

Medial Patellofemoral Ligament (MPFL) Repair or Reconstruction

Precautions: FWB/WBAT

Phase I (1 – 5 days post-op)

- Wound care: Observe for signs of infection. Keep covered until post-op day 5
 - On day 5, OK to remove dressing and begin showering. Cover incision with gauze and ace wrap
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace:
 - Locked in full extension for all activities except therapeutic exercise and CPM use
 - Locked in full extension for sleeping and ambulation
- Gait: WBAT with 2 crutches
- ROM:
 - Knee 0-30 degrees (no active, open chain extension)
 - Ankle AROM
- Exercises:
 - Hamstring and calf stretches
 - Quad sets

Phase II (5 days – 4 weeks post-op)

- Wound care: Observe for signs of infection
 - On day 5, OK to remove dressing and begin showering. Cover incision with gauze and ace wrap
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace:
 - Weeks 0-4, locked in full extension for all activities except therapeutic exercises
 - Until 2 weeks post-op, locked in full extension for sleeping and resting
- Gait: FWB/WBAT with 2 crutches and can wean when gait pattern is normalized
- ROM:
 - Weeks 0-2: 60-80 degrees
 - Weeks 2-4: 75-80 degrees

Initiation Date: 04/30/13 Revised Date: 6-25-14, 10-21-19, 6-21-21, 3-17-22

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- Weeks 4-6: 90-105 degrees
- Strengthening/Exercise:
 - Quad sets with biofeedback and e-stim for VMO
 - By 6 weeks, goal of regaining active quad and VMO control
 - Heel slides to recommended ROM
 - SLR in 4 planes with brace locked in full extension
 - Resisted ankle ROM with theraband
 - Patellar mobilization, as tolerated
 - Hamstring & calf stretches
 - Isometrics
 - Hamstring, quad, hip abduction, hip adduction, hip extension
 - Weight shifts

Phase III (4 weeks – 10 weeks)

- 4-6 weeks:
 - Brace:
 - Removed for sleeping
 - Locked in full extension for ambulation
 - Gait: at 4 weeks, wean from crutches if haven't already
 - ROM:
 - Week 5: 0-105 degrees
 - Week 6: 0-115 degrees
 - Strengthening: continue same as phase II
 - Standing hip abd/add with band
 - Light leg press
 - Heel raises
 - Bridges
 - SLS
 - Clam
 - Prone, open-chain, hamstring curl
- 6-8 weeks:
 - Brace:
 - D/C for sleeping
 - As allowed by physician, unlock for ambulation
 - Gait: Wean from crutches (if not already) and normalize gait
 - ROM: Increase flexion gradually to normal range for patient

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- Strengthening: continue as in week 4-6
 - Step downs
 - SAQ
 - Standing hamstring curl
 - Standing hip 4 ways
 - VMO strength
 - Continue NMES as needed
 - Progress to weight bearing calf stretches
 - Closed chain balance exercises
 - AVOID deep knee squatting greater than 90 degrees
 - Stationary bike: low resistance and high seat
 - Wall slides progressing to mini squats -0-45 degrees of flexion
- Weeks 8-10:
 - Brace: D/C
 - Strengthening
 - SLR without extension lag
 - Closed-chain strengthening
 - Including step ups- forward and lateral (begin at 2 inch step)
 - Squats full depth
 - Forward and lateral lunges
 - Leg press
 - Moderate resistance for stationary bike
 - 4-way resisted hip strengthening
 - Swimming and/or stair master for endurance
 - Toe raises, Calf raises (progressing to single leg), hamstring curls, and proprioceptive exercises- including uneven surfaces
 - Treadmill walking
 - Flexibility exercises

Phase IV (10+ weeks)

- 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 complete voluntary contraction of quad
 - No evidence of patellar instability

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- No soft tissue complaints
- Strengthening:
 - Progression of closed-kinetic chain activities including squats, leg press, forward and lateral lunges, lateral step-ups, bicycle and/or stepper
 - Functional progression, sport specific activities
 - At 12 weeks:
 - Run progression
 - Low level plyometrics
 - Lateral shuffle, shuttle with cones
 - BOSU lunges
 - Box jumps
- 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) University of Miami. Postoperative Rehabilitation Protocols: MPFL Reconstruction.
- 3) Wilk, KE. Medial Patellofemoral Ligament Reconstruction Rehabilitation Program. Advanced Continuing Education Institute. 2019.
- 4) *Medial Patellofemoral Ligament (MPFL) Reconstruction Protocol*. Center for Sports Medicine and Orthopaedics,
<https://sportmed.com/wp-content/uploads/MPFL-Reconstruction-Protocol.pdf>.
- 5) *Medial Patellofemoral Ligament Reconstruction Clinical Practice Guideline*. The Ohio State University Wexner Medical Center, Apr. 2020,
<https://medicine.osu.edu/-/media/files/medicine/departments/sports-medicine/medical-professionals/knee-ankle-and-foot/mpfl-final-document2020.pdf?la=en&hash=8F236FE208817F4971A9620AFAFE58E9D52B692D>.
- 6) *Medial Patellofemoral Ligament Repair and ... - UW Health*. UW Health Sports Medicine,
https://www.uwhealth.org/files/uwhealth/docs/sportsmed/SM-28670_MPFL_Protocol.pdf.
- 7) *MPFL Reconstruction Rehabilitation*, University Orthopedics Affiliated Entity of Brown Alpert Medical School,
<https://universityorthopedics.com/assets/knee/MPFL-Reconstruction-Protocol.pdf>.

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