Rehabilitation Protocol for Patellar Tendon Repair

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Phase I: Immediate Postsurgical-Week 0-2

GOALS	RANGE OF MOTION	INTERVENTIONS	PRECAUTIONS
• Regain quadriceps control and function • Achieve symmetrical knee extension • 30 degrees knee flexion • Control pain, inflammation, and effusion	• Extension brace locked for ambulation • ROM: 0-30˚ • Use CPM 4-6 hours per day at slowest speed (1-2 cycles per min)	• Manual therapy to quadriceps • Passive knee extension • Patellar mobilizations • Isometric quad sets • Terminal knee extension • Isometric hamstring sets • Gait training (WBAT w/ brace locked in extension) • 4-way ankle AROM w/ rubber tubing • Upper body conditioning	• WBAT with brace locked in extension • Avoid aggressive knee flexion
Criteria to Progress: • Post-operative appointment within 6-9 days			
Comments: • Introduce Blood Flow Restriction training by Week 2, if accessible.			

Phase II: Postsurgical-Week 3-6

GOALS	RANGE OF MOTION	INTERVENTIONS	PRECAUTIONS

• Regain quadriceps control and function
• Active terminal extension
• 90 deg. knee flexion at week 6
• Gait with B axillary crutches, brace unlocked when good quad control is observed.
• Control pain, inflammation, and effusion
	• Extension brace locked for ambulation until demonstrates good quad control
	• Week 2-4:
	  ○ ROM: 30-60˚
	• Week 4-6:
	  ○ ROM: 60-90
	• Use CPM 4-6 hours per day at slowest speed (1-2 cycles per min)
		• Manual therapy to quadriceps
		• Passive knee extension
		• Patellar mobilizations
		• Isometric quad sets
		• Terminal knee extension
		• Heel raises
		• Hamstring bridging on physio ball
		• Hamstring curls
		• Glute open-chain exercises
		• Gait training w/ brace unlocked (once good quad control is demonstrated)
		• 4-way ankle AROM w/ rubber tubing
		• Upper body conditioning
			• Ensure good quad control prior to unlocking brace
			• Avoid aggressive knee flexion (use active assisted techniques)

Criteria to Progress: • Good quad control, active terminal knee extension. • 90 degrees knee flexion.			
• Assess proximal function and stability – glute strength, TFL & hip flexor mobility, core activation			

Phase III: Postsurgical-Week 6-16

GOALS	RANGE OF MOTION	INTERVENTIONS	PRECAUTIONS
• Normalize gait. Transition from 1 crutch to independent gait. • Introduce closed chain exercises (emphasis on hip hinge to engage glutes) • Progress knee flexion ROM towards symmetrical motion. • Good eccentric SL control by week 16 to prepare for Alter-G jogging program (given MD approval)	• Maintain terminal extension • Progress as tolerated to symmetrical knee flexion ROM.	**Begin CKC strengthening** • Begin with shuttle leg press 0-60 deg. • DL à SL BW squat training once good control observed on shuttle. • Lateral stepping with tubing • Balance and proprioception training **Prepare for Alter-G jogging program at week 16, per MD clearance:** • Good core strength (side, front plank) • Good eccentric SL control	• Post-exercise soreness and joint pain return to normal within 48 hours • NON-IMPACT exercises
Criteria to Progress: • Normal gait • Minimal effusion after activity			
Comments: Ensure good knee, hip, and trunk control with eccentric SL exercise to prepare for Alter-G jogging program at week 16, given MD approval.			

Phase IV: Postsurgical-Months 4-6

GOALS	RANGE OF MOTION	INTERVENTIONS	PRECAUTIONS
• No pain, swelling, patellofemoral crepitus • Normal knee motion • Normalize running gait patterns	• Full and symmetrical	• Alter-G jogging progression, beginning at 60%BW if cleared by MD. • Begin light agility drills at 5 months (as approaching 100% BW on Alter-G) • Lateral shuffling at 5-6 months	• Post-exercise soreness and joint pain return to normal within 48 hours • No cutting or jumping/landing until 6 months.
Criteria to Progress: • Clearance to begin sport specific activities with physician approval			
Comments: • Emphasize good hip, knee, and trunk control with functional, sport-specific movements. • May require return to sport functional movement test at 5-6 months post-op.			

Phase IV: Postsurgical-Months 6-9

GOALS	RANGE OF MOTION	INTERVENTIONS	PRECAUTIONS
• Normal running gait • Good mechanics with jumping/landing, cutting, lateral movements	• Full and symmetrical	• Progress jumping/landing with emphasis on good hip, knee, and trunk control. • Reactive drills with cutting, agility, jumping once good mechanics are observed with pre-planned movements.	• Post-exercise soreness and joint pain return to normal within 48 hours
Criteria to Progress: • Clearance to begin sport specific activities with physician approval			

Comments:

- Emphasize good hip, knee, and trunk control with functional, sport-specific movements.
- Challenge athlete with reactive agility, cutting, lateral shuffling as they near return to sport.