

# Tibial Tubercle Osteotomy Rehabilitation Protocol

Stage	Objectives	Treatment Details
Pre-operative	Prepare for surgery	Maximise lower limb strength (focus on VMO and gluteal complex) Educate on post-operative rehabilitation; Fit and educate on use of crutches
Weeks 0-3	Soft Tissue  Weight Bearing Status Strengthening ROM Bracing	Swelling reduction & regular icing (20 min. every 2-3 hours) Compression with short leg TED and double tubigrip to knee, regular rest and elevation, encourage calf and quads contractions Hamstring, calf and ITB stretches Partial Weight Bearing (50%) with crutches OR _____ Static and inner range knee contractions (0-30°), calf pumps, hip coronal and sagittal resistance exercises Active and passive ROM (0-60°) ROM Brace at all times expect when showering and sleep ROM Brace Limits _____ OR _____
Weeks 3-6	Soft Tissue  Weight Bearing Status  Strengthening  ROM Bracing	Daily scar massage Foam roller for ITB (not for DFVO), gluteals, calf and HS releases Full Weight Bearing (100%) with crutches OR _____ Commence walking in water at chest level Commence stationary bike, low resistance leg press (0-45°) Employ biofeedback when appropriate Active and passive ROM (0-90°) ROM Brace at all times expect when showering and sleep ROM Brace Limits _____ OR _____
Weeks 6-12	Weight Bearing Status  Strengthening   Aerobic	Discard crutches over 2-3 week period once balance and gait pattern normalizes Gait re-training aiming to optimize knee extension, heel strike and toe off Progress to gym-focused program Leg press and squat (0-60°), calf raises, hip abduction, hip adduction, hip flexor, HS curls, stationary bike Commence eccentric WB quads sets once strength improving eg step ups Address significant deficits eg poor gluteal control, tight soft tissue structures, balance exercises No open chain exercises or deep lunges Freestyle swimming initially with pool buoy then progress to kicking
Weeks 12+	Strengthening  Aerobic	Progression of gym-based rehabilitation as above with increased resistance Balance exercise to improve proprioception eg wobble board, mini tramp Add elliptical trainer / stepper machine / rower machine Swimming with flippers and road bike
6 months +	Sports-specific activities	No running or return to sport unless cleared by surgeon Long term: AVOID LUNGES, DEEP SQUATS PAST 60°, HILL TRAINING to reduce PF contact shear forces <i>Note: Return to sports highly dependent on severity of osteoarthritis</i>