Return to Golf in a 71-year-old Female after a Mako Robotic-Arm-Assisted Unicompartmental Knee Arthroplasty: A Case Report

Katelyn Austin, BS, Doctor of Physical Therapy Student
Doctor of Physical Therapy Program, University of New England, Portland, Maine

Background & Purpose
- Knee osteoarthritis (OA) is the most common joint disorder in the elderly.¹
- Unicompartmental knee arthroplasties (UKA) have been increasing in prevalence at a rate of 30% each year.²
- Robotic-arm-assisted UKAs increase the accuracy of implant positioning compared to traditional techniques which helps with a quicker recovery.³
- Little literature on UKAs, but total knee arthroplasty (TKA) interventions should focus on return to golf post TKA, but no information about UKAs.
- The purpose of this case report was to look at the impact of physical therapy (PT) on patient outcomes and return to golf following a Mako robotic-arm-assisted UKA.

Case Description
- 71-year-old female one-week s/p right (R) UKA with Mako robotic-arm-assist.
- OA in bilateral knees and ankles.
- Prior to surgery she lived independently and was active through golfing, gardening, and biking.
- Upon initial evaluation (IE) pt presented with decreased ROM, strength, patellar mobility, balance, and increased pain.

Incision
- R UKA surgery performed.
- Home Health PT IE and discharge

Timeline
- Surgery & Home Health Day 0-7
- Week 1 and 2
  - Pt fell through her deck
  - Strengthening regressed
  - Patellar mobilizations progressed
  - Increased edema
  - ROM continued

- Week 3 and 4
  - Pt fell while gardening
  - Strengthening continued
  - ROM and patellar mobilizations continued

- Week 5
  - Balance and dynamic movement initiated

- Week 6
  - Strengthening, ROM, and HEP progressed
  - Balance and dynamic movement initiated

- Week 7
  - Pt self discharged from PT (9 weeks post operatively)
  - Planned to play 9 holes of golf in 3 weeks (12 weeks post operatively)

- Week 8

Interventions
- Outpatient PT IE & HEP initiated
- Strength and ROM exercises initiated
- Patellar mobilizations continued
- Static balance
- Balance and dynamic movement progressed
- Strengthening and ROM progressed

Outcome
- Numeric Pain Rating Scale (0-10): Current: 2 Best: 0 Worst: 3
- Lower Extremity Functional Scale: 31/80, 61.25% disabled
- Gait Analysis: Toe out on right side and lacking proper hip extension. Stride length equal with proper heel strike and toe off.

Therapeutic Exercise
- ROM
- Strength
- Dynamic Movements

Manual Therapy
- Patellar mobilizations

Neuro-Reduction Exercises
- Balance

Home Exercise Program
- ROM
- Strength
- Education

Discussion & Conclusion
- This case report suggests that the combination of interventions used are beneficial to a patient following a UKA.
- Despite two falls that set her back during treatment the pt demonstrated improvements in all outcome measures upon self-discharge.
- Further research should be completed on UKAs to determine best practice when treating this population.
- Research should be directed at comparing long term outcomes and recovery times of UKAs versus TKAs.

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References