**Tibial Tubercle Transfer Rehabilitation Protocol**

**Phase I – Maximum Protection (Weeks 0 to 6):**

**0 to 2 weeks:**

 Brace locked in full extension for 6 weeks

 PWB first 2 weeks then WBAT in brace

 Ice and modalities to reduce pain and inflammation

 Aggressive patellar mobility drills

 Range of motion – 0\*to 45\* knee flexion

 Begin quadriceps setting- when pt can perform strong QS, start with SLR without a quad lag; begin hip abduction and hip extension when pt masters SLR w/out lag.

**Weeks 2 to 4:**

 Continue with inflammation control

 Continue with aggressive patellar mobility

 Range of motion – 0\* to 60\*

 Continue with submaximal quadriceps setting, isometric hamstring/groin and global lower leg strengthening

**Weeks 4 to 6:**

 Progressive weight bearing per physician’s instructions

 Continue with ice and aggressive patellar mobility

 Range of motion – 0\* to 90\* (by week 6)

 Increase intensity with quadriceps setting

**Phase II – Progressive Range of Motion and Early Strengthening (Weeks 6 to 12):**

**Weeks 6 to 8:**

 Full weight bearing

 Open brace to 45\*- 60\* of flexion week 6, 90\* at week 7

 Continue with swelling control and patellar mobility

 Gradually progress to full range of motion

 Begin multi-plane straight leg raising and closed kinetic chain strengthening program focusing on quality VMO function.

 Initiate open kinetic chain progressing to closed kinetic chain multi-plane hip strengthening

 Normalize gait pattern

 Begin stationary bike

 Initiate pool program

**Weeks 8 to 10:**

 Wean out of brace

 Continue with patellar mobility drills

 Normalize gait pattern

 Restore full ROM

 Progress open and closed kinetic chain program from bilateral to unilateral

 Increase intensity on stationary bike

 Begin treadmill walking program

**Weeks 10 to 12:**

 Full ROM

 Aggressive terminal quadriceps stretching

 Advance unilateral open and closed kinetic chain strengthening

 Initiate proprioception drills

 May introduce elliptical trainer

**Phase III – Progressive Strengthening (Weeks 12 to 16):**

**Weeks 12 to 16:**

 Advance open and closed kinetic chain strengthening

 Increase intensity on bike, treadmill, and elliptical trainer

 Increase difficulty and intensity on proprioception drills

 Begin gym strengthening: leg press, hamstring curls, ab/adduction; avoid lunges and knee extensions

 Begin multi-directional functional cord program

 Initiate pool running program

**Phase IV – Advanced Strengthening & Functional Drills (Weeks 16 to 20):**

**Weeks 16 to 20:**

 Continue pool running program advancing to land as tolerated

**Phase V – Plyometric Drills and Return to Sport Phase (Weeks 20 to 24):**

**Weeks 20 to 24:**

 Advance gym strengthening

 Progress running/sprinting program

 Begin multi-directional field/court drills

 Begin bilateral progressing to unilateral plyometric drills

 Follow-up appointment with physician

 Sports test for return to competition **6 months post-op** per physician’s release

**RETURN TO ACTIVITIES**

Running: 4-5 months when functional criteria are met

Golf: Short irons at 4 months, full swing with long irons at 5 months.

Delay 4-6 weeks if lead leg.

Pivoting/cutting sport: When functional criteria are met and cleared by surgeon, typically

7+ months at earliest