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CLINICAL REHAB ROUNDUP: Try Something New for Your Pediatric Patients With Hemiplegic Cerebral Palsy

Research is showing promise for CIMT.

Bound for Success: A Systematic Review of Constraint-Induced Movement Therapy in Children With Cerebral Palsy Supports Improved Arm and Hand Use. Huang HH, Fetters L, Hale J, McBride A. Phys Ther. 2009 Nov;89(11):1142-3.

Have you explored constraint-induced movement therapy recently? CIMT could help children with hemiplegic cerebral palsy, according to researchers who analyzed several studies and systematic reviews on this method.

Background: Hemiplegic cerebral palsy affects one arm and leg on the same side of the body. CIMT forces the use of the affected side, specifically the upper extremity, by gently restraining the unaffected side in a mitt, sling, or cast. The patient then practices moving the affected arm for varying durations of time and intensity, explained the American Physical Therapy Association in a press release.

Findings: In the current study, one outcome measure at the body functions and structure level and four outcome measures at the activity level revealed significant CIMT effects. Previous studies also supported CIMT to improve the frequency of use of the affected arm for children with hemiplegia. And in most studies, positive effects appeared six to eight months after intervention.

"Although previous studies reveal a marked increase in function of the affected limb, there is a strong need for more rigorous studies to determine what constitutes an adequate dose of CIMT for pediatric patients with hemiplegia," said **Linda Fetters, PT, PhD, FAPTA,** a professor in the Department of Pediatrics at the Keck School of Medicine at the University of Southern California.

Also, this review focused on research involving children under 18, as the central nervous system in these young children is still in the early stages of development, APTA reported. And one of the theories behind the success of CIMT in children is that the developing brain has the capacity to reorganize learning.

"What we don't yet know is the impact of prolonged restraint on a child's developing nervous system," said first author **Hsiang-han Huang, MS, OT,** a ScD student in the Department of Physical Therapy and Athletic Training at Boston University. "Depending on the stage of development during which CIMT is applied, its potential impact may differ."