



Medial Patellofemoral Ligament (MPFL) Reconstruction Rehabilitation Protocol



MPFL reconstruction is a surgical procedure to restore stability to the kneecap (patella), typically following recurrent patellar dislocations. The surgery involves using a graft to reconstruct the damaged ligament that helps hold the kneecap in place. This rehabilitation protocol is designed to guide patients through their recovery and return to normal activity.

Rehabilitation Goals

- Protect the reconstructed ligament and surgical site
- Restore normal knee range of motion (ROM)
- Regain quadriceps and lower limb strength
- Improve functional movement and balance
- Return to sport and full activity safely



Expected Recovery Time

Milestone	Timeframe
Full weight bearing without crutches	2–6 weeks
Knee flexion 90°+	2–4 weeks
Full knee ROM (0–135°)	6–12 weeks
Return to light jogging	3–4 months
Return to sport-specific training	4–6 months
Full return to sport	6–9 months

Phase 1: Early Post-op (0–2 weeks)

Goals

- Protect the surgical site
- Minimize pain and swelling
- Begin early muscle activation
- Prevent joint stiffness

Instructions

- Use crutches and brace as directed by your surgeon
- Keep the leg elevated and apply ice (15–20 minutes every 2–3 hours)
- Keep incisions clean and dry
- Avoid active knee flexion beyond 90°

Exercises

- Ankle pumps (hourly)
- Quadriceps sets
- Straight leg raises (if no extension lag)
- Passive knee extension to 0°
- Gentle heel slides (flexion to tolerance, up to 90°)

Phase 2: Range of Motion and Activation (2–6 weeks)

Goals

- Increase ROM gradually
- Achieve near-full extension and flexion to at least 120°
- Normalize gait with reduced crutch use



- Improve quadriceps control

Instructions

- Continue brace use as instructed, unlocking gradually
- Progress to full weight bearing as tolerated
- Use ice after exercises

Exercises

- Heel slides to increase flexion
- Patellar mobilizations
- Wall slides (within ROM limits)
- Terminal knee extensions
- Stationary bike with high seat (once flexion >100°)

Phase 3: Strength and Control (6–12 weeks)

Goals

- Restore full ROM
- Improve leg strength and control
- Normalize walking and stair climbing
- Begin functional strengthening

Instructions

- Discontinue brace if cleared by surgeon
- Continue using ice post-activity if swelling persists
- Monitor for pain and adjust intensity accordingly

Exercises

- Mini squats
- Step-ups and step-downs
- Leg press (within safe ROM)
- Core and hip strengthening
- Balance and proprioception drills (e.g. single-leg stance)



Phase 4: Advanced Strengthening and Light Impact (12–20 weeks)

Goals

- Build muscular endurance and coordination
- Begin light running and agility work
- Resume low-impact activities

Instructions

- Follow a gradual return to impact loading under supervision
- Avoid pivoting or twisting activities prematurely

Exercises

- Jogging on treadmill or track (if cleared)
- Agility ladder drills
- Resistance band exercises
- Plyometric prep (double-leg hops, landing mechanics)

Phase 5: Return to Sport (5–9 months)

Goals

- Regain full strength, agility, and sport-specific skills
- Prevent re-injury through proper biomechanics
- Complete a return-to-sport assessment

Instructions

- Increase sport-specific drills as tolerated
- Wear appropriate bracing if advised during initial return

Exercises

- Sport-specific drills (e.g. cutting, jumping, pivoting)
- Functional testing (hop tests, agility runs)
- Plyometric training
- Continued strengthening and proprioception



When to Contact Your Surgeon

- Increased pain or swelling that does not improve with rest or ice
- Signs of infection (redness, warmth, drainage, fever $>38^{\circ}\text{C}$)
- New locking, catching, or instability in the knee
- Difficulty bearing weight suddenly
- Concerns about the progression or a significant setback

Note: This is a general guideline. Your physiotherapist or surgeon may adjust the protocol based on your specific condition and progress.