

Participate in Research

Stimulation for Perinatal Stroke – Optimizing Recovery Trajectories (SPORT)



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Do you have hemiplegic cerebral palsy (CP)? Would you be interested in participating in a CIMT summer camp? If so, consider joining our study!

What is this study about?

Many children with hemiplegic cerebral palsy (CP) have weakness and motor difficulties on one side of their body. With this study, we hope to find new ways to improve the hemiplegic arm and hand movement and coordination for kids with hemiplegic CP. We are running a 2-week summer Constraint Induced Movement Therapy or CIMT camp, where we will be exploring whether Transcranial Direct Current Stimulation, or tDCS, helps to improve arm and hand function when done in combination with CIMT. Also, we want to see what changes may happen in the brain when you do CIMT and tDCS, and this will be viewed by taking pictures of the brain. The study will take place at Holland Bloorview Kids Rehabilitation Hospital and the Hospital for Sick Children in Toronto.

Who can participate?

We are looking for children and youth with hemiplegic CP who are:

- Aged 6-18 years old
- Able to lift affected arm above a table
- Have some ability to hold light objects
- Will not receive: orthopedic surgery, constraint therapies, brain stimulation or other types of constraint therapies 6 months prior to the camp, or Botox 4 months prior to camp.

What's involved?

- A 2-week summer camp, 5 days a week from 9am-4pm
- Be randomly assigned to either the intervention (tDCS) group or the control (sham) group (50/50 chance)
- Wear a watch on each wrist to see how much you move your hands and arms during the camp.
- Engage in activities that involve using your hands with the research OT 4 times through the duration of the study (about 3-4 hours each session)
- You will be asked to answer some questions about your home and school life, as well as your overall experience in the camp (about 30-60 mins)
- If able (i.e., you have no metal in your body including braces, metal rods, plates, screws, nails, wire, or an electric implant or device), MRI pictures of your brain taken at 3 different time points (1 hour per session) at SickKids

Potential Benefits?

- We hope that the information can help us learn more about improving arm and hand function that will benefit other children with CP across Canada and internationally.

Potential Risks?

- Wearing the cast and splint may be annoying, but will not hurt you at all
- tDCS is very safe and well tolerated, but can have mild side effects like itching or tingling but it only lasts a few minutes.
- The known risks of MRI scans are very low

Participants will receive parking passes and/or TTC tokens after each session at Holland Bloorview and at SickKids. Participants will also receive a \$25 gift card at the end of the study, to thank them for being a participant.