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## **MPFL Reconstruction Rehab Protocol**

### *POST OPERATIVE MANAGEMENT*

- Pain control with ice, elevation, compression, and anti-inflammatories

#### Week 0-2:

- Initiation of quadriceps muscle training
- Weight Bearing: Touch-down with crutches and brace locked
- Swelling/ Inflammation Control: Cryotherapy, NSAIDS, Elevation
- Range of Motion: 0 to 30 degrees of flexion in brace
- Muscle Retraining: Quadriceps isometrics, straight leg raises, flexibility, hamstring stretches, calf stretches

#### Week 2-6:

- ROM: Increase 15 degrees every week until 90 degrees (week 6)
- Weight Bearing: Can fully weight bear only when brace is locked at 0 degrees extension.
- Swelling/Inflammation: Cryotherapy, NSAIDS, Elevation
- **Exercises:**
  - Quadriceps Strengthening (Especially VMO)
    - Muscle Retraining: Electrical muscle stimulation to quads
    - Quad Setting Isometrics
    - Initiate quadriceps muscle stretching
  - Straight Leg Raises (flexion)
  - Hip Adduction
  - Bicycle (Stationary, in brace) if ROM/Swelling permits
  - Proprioception Training
  - Flexibility: Continue Hamstring, Calf Stretches

#### **Criteria to Progress:**

- Minimal inflammation/pain
- ROM (0-90)
- Strong quadriceps contraction

#### Week 6-12:

- Discontinue brace at 6 weeks
- Full knee ROM
- Swelling/Inflammation: continue use of ice, compression, and elevation, as needed.
- Improve muscular strength and control without exacerbation of symptoms.
- Functional exercise movements
- Flexibility: continue all stretching exercises for LE
- **Exercises:**
  - Continue muscle stimulation to quadriceps (if needed)
  - Quadriceps setting isometrics
  - 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)\*
  - Knee Extension (90-0 degrees), pain free arc
  - Bicycle
  - Pool Program (walking, strengthening, running)\*

- Proprioceptive training

**Criteria To Progress:**

- Full Non-Painful ROM
- Absence of swelling/inflammation
- Knee extension strength 70% of contralateral knee.

Week 12-16:

- Goals: Achieve maximal strength and endurance.
- Functional activities/drills
- **Exercises:**
  - Wall Squats (0-70 degrees) pain free arc
  - Vertical Squats (0-60 degrees)\*
  - Leg Press
  - Forward Lunges
  - Lateral Lunges
  - 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
  - Continue all stretching
  - Continue use of ice as needed

**Criteria to Progress:**

- Full Non-Painful ROM
- Appropriate Strength Level (80% of greater of contralateral leg)
- Satisfactory clinical exam

Week 16-24:

- Goal: Functional return to work/sport pain free
- Introduce sport specific training and functional drills

**Criteria for discharge:**

1. Full, pain free range of motion
2. Strength is equal bilaterally
3. Has met specific functional/activity goals
4. Has been cleared by physician