

**Dr. Pathik Shah**  
**Sports, Revision Sports and Regenerative Sports Orthopaedic Surgeon**  
DNB Ortho (Mumbai), MNAMS (New Delhi), MBBS  
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## **MPFL RECONSTRUCTION PROTOCOL**

**Diagnosis: s/p Medial Patellofemoral Ligament Reconstruction Surgery**

### **WEEKS 0-2:**

#### **Restrictions:**

Immobilizer must be on at all times when walking Avoid valgus stress to knee

#### **Goals:**

Active flexion, passive extension ROM: 0° - 90° maximum  
Reduce muscle atrophy  
Reduce swelling

#### **Weight bearing:**

Weight bearing as tolerated with immobilizer and crutches

#### **Exercises:**

Quad and hamstring sets Gluteal sets  
Hip belt abduction isometrics  
Pillow adductor squeezes  
Crunches  
Ankle dorsiflexion / plantar flexion isometrics or Theraband strengthening Weight shifts  
Cryotherapy multiple times during the day

### **Weeks 2 to 6:**

- Restrictions:
  - Avoid valgus stress to knee
  - Immobilizer discontinued when patient can perform straight leg raise and physical therapist determines they have proper quadriceps control
  - Wear lateral buttress (Shield's brace) when walking
- Goals:
  - Full weight bearing by six weeks without crutches
  - Active flexion, passive to active extension ROM: 0° - 90° maximum
  - Reduce pain
    - Electrical stimulation
    - Soft tissue mobilizations and myofascial release
  - Reduce effusion
  - Minimize hip, core, and lower extremity atrophy
- Weight bearing:

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- Weight bearing as tolerated with immobilizer, Shield's brace and crutches
- When patient regains quadriceps control, immobilizer discontinued
- When gait mechanics normalize, crutches discontinued
- Advance proprioception training as weight bearing status allows
  
- Exercises:
  - Isometric leg press with angle no greater than 85° of knee flexion
  - Straight leg raises in all planes of motion
  - Clam
  - Prone plank
  - Crunches
  - Ankle Theraband in all planes
  - Seated upper body strengthening
  
- **Weeks 6 to 8:**
  - Restrictions:
    - Avoid valgus stress
    - Avoid any patellofemoral pain with exercise program
    - Shields brace is worn at all times when walking
  
  - Goals:
    - Full active range of motion of the involved knee at 8 weeks post-op
    - No effusion
    - Improved core and hip strength and endurance
  
  - Weight bearing:
    - Normal walking with Shield's brace on
    - Advance proprioception training
  
  - Exercises:
    - Maximize core, hip, and lower extremity strength in all planes of motion
    - Maximize knee, hip, and ankle mobility
  
- **Weeks 8 to 12:**
  - Restrictions:
    - Avoid valgus stress to involved knee / lower extremity
  
  - Goals:
    - Maximize core, hip, and lower extremity strength in all planes of motion
  
  - Weight bearing:
    - Full weight bearing activity no Shield's brace required
    - Advance to functional perturbation/proprioception training
  
  - Exercises:
    - Begin stationary bike
    - Continue to maximize core, hip, lower extremity mobility and stability programs
  
- **Months 3 to 4:**
  - Restrictions:
    - Continue to maintain proper hip, knee, and foot alignment during training and activities
  
  - Goals:
    - Begin to lay the foundation for return to sport

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- Initiate sport specific drills
  - Advance core, hip, lower extremity mobility and stability exercises
  - Advance aerobic and anaerobic energy systems by use of non-impact conditioning such as bike and elliptical trainer
- **Months 4-6:**
    - Restrictions:
      - Continue to maintain proper hip, knee and foot alignment during training and activities
    - Goals:
      - Full, unrestricted return to play
    - Exercises:
      - Advance core, hip, lower extremity mobility and stability exercises
      - Advance to appropriate plyometric exercises for the individual's sport or occupation
      - Advance aerobic and anaerobic energy systems by use of non-impact conditioning such as bike and elliptical trainer

**Functional tests to consider:**

- **Lower Extremity Functional Scale**
- **Any sports specific hop tests**
- **Balance tests**
- **Hand held dynamometer / Strength testing**