Constraint-Induced Movement Therapy in a Box: Ready, Set, Go!

Krista L. Fraser, MEd, BSc (OT), OTRegNB; Rankyn M. Campbell, BA.

The Stan Cassidy Centre for Rehabilitation, Fredericton, New Brunswick

Background

Currently, Constraint-Induced Movement Therapy (CIMT) is considered a ‘green-light’ therapy for children with hemiplegic cerebral palsy and other forms of unilateral weakness (Viana & Teasell, 2012). A large body of research has documented significant gains in upper extremity function, as well as an increase in the spontaneous use of the affected limb in children with hemiplegic cerebral palsy following CIMT (Viana & Teasell, 2012). However, despite the evidence supporting the effectiveness of CIMT, its implementation into standard healthcare practice has been lethargic, in part due to the intensity of resources necessary to prepare for and execute signature CIMT effectively (Viana & Teasell, 2012). The CIMT in a Box: Ready Set Go! program was created to make CIMT accessible to rehabilitation teams in resource-scarce areas. We hypothesize that our program can make it possible for more children to access CIMT in practical, efficient, and cost-effective manner.

A Gap in Service for Children in NB

Our Team:
- The Paediatric Neuromotor team at the Stan Cassidy Centre for Rehabilitation offers interdisciplinary, tertiary-level service to children with neurological impairments in New Brunswick, Canada.
- In 2015-2016 approximately 46% of our caseload consisted of children (0-18 yrs) presenting with Cerebral Palsy.
- 26% of these children presented with Hemiplegia Cerebral Palsy GMFCS Level I.

Resource Scarcity:
- Signature-model CIMT programs require a 60+ hours of bilateral hand activities program implemented by an Occupational Therapist (Vianna & Teasell, 2012).
- A lack of resources (clinicians, time, money, expertise) has led to an unavailability of CIMT programs in NB and throughout the Atlantic Provinces.
- Children with hemiplegia are not often prioritized for treatment on complicated caseloads.
- Community based services have become primarily consultative in nature.

Filling the Gap: Making CIMT Available

Our Solution:
- Have two occupational therapists receive certification in the administration of the Assisted Hand Assessment
- Review the literature, and create an evidence-based CIMT camp program
- Stakeholder meetings with therapeutic services managers in NB
- Make the program sustainable, so the 60+ hours of CIMT program could be implemented by one Occupational Therapy student and volunteers in resource scarce New Brunswick communities in the future
- Trial it at the tertiary level in year one, led by therapists
- Trial it at the tertiary level in year two, led by an Occupational Therapy student
- Package the program in a way that specialized services (pre/post testing, casting/splinting and consultation) could be completed by our tertiary team

Our Creation

CIMT in Box: Ready, Set Go!

What the kits includes:
- 60+ hours of gross motor, fine motor, meal prep and technology based activities
- Easy-to-follow, step-by-step instructions related to each activity and recipe idea (including photos)
- A complete supplies list for each activity and recipe for easy to obtain supplies
- Use of harder to get supplies, delivered to site prior to camp
- Information re: each activity’s purpose (intended impact on rehabilitation)
- Daily data collection forms
- Parent-information handouts (e.g. casting/splinting information)
- Scheduling examples
- Consent forms
- Pre and Post testing data collection forms

Future Directions

2016
- Tertiary setting
- 6 Clinicians
- 2 Assistants

2017
- Tertiary setting
- 1 Student OT
- 1 Assistant
- 4 Volunteers

2018*
- Community setting
- 1 Student OT
- 5-7 Volunteers per community

* Pending

Acknowledgements

- Our sincerest thanks to all of the members of the Paediatric-Neuromotor team, the Stan Cassidy Centre for Rehabilitation, all of our volunteers, and especially the children and families who have made our CIMT program a success.

References
