



MPFL Reconstruction Rehabilitation Protocol

Phase I (0–2 Weeks)

- Protect surgical repair
- Control pain and swelling
- Maintain full knee extension
- Initiate quadriceps activation
- Weight bearing as tolerated with brace locked in extension
- Avoid lateral patellar stress
- Avoid resisted open-chain knee extension
- Cryotherapy, compression, elevation
- Quadriceps sets and straight leg raises with brace locked
- Ankle pumps
- Patellar mobilizations (superior and inferior only)
- Gentle heel slides to $\approx 90^\circ$ flexion

Phase II (2–6 Weeks)

- Gradual restoration of ROM (goal 0– 90° by 4 weeks)
- Improve quadriceps activation
- Begin normal gait mechanics
- Brace locked in extension for ambulation and gradually unlocked per surgeon
- Avoid knee flexion $>90^\circ$ until cleared
- Avoid resisted open-chain extension
- PROM progressing to AAROM knee flexion to 90°
- Stationary bike without resistance after ~4 weeks
- Straight leg raises in all planes
- Hip and core strengthening
- Gait training

Phase III (6–12 Weeks)

- Achieve full ROM
- Improve strength and neuromuscular control



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- Normalize gait without assistive device
- Avoid valgus stress and deep squatting
- Avoid plyometrics or running
- Closed-chain strengthening such as mini squats and step-ups
- Theraband resistance exercises
- Balance and proprioceptive training
- Low-resistance cycling or elliptical

Phase IV (3–4 Months)

- Advance functional strength
- Enhance dynamic stability
- Begin controlled plyometrics
- Avoid contact activity until cleared
- Protect against twisting or pivoting
- Progressive resistance strengthening (bands or weights)
- Lunges and leg press
- Single-leg strengthening
- Advance proprioceptive drills
- Initiate straight-line jogging with clearance

Phase V (4–6+ Months)

- Return to sport or work
- Achieve full strength, balance, and endurance
- Clearance required before cutting or pivoting sports
- Advanced strengthening
- Plyometrics and agility ladder
- Cutting and pivoting drills
- Sport-specific training
- Ongoing maintenance program

Key Principles for MPFL Reconstruction Rehabilitation



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MPFL Reconstruction Rehabilitation Protocol

- Early brace protection with controlled knee flexion.
- Focus on quadriceps activation to prevent extensor lag.
- Avoid lateral patellar stress and resisted open-chain knee extension early.
- Return to sport typically occurs around 4–6+ months depending on stability and functional testing.

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