Outpatient Physical Therapy Management of a Total Knee Arthroplasty with Severe Contralateral Knee Osteoarthritis: A Case Report
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Background
• Knee osteoarthritis (OA) is a common cause of severe pain, disability within the community, and dependence on others.1
• In the U.S., a TKA is one of the most commonly performed orthopedic procedures and 95% of them are attributed to OA.2
• Following a TKA, pain and walking ability are the most important factors that need to be addressed.3

Purpose
• Describe comprehensive PT management for a patient following a TKA with severe OA of the contralateral knee and report the outcomes.

Case Description
• 64-year-old male s/p three weeks right TKA with multiple significant co-morbidities (severe obesity, hypertension, DM Type II).
• X-rays demonstrated severe OA of his left knee
• Highly motivated and great social support from wife
• Completed six outpatient PT sessions over a seven week period
• Ambulated using a rolling walker, had bilateral knee pain, impaired right knee ROM, strength, joint play, muscular endurance, and balance.

Interventions

Joint Mobilizations
• Patellofemoral
• Tibiofemoral

Strengthening
• Total Gym Squats
• Partial Lunge

Balance
• Single Leg Stance

Outcomes
• Patient demonstrated improvement in activity tolerance, walking ability, confidence, pain level, balance, lower extremity strength, range of motion, and joint mobility.

Home Exercise Program
Figure 1. Total Gym 26000 allowed patient to perform squats at half of his BW.

Figure 2. EZ Stretch used for 10 min. sessions, 4-6x/day. Allowed him to stretch his knee in both flexion and extension via mechanical overpressure.

Figure 3. Side-lying Straight Leg Raise, 3x10 daily

Figure 4. Bridging, 3x10 daily

Figure 5. Straight Leg Raise, 3x10 daily

T & M | Initial | Discharge
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AROM Flexion | 76° | 117°
AROM Extension | -12° | 0°
Pain Rating | 7/10 | 6/10
Quadriceps Strength | 4/5 | 5/5
Hip Abductor Strength | 3+/5 | 4/5
Assistive Device | RW | Rollator

2 Minute Walk Test (feet)
Session 1 | 178
Session 4 | 221
Session 6 | 251

Lower Extremity Functional Scale
Session 1 | 23
Session 4 | 39
Session 6 | 29

Conclusions
• A combination of manual therapy and therapeutic exercise directed towards hip and knee strengthening along with balance, may be beneficial for functional mobility.
• Future research should be performed to further investigate ideal PT interventions for patients following a unilateral TKA with severe contralateral knee OA.

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References