Medial Patellofemoral Ligament Repair Rehabilitation Protocol

Dr. Pradeep Kodali

General Principles of MPFL Repair Rehabilitation

Rehabilitation following MPFL repair is a phased process aimed at protecting the surgical repair, restoring patellar stability, regaining range of motion, and progressively strengthening the lower extremity for safe return to activity. Protocols may vary depending on whether the repair is isolated or combined with procedures such as tibial tubercle osteotomy, cartilage restoration, or lateral release.

The overall goals of this rehabilitation include:

- Protect the surgical repair and avoid excessive lateral patellar stress.
- Control pain, swelling, and inflammation.
- Regain safe, progressive knee range of motion.
- Restore normal gait and neuromuscular control.
- Progressively improve lower extremity strength, proprioception, and balance.
- Return to functional and sport-specific activities safely under physician clearance.

Phase I (0–2 Weeks) – Protection & Early Motion

Weight Bearing:

- Partial weight bearing with crutches (usually 50%) unless otherwise specified.
- Progress toward full weight bearing in a locked brace as tolerated.

Brace:

- Locked in full extension for ambulation and sleeping.
- May unlock to 0–90° for exercises and hygiene.

Range of Motion (ROM):

- Gradual increase to 90° by end of week 2.
- Avoid hyperflexion or forced ROM.

Exercises:

- Quad sets, SLR (with brace locked in extension initially), heel slides (within limits), patellar mobilizations (medial/superior/inferior only—avoid lateral glides), ankle pumps, hip/core strengthening.

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Phase II (2–6 Weeks) – Progressive ROM & Strengthening

Weight Bearing:

- Transition to full weight bearing in brace by 4 weeks.
- Discontinue crutches once normal gait pattern is established.

Brace:

- Unlocked to 0–90° by 2 weeks, then gradually to full ROM as tolerated.
- May discontinue brace at 6 weeks if good quad control present.

Range of Motion (ROM):

- Progress to full ROM by 6 weeks.

Exercises:

- Continue Phase I exercises.
- Add stationary bike (no resistance initially), heel raises, closed-chain activities (mini-squats 0–45°), short-arc quads, terminal knee extensions, gentle hamstring curls.
- Emphasize gluteal and hip strengthening to improve patellar tracking.

Phase III (6–12 Weeks) – Strength & Neuromuscular Control

Weight Bearing & Brace:

- Full weight bearing, brace discontinued.

Exercises:

- Advance closed-chain strengthening: leg press (0–60°), step-ups, lunges (within pain-free range).
- Balance/proprioception training (single-leg stance, wobble board).
- Core and hip strengthening progressions.
- Initiate elliptical and pool-based training once incisions healed.

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Phase IV (12–20 Weeks) – Functional Strength & Early Return to Activity

Weight Bearing & Brace:

- Full weight bearing, no brace.

Exercises:

- Advance strengthening and proprioception drills.
- Plyometric progressions (double- to single-leg hopping, lateral movements).
- Sport-specific drills (non-contact).
- Agility work (ladder drills, side shuffles) once cleared.

Return to Activity:

- Jogging may begin around 16–20 weeks if quad/hip strength ≥85% limb symmetry and no pain/instability.

Phase V (>20 Weeks) – Return to Sport

Criteria to Progress:

- No pain/swelling with activity.
- Quad and hip strength ≥90% of contralateral limb.
- Completion of sport-specific drills without symptoms.

Exercises & Return:

- Advance agility, cutting, pivoting, and reactive drills.
- Gradual return to full sport participation once cleared by surgeon.

Common Restrictions/Considerations:

- Avoid lateral patellar stress or forced lateral glides during early phases.
- Protect surgical site from valgus stress and deep squatting early on.
- Return to sport timelines vary; always confirm progression with physician and physical therapist.