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# MPFL RECONSTRUCTION/PROXIMAL REALIGNMENT POST OPERATIVE PROTOCOL

## Phase I – Tissue Protection/Healing Phase (0-4 weeks)

### GOALS:

- 1) Reduce pain
- 2) Reduce effusion
- 3) minimize scar adhesion formation
- 4) Achieve full knee extension ROM
- 5) Facilitate quadriceps activation
- 6) Protect from excessive patellar lateral stress or genu valgus stress

### ROM:

PROM/AAROM/AROM (0°-MD prescribed limit)

### EXERCISE:

- Multiangle Quad Isometrics (per ROM limits)
- SLR ABD/add/ext (brace locked)
- Calf Raises
- Single Limb Stance

### MANUAL:

- Patella Mobilizations (caution lateral glide)
- Soft Tissue Mobilization patellar tendon

### MODALITIES:

- Functional Electrical Stimulation (not directly on the VMO)
- Biofeedback
- Cryotherapy

### *Criterion for Progression:*

- 1) *Voluntary quadriceps isometric contraction*
- 2) *Full knee extension AROM*
- 3) *Knee ROM 0°-30°*

## Phase II – Tissue Proliferation Phase/Progression Phase (5-8 weeks)

### GOALS:

- 1) Pain and edema control
- 2) Minimize scar adhesion formation
- 3) Improve knee AROM
- 4) Strength progression-develop functional quad control
- 5) Normalize gait pattern

### ROM:

PROM/AAROM/AROM  
 Stationary Bike for ROM

### EXERCISE:

- SLR flexion (brace locked)
- Side lying hip ABD/ER
- Wall Sits (30°)
- WB Terminal Knee Extension (30°-0°)
- Open Chain Knee Ext (90°-30°)
- Open Chain Knee Flex (0°-90°)
- Closed Chain knee flex/ext (80°-0°)
- Step up/down
- Balance Board/Wobble Board (Bilateral)

### MANUAL:

Initiate Scar mobilization

### MODALITIES:

Patellar taping; medial glide

### CV EXERCISE:

- Bike, Elliptical, Stair climber (ROM permitting)
- Swimming-flutter kick only

### Weight Bearing

- NWB x \_\_\_\_ wks
- TDWB x \_\_\_\_ wks
- PWB \_\_\_\_% x \_\_\_\_ wks
- WBAT
- Brace Locked in Ext x \_\_\_\_ wks

### ROM

- Full ROM
- Locked full ext x \_\_\_\_ wks
- Locked at \_\_\_\_° x \_\_\_\_ wks
- ROM limits  
 \_\_\_\_° to \_\_\_\_° x \_\_\_\_ wks  
 \_\_\_\_° to \_\_\_\_° x \_\_\_\_ wks  
 \_\_\_\_° to \_\_\_\_° x \_\_\_\_ wks

### CPM

- \_\_\_\_° to \_\_\_\_° x \_\_\_\_ wks
- 30-70° increase 10°/d @ dir
- None

### Recommended Clinical Guidelines

WB: TDWB x 1 weeks  
 WBAT week 2  
 BRACE: Locked 0°/0°  
 x 6 weeks w/ ambulation  
 ROM: 0°-30° week 1-4  
 0°-60° week 5  
 0°-90° week 6

### Precautions

### Estimated Return to Sport:

**Criterion for Progression:**

- 1) *Minimal to no effusion/edema*
- 2) *Knee ROM 0°-90° by week 6*
- 3) *Full patellar mobility*
- 4) *No extensor lag with SLR*
- 5) *Ambulate on level surfaced without brace with quad control*

**Phase III – Tissue Remodeling/Hypertrophy Phase (9-18 weeks)**

**GOALS**

- 1) Full knee AROM
- 2) Improve eccentric quad control
- 3) Initiate advanced SL proprioception activities and lateral motion
- 4) Strength progression
- 5) Begin light jogging week 16

**ROM:**

ROM to full

**EXERCISE:**

Initiate lateral motion  
Single limb balance with perturbations

**CV Exercise:**

Initiate jogging by week 16

**Criterion for Progression:**

- 1) *No edema/effusion*
- 2) *Full ROM*
- 3) *20 reps to 60 degrees single limb squat with eccentric control and good lower extremity alignment*
- 4) *Quad strength >80% of uninvolved LE (10RM single leg press or isokinetically if available)*
- 5) *Jogging without pain or antalgic gait*

**Phase IV – Sport Specific Training (19-24)**

**GOALS:**

- 1) Begin sport specific drills
- 2) Normalize neuromuscular control
- 3) Normalize jumping/landing mechanics if indicated
- 4) Prepare to return to sport

**EXERCISE:**

Progress on running progression  
Begin agility progression  
Begin plyometric progression  
Progress on sport specific training  
Swimming – initiate whip kick/breast stroke (week 24)  
Cutting sports and Golf (week 24)

**Criterion for Return to Sport:**

*(Recommend combination testing of strength, agility, and power according to available resources/clinic setting)<sup>3</sup>*

- 1) **Lower Extremity Functional Test (LEFT)**
- 2) **Hop Tests – Single Hop, X-Hop, Triple Hop, Timed Hop  $\geq$ 85% uninvolved**
- 3) **Single leg squat to 60 degrees knee flexion with good control for 3 minutes**
- 4) **Quad strength > 90% of uninvolved (10RM leg press or isokinetic testing)**
- 5) **IKDC (MCID 6.3@ 6mo; 16.7 @ 12 mo)**