



## High Tibial Osteotomy Rehabilitation Guideline

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### I. **PHASE ONE (week 1-2)**

#### **GOALS:**

- ❖ ROM 0-90°
- ❖ Adequate quadriceps contraction
- ❖ Control inflammation

#### ➤ **WEEKS 1-2**

- ROM
  - ROM 0-90°
  - Patellar mobilization
  - Ankle pumps
  - Hamstring, gastrocnemius soleus stretches
  - Five reps times 30 sec. each. 3-4 times a day times 10 min.
  - Weight bearing – non-weight bearing per M.D.

#### ➤ **STRENGTHENING**

- S.L.R.
- Active quadriceps isometrics
- Knee extension (active-assisted 90-30°)

#### ➤ **MODALITIES** as required

- Electrical muscle stimulation 20 min.
- Cryotherapy 20 min.

## II. PHASE TWO (weeks 3-4)

### GOALS:

- ❖ ROM 0-110°
- ❖ Muscle control
- ❖ Control inflammation
- ❖ 25% weight bearing per MD

### ➤ WEEKS 3-4

- ROM
  - ROM (passive 0-110°)
  - Patellar mobilization
  - Ankle pumps
  - Hamstring, gastrocnemius soleus stretches.
  - 5 reps x 30 sec. each. 3-4 times a day.

### ➤ STRENGTHENING

- Isometric training – multi angle (0°-60°)
- SLR (flexion, extension)
- Knee extension (active-assisted, 90-30°)

### ➤ AEROBIC CONDITIONING

- Aerodyne without involved extremity

### ➤ MODALITIES

- Electrical muscle stimulation 20 min.
- Cryotherapy

## III. PHASE THREE (weeks 5-6)

### GOALS:

- ❖ ROM 0-130°
- ❖ Muscle control
- ❖ Early recognition of complications
- ❖ Control inflammation
- ❖ 50% weight bearing per MD (usually 6 weeks)

### ➤ WEEKS 5-6

- ROM
  - ROM (passive 0-130°)
  - Hamstring, gastrocnemius soleus stretches
  - Patellar mobilization
  - 5 reps x 30 sec each. 3 times a day times 10 min.

- STRENGTHENING
  - SLR
  - Isometric training multi angle (90, 60, 30°)
  - Closed chain
    - Wall sits
    - Mini squats
  - Leg press (70-10°)
- Aerobic Conditioning
  - Bike with involved knee
- Modalities as required

#### **IV: PHASE FOUR (weeks 7-8)**

##### **GOALS:**

- ❖ 50-75% weight bearing
- ❖ Control inflammation
- ❖ Muscle Control
- ❖ ROM 0-135°

- **WEEKS 7-8**
  - ROM
    - ROM 0-135°
    - Hamstring, gastrocnemius soleus stretches
    - Patellar mobilization
    - 5 reps x 30 sec each, 2 times a day times 10 min.
  - Strengthening
    - SLR –flexion, extension, abduction, abduction
    - Closed chain
      - ◆ Mini squats (rubber tubing 0-30°)
      - ◆ Wall sits
    - Hamstring curls (active 0-90°)
    - Leg press (70-10°)
  - Aerobic Conditioning
    - Bike
  - Modalities – as required

## V. PHASE 5 (weeks 9-12)

### GOALS:

- ❖ ROM 0-135°
- ❖ Increase strength – endurance

### ➤ WEEKS 9-12

- ROM
  - Hamstring, Gastrocnemius Soleus, Quad, ITB stretches
- STRENGTHENING
  - SLR
  - Closed chain
    - ◆ Mini squats
    - ◆ Wall sits
    - ◆ Lateral step up (2-4" block)
  - Hamstring curls (active 0-90°)
  - Knee extension with resistance (90-30°)
  - Leg press (70-10°)
- Balance Training
  - Two legged balance board
  - Single leg stance
- Aerobic Conditioning
  - Bike
  - Walking
  - Life step
- Modalities – as required.

## VI. PHASE 6 (weeks 13-26)

### GOALS:

- ❖ Increase strength – endurance

### ➤ WEEKS 13-26

- ROM
  - Hamstring, Gastrocnemius Soleus, Quad, ITB stretches

- STRENGTHENING
  - SLR
  - Closed chain
    - ◆ Mini squats (rubber tubing 0-40°)
  - Hamstring curls (active 0-90°)
  - Knee extension with resistance (90-30°)
  - Leg press (70-10°)
  
- Balance Training
  - Two legged balance board
  - Single leg stance
  
- Aerobic Conditioning
  - As in Phase 5
  
- Running Program – in Unloader brace
  - job
  - walk
  - backward run
  
- Modalities – as required