

Patellar Tendon Realignment

Proximal and/or Distal

Precautions:

- For 6 weeks, NO closed-kinetic chain exercises
- Protocol is the same for proximal and distal, EXCEPT WB and other limitations as noted below
- Use distal protocol after a combined proximal and distal realignment

Phase I (1 – 5 days post-op)

- Wound care: Observe for signs of infection
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace:
 - Locked in full extension for ambulation only
 - REMOVE: Locked in full extension for sleeping
 - May unlock brace when sitting
- Gait:
 - Proximal realignment
 - WBAT with 2 crutches
 - Distal realignment
 - 50% WB with 2 crutches
- ROM:
 - Knee: PROM and gentle AAROM only 0-45 degrees
 - Ankle AROM
 - Hamstring and calf stretches

Phase II (5 days – 4 weeks post-op)

- Wound care: Monitor for signs of infection and initiate scar management techniques when incision is closed
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace:
 - Weeks 0-4: Use for ambulation only
 - REMOVE: (Locked in full extension for sleeping)

- Gait:
 - Proximal realignment
 - WBAT with 2 crutches
 - Distal realignment
 - At 2 weeks progress WBAT w/ 2 crutches
- ROM:
 - Proximal realignment
 - Week 1-3: 0-75 degrees
 - Week 4: 0-90 degrees
 - Distal realignment
 - Day 5: 0-60 degrees
 - Week 1-3: 0-75 degrees
 - Week 4: 0-90 degrees
- Strengthening:
 - Beginning at 2 weeks: quad sets for isometric adduction with biofeedback and e-stim for VMO
 - REMOVE: No e-stim for 6 weeks for proximal realignment
 - By end of 6 weeks, goal of regaining active quad and VMO control
 - Heel slides, per ROM guidelines above
 - CPM for 2 hours, 2x/day, per ROM guidelines above
 - Gastroc, soleus, and hamstring stretches
 - 4 way SLR (lying down and standing) beginning with brace locked in extension and removing as quad control allow
 - Resisted ankle ROM with theraband
 - Patellar mobilization, as tolerated
 - At 3-4 weeks, begin aquatic therapy, with emphasis on gait

Phase III (4 weeks – 10 weeks)

- Wound care: Observe for signs of infection, continue scar mobs
- Modalities: Continue prn for pain and inflammation (ice, IFC)
- Gait:
 - 4-6 weeks: WBAT with 1 crutch
 - 6-8 weeks: Discontinue use of crutches if no extension lag is present, patient is able to achieve full extension, and gait pattern is normalized with 1 crutch

- ROM:
 - Week 5: 0-115 degrees
 - Week 6: 0-125 degrees
 - Week 8: 0-125/135 degrees
- Strengthening:
 - 4-6 weeks: Continue as in phase II
 - 6-8 weeks:
 - Continue exercises progressing to full flexion with heel slides
 - D/C CPM if achieved 90 degrees of flexion
 - At 5-8 weeks may begin aquatic therapy with emphasis on gait
 - Closed-chain balance exercises
 - Stationary bike - low resistance, high seat
 - Wall slides progressing with mini squats: 0-60 degrees of flexion
 - Step-ups with good quad control and no pain
 - Leg press 0-60 degrees
 - 8-10 weeks:
 - Should be able to demonstrate SLR without extensor lag
 - Moderate resistance for stationary bike
 - 4-way resisted hip strengthening
 - Swimming and/or stairmaster for endurance
 - Toe raises, hamstring curls, and proprioceptive exercises
 - Treadmill walking
 - Flexibility exercises continued

Phase IV (10+ weeks post-op)

- Criteria:
 - Clearance from physician to begin more concentrated closed-kinetic chain exercises and resume full or partial activity level
 - At least 0-115 degrees AROM with no swelling and must have complete voluntary contraction of quad
 - No evidence of patellar instability
 - No soft tissue complaints
- Strengthening:
 - 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
 - Functional progression, sport-specific activities

Initiation Date: 01-01-05 Revised Date: 6-14-14, 4-9-2020, December 2022

324 Roxbury Road * Rockford, IL * Phone (815) 484-6990 * Fax (815) 484-6961



- 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, Advanced Continuing Education Institute, 2004 and 2019.

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