



PT Protocol
Tibial Tubercle Osteotomy
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Phase 1: 0-6 Weeks

Goals

Protect repair, decrease pain and swelling, restore ambulation, activate quad, ADL strategies

Brace/crutches

Brace used when not in PT for first 6 weeks post op
Post op brace locked in extension when weight bearing, 50% PWB with crutches
When not weight bearing may go 0-30 degrees first 2 weeks
Advance brace flexion allowed by 30 degrees every 2 weeks

Range of Motion

Guidelines for range of motion when supervised in PT

- 0-1 week: 0-30 degrees
- 1-2 weeks: up to 60 degrees
- 2-4 weeks: up to 90 degrees
- 4-6 weeks: up to 120 degrees

Strength

Quad sets and straight leg raises
Single leg balance
Hip abduction strength
Core strength
Upper body ergometer

Criteria for Ambulation without Crutches or Brace

Range of motion within 3 degrees of full extension and flexion of at least 90 degrees
Straight leg raise X 20 without a lag
Single leg balance for 20 seconds
Demonstration of normal gait in PT



Phase 2: 6-12 Weeks

Goals

WBAT, Discontinue Brace, normalize gait, advance strengthening, prepare for jogging
*May introduce blood flow restriction (BFR) training

Range of Motion

Progress to full by 12 weeks post op

Strength

Short arc leg press and low step ups (mostly avoid open chain exercises)
Romanian dead lifts
Body weight and wall squats, progress to single leg squats and lunges
Hip abduction strength include lateral band walks
Core to include bridging

Conditioning

Stationary bike, UBE, Elliptical or rowing machine at 10 weeks
*Balance and proprioception - may introduce perturbation training



Phase 3: 3-6 Months

Goals

Transition to home or gym program
Introduce dynamic movement and advance strength and conditioning

Range of Motion

*Should have full range. If not alert physician

Strength

Weighted squats, dead lifts, power cleans, Core
Introduce open chain quad strength avoiding full extension
BFR

Conditioning

Bike, elliptical, rower
Jogging
Swimming or aqua jogging

Plyometrics and Agility

Speed ladder, jump rope
Balance and perturbation work

Criteria for Jogging

16 weeks post op, essentially full range of motion, one minute of single leg squats continuously



Phase 4: Return to Full Activity

Goals

Improve strength and agility

Strength and Conditioning

Advance weighted squats, dead lifts, Olympic lifts
May advance to full sprint

Plyometrics and Agility

Box jumps, bounding, broad jumps, single leg hops, vertical jumps
Agility and cutting drills advancing to full speed
High level balance and perturbation work

Criteria for Return to Play

Quad and hamstring strength at 90%
90% of normal on all single leg hop tests
Full speed on agility testing (figure 8, shuttle run, etc)
MD approval