MPFL Reconstruction with Tibial Tubercle Osteotomy Rehabilitation Protocol

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This protocol provides general guidelines for rehabilitation following MPFL reconstruction with tibial tubercle osteotomy. Progression should be individualized based on the procedure, healing, and patient response, with modifications as directed by the surgeon.

Phase	Goals	Precautions / Restrictions	Treatment

Weeks 0-6	• Manage swelling and pain
	• **Protect surgical site**
	• Achieve quadriceps/hamstring/glute activation
	• Symmetric knee extension by week 2
	• Moderate irritability of knee (wks 0-2)
	  • Swelling is improving
	  • <5/10 pain
	• Low irritability of knee (wks 2-6)
	  • Minimal swelling with activities
	  • <2/10 pain
		• Weight bearing (heel to flat)
		  • Weeks 0-6 TWB
		  • Locked in extension while WB
		  • Ambulate with crutches and brace
		• ROM restrictions:
		  • 0-90 knee flex AAROM to AROM
		  • PASSIVE knee extension only
			General guidelines
			• PRICE
			• Quadriceps/hamstring, glute activation should be emphasized
			• Ankle: range of motion and strength
			• Cryotherapy/Modalities as indicated
			• OKC strengthening:
			  • Hip: all planes of motion
			  • Ankle: all planes of motion
			Initial visit
			• FOTO, LEFS, PRO
			Week 6
			• FOTO, LEFS, PRO

Weeks 6-8	• Full AROM by 8 weeks • Restore strength of quadriceps, hamstrings, hips	• Progress to WBAT beginning at wk 6 pending x-ray and MD visit; wean from crutches as able • Discontinue brace with adequate quad control • **Avoid excessive loading of anterior knee (no patellofemoral pain)** • **No impact (running, cutting, pivoting)**	**General guidelines** • Begin active knee extension as tolerated • **Normalize gait** • Initiate CKC exercises • Stationary bike • Cryotherapy/Modalities as indicated **Week 8** • FOTO, LEFS, PRO
Weeks 8-12	• Ambulate community distances by 12 weeks without assistive devices • **No effusion in knee** • Restore total leg strength	• **Avoid loaded range of motion (>90^0)** • **No impact (running, cutting, pivoting)**	**General guidelines** • Progress CKC into greater ROM (**<90^0**), single leg, multi-planar, and with resistance as tolerated • Initiate proprioceptive training • Initiate pool if accessible • Can begin medial/lateral patellar mobilizations

Phase	Goals	Precautions / Restrictions	Treatment
			Week 12 ● FOTO, LEFS, PRO
Weeks 12-16	● Preparation for more advanced exercise/activity ● **Normalize asymmetries** ● **70%** symmetry with isokinetic quad strength testing	● **Avoid loaded range of motion (>90°)** ● Proper exercise form and control during exercise performance ● **No impact (running, cutting, pivoting)**	**General guidelines** ● Progress strength, endurance, and proprioception ● Advance cardiovascular conditioning ● Elliptical trainer **Week 16** ● Testing ● Y- balance ● Body weight single leg press ● Humac testing (**90/180 deg**/sec) ● FOTO, LEFS, PRO
Weeks 16+	● Begin impact training once cleared by MD (jumping, running etc.) ● Unrestricted return to activity (Months 6-9)	● **Avoid running/jumping on a painful or swollen knee** ● **Avoid cutting, pivoting, and high intensity plyometrics until wk 20** ● Proper form and control during exercise performance	**General guidelines** ● Can begin loading beyond **90°** as tolerated ● Can begin linear jogging and light impact ● **Avoid cutting, pivoting until week 20** ● FOTO, LEFS, PRO **Anticipated final visit** ● Testing ● Y- balance ● Humac testing (**90/180 deg**/sec) ● Single leg vertical jump ● Single leg hops: for distance, triple hop