

MPFL Reconstruction + TTO Rehabilitation Protocol

Colby Wollenman, M.D.

Patient: _____ **DOS:** _____

Surgeon Parameters

Osteotomy: ☐ Anteromedialization ☐ Distalization	Lateral lengthening: ☐ Cartilage procedure: ☐	Full weight bearing at _____ wks (default 6-8)
Other Precautions:		

Parameters above are patient-specific and supersede the general timeframes below. **Osteotomy healing is the rate-limiting factor: the tubercle is stressed by quadriceps pull and the proximal tibia by early full weight bearing (fracture risk), so active extension and load are protected for 6 wks and full weight bearing follows the 6-week radiographs. The MPFL graft is secure from day 1 and adds patellar precautions only. Therapist to use clinical judgment to individualize exercise selection and pace within each phase.**

Phase	Goals	Precautions	Treatment Focus
Phase 1 <i>Weeks 0–6</i>	Goals - Protect the osteotomy; control pain and swelling - Full extension; passive flexion 90° by wks 2–3, ≥120° by wk 6 - Solid quad set - Patellar mobility	Precautions - Crutches, brace locked in extension for walking and sleep: touch-down (foot-flat) wks 0–4 → slow advance to 50% wks 4–6 - No active knee extension or SLR out of the brace - Passive flexion as tolerated If distalization: touch-down only for 6 wks; passive flexion 0–90° for 4 wks - No lateral patellar glides; avoid knee-in (valgus) positions	Treatment Focus - Quad sets; SLR in the locked brace; NMES; BFR if available from wk 2 - Passive heel slides and seated flexion; gentle patellar mobilization - Calf pumps, stretches; edema control - Non-weight-bearing hip/core work - Bike without resistance for ROM from wk 4
► Advance to Phase 2 when: ≥6 wks, radiographs reviewed by the surgeon, full extension, flexion ≥120°, SLR in the brace without lag.			
Phase 2 <i>Weeks 6–12</i>	Goals - Full weight bearing and normal gait by ≈8 wks - Full ROM - Begin strengthening - Balance	Precautions - After x-ray clearance: 2 crutches 1 wk → 1 crutch 1 wk → none - Brace off at 6 wks (situational use to wk 8) - No resisted open-chain knee extension until 12 wks - Closed chain once off crutches: 0–60° → 90° by wk 12 - No impact; no kneeling on the tubercle - Sudden shin pain, new tubercle prominence, flexion <90°, or patellar slipping → contact the surgeon	Treatment Focus - Gait training; bike with resistance; pool once healed - Leg press, squats, step-ups, lunges, RDL in a progressive fashion - Double- → single-leg balance
► Advance to Phase 3 when: normal gait without a device, full ROM, effusion ≤ trace, no tubercle pain with closed-chain work.			
Phase 3 <i>Months 3–6</i>	Goals - Quad LSI ≥80% - Non-impact conditioning - Running once cleared	Precautions - Impact only after radiographic union and surgeon clearance (typically 4–6 months) - No cutting or pivoting until 6 months - Tubercle or hardware pain → reduce load	Treatment Focus - Progressive single-leg resistance - Swimming, cycling, rowing - Walk-jog once cleared and quad LSI ≥70%
► Advance to Phase 4 when: radiographic union, quad LSI ≥80%, running 20 min without pain or effusion.			
Phase 4 <i>Months 6–9</i>	Goals - Power and plyometrics - Agility; sport drills - Strength/hop LSI ≥90%	Precautions Return to sport is criteria-based after radiographic union and with no apprehension	Treatment Focus - Power-focused strengthening - Plyometrics, double → single leg - Supervised agility and sport drills
► Full Release (typically 6–12 months): radiographic union, full ROM, no effusion, no instability, quad/hamstring and hop LSI ≥90%, sport-specific progression completed, cleared by physician.			

Thank you for taking care of our patient.

This protocol serves as a general guideline and outline only. Our team defers to the clinical judgment and expertise of the treating physical therapist to make appropriate adjustments and modifications based on the individual patient's presentation, progress, and response to treatment. For any questions regarding this protocol, please contact Dr. Wollenman directly at (561) 215 – 0184.