Myofascial Treatment for Children With Cerebral Palsy: A Pilot Study of a Novel Therapy

Pediatrics, Stanford University School of Medicine, Stanford, CA, United States.

BACKGROUND

Cerebral Palsy (CP) Definition
• Most common physical disability in childhood
• Affects 2-4 children/1,000 annual births
• Follows injuries to the fetal or infant brain
• Permanent, non-progressive neurological condition
• Peripheral effects of damage (e.g. spasticity) change as child grows

Treatment Condition (MSC) - 69.63
• 10 session therapy series with a certified advanced MSK therapist
• Only approximately one per week
• Our protocol is modifiable to accommodate children, such as allowing flexible positioning to ease the child’s comfort
• Floor during play, standing, or parents legs
• included in the therapy are take home instructions individualized to the child and the session, including active and passive stretching, and balance exercises.

Control Condition (Play) - 71.69
• 10 sessions of interactive play with a member of the research team (ABH). Activities included coloring, card games, puzzles and imaginative play.

RESULTS

Results 1: GMFCS Levels 2

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Sex</th>
<th>GMFCS</th>
<th>Additional Functional Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>011</td>
<td>5</td>
<td>F</td>
<td>2</td>
<td>Improved strength, balance, and coordination</td>
</tr>
<tr>
<td>005</td>
<td>3</td>
<td>M</td>
<td>2</td>
<td>Improved balance and coordination</td>
</tr>
<tr>
<td>002</td>
<td>6</td>
<td>M</td>
<td>2</td>
<td>Improved balance and coordination</td>
</tr>
</tbody>
</table>

RESULTS

Results 2: Change in GMFM Score during MSI and Play

<table>
<thead>
<tr>
<th>Subject</th>
<th>Change in GMFM Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>011</td>
<td>25</td>
</tr>
<tr>
<td>005</td>
<td>20</td>
</tr>
<tr>
<td>002</td>
<td>15</td>
</tr>
</tbody>
</table>

OUTCOME MEASURES

Motor Function
- Gross Motor Function Measure (GMFM): - examines the extent of contractures and their impact on movement and function
- Motor Pedi Index: - evaluates the function of the joints and their impact on movement and function
- Gross Motor Function Measure (GMFM): - evaluates the function of the joints and their impact on movement and function

Activities
- Observation of Play: - evaluates the function of the joints and their impact on movement and function
- Observation of Play: - evaluates the function of the joints and their impact on movement and function

SUMMARY & CONCLUSION

- Six of the eight children in the study showed improvement in their GMFM score
- The children showed improvement after the MSI therapy than after play sessions.
- One showed improvement after MSI and continued to improve after play sessions.
- One showed apparent deterioration. This child has visual impairment and cognitive disability, she could not comprehend language adequately to follow instructions.
- Three children showed improvements in idiopathic condition after MSI.
- One only showed clearly recognizable improvements in OGS. Scores on the ICF domains were highly variable.
- Parents reported many observed changes in their children beyond those that were reflected in outcome measures.

Myofascial Structural Integration Therapy holds promise as a complementary treatment for young children with cerebral palsy

Myofascial Structural Integration may be particularly valuable when children are young and beginning to develop motor skills.

Myofascial Structural Integration may have benefits beyond decreasing spasticity, such as increased growth and appetite

REFERENCES