High Tibial Osteotomy Protocol

	Phase I: weeks 0-2	Phase II: 3-6 weeks	Phase III: weeks 7-8
Weight-Bearing and Immobilization	 TTWB only with crutches Brace at all times Locked in full extension while ambulating and sleeping Unlocked 0-90° for PROM exercises 	 TTWB only with crutches Brace May remove for sleep Unlocked 0-90° during daytime 	 Advance weight-bearing by 25% per week until WBAT Gait training May discontinue brace
Aerobic	• None	• None	Begin stationary bike (low resistance, elevated seat height initially, lower height to usual position as ROM allows)
Range of Motion (ROM) and Strengthening	 PROM 0-90° (except as noted above while ambulating and sleeping) Isometric quad sets Patellar mobilization Straight-leg raises (with brace) Calf pumps 	 Continue Phase I exercises Progress from PROM to AAROM to AROM as tolerated Hamstring sets Gluteal sets Begin floor-based hip, pelvis, and core exercises 	 Continue Phase II exercises Closed-chain exercises Quadriceps Wall sits Shuttle Mini squats Toe raises Proprioceptive and balance training
Goals	Pain controlProtect healing tissuesMinimize joint stiffness	Pain controlProtect healing tissuesRegain full ROMBegin light muscle conditioning	Protect healing tissuesGait normalizationAchieve full ROM if not attained already

	Phase IV: weeks 9-16	Phase V: months 16-24
Weight-Bearing and Immobilization	• WBAT	
Aerobic	Progress stationing bikingAt 12 weeks, may begin elliptical machine and swimming as tolerated	At 20 weeks, may begin walk-jog-run progression as tolerated
Range of Motion (ROM) and Strengthening	Progress Phase III exercises as tolerated to improve flexibility, balance, and strength	 Continue Phase IV exercises Advance exercise as tolerated with focus on maximizing core, gluteal, quadriceps, and hamstring At 20 weeks, may begin as tolerated: Impact / Jumping Plyometrics Dynamic loading Functional or sport-specific training
Goals	WBATProgress flexibility, balance, and strength	Progress strengthening, aerobic exercise, and dynamic or sport-specific training as tolerated