

Intensive gross motor camp for youth with cerebral palsy (SportFIT and Recreation)

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What was this study about?

- **Maximizing participation** is a main goal of interventions for children and youth with cerebral palsy (CP)
- Intensity of practice is an important factor in motor learning, and **activity-based interventions can enhance motor skills**
- This project created a partnership between therapeutic recreation (TR) to increase engagement, enjoyment, and carry-over of skills for clients into the **community setting**

Aim: Research the use of the Liberi exergame bikes as part of therapy as well as to develop an objective clinical tool to measure advanced gross motor skills in this population



What did we do?

- Developed and ran a **full day 2-week intensive gross motor summer camp** for 10 youth with CP (GMFCS II/III) to: a) improve motor skills and fitness, and b) increase enjoyment, confidence and participation in recreational activities
- **Camp program:**
 - gross motor exercises and strengthening in circuit training fashion, leisure education, and adapted sport skill development.
 - Liberi exergame system added as daily cardiovascular exercise
 - Community outings and guest coaches were integrated into the program
 - PTs and TRs worked with campers to set individual gross motor and physical recreation goals
- **Assessments:** Standardized clinical measurement tools were used to evaluate **campers' gross motor function, cardiovascular fitness, strength, confidence and participation** in recreational activities before and after the camp, and whether any improvements were maintained 6-months after the camp
 - As part of the project we developed a 12-item **Challenge-III assessment** to evaluate advanced motor skills in children and youth with CP who use assistive walking devices

Bringing action to children with cerebral palsy; Maximizing participation through a summer camp



What did we learn?

- All participants found the camp **fun and enjoyable**
- Campers' and/or their parents' **perception of performance and satisfaction** with respect to individual TR and PT goals **demonstrated a change** that would be important to clinicians
- Expected change for PT Goal Attainment Scale (GAS) goals did not occur – suggests a need to **revise practice intensity** related to these goals
- Compared to a traditional therapy block, benefits of intensive camp include **greater total hours, social environment, and education/resources** to support sport and recreation participation after the camp
- By adding the Liberi Exergame, we discovered **essential motivating factors necessary to facilitate gameplay** between people with different abilities
- While the Challenge-III skill performance was quite demanding for the youth, overall the campers had a **positive experience with the testing**

Impact for clients, families, and clinical practice

- In addition to a rapid improvement in gross motor ability, clients built their **knowledge of community resources** allowing them to participate in new recreational activities throughout the year
- Refinement of the Liberi Exergames will help make the **games more inclusive** to enable clients with different abilities to play together
- The Challenge-III addresses a critical measurement gap and it is hoped that it will **support goal setting and treatment planning** with children who use walking devices

Next Steps

- We are planning to run **SportFIT and Recreation Camp again** in July 2016 with 8-14 year olds
- We will **be implementing our lessons learned** within the newest version of the Liberi Exergame to facilitate cardiovascular exercise and fun group play for people of all abilities
- **Additional testing of children and youth who use gait aids** is required to confirm the final wording of the Challenge-III items and response sets
 - Testing of the rater reliability will be done (separate funding will be sought) before it is rolled out for clinical use

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To learn more about the Liberi Exergames, please contact Lauren Switzer at lswitzer@hollandbloorview.ca

To learn more about the SportFIT & Recreation Camp & Challenge-III, please contact: Blythe Dalziel at bdalziel@hollandbloorview.ca