

**Table 1**

**Pediatric Studies on Constraint Therapy**

Title of Study	Description of Study	Outcome	Level of Evidence
<p>Efficacy of Constraint-Induced Movement Therapy for Children with Cerebral Palsy with Asymmetric Motor Impairment (Taub et al., 2004)</p>	<ul style="list-style-type: none"> <li>▪ Randomized control study</li> <li>▪ 18 children with hemiplegia cerebral palsy age 7-96 months</li> <li>▪ CIMT group=9</li> <li>▪ Control group=9</li> <li>▪ Ax= precast, post cast, 3 weeks post cast, and 3 &amp; 6 month follow-up for CIMT group only</li> <li>▪ Tx=long arm bivalve cast worn 6 hrs/day for 21 days including intensive practice and shaping techniques</li> </ul>	<ul style="list-style-type: none"> <li>▪ Spontaneous use, new motor movements, improved quality of hand use in constraint group as measured by Emerging Behavioral Scale (EBS), Pediatric Motor Log (PML), Toddler Arm Use Test (TAUT)</li> <li>▪ Results maintained at 6 months</li> </ul>	<p style="text-align: center;"><b>I</b></p> <p><u>Comment:</u></p> <ul style="list-style-type: none"> <li>▪ Small number of children studied</li> </ul>
<p>Forced Treatment of Childhood Hemiparesis (Willis et al., 2002)</p>	<ul style="list-style-type: none"> <li>▪ Randomized crossover control study with children with hemiplegia ages 1-8 years</li> <li>▪ CIT group=12 children primarily ages 3-6 years</li> <li>▪ Control group=10 children primarily ages 1-2 years</li> <li>▪ Tx= casted below elbow to fingertips for 1 month paired with preexisting OT or PT (no increase in therapy provided)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improved hand function as measured by the Peabody Developmental Motor Scale (PDMS)</li> <li>▪ Some decrease in scores at 6 months in CIT group but scores remain higher than at onset</li> <li>▪ Parents reported improved ADLs after casting</li> <li>▪ Parents reported persistence of some improvement at follow-up</li> </ul>	<p style="text-align: center;"><b>I</b></p> <p><u>Comments:</u></p> <ul style="list-style-type: none"> <li>▪ Small number of children studied</li> <li>▪ Children in the control group were younger</li> </ul>

Title of Study	Description of Study	Outcome	Level of Evidence
	<ul style="list-style-type: none"> <li>▪ Ax=onset, at 2 and 6 months</li> </ul>	<ul style="list-style-type: none"> <li>interviews (2-11mths)</li> <li>▪ Cross-over control group improved once received CIT</li> </ul>	
Efficacy of Forced-Use Therapy in Hemiplegic Cerebral Palsy (Sung et al., 2005)	<ul style="list-style-type: none"> <li>▪ Randomized control study (8 yrs and younger) with hemi cerebral palsy</li> <li>▪ Tx group=18</li> <li>▪ Control group=13</li> <li>▪ Tx=cast paired with 30 min. OT 2x weekly x 6 weeks and encouragement to use arm at home</li> <li>▪ Control=received same OT</li> <li>▪ Ax=baseline and 6 weeks post cast</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improvements as measured by Box and Block Test, WeeFIM, and Erhardt Developmental Prehension Assessment</li> </ul>	<p style="text-align: center;"><b>I</b></p> <p><u>Comment:</u></p> <ul style="list-style-type: none"> <li>▪ Less subjects in control group compared to treatment group</li> </ul>
Effects of Constraint-Induced Movement Therapy in Young Children with Hemiplegic Cerebral Palsy: an adapted model (Eliasson et al., 2005)	<ul style="list-style-type: none"> <li>▪ Non-randomized controlled clinical trial of children aged 18 mths to 4 yrs</li> <li>▪ Tx group=21</li> <li>▪ Control group=20</li> <li>▪ Ax= baseline, 2 months, 6 months</li> <li>▪ Tx=fabric glove with stiff plastic splint 2 hrs/day x 2 months</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improvement in Tx group was significant as measured by the Assisting Hand Assessment (AHA) and improvement continued 6 months post</li> </ul>	<p style="text-align: center;"><b>III</b></p>
Modified Constraint Induced Movement Therapy for Young Children with Hemiplegic Cerebral Palsy: a Pilot Study (Naylor et al., 2005)	<ul style="list-style-type: none"> <li>▪ Prospective study of 9 children with hemi cerebral palsy (ages 18 mths – 5 years)</li> <li>▪ Tx=gentle restraint (adult holding unaffected hand) x</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improvement in grasps, weight bearing, protective extension as measured on the Quality of Upper Extremity Skills Test seen 4 and 8 weeks post</li> </ul>	<p style="text-align: center;"><b>V</b></p>

Title of Study	Description of Study	Outcome	Level of Evidence
	1 hour twice weekly paired with carryover at home by parent <ul style="list-style-type: none"> <li>▪ Ax= every 4<sup>th</sup> week</li> </ul>	treatment	
Clinical Experience of Constraint Induced Movement Therapy in Adolescents with Hemiplegic Cerebral Palsy in a day camp (Eliasson et al., 2003)	<ul style="list-style-type: none"> <li>▪ Prospective study of 9 children with hemi cerebral palsy</li> <li>▪ Tx=glove like mitt x 7hrs/day x 5 days x 2 weeks</li> <li>▪ Day camp activities encouraging recreational activities</li> <li>▪ Ax=baseline, 2 weeks, 5 months</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improvements on Jebson Taylor Test and Brunincks Oseretsky sustained at 5 months</li> <li>▪ Assessment of Motor and Process Skills (AMPS) small but significant improvement</li> <li>▪ No improvement in grip strength</li> </ul>	V

Table 1: CIMT=constraint induced movement therapy; CIT= constraint induced therapy; Tx=treatment; Ax=assessment; ADLs=activities of daily living