**Background & Purpose**

- Workers in the agricultural industry experience 243 injuries per day that result in lost work time, with five percent of these resulting in permanent impairments.  
- Functional decline can occur as a result of prolonged hospitalizations.
- Endurance and strength of the lower extremities, mobility, and tolerance for ambulation are decreased in this population. PT interventions can target these impairments to improve functional ability.
- The purpose of this case report is to describe the PT management used in a subacute setting to improve functional ability, mobility, and gait in a patient who experienced deconditioning due to prolonged hospitalization following an accident with farm machinery.

**Case Description**

- 61 year-old male dairy farmer
- Accident with manure spreader
- **Neuromuscular**: intraventricular hemorrhage of left occipital horn, seizures, mild traumatic brain injury
- **Musculoskeletal**: 8 hip fractures, transverse process fx, L ribs 5-7 fx
- **Cardiopulmonary**: pneumothorax, pneumomediastinum
- **Integumentary**: L forearm degloved
- **Other**: dysphagia, MRSA, hx ventilator use
- PMH unremarkable
- Supportive family and friends

**Examination and Outcomes**

<table>
<thead>
<tr>
<th></th>
<th>Evaluation</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit-to-stand</td>
<td>Fully dependent with use of chair lift</td>
<td>Mod I from lower surfaces</td>
</tr>
<tr>
<td>Gait</td>
<td>Unable to tolerate</td>
<td>300ft with RW and CGA</td>
</tr>
<tr>
<td>Balance</td>
<td>CG sitting at edge of bed</td>
<td>SBA during static standing with AD nearby</td>
</tr>
<tr>
<td>Stairs</td>
<td>Unable to tolerate</td>
<td>Nine 6.5” steps with B rails and CGA</td>
</tr>
</tbody>
</table>

**Interventions**

**Phase 1**
- Seated strength routine
- Sitting balance
- Core strength
- Slideboard transfers

**Phase 2**
- Quadruped over exercise ball
- Thoracic spine flexibility
- High kneeling
- Co-treatment with Occupational Therapy

**Phase 3**
- Sit-to-stand transfers
- Stand-pivot transfers
- Vehicle transfers
- Gait training in parallel bars
- Stair training

**Phase 4**
- Dynamic gait activities
- Gait training with bariatric rolling walker
- Gait training with rollator
- Static and dynamic standing balance
- Cardio equipment
- HEP to perform in room
- Home assessment

**Discussion**

- Gait and functional training were appropriate due to goals
- High motivation and family support were positive factors
- Coordination with OT, SLP, nursing led to outcome
- Little is written in the literature about the role of physical therapy following traumatic, complex injuries, so it was difficult to develop an evidence-based program
- More evidence needed to determine prognosis

**References**


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