

ARTHROSCOPIC TIBIAL SPINE FRACTURE FIXATION PRE & POST-OPERATIVE PHYSICAL THERAPY PROTOCOL



COLUMBIA UNIVERSITY CENTER FOR SHOULDER, ELBOW AND SPORTS MEDICINE

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PRE-OPERATIVE PHASE (“Prehab”)

- Isokinetic test (chronic)
- Crutch ambulation training
- Post-op exercise instruction
 - Quad sets
 - Leg lifts
 - Active flexion/passive extension
 - Patella mobilization
 - Quadriceps/Hamstrings isometrics at 90°
- Quadriceps re-education
- Restoration/Improvement of ROM
- Reduction of edema/inflammation

POST-OPERATIVE PHASE

Weeks 0-2

**Primary goals: Eliminate swelling; ROM – full extension; FWB;
Regain quad control**

- WBAT
- Unlock brace for ambulation with return of active straight leg raise
- Brace locked in extension for sleep
- ROM as tolerated: minimum 0-90°
- Patella mobilization
- Sit to stand squats – 0-45°
- BAPs – PWB

Weeks 2-4

**Primary goals: Increase ROM; Increase total leg strength;
Normalize gait**

- Discontinue brace (if possible)
- ROM as tolerated (minimum 0-110°)
- Emphasize patellar mobilization
- Stationary bike

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- Step ups: anterior – 4 inches @ 2 weeks; 6 inches @ 3 weeks
- Balance board – Bilateral: frontal and sagittal planes
- Half squats
- BAPs – FWB
- Unilateral stance
- Leg press – Bilateral 0-90°

Weeks 4-6

Primary goals: Normal ADLs; Increase functional capacity; Increase strength

- ROM – WNL
- Treadmill walking (if gait normal)
- Stairmaster – ipsilateral rotation and straight
- Mini squats – bilateral
- Step ups – Anterior: 8 inches
- Step ups – Anteromedial: 8 inches
- Step downs – Anterior & medial: 4 inches, progress to 8 inches
- Unilateral squats
- Unilateral stance on trampoline
- Leg press – unilateral

Weeks 6-10

Primary goals: Increase functional leg strength; Normalize balance and proprioception

- 2# ball toss on trampoline – unilateral stance – increase dispersion with improved control
- Balance board – unilateral – sagittal & frontal
- Step downs – posterolateral @ 8 inches
- Lunges – anterior and lateral for distance and speed (not depth)
- Increase strengthening especially in frontal and transverse planes
- Stairmaster – contralateral rotation and straight
- Sliding board
- Slow jogging (straight ahead)

Weeks 10-14

Primary goals: Increase agility and speed of training; Normalize strength; Increase muscular endurance

- Sliding board side-side with rotation
- Lunges – anterolateral, anteromedial
- Bilateral hopping – low intensity/high volume
- Fitter side-side

Months 4-6

Primary goals: Gradual return to athletic activity; Discharge onto home program

- Jumping
- Unilateral hopping
- Agility drills; running, cutting