ROCKFORD ORTHOPEDIC

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Distal and/or Proximal Patellar Tendon Realignment

Guidelines/Precautions

- No closed-kinetic chain exercises for 6 weeks
- Same rehab protocol is followed for proximal and distal procedures except weight-bearing and other limitations as noted
- After combined proximal and distal realignment, the protocol for distal realignment is used

Phase I (1 – 5 days post-op)

- Wound care: Observe for signs of infection
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace
  - o Locked in full extension for all activities except therapeutic exercises and CPM use
  - o Locked in full extension for sleeping
- Gait
  - o WBAT with two crutches for proximal realignment procedure
  - o 50% weight bearing with two crutches for distal realignment
- ROM
  - o 0 – 30 degrees of flexion
  - o Ankle AROM
- Strengthening: none

Phase II (5 days – 4 weeks post-op)

- Wound care: Monitor site for signs of infection and initiate scar management techniques when incision closed
- Modalities: Modalities PRN for pain and inflammation (ice, IFC)
- Brace
  - o 0-4 weeks locked in full extension for all activities except therapeutic exercises and CPM use
  - o Locked in full extension for sleeping
- Gait
  - o WBAT with two crutches for proximal realignment procedure
  - o 50% weight bearing with two crutches for distal realignment
- ROM
  - o 0 – 2 weeks: 0 – 30 degrees of flexion
  - o 2 – 4 weeks: 0 – 60 degrees of flexion
  - o Goal of full knee extension by week 6
- Strengthening
  - o Quad sets for isometric adduction with biofeedback and E-stim for VMO (no E-stim for 6 weeks for proximal realignment). Goal of regaining active quad and VMO control by end of 6 weeks.
  - o Heel slides from 0 – 60 degrees of flexion for proximal realignment, 0 – 90 degrees of flexion for distal realignment
  - o CPM for 2 hr, bid from 0 – 60 degrees of flexion for proximal realignment, 0 – 90 degrees of flexion for distal realignment
  - o NWB gastroc, soleus, and hamstring stretches
  - o SLR in four planes with brace locked in full extension lying down or standing

- o Resisted ankle ROM with Theraband
- o Patellar mobilization (begin as tolerated)
- o Begin aquatic therapy at 3 – 4 weeks, emphasis on gait

Phase III (4 – 10 weeks post-op)

- Wound care: Observe for signs of infection, continue scar mobs
- Modalities: continue prn for pain and inflammation (ice, IFC)
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4 weeks to 6 weeks:

- Brace: Unlocked for sleeping, locked in full extension for ambulation
- Gait
  - o WBAT with two crutches for proximal realignment procedure
  - o 50% weight bearing with two crutches for distal realignment
- ROM: 0 – 90 degrees of flexion
- Strengthening: continue same as phase II
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6 weeks to 8 weeks:

- Brace: Discontinue use for sleeping, unlock for ambulation as allowed by physician
- Gait: As tolerated with two crutches
- ROM: Increase flexion gradually to normal range for patient
- Strengthening:
  - o May begin NMES for proximal realignment
  - o Continue exercises progressing to full flexion with heel slides
  - o Progress to weight-bearing gastroc, soleus stretching
  - o D/C CPM if achieved 90 degrees knee flexion
  - o Continue aquatic therapy
  - o Closed chain balance exercises
  - o Stationary bike, low resistance, high-seat
  - o Wall slides progressing to mini-squats, 0-45 degrees of flexion

8 weeks to 10 weeks

- Brace: D/C
- Gait: May D/C crutches if no extension lag is present, patient is able to achieve full extension, and gait pattern is normalized with one crutch.
- Strengthening:
  - o Should be able to demonstrate SLR without extension lag
  - o May begin closed chain strengthening including step-ups (begin at 2 inch step)
  - o Moderate resistance for stationary bike
  - o Four way resisted hip strengthening
  - o Leg press for 0-45 degrees of flexion
  - o Swimming and/or stairmaster for endurance
  - o Toe raises, hamstring curls and proprioceptive exercises
  - o Treadmill walking
  - o Flexibility exercises continued

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Phase IV (10+ weeks post-op)

- Criteria
  - o Clearance from physician to begin more concentrated closed-kinetic chain exercises and resume full or partial activity level
  - o At least 0 – 115 degrees AROM with no swelling and complete voluntary contraction of quad
  - o No evidence of patellar instability
  - o No soft tissue complaints
- Strengthening
  - o Progression of closed-kinetic chain activities including partial squats (60 degrees), leg press, forward and lateral lunges, lateral step-ups, leg extensions 60 – 0 degrees, bicycle and /or stepper.
  - o Functional progression, sport specific activities
- Functional testing: Performance to < 25% deficit compared to non-surgical side by D/C

Adapted from:
1) Brotzman SB, Wilk KE. Clinical Orthopedic Rehabilitation. 2nd Ed. Philadelphia: Mosby; 2003
2) Wilk KE, Reinold MM, Andrews, JR. Rehabilitation Following Lateral Retinacular Release and Medial Retinacular Thermal Shrinkage/Plication. Winchester, MA: Advanced Continuing Education Institute, 2004.
3) Wilk KE, Reinold MM, Andrews, JR. Rehabilitation Following Lateral Retinacular Release and Medial Retinacular Thermal Shrinkage/Plication. Winchester, MA: Advanced Continuing Education Institute, 2004.