

Participate in Research

Brain and Muscle Responses to Robotic Training in Children with Motor Impairments: Motor Impairments Cohort



PRINCIPAL INVESTIGATORS:

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TO ASK QUESTIONS OR TO SIGN UP, CONTACT:



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Do you have a child between 4-12 of age with Cerebral Palsy (or a similar neuromotor condition)?

Consider participating in our research study!

WHAT IS THIS STUDY ABOUT

We are studying how the brain and muscles respond when a child walks with the help of the Trexo robotic exoskeleton. We want to learn about the muscle and brain activity patterns when children are using the Trexo. We hope this will let us better understand how it can help the movement patterns of children with cerebral palsy and similar movement disorders.

WHO CAN PARTICIPATE?

- Has cerebral palsy or a similar movement disorder.
- Is 4–12 years old.
- Uses a walker (GMFCS III or IV) and is able to walk for at least one minute at a time with their walker.
- Have a height that falls roughly between 85 cm and 130 cm (about 2'9" to 4'3") and weigh up to 56 kg (125 lbs)
- Has no conditions limiting physical activity.
- Is able to tolerate the feel of wearing a soft EEG cap and skin sensors.

WHAT'S INVOLVED?

- 2 sessions (2 hours) Holland Bloorview Kids Rehab Hospital.
- Walking in the Trexo robotic exoskeleton in the research hallways. The child will be set up and supervised in the Trexo by a study physiotherapist.
- Leg and lower back muscle recordings (using non-painful sensors) while walking.
- Brain activity recording (soft, stretchy cap) worn while walking.

POTENTIAL BENEFITS AND RISKS

- Children will experience walking with the assistance of a robot.
- No medical benefit, but may help us learn how the body and brain respond to robot-assisted walking.
- May help improve therapies for children with mobility issues.
- The Trexo is low-risk, but its use in the study may cause mild fatigue or mild skin irritation from the frame.
- The cap may feel cool; leg sensors may be sticky.
- No needles or medications.
- Children will be supervised by a physiotherapist during all of the walking that is done in the Trexo.

Participants will receive a small token of appreciation to thank them for their time.