



# High Tibial Osteotomy Rehabilitation Protocol

## Phase 1 (0-6 weeks post-op)

### Rehabilitation Goals

- 0-90° Knee ROM
- Regain adequate quadriceps control

### PRECAUTIONS

- \*Wear brace at all times (even while sleeping)\*

### Crutches

(Crutch use as follows per ortho/PT:)

- **Weeks 1-4:** touch down weight bearing (foot flat) @ 0-10% body weight
- **Weeks 5-6:** partial weight bearing @ 25-50% body weight

### Brace

Locked at 0° x 6 weeks; may remove for therapy

### Wound

- Post-op dressing remains intact until post-op day #3 (~72 hours after surgery)
- May begin showering after post-op day #3 (no need to cover incision site)
- **\*Do NOT** submerge knee in tub or pool for 4 weeks\*
- Bilateral compression stockings for 7-10 days: unilateral use thereafter as needed
- Suture/staple removal @ 10-14 days per Ortho/PT

### Rehabilitation

- Frequent use of cryocuff and/or ice with lower extremity elevated
- Begin patellar mobilizations (10 reps each direction TID) after suture/staple removal
- Begin scar massage after incision site sloughs/scar is formed
- Begin the first 4 exercises below and add others gradually as tolerated

### Weeks 1-2

- Calf pumping w/ tubing
- Static quad sets (w/estim until patient able to do 10 SLRs without extension lag)
- AAROM exercises - (assisted heel slides): 0-90° (progress to AROM as tolerated)
- Supine passive extension (with towel under ankle as needed)
- Hamstring stretching
- SLRs (in brace): may add light weight when pain free

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# High Tibial Osteotomy Rehabilitation Protocol

## Phase 1 (0-6 weeks post-op)

### Weeks 3-6

- Calf stretching
- Short arc quads - may add light weight when pain free
- Seated ankle disk training
- Seated bilateral calf raises
- UBE and/or well leg cycle
- Upper body workout at gym as desired

### Follow-Up

- Physical Therapy: Weekly; Ortho: ~6 weeks post-op
- Supervised rehabilitation: 2-3 x per week as needed

### Documentation

- Precautions, pain level, medications, modalities
- Observation: (incision sites) - Signs/symptoms of infection? Site healing well? Effusion?
- Neurovascular status: Distal pulses, motor and sensation intact? Presence of calf pain?
- Knee ROM & quadriceps function



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# High Tibial Osteotomy Rehabilitation Protocol

## Phase 2 (7-12 weeks post-op)

### Rehabilitation Goals

- Normal gait
- Full Knee ROM

### PRECAUTIONS

- \*Continue to wear brace at all times (except while sleeping)\*
- \*NO running until 4 months post-op\*

### Crutches

(Progress gradually to full weight-bearing per the following schedule:)

- **Weeks 6-7:** partial weight bearing @ 50-75% body weight
- **Weeks 8-9:** weight bearing as tolerated @ 75-100% body weight

### Brace

Unlock brace for ambulation per the following schedule:

- Weeks 6-7: 0-120°
- Weeks 8-12: full; may D/C brace once able to do SLR with no extension lag at 8 weeks

### Rehabilitation

- Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in pain or effusion since the previous exercise session)
- \*Note: all strengthening should be done with the brace on, using low weights, high repetitions, and in a painless ROM\*

### Weeks 7-8

- Stationary bike for ROM - progress to biking for conditioning
- Beginning level pool exercises in sagittal plane only (i.e., deep water jogging, pool walking)
- Progressive AROM and ROM stretching exercises as tolerated
- General LE stretching (calf, HS, quads, HF, hip adductors)

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# High Tibial Osteotomy Rehabilitation Protocol

## Phase 2 (7-12 weeks post-op)

### **Weeks 9-10**

- Calf press
- Double leg mini-squats (0-45°)
- Double leg heel raises

### **Weeks 11-12**

- Leg press
- Hamstring curls
- Heel raise progression (double to single leg)
- Elliptical

### Follow-Up

- PT: Bi-monthly; Ortho: ~12 weeks post-op;
- Supervised rehabilitation: 2-3 x per week as needed

### Documentation

- Precautions, pain level, medications, modalities
- Effusion
- Knee ROM & quadriceps function
- Gait



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# High Tibial Osteotomy Rehabilitation Protocol

## Phase 3 (4-6 months post-op)

### Rehabilitation Goals

- Normal stair ambulation
- Jog at own pace and distance without pain
- 80-90% quadriceps and HS strength return

### PRECAUTIONS

- **\*NO** running until 4 months post-op\*
- **\*NO** participation in contact/collision sports or military schools until ~9 months post-op\*

### Crutches/Brace

NONE

### Rehabilitation

- Continue phase II exercises as needed
- Progress in duration and intensity of exercise only if there is no increase in knee pain or effusion since the previous exercise session

### **Weeks 13-16**

- Aerobic conditioning (biking, elliptical, stairmaster)
- LE weight lifting (Calf press, leg press, squats (0-60°), HS curls, knee ext, hip add/abd)
- Mini-squat progression (double to single leg)
- Progressive pool program
- Progressive standing balance exercises (body blade, sport cord, plyoball, platforms, etc.)  
(progress in duration, intensity, double leg to single leg, etc.)

### **Weeks 17-20**

- Forward, lateral, and retro step-ups (start with 2", progress as tolerated)
- Straight line jogging (up to 50% speed on treadmill or other level terrain)

### **Weeks 21-26**

- Progressive functional training: Begin at 25-50% intensity and progress gradually  
(jumping, hopping, directional jogging, cariocas, shuffles, etc.)

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# High Tibial Osteotomy Rehabilitation Protocol

## Phase 3 (4-6 months post-op)

### Follow-Up

- PT: Monthly; Ortho: ~6 months post-op;
- Supervised rehabilitation: 1-2 x per week as needed

### Documentation

- Pain level & medications
- Effusion
- Knee ROM & quadriceps function
- Hop for distance

### Miscellaneous

- After 6 months post-op: Exercises in phase III are continued, gradually increasing intensity & duration as tolerated.
- The recommendation is to wait until 9-12 months post-op to return to contact/collision sports. This time period may be adjusted slightly by the surgeon and therapist according to patient progress.



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