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### **MPFL Reconstruction/Patellar Re-Alignment Rehab Protocol Prescription**

**Patient Name:**

**Date:**

**Diagnosis: Patellofemoral instability Frequency: 2-3 visits/week Duration: 4 months**

#### **Weeks 1-6**

- HEP including SLR with brace in full extension and passive ROM to a goal of 0-90 deg by 6 weeks.
  - Calf pumps, quad sets, modalities
  - At 2 weeks: Progress non-weight bearing flexibility, floor based core/hip/gluteus strengthening
- WBAT with brace locked in extension (Dr. Kaar).
- Heel touch only (Dr. Kim)

#### **Week 6**

- Supervised PT - 3 times a week (may need to adjust based on insurance)
- Gentle patellar mobilization exercises
- Perform scar massage aggressively
- Emphasis full passive extension
- AAROM exercises (4-5x/ day) - no limits on ROM
- ROM goal: 0-115 degrees
- Flexion exercises PROM, AAROM, and AROM with brace off
- Stationary bike for range of motion (short crank or high seat, no resistance)
- Hamstring and calf stretching
- Mini-squats (0-45) and heel raises
- Hip strengthening - specifically external rotators
- Isotonic leg press (0 - 60 degrees)
- Unlock brace (0-70) for ambulation when good quad control
- Progressive SLR program with weights for quad strength with brace off if no

extensor lag (otherwise keep brace on and locked)

- Theraband standing terminal knee extension
- Proprioceptive training bilateral stance
- Hamstring PREs
- Double leg balance on tilt boards
- 4 inch step ups
- Seated leg extension (0 to 90degrees) against gravity with no weight
- Add water exercises if desired (and all incisions are closed and sutures out)

### **Week 7**

- Continue all exercises
- D/C brace and advance to lateral patellar stabilizer brace if quad control adequate
- Continue ROM stretching and overpressure into extension
- Initiate retro treadmill with 3% incline (for quad control)
- Regular stationary bike if Flexion > 115
- Wall and/or ball squats
- 6 inch front step-ups
- 4 inch step downs
- SLR's - in all planes with weight  
Goal: 0 to 125 degrees

### **Week 8**

- Continue above exercises
- Self ROM 4-5x/day using other leg to provide ROM
- 8 inch step ups
- 4 inch step downs
- Single leg proprioceptive training
- Lateral step out with therabands
- Retro treadmill progressive inclines
- Sport cord (bungee) walking
- Increase resistance on stationary bike

### **Week 9**

- Continue above exercises
- Stair master machine
- Brisk walking
- Progress balance and board throws
- 6 inch step downs

### **Week 10**

- Bike outdoors, level surfaces only
- Start slide board
- Plyometric leg press
- 8 inch step downs

### **Week 11**

- Should have normal ROM (equal to opposite knee)
- Begin resistance for open chain knee extension
- Jump down's (double stance landing)
- Progress to running program and light sport specific drills if:
  - Quad strength > 75% contralateral side
  - Active ROM 0 to > 125 degrees
  - Functional hop test >70% contralateral side
  - Swelling < 1cm at joint line
  - No pain
  - Demonstrates good control on jump down

### **Week 12-22**

- If full ROM, quad strength > 80% contralateral side, functional hop test >85% contralateral side, satisfactory clinical exam:
  - Progress to home program for running. Start backward jogging, figure of 8, zigzags and lateral shuffles. Progress to hops, jumps, cuts and sports specific drills. Begin to wean from supervised therapy.
- Criteria to return to sports and to d/c patellar stabilizer brace
  - Full Active ROM
  - Quadriceps and hip external rotators strength >90% contralateral side
  - Satisfactory clinical exam
  - Functional hop test > 90% contralateral side
  - Completion of running program

### **Concerns or questions:**

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### **Physician Signature:**