

MPFL Reconstruction and Tibial Tubercle Osteotomy Physical Therapy Protocol

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Patient Name: _____

Date of Surgery: _____

Procedure: Right / Left MPFL Reconstruction with Tibial Tubercle Osteotomy (TTO)

Associated Procedure (checked if performed):

- Lateral Release
- Chondroplasty
- Osteochondral Fracture Repair
- Particulated Juvenile Cartilage Allograft Transplantation (DeNovo)
- Matrix-induced Autologous Chondrocyte Implantation (MACI)
- Osteochondral Allograft Transplantation

Frequency: 2x per week for _____ weeks

CPM

- Initiate POD1 with 0-30°
- Perform 3x per day in 2-hour sessions.
- If cartilage restoration procedure performed:
 - 0-2 weeks: 0-30°
 - 2-4 weeks: 0-60°
 - 4-6 weeks: 0-90° and increase 5° per day

Phase I (0-6 weeks): *Period of protection.*

- **Non-Weight Bearing (NWB) with brace locked in extension.** Hinged knee brace should be worn at all times except for CPM use, PT and hygiene.
- **ROM**
 - Immediate passive ROM 0-30°, and gently progress to 90°.
 - Progress active knee flexion as tolerated but **avoid active knee extension.**
- **Strengthening:**
 - Gentle quad sets with towel under heel, co-contractions, isometric quad/hamstring strengthening in extension and at knee flexion >60°
- **Precautions:**
 - No lateral patella mobilizations, medial mobilizations OK

- No AAROM or AROM extension to protect osteotomy

Phase II (6-12 weeks): *Transition phase.*

- Transition to full weight-bearing over weeks 6-8 (advance 50% per week).
- Discontinue brace at 8 weeks once adequate quad control and no lag on SLR.
- **ROM:** Passive ROM as tolerated with gentle stretching at end ranges if not yet at full motion. Active and active-assisted ROM as tolerated with no resistance.
- **Strengthening:**
 - Begin and advance SLRs. Once full weight-bearing, with no lag on SLR and no limp during gait, begin and slowly advance closed-chain quad/core and hamstring strengthening.
 - Initiate stationary bike at 6 weeks (high seat, low resistance). Normal settings at 8 weeks
 - No weight-bearing exercises with knee flexion angles $>90^\circ$

Phase III (3-6 months): *Begin more sport-focused conditioning.*

- **ROM:** Continue active and active-assisted ROM.
- **Strengthening:**
 - Progress closed-chain patellofemoral strengthening without limits. Begin treadmill walking at a slow pace and progress to balance/proprioception
 - Elliptical at 12 weeks
 - Light plyometrics and jogging can be initiated at 4 months.
 - From 5 – 6 months, begin and advance sport-specific activities (running, agility training).
 - High-impact activities (jumping, contact sports) allowed once full motion and strength achieved (usually 6 months).