



Department of Orthopaedic Surgery  
Sports Medicine and Shoulder Service

## Tibial Spine Avulsion Fracture Physical Therapy Protocol Prescription

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Patient Name:

Date:

DOI:

Surgery Date:

Diagnosis: Tibial Spine Avulsion Fracture    Frequency: 2-3 visits/week    Duration: 4 months

### OVERVIEW:

- Focus on the protection of fixation in Phase I (0-6 weeks postop).
- Brace: 8 weeks total
  - Weeks 0-2: Toe-Touch Weight Bearing (Full Extension)
  - Weeks 3-4: Partial Weight Bearing (Full Extension, d/c crutches after 4 weeks)
  - Weeks 5-6 WBAT (Full Extension)
  - Weeks 7-8 (Unlock brace in 30° increments, unlocked and off after week 8)
- Sleep with brace ON & LOCKED in extension for 3 weeks.
- Crutches: 4 weeks total (0-2 TTWB, 3-4 PWB, 5-6 WBAT)

### Phase I: Weeks 0-6

**Goals:**

- Protect fracture fixation with the use of brace and specific exercises.
- Minimize effects of immobilization, inflammation & edema (ice x2 weeks)
- Advance to Full WB, wean off crutches, obtain motion

**Brace:**

- Weeks 0-4: Brace locked in full extension for ambulation & sleeping.
- Weeks 5-6: WBAT in extension. OK to d/c brace when sleeping.
- Weeks 7-8: Begin unlocking in 30° increments every 3-4 days. Unlock by the start of Week 8 and d/c after Week 8.

**Weight-Bearing:**

- Weeks 0-2: TTWB
- Weeks 3-4: PWB
- Weeks 5-6: Wean from crutches as patient demonstrates normal gait mechanics and improved quad control.

**Range of Motion:**

- AAROM → AROM as tolerated starting in week 2
- Maintain full extension and work on progressive knee flexion.
  - 0-90° by Week 3
  - 0-125° by Week 6

**Exercises:**

- Patellar mobilization/scar mobilization
- Quad sets, Hamstring curls, Heel slides
- Non-weight bearing stretching of Gastro-Soleus
- Straight-leg raise with brace in full extension until quad strength returns (no extension lag)

**Phase II: Weeks 7-12**

**Goals:**

- Maintain full extension, obtain full flexion
- Increase hip, quadriceps, hamstring and calf strength
- Increase proprioception

**Brace:**

- Begin unlocking in 30° increments (every 3-4 days) after Week 6. Unlocked when weight bearing by the start of Week 8.
- Discontinue after Week 8 (once patient has full extension and no lag).

**Exercises:**

- Begin stationary bike
- Continue with ROM/flexibility exercises as appropriate
- Closed chain extension exercises
- Weight bearing Gastroc-Soleus stretching
- Toe raises, start proprioception program

**Phase III: Weeks 13-18****Exercises:**

- Begin straight-ahead, treadmill running after Week 12
- Continue flexibility and ROM exercises as appropriate for patient
- Progressive hip, quad, hamstring and calf strengthening
  - Mini-Wall Squats (0-60°)
  - Lateral Lunges & Step-Ups
  - Hip Abduction/Adduction
  - Short-Arc Leg Press
- Cardiovascular/endurance training via stair master, elliptical and bike
- Advance proprioceptive activities and agility drills

**Phase IV: Months 5-6 - Return to Sport**

**Exercises:**

- Progress flexibility/strength program based on individual needs/deficits
- Initiate plyometric program as appropriate for patient's athletic goals
- Agility progression including:
  - Side steps + Crossovers, Figure 8 and Shuttle Running
  - One & Two Leg Jumping
  - Cutting/Accelerative/Deceleration/Sprints, Agility Ladder Drills
- Continue progression of running distance based on patient needs
- Sport-specific drills as appropriate for patient
- Gradual return to activity as tolerated