Summer 2016

Pediatric Constraint Induced Movement Therapy Protocols for Hemiplegia

Christina Fisher  
*Western Michigan University*

Brittany Newton  
*Western Michigan University*

Follow this and additional works at: [http://scholarworks.wmich.edu/ot_posters](http://scholarworks.wmich.edu/ot_posters)

Part of the [Occupational Therapy Commons](http://scholarworks.wmich.edu/ot_posters)

**WMU ScholarWorks Citation**

Fisher, Christina and Newton, Brittany, "Pediatric Constraint Induced Movement Therapy Protocols for Hemiplegia" (2016).  
*Occupational Therapy Graduate Student Evidenced-Based Research Reviews*. 16.  
[http://scholarworks.wmich.edu/ot_posters/16](http://scholarworks.wmich.edu/ot_posters/16)

This Article is brought to you for free and open access by the Occupational Therapy at ScholarWorks at WMU. It has been accepted for inclusion in Occupational Therapy Graduate Student Evidenced-Based Research Reviews by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
Pediatric Constraint Induced Movement Therapy Protocols for Hemiplegia

Christina Fisher, OTS and Brittany Newton, OTS

1 Ask: Research Question
What is the most effective pediatric constraint induced movement therapy (CIMT) or modified constraint movement therapy (mCIMT) protocol for children with hemiplegia (type, frequency, duration, intensity)?

2a Acquire: Search Terms
Patient/Client group: Pediatric hemiplegic cerebral palsy
Intervention: Constraint Induced Movement Therapy (CIMIT), Modified Constraint Induced Movement Therapy (mCIMT)
Comparison: None
Outcome: Increased function in upper extremity

2b Acquire: Selected Articles

Chen et al. (2014): A systematic review and meta-analysis of forty-one RCTs, sixteen reviews, and two clinical guidelines that assessed the effectiveness of constraint movement therapy on upper extremity function in children with cerebral palsy.

El-Kafy et al. (2014): A RCT that examined the effectiveness of a mCIMT protocol in improving upper extremity function in children with congenital hemiplegic cerebral palsy.

Gelkop et al. (2015): A matched-pair randomized trial that examined the effectiveness of mCIMT and Hand-Arm Bimanual Intensive Training (HABIT) protocols when provided in the school setting.

Zafer et al. (2016): A RCT that examined the effectiveness of constraint induced movement therapy compared to bimanual therapy in upper motor function in children with hemiplegic cerebral palsy.

3a Appraise: Study Quality

Chen et al. (2014): Preponderant: Large number (n = 27) of RCT studies used with good methodological quality. Limitations in varied outcomes measures, intervention protocols, and children’s characteristics made the analysis and conclusions complicated.


Gelkop et al. (2015): Preponderant: Only applicable special education school setting, not generalizable to other settings. Reliable and valid outcome measures. Small n-size (n = 12). No comparison to non-intervention group.

Zafer et al. (2016): Preponderant: Outcome tool was used for baseline and post treatment assessment in both intervention and control group. Small n-size (n = 20).

3b Appraise: Study Results
The findings of these studies showed the effectiveness of different protocols for CIMT/mCIMT in improving upper extremity functioning in children with hemiplegic cerebral palsy. The studies support child-friendly mCIMT in natural environments, including home and school to ensure transfer of therapy from the clinic to every day life activities (ADLs). See Table 1 for specific study protocols.

4 Apply: Conclusions for Practice
Based on the findings, the occupational therapist would find it most beneficial to administer CIMT/mCIMT in a child’s natural environment. Transfer training during intervention is important for continued use of affected upper extremity after intervention. It is important to choose a protocol that is feasible for the family, considering duration, type, intensity and available resources.

References:


There are many effective protocols for constraint induced movement therapy and modified constraint induced movement therapy.