



Proximal/Distal Patellar Realignment (Tibial Tubercle Osteotomy) REHAB Protocol

General Guidelines:

- No closed kinetic chain exercises for 6 weeks
- Supervised physical therapy takes place for 3-6 months post-operatively

General Progression of Activities of Daily Living:

Patients may begin the following activities at the dates indicated

- Bathing and showering after suture removal
- Sleep with brace locked in extension for 4 weeks
- Driving at 6 weeks post-op
- Brace locked in extension for 6 weeks for ambulation
- Use of crutches continued for 6 weeks post-op

Rehabilitation Progression:

The following is a general guideline for progression of the rehabilitation program following patellar realignment. Progression through each phase should take into consideration patient status (eg. healing, function) and physician advisement. Please consult the physician if there is any uncertainty regarding advancement of a patient to the next phase of rehabilitation.

PHASE I (Weeks 1-6)

Goals:

- Protect fixation and surrounding soft tissue
- Control inflammatory process
- Regain active quadriceps and VMO control
- Minimize the effects of immobilization through CPM and heel slides in the allowed ROM (90o)
- Full knee extension
- Patient education regarding rehabilitation process

Range of Movement: 0-6 weeks: 0-90 degrees

Brace:

0-4 weeks: Locked in full extension for all activities except therapeutic exercise and CPM use

4-6 weeks: Unlock brace for sleeping, continue with brace locked in full extension for ambulation

Weightbearing Status:

0-4 weeks: TTWB two crutches

4-6 weeks: PWB keeping brace locked in full extension for ambulation

Therapeutic Exercise:

- Quad sets and isometric adduction with biofeedback for VMO
- Heel slides (0-90 degrees)
- CPM when indicated for 2 hours, twice daily, 0-90 degree
- Non-weightbearing gastrocnemius/soleus, hamstring stretches
- SLR in four planes with brace locked in full extension
- Resisted ankle ROM with theraband
- Patellar mobilization
- Begin aquatics (where available) at 3-4 weeks with emphasis on gait

PHASE II (Weeks 6-8)

Criteria to advance to PHASE II:

- Good quad set
- Approximately 90 degrees of flexion
- No signs of active inflammation

Goals:

- Increase range of flexion
- Avoid overstressing fixation
- Increase quadriceps and VMO control for restoration of proper patellar tracking

Brace: Discontinue use for sleeping, unlock for ambulation

Weightbearing Status: As tolerated with unlocked brace

Therapeutic Exercise

- Continue exercises as noted above in PHASE I, progress towards full flexion with heel slides
- Progress towards weight bearing gastrocnemius/soleus stretching
- Discontinue CPM if in use
- Begin aquatic therapy, emphasis on normalization of gait
- Balance exercises
- Remove brace for SLR
- Stationary bike, low resistance, high seat
- Short arc quadriceps exercises in pain free ranges
- Wall slides progressing to mini-squats, 0-45° of flexion

PHASE III: (week 9-4 months)

Criteria to advance to PHASE III:

- Good quadriceps tone and no extension lag with SLR
- Non-antalgic gait pattern
- Good dynamic patellar control with no evidence of lateral tracking or instability

Weightbearing Status/Brace: May discontinue brace, weight bearing as tolerated

Therapeutic Exercise:

- Step-ups, begin at 2" and progress towards 8"
- Stationary bike, add moderate resistance
- 4 way hip for flexion, adduction, abduction, extension
- Leg press 0-45° of flexion
- Closed kinetic chain terminal knee extension with resistive tubing or weight machine
- Swimming, Stairmaster for endurance
- Toe raises
- Hamstring curls
- Treadmill walking
- Continue proprioception exercises

PHASE IV: (months 4-6)

Criteria to advance to PHASE IV:

- Good to normal quadriceps strength
- No evidence of patellar instability
- No soft tissue complaints
- Normal gait pattern
- Clearance from MD to begin more concentrated closed chain exercises and resume full/ partial activity

Goals:

- Continue improvements in quadriceps strength
- Improve functional strength and proprioception
- Return to appropriate activity level

Therapeutic Exercises:

- Progression of closed chain kinetic activities
- Jogging in pool progressing to land
- Functional progression, sport-specific activities or work hardening as appropriate