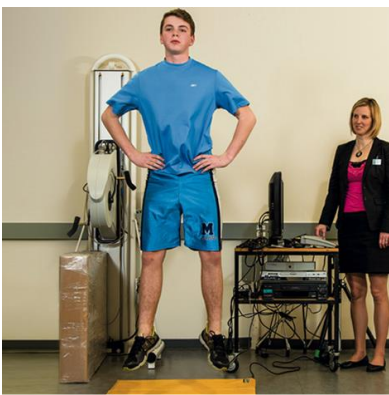


### Principal Investigator:

Tom Chau

### Centre for Leadership:

Acquired Brain Injury



### CONTACT INFORMATION:

### TO ASK QUESTIONS OR TO SIGN UP, CONTACT

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**Bloorview**  
RESEARCH INSTITUTE

Canada's Only Hospital-Based  
Childhood Disability Research Institute

**Holland Bloorview**  
Kids Rehabilitation Hospital

**Do you want to help us learn what happens to the brain after a concussion? Consider participating in a research study about measuring and analyzing brain activity in youth.**

#### What is this study about:

- We are conducting a research study looking at brain activity in youth during recovery from a concussion.
- We will compare brain activity measured from youth with and without concussion.
- We are using a technology called Near Infrared Spectroscopy (NIRS) to measure brain activity.
- There are no known harms associated with NIRS.

#### Who can participate?

We are looking to recruit 20 youth with the following profile:

- Between the ages of 13-18 years;
- **Have never had a moderate or severe traumatic brain injury or have had concussion symptoms within the past year;**
- Do not currently have a skull fracture;
- Have no degenerative, cardiovascular, metabolic, or respiratory disorders;
- Have no drug or alcohol-related conditions;
- Have no prior history of a psychiatric disease;
- Are not currently using any drugs that alter or have an impact on brain state;
- Can read and understand English.

#### What's involved?

- During each session, a headband with small sensors attached to it will be placed on your head. This will allow us to measure how brain activity changes when you perform different tasks.
- We will also place a small accelerometer sensor on your head to measure movement, and a sensor on your finger to measure your heart rate.
- **You will come in for 3 sessions. The 2<sup>nd</sup> and 3<sup>rd</sup> sessions will be 1 month and 3 months following the initial session.**
- **Each session will be approximately 1 hour in length.**
- During each session, you will perform 3 tasks - colour-based attentional task, a balance task, and both attention and balance tasks at the same time.
- All sessions will be held at Holland Bloorview and conducted at convenient times for you.

#### What are the benefits of participating?

- By taking part in this research study you are helping to better understand the effect and recovery of concussions
- Help drive understanding of concussions to help guide rehab programs
- **Contacting us does not obligate you to participate in the study.**
- You will receive gift card per session as a token of appreciation for your participation.