Background

- 795,000 people in USA have a new or recurrent stroke each year, leaving them with spatiotemporal gait abnormalities. Following D/C from in-patient rehab, many patients continue to experience activity limitations & participation restrictions secondary to limited walking ability.
- The use of BWSTT & overground GT has been shown to improve bilateral coordination and gait symmetry for patients with chronic stroke.
- Evidence for BWSTT rather than overground GT is mixed and does not include representation for the young stroke population.

Purpose

- To describe the outcomes of gait speed, efficiency of gait, and fall risk in a young individual following a chronic stroke managed with intense BWSTT and overground GT

Case Description

- 44 y/o veteran.
- Right hemorrhagic CVA due to malignant hypertension four months prior to intervention (considered chronic).
- Patient presentation: left hemiparesis, spasticity of left upper and lower extremities, decreased sensation on the left, decreased gait speed, functional strength, and range of motion (ROM), impaired balance in bilateral stance, visual field deficits, & flat affect.
- RH was considered a severe fall risk.
- BWSTT and GT 5x/week for 12 weeks.

Interventions

- Intervention progression was based on patient tolerance and included increased duration, intensity, frequency, and decreased rest breaks.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>BWSTT</th>
<th>GT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10% BW; 2 sets of 10; 0.6-0.8 MPH</td>
<td>0% BW; 3 sets of 10; 0.5-1 MPH</td>
<td>No AD, with OA &amp; GCA; no balance &amp; safety, self-selected pace</td>
</tr>
<tr>
<td>2</td>
<td>20% BW; 2 sets of 10; 1.1-1.3 MPH</td>
<td>10% BW; 3 sets of 10; 1.1-1.3 MPH</td>
<td>No AD, with OA &amp; GCA; use of metronome</td>
</tr>
<tr>
<td>3</td>
<td>30% BW; 2 sets of 10; 1.5-2 MPH</td>
<td>20% BW; 3 sets of 10; 1.5-2 MPH</td>
<td>No AD, with OA &amp; GCA; use of metronome &amp; music for increased cadence</td>
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<tr>
<td>4</td>
<td>40% BW; 2 sets of 10; 1.7-2.3 MPH</td>
<td>30% BW; 3 sets of 10; 1.7-2.3 MPH</td>
<td>No AD, with OA &amp; GCA; use of metronome &amp; music for increased cadence</td>
</tr>
</tbody>
</table>

Outcomes

- Tests and measures were performed at baseline and discharge to obtain objective measures of RH's progress.
- At D/C, RH met 1/4 of the PT goals for D/C planning.
- However, RH met his self-reported goals of: walking without the use of an AD, improved balance, and no reported falls.

Discussion

- RH demonstrated mixed overall gains with management. This is similar to previous publications reporting mixed outcomes.
- Possible attributable factors to mixed outcomes include:
  - Variation of individual stroke severity/ symptoms.
  - Sample cohorts consisting of heterogeneous populations of patients that have had a stroke.
- Further research is warranted in the area of BWSTT among a homogeneous patient population. This should include, but not limited to:
  - Trials utilizing BWSTT among patients with similar severity of strokes and symptoms.
  - Trials utilizing BWSTT for patients experiencing chronic stroke symptoms of various origins.
  - Trials utilizing quality of life outcome measures & cost to help determine cost effective management.

References