**Background**

**Total Knee Arthroplasty (TKA)**
- OA is the most common joint disorder in the US.
- A TKA is a surgical procedure aimed to relieve signs and symptoms of severe osteoarthritis.
- Acute care following a TKA includes:
  - Swelling management
  - Increasing range of motion
  - Enhancing muscle control and strength in the involved lower extremity
  - Maximizing patient’s mobility with the goal of functional independence.
- Weight bear status: weight bear as tolerated.

**Bone Cyst**
A bone cyst is a common bone defect found in weight bearing joints such as the knee and hip. They may weaken bone integrity and must be accounted for in patients post TKA procedures. The weight bear status of these patients is typically partial weight bear (50%). There is a lack of evidence investigating PT interventions after a TKA, especially in a patient with a bone cyst and a decreased weight bear status.

**Case Description**

**PMH**
- Patient was a 64-year-old female following a left TKA secondary to OA with a bone cyst.
- Previous right TKA in 2003
- Diagnoses of anxiety and depression, currently being treated pharmacologically

**Social History**
- Lived alone in two story home
- 2 stairs to enter with railings
- 2 adult sons that were involved

**Diagnosis**

**Preferred Practice Pattern 4H: Impaired Joint Mobility, Motor Function, Muscle Performance, and Range of Motion Associated with Joint Arthroplasty.**

**Interventions**

Patient received 9 PT sessions over three days, and was seen at least twice a day for one hour. A rolling walker was used for all mobility purposes while the patient remained PWB status through the entire episode of care.

**Examination**

<table>
<thead>
<tr>
<th>Test and Measure</th>
<th>Initial Evaluation</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee Flexion</td>
<td>95°</td>
<td>110°</td>
</tr>
<tr>
<td>Knee Extension</td>
<td>3/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Hip Flexion</td>
<td>90°</td>
<td>100°</td>
</tr>
<tr>
<td>Hip Extension</td>
<td>5/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Ankle Plantarflexion</td>
<td>3/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Ankle Dorsiflexion</td>
<td>4/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Knee PROM AAROM</td>
<td>4/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Balance Assessment</td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>Functional Limitations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Decreased left lower extremity range of motion
- Decreased left lower extremity strength
- General left knee edema
- Pain
- Impaired balance
- Decreased endurance
- Impaired gait kinematics

**Outcomes**

Over the course of the patient's 3-day hospital stay following her TKA procedure, she demonstrated significant improvement in the following functions:
- Left knee range of motion (see ROM chart)
- Left knee strength
- Functional mobility
- Gait kinematics
- Pain

The patient was discharged home with a front wheeled walker.

**Discussion**

It appeared that the physical therapy management of this patient was appropriate in improving her functional mobility despite her weight bear restrictions. The use of a rolling walker seemed to be an effective choice of DME to maintain her PWB status. The patient's improvements of her left lower extremity range of motion and strength led to improved gait kinematics, balance, and endurance. These improvements allowed the patient to perform functional activities such as ambulating to the bathroom, performing personal care tasks, and transferring to and from chairs independently with a rolling walker at the time of discharge.

Further studies should be conducted on the acute care treatment of patients following a TKA procedure investigating the effectiveness of various PT interventions.

**Acknowledgements**

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**References**