### Background
- The cerebellum integrates sensory perception, coordination, and motor control.
- Cerebellar stroke accounts for 3.4% of the 600,000 strokes that occur annually in the United States.
- Due to the rarity of ACS, very little research has been conducted regarding multimodal PT interventions as a treatment option.

### Purpose
- The purpose of this case report was to describe multimodal PT interventions designed to restore independence and motor control for a patient with ACS.

### Case Description
- 61-year-old female after an acute cerebellar stroke.
- Onset of reduced balance and mobility.
- PMH: Meniere’s syndrome, seizures, Right vestibular nerve section, lupus.
- Previously Independent with ADL’s/IADL’s.
- Cardinal Signs: headache, dizziness, ataxia, inaccurate, erratic or uncoordinated movements.

### Examination

<table>
<thead>
<tr>
<th>Examination Measure</th>
<th>Admission</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross LE Strength</td>
<td>4/5</td>
<td>4+/5</td>
</tr>
<tr>
<td>Gross Trunk Strength</td>
<td>2/5</td>
<td>4/5</td>
</tr>
<tr>
<td>Motor Function</td>
<td>Delayed; increased time processing task</td>
<td>Functional</td>
</tr>
<tr>
<td>Coordination</td>
<td>UE/LE impairment</td>
<td>UE/LE unimpaired</td>
</tr>
<tr>
<td>Proprioception</td>
<td>Inconsistent responses or slowed response time</td>
<td>Consistent responses, but slowed response time</td>
</tr>
<tr>
<td>Bed mobility</td>
<td>Supervision</td>
<td>Independent</td>
</tr>
<tr>
<td>Transfers</td>
<td>Minimal Assistance</td>
<td>Independent</td>
</tr>
<tr>
<td>Gait</td>
<td>25’ with FW, Moderate Assistance</td>
<td>1,150’ with Rollator, Modified Independent</td>
</tr>
</tbody>
</table>

### Impairments
- ↓ Muscle Performance
- ↓ Motor Function
- ↓ Coordination & Balance
- ↓ Sensory Integrity
- ↓ Proprioception

### Activity Limitations
- ↓ Independent bed mobility/transfers
- ↓ Inability to ambulate w/o AD and assistance
- ↓ ADL’s & IADL’s

### Participation Restrictions
- Inability to drive or participate in volunteer work

![Image](image.png)

### Interventions

#### Time Allocated to Interventions Over the Course of 8-Weeks
- Therapeutic Exercise
- Therapeutic Activity
- Neuromuscular Re-education
- Gait Training
- Group Therapy

### Outcomes
- Significant improvements in motor control and truncal stability were noted. Maximum distance and quality of gait improved as well as level of independence in functional mobility.

### Discussion
- Limited research exists on treatment of a patient with ACS in regards to using a multimodal intervention technique.
- The outcomes from this case report indicated that the incorporation of multimodal interventions was an effective treatment option in restoring independence and motor control following ACS.
- Future research investigating the efficacy of specific interventions for ACS is warranted.