The aim of the project was to evaluate the effect of 6 weeks Innowalk trial on gait and gastrointestinal function in a 13 year old child with spastic bilateral cerebral palsy, GMFCS level III.

Due to a small sample size (1), the results cannot be generalized.

**Rectus femoris tightness**

Duncan Ely* – test for rectus femoris dysfunction (PROM, tested by slow knee flexion):

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>50°</td>
<td>50°</td>
</tr>
<tr>
<td>Left</td>
<td>30°</td>
<td>60°</td>
</tr>
</tbody>
</table>

In our patient, measured by the angle between the base of support and the calf as the pelvis rises.

Resistance against rapid passive stretch

**Hip extensors:**

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Left</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Measured by the Asworth scale

**Hip adductors:**

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>2 +</td>
<td>1 +</td>
</tr>
<tr>
<td>Left</td>
<td>2 +</td>
<td>1 +</td>
</tr>
</tbody>
</table>

Measured by the Asworth scale

Spasticity: “disordered sensorimotor control, resulting from an upper motor neurone lesion, presenting as intermittent or sustained involuntary activation of muscles” (JH. Burridge et al, 2005).

**Gastrointestinal function**

Before (registration period of 2 weeks prior to the 6 week Innowalk trial):
- 2-3 toilet accidents, 3 days complained of stomach pain.
- One of these days, the patient had to go home from school because of pain.
- Use medicine for Gastrointestinal Function

During Innowalk trial (6 weeks):
- No complaints of stomach ache. 1 toilet accident.
- No medicine for Gastrointestinal Function.

**Additional effects:**

- Muscle circumference
  - Calf Before: Left (affected leg): 21 cm circumference
  - After: Left (affected leg): 21.5 cm circumference

- Blood flow
  - Warm feet after each session (usually they are cold)

**GAIT PATTERN – BEFORE TRIAL**

The feet are significantly *outwards rotated* throughout the gait cycle, so that the left leg consistently *nudges* into the back of the right foot in the swing phase when walking at normal speed. This is less pronounced when the patient is walking faster. The *upper body is clearly stooping forwards* and there is *flexion in the hips and knees*. Walks with “kissing knees”.

**GAIT PATTERN – AFTER TRIAL**

The feet are *slightly less outwards rotated* so that the toes are pointing more forward throughout the gait cycle. We can also see that the *left foot now and then is nudging* the right foot in the swing phase when the patient is walking at normal speed, but *not consistently*. There is longer *distance between the feet* in the gait cycle. The *upper body is more upright* and the patient is walking with slightly less *flexion in the hips*. The patient still walks with “kissing knees”.

*Our professional impression is that walking function has improved.*