



**UCLA DEPARTMENT OF ORTHOPAEDIC SURGERY
SPORTS MEDICINE**

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**PATELLAR REALIGNMENT PROTOCOL –
MPFL RECONSTRUCTION AND TIBIAL TUBERCLE OSTEOTOMY**

GENERAL GUIDELINES:

- No closed kinetic chain exercise for 4 weeks
- The same rehabilitation protocol is followed for proximal and distal realignments with the exception of range of motion limitations as noted

GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING:

Patients may begin the following activities at the dates indicated (unless otherwise specified by the physician):

- Bathing/showering after suture removal
- Sleep with brace locked in extension for 4 weeks
- Driving at 4 weeks post-op
- Brace locked in extension for 8 weeks for ambulation
- Use of crutches continued for 8 weeks post-op
- No weightbearing for 4 weeks, then 50% weight-bearing for 2 more weeks
- Full weight-bearing at 6 weeks

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 (e.g. healing, function) and physician advisement. Please consult the attending physician if there is uncertainty regarding the advancement of a patient to the next phase of rehabilitation.

PHASE I:

Begins immediately post-op through approximately 6 weeks.

Goals:

- Protect fixation and surrounding soft tissue
- Control inflammatory process
- Regain active quadriceps and VMO control

- Minimize the adverse effects of immobilization through CPM and heel slides in the allowed range of motion
- Full knee extension
- Patient education regarding rehabilitation process

ROM:

- 0 – 4 weeks: 0° – 90° flexion

Brace:

- 0 – 4 weeks: Locked in full extension for all activities except therapeutic exercises and CPM use
Locked in full extension for sleeping
- 4 – 6 weeks: Unlock brace for sleeping, continue with brace locked in full extension for ambulation

Weightbearing Status:

- No weight-bearing for 4 weeks, then 50% weight-bearing for 2 more weeks
- Full weight-bearing at 6 weeks

Therapeutic Exercises:

- Extreme attention to patellar mobs in 4 directions, especially inferior and superior. Massage infrapatellar fat pad.
- Quad sets and isometric adduction with biofeedback for VMO
- Heel slides from 0-90° of flexion
- CPM for 8 hours daily.
 - Week 1: 0-45°
 - Week 2: 0-60°
 - Week 3: 0-75°
 - Week 4: 0-90°
 - Non-weight bearing gastrocnemius/soleus hamstring stretches
- SLR in four planes with brace locked in full extension (can be performed in standing)
- Resisted ankle ROM with theraband
- Patellar mobilization (begin when tolerated by patient)

PHASE II:

Begins approximately 6 weeks post-op and extends to approximately 8 weeks post-op. Criteria for advancement to Phase II:

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

Goals:

- Increase range of flexion
- Avoid overstrengthening fixation

- Increase quadriceps and VMO control for restoration of proper patellar tracking.

Brace:

6 – 8 weeks: Discontinue use for sleeping, unlock for ambulation as allowed by physician.

Weightbearing Status:

6-8 weeks: As tolerated with two crutches if cleared.

Therapeutic Exercises:

- Continue exercises as noted above, progress towards full flexion with heel slides
- Progress to weight-bearing gastrocnemius/soleus stretching
- Discontinue CPM if knee flexion is at least 90°
- Begin aquatic therapy, emphasis on normalization of gait
- Balance exercises (e.g. single-leg standing, KAT)
- Remove brace for SLR exercises
- Stationary bike, low resistance, high seat
- Short arc quadriceps exercises in pain free ranges (0-20°, 60-90° of flexion) emphasize movement quality
- Wall slides progressing to mini-squats, 0-45° of flexion

PHASE III:

Begins approximately 8 weeks post-op and extends through approximately 4 months. Criteria for advancement 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:

May discontinue use of crutches when the following criteria are met:

- No extension lag with SLR
- Full extension
- Non-antalgic gait pattern (may use one crutch or cane until gait is normalized)

Therapeutic Exercises:

- Step-ups, begin at 2" and progress towards 8"
- Stationary bike, add moderate resistance
- 4 way hip 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 with emphasis on normalization of gait
- Continue proprioception exercises

- Continue flexibility exercises for gastrocnemius/soleus and hamstrings, add iliotibial band and quadriceps as indicated

PHASE IV:

Begins approximately 4 months post-op and extends through approximately 6 months. Criteria for advancement to Phase IV:

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

Goals:

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

Therapeutic Exercises:

- Progression of closed kinetic chain activities
- Jogging in pool with wet vest or belt
- Functional progression, sport-specific activities or work hardening as appropriate