

DR. JONATHON HENRY
MEDIAL PATELLOFEMORAL LIGAMENT REPAIR/RECONSTRUCTION
POST-OP THERAPY PROTOCOL

Defer to AMZ protocol if done in conjunction with MPFL repair/reconstruction

Phase 1 – Maximum Protection Phase (0-6 weeks)

<p>Goals for Phase 1</p> <ul style="list-style-type: none"> • Protect patellar stabilization procedure • Minimize effusion • ROM per guidelines listed, emphasis on extension • Encourage quadriceps function • Scar tissue mobility 	<p>Precautions for Phase 1</p> <ul style="list-style-type: none"> • No patellar mobility with lateral glides
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Immobilization/Weight Bearing

- WBAT with crutches but can wean from crutches as tolerated

Range of Motion

- **0-6 weeks:** 0-90°, emphasis on extension

Brace

- **0-3 weeks:** Brace locked at 0°
- **3-4 weeks:** Brace opened 0-30°
- **4-6 weeks:** Brace opened 0-70°
- Brace locked in full extension while sleeping for 6 weeks
- Progression of opening brace is dependent controlled pain, appropriate quad strength, and controlled effusion

Manual Therapy

- Scar massage
- Gentle flexibility using deep tissue mobilization or the “Stick” – hamstring, quadriceps, gastroc-soleus, ITB
- PROM/AROM knee flexion per ROM guidelines listed above

Strengthening

- Stationary bike: Weeks 4-6 for ROM <90° of knee flexion
- Quadriceps strengthening
 - **0-6 weeks:** Quadriceps setting with focus on VMO activation
 - **2-6 weeks:** Terminal knee extension in prone and in standing
- Hip strengthening
 - **0-4 weeks:** Multi-plane open kinetic chain SLR, brace on if quad lag is present
 - **4-6 weeks:** Multi-plane open kinetic chain SLR, straight leg bridging
- Core strengthening
- Upper body ergometer

Modalities

- Vasopneumatic compression for edema management 2-3x/week
- Cryotherapy, 3 x per day for 20 minutes each with knee elevated above heart
- NMES for quadriceps function
 - Home NMES unit with or without a garment to be issued for first 8 weeks following surgery, per physician and therapist discretion
 - NMES to be used at home, 3 x a day for 20 minutes each time

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Phase 2 – Moderate Protection Phase (6-8 weeks)

<p>Goals for Phase 2</p> <ul style="list-style-type: none"> • Minimize effusion • Gently increase ROM • Normalize gait with heel-toe pattern • Discharge knee brace • Closed kinetic chain strengthening 	<p>Precautions for Phase 2</p> <ul style="list-style-type: none"> • Avoid closed kinetic chain knee flexion past 45° • No kicking in the pool for 12 weeks
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Immobilization/Weight Bearing

- FWB

Range of Motion

- **6-8 weeks:** 0-120°, emphasis on extension

Brace

- **6-8 weeks:** Brace opened 0-90°
- Weaning from brace is dependent controlled pain, appropriate quad strength, and controlled effusion

Manual Therapy

- Gentle flexibility – hamstring, quad, gastroc-soleus, ITB

Strengthening

- Stationary bike for ROM
- Bilateral gym strengthening program (mini squats, leg press, 4-way hip strengthening, step-ups, bridging, calf raises)
- Core strengthening

Aquatics

- Initiate aquatic therapy program

Neuromuscular Control

- Proprioception on stable surface

Modalities

- Vasopneumatic compression for edema management 2x/week
- Cryotherapy, 2x per day for 20 minutes each with knee elevated above heart
- NMES for quadriceps function if quad lag present with SLR

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Phase 3 – Advanced Strengthening (8-16 weeks)

<p>Goals for Phase 3</p> <ul style="list-style-type: none"> • Progress muscle strength, endurance, and balance 	<p>Precautions for Phase 3</p> <ul style="list-style-type: none"> • No kicking in pool for 12 weeks • Avoid twisting and pivoting for 12 weeks • Avoid deep squatting for 16 weeks (greater than 90°) • Avoidance of impact activity until able to pass functional testing
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Immobilization/Weight Bearing

- FWB

Range of Motion

- Restore full ROM

Strengthening

- Stationary bike or elliptical for warm-up
- Bilateral gym strengthening with progression to unilateral as able (leg press, step-ups, hamstring curls, side-stepping, single leg squat, multi-directional lunges)
- Core strengthening

Neuromuscular Control

- Advanced proprioception on unstable surfaces and dual tasking

Modalities

- Cryotherapy after activity

Testing to Advance to Phase 4 of Protocol

- Functional strength testing to be scheduled before 12-week follow-up with physician
 - Y-Balance testing within 6 cm of involved LE
 - 3PQ isometric quadriceps testing (<25% difference)
 - Single leg squat without display of knee valgus

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Phase 4 – Strengthening and Plyometric Phase (16-24 weeks)

Goals for Phase 4

- Progress single leg muscle strength, endurance, and balance
- Initiate impact activity
- Sport or work-specific tasks

Weight Bearing/Range of Motion

- Full weight bearing without restriction
- Restore full ankle ROM in all planes

Manual Therapy

- Restore flexibility – hamstring, quad, gastroc-soleus, ITB

Strengthening

- Stationary bike or elliptical
- Bilateral gym strengthening program with focus on single leg strengthening and power development (single leg squats, eccentric single leg press, lateral step-downs, multidirectional lunges, OKC hamstring curls)
- Initiate impact activities
 - **16-18 weeks:** submaximal body-weight exercise (pool, GTS, plyo-press, Alter G)
 - **18+ weeks:** sagittal plane running with progression to multidirectional if able to avoid dynamic knee valgus and demonstrate good knee control, agility drills, plyometrics
 - **24+ weeks:** cutting and pivoting drills
- Core strengthening

Neuromuscular Control

- Advanced proprioception on unstable surfaces with dual tasking, add sport specific balance tasks as able

Modalities

- Cryotherapy after activity

Return to Function Testing

- **Week 24:** Return to function testing per physician approval
- Criteria:
 - Pain-free
 - Full ROM
 - Minimal joint effusion
 - Isokinetic strength and functional testing at 90% compared to uninvolved
 - Adequate knee control with sport and/or work specific tasks