Gait Changes: Knee

Pre

Gait Changes: Ankle

Pre
What do we know about gait outcome?

We know what is currently working.

Gait Pathology: GGI

- good
- neut. poor
Gait Pathology: GGI

Mean pre = 243
Mean pst = 172
Decrease of 29%

Spasticity: Ashworth

September 2017 AACPDM 71st Annual Meeting, Montreal, Quebec, Canada
Spasticity: Ashworth

Efficiency: Oxygen Cost

good
IC 14 - A MULTIDISCIPLINARY APPROACH TO IMPROVING GAIT IN CHILDREN WITH CEREBRAL PALSY WITH RHIZOTOMY: PATIENT SELECTION, AND OUTCOMES

Efficiency: Oxygen Cost

Mean pre = 343% control
Mean post = 291% control

Function: Gillette FAQ

Mean pre = 7.3
Mean post = 8.2
Increase of 0.9 levels
Function: Gillette FAQ

6. Walks more than 15-50 feet outside the home but usually uses wheelchair or stroller for community distances or in congested areas

7. Walks outside for community distances, but only on level surfaces (cannot perform curbs, uneven terrain, or stairs without assistance of another person)

8. Walks outside the home for community distances, is able to get around on curbs and uneven terrain in addition to level surfaces, but usually requires minimal assistance or supervision for safety

9. Walks outside the home for community distances, easily gets around on level ground, curbs, and uneven terrain, but has difficulty or requires minimal assistance or supervision with running, climbing and stairs

Dependent vs Independent Ambulation

September 2017 AACPDM 71st Annual Meeting, Montreal, Quebec, Canada
Purpose

Test whether assistive device use (GMFCS level) was predictive of SDR outcome

- Motor control
- Stand alone indicator of risk

Gross Motor Function Classification System (GMFCS)

<table>
<thead>
<tr>
<th>Pre-op score</th>
<th>assistive device</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 2</td>
<td>independent</td>
</tr>
<tr>
<td>3 or 4</td>
<td>dependent</td>
</tr>
</tbody>
</table>
Results

- GMFCS 1/2 independent N = 70
- GMFCS 3/4 dependent N = 66

- The groups closely matched
  * age
  * % of rootlets cut

Gillette Gait Index

No difference
FAQ - 10

No difference

Oxygen Cost

Dependent greater chance of poor outcome (significant)
Walking Speed

Dependent more likely to improve (significant)

Discussion

- Energy cost (O2) was more likely to be poor for dependent ambulators.
- That same group of children was more likely to walk faster.
- Ceiling effect – Independent ambulators walked at typical speed pre-operatively.
- No relationship between GGI or FAQ and O2.