Inpatient Physical Therapy for a Patient with Dementia after Right Above Knee Amputation: A Case Report
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Background
Lower limb amputation is a traumatic event that is most commonly performed on individuals who are diabetic or have peripheral vascular disease. Other causes of amputation include infection, trauma, or cancer. A sarcoma is a cancer in tissues such as muscle, fat, cartilage, or bone. The treatment goal is to excise and prevent growth or metastasis of the sarcoma.

Patient Description
MC was a pleasant 82 year old female status post right above knee amputation at approximately 12cm below the greater trochanter. Prior to amputation MC resided in an elderly living facility. She was widowed but had three very supportive daughters who lived in the area. Her general health was good, she did not drink or smoke. MC was referred to a skilled nursing facility after a brief stay at an acute rehabilitation facility. Her main complaint was decreased functional mobility.

Systems Review
Heart Rate 84
Blood Pressure 124/78
Respiratory Rate 16
Abdomen Soft
Integumentary findings
Neuromuscular
Musculoskeletal
Communication, affect

Examination
Initial Examination (Day 1)

<table>
<thead>
<tr>
<th>Strength</th>
<th>Initial Examination (Day 1)</th>
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</thead>
<tbody>
<tr>
<td>Upper extremities grossly 4/5</td>
<td>Upper extremities remain grossly 4/5. Triceps, extensor carpi ulnaris, and extensor carpi radialis brevis strong.</td>
</tr>
<tr>
<td>Right residual limb tested to 3/5 due to acute healing process</td>
<td>Right extremities remain fixed with minimal pain on range of motion.</td>
</tr>
<tr>
<td>Left lower extremity grossly maximus, gluteus medius and tibialis anterior 3+/5.</td>
<td>Left lower extremity gluteus maximus, gluteus medius and tibialis anterior 4/5.</td>
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<tr>
<td>Upper abdominal strength fair</td>
<td>Lower abdominal strength poor</td>
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Re-examination and Discharge (Day 36)

<table>
<thead>
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<th>Strength</th>
<th>Re-examination and Discharge (Day 36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper extremities remain grossly 4/5. Triceps, extensor carpi ulnaris, and extensor carpi radialis brevis strength.</td>
<td>Upper extremities remain grossly 4/5.</td>
</tr>
<tr>
<td>Right residual limb tested to 3/5 due to continued wound healing.</td>
<td>Right extremities remain fixed with minimal pain on range of motion.</td>
</tr>
<tr>
<td>Left lower extremity gluteus maximus, gluteus medius and tibialis anterior 4/5.</td>
<td>Left lower extremity gluteus maximus, gluteus medius and tibialis anterior 4/5.</td>
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Neuromuscular

Balance
Seated static balance steady at 10 seconds. Dynamic seated balance unsteady requires upper extremity support. Berg balance scale score 5/10 indicating a high fall risk.

FM Transfers
Rolling min assist x2
Superior roll-up minimum assist x1
Sit to stand mod assist x2 with walker

Squat pivot transfer bed to chair mod max x1
Unable to ambulate

Pain
1-2/10 "Phantom" pain in right toes and lateral foot consistently 0-2/10

Interventions
MC received physical therapy interventions every day on weekdays and once on weekends for 30-45 minutes.

Physical therapy collaborated treatment with OT, Nursing, Dietary, Doctors and SLP.

Therapeutic Activities: MC was asked to perform many aspects of functional mobility throughout the day by all members of the healthcare team. Physical Therapy helped MC learn how to perform bed mobility, supine to sit, sit to stand, squat pivot, stand pivot and slide board transfers in a safe and controlled manner.

Outcome
- Discharged to an assisted living facility
- Modified independent with slide board transfers
- Unable to perform sit to stand without assistance
- Will receive PT at new location

Discussion
MC was able to make good progress during inpatient rehabilitation. She was able to improve her functional mobility from requiring assistance with all mobility to a modified independent level with a slide board. It seems that combining strengthening exercises and functional mobility training results in improvement in a patient with dementia involving motor planning deficits. Research should be conducted to further examine interventions used for this population.