

## MPFL Repair Rehabilitation Protocol

### **I. IMMEDIATE POST-OPERATIVE PHASE**

**Week 1 Goals:** *Diminish swelling/inflammation (control hemarthrosis) & Initiation of quadriceps muscle training*

- Independent Ambulation
- Weight Bearing: As tolerated with crutches and brace locked. 0-30 degrees of flexion Swelling/ Inflammation Control: Cryotherapy, NSAIDS, Elevation & Ankle Pumps Range of Motion: ROM to 30 degrees of flexion in brace
- Muscle Retraining: Quadriceps isometrics, Straight Leg Raises, Hip Adduction Flexibility: Hamstring Stretches, Calf Stretches

### **II. ACUTE PHASE**

**Week 2-6 Goals:** *Control swelling/inflammation, Gradual Improvement in ROM & Quadriceps Strengthening (Especially VMO)*

*Note: Rate of progression based on swelling/inflammation.*

- Weight Bearing: Discontinue crutches when appropriate, Progress WBAT with brace. Swelling/Inflammation: Cryotherapy, NSAIDS, Elevation and Ankle Pumps Range of Motion: Rate of progression based upon swelling/inflammation.
- At least 60 degrees flexion (Week 2) At least 90 degrees flexion (Week 4) Full flexion (Week 6-8)
- Muscle Retraining: Electrical muscle stimulation to quads Quad Setting Isometrics
- Straight Leg Raises (flexion)  
Hip Adduction  
Knee Extension 60-0 degrees, pain free arc  
\* Bicycle (Stationary, in brace) if ROM/Swelling permits Proprioception Training
- Flexibility: Continue Hamstring, Calf Stretches Initiate quadriceps muscle stretching

### III. SUBACUTE PHASE -MODERATE PROTECTION

**Week 6-12 Goals:** *Eliminate any joint swelling, Improve muscular strength and control without exacerbation of symptoms. Functional exercise movements & May discontinue brace*

Criteria to Progress to Phase III:

1. Minimal inflammation/pain
2. ROM (0-near full flexion)
3. Strong quadriceps contraction
  - a. Exercises: Continue muscle stimulation to quadriceps (if needed) Quadriceps setting isometrics
4. 4 way Hip Machine (hip adduction, abduction, extension, and flexion) Lateral Step-Ups (if able)  
Front Step-Ups (if able)  
Squats against wall (0-60 degrees)\*
5. Knee Extension (90-0 degrees), pain free arc Bicycle  
Pool Program (walking, strengthening, running)\* Proprioceptive Training.
6. Flexibility: Continue all stretching exercises for LE  
Swelling/Inflammation: Continue use of ice, compression, and elevation, as needed.

### IV. ADVANCED PHASE - MINIMAL PROTECTION

**Week 12-16 Goals:** *Achieve maximal strength and endurance. Functional activities/drills*

Criteria to Progress to Phase IV:

1. Full Non-Painful ROM
2. Absence of swelling/inflammation
3. Knee extension strength 70% of contralateral knee.
  - a. Exercises: Wall Squats (0-70 degrees) pain free arc Vertical Squats (0-60 degrees)\*
  - b. Leg Press  
Forward Lunges  
Lateral Lunges
  - c. Lateral Step-ups  
Front Step-ups  
Knee Extension, pain free arc  
Hip Strengthening (4 way)  
Bicycle  
Stairmaster®  
Proprioception drills  
Sport Specific functional drills (competitive athletes) Jogging Program
4. Continue all stretching
5. Continue use of ice as needed



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## V. RETURN TO ACTIVITY PHASE

**Week 16-20 Goal:** *Functional return to work/sport*

### Criteria to Progress to Phase V:

1. Full Non-Painful ROM
  2. Appropriate Strength Level (80% of greater of contralateral leg)
  3. Satisfactory clinical exam
    - a. Exercises: Functional Drills  
Continue Jogging/Running Program
    - b. Strengthening Exercises (selected) Flexibility Exercises
- \* If patient is able to perform pain free.