

Patellar Realignment (Tibial Tubercle Osteotomy and MPFL Reconstruction) Postoperative Protocol

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Patient Name:

Date of Surgery:

Phase I: Surgery - 6 weeks post-op

Rehabilitation goals

Protection of the post-surgical knee
Restore normal knee range of motion (ROM)
Normalize gait
Eliminate effusion
Restore leg control

Precautions

Brace locked in extension for gait and activities of daily living (ADLs). May unlock brace when sitting
Weightbearing as tolerated without pain for the first 6 weeks
ROM limitations as stated below
No driving

Range of motion (ROM) exercises

0-90° with seated passive range of motion (PROM) or continuous passive motion or assisted wall slides in supine. Avoid active extension

Suggested therapeutic exercise

Assisted range of motion (seated knee flexion or supine wall slides) within above guidelines
Knee extension ROM (avoid hyperextension past 5°)
Ankle pumps progressing to resisted ankle ROM
Patellar mobilizations
Quad sets - 10 seconds sustained
Straight leg raises in multiple directions
Supine wall pushes
Mini squats
Weight shifting drills

Cardiovascular exercise

Upper body circuit training or upper body ergometer (UBE)

Progression criteria

Patient may progress to Phase II if they have met the above-stated goals and have:

- Safe gait with crutches and with brace unlocked
- No effusion
- 0-90° knee ROM

Phase II: Start after Phase I criteria are met (~ 6 weeks post-op)

Rehabilitation goals

Single leg stand control

Good control and no pain with short arc functional movements, including steps and partial squat

Good quadriceps control

Precautions

Avoid over-stressing fixation by beginning close chain movements in a shallow arc of motion (starting 0-30, working up to 0-60) and using un-weighting techniques (pool)

Avoid post-activity swelling

Discontinue brace when the patient has a good single leg stand control and good quadriceps control

Suggested therapeutic exercise

Gait drills (begin with pool)

Functional single plane closed chain movements (begin with pool)

Continued gradual progression of ROM

Balance and proprioception exercises

Cardiovascular exercise

Upper body circuit training or UGE

Progression criteria

Patients may progress to Phase III if they have met the above-stated goals and have:

- Normal gait on level surfaces
- Good leg control without extensor lag, pain or apprehension
- Single leg balance greater than 15 seconds

Phase III - Start after Phase II criteria are met (~ 10 weeks post-op)

Rehabilitation goals

Normal gait without crutches

Full ROM

No effusion

Improve quadriceps strength

Improve proximal hip and core strength

Improve balance and proprioception

Precautions

Avoid closed chain exercises on land past 90° of knee flexion to avoid overstressing the repaired tissues and increased PF forces

Avoid post-activity swelling

Suggested therapeutic exercise

Continue ROM exercises and stationary bike
Closed chain strengthening begin with single plane progress to multi-plane
Single leg press
Balance and proprioception exercises; single leg stand, balance board
Hip and core strengthening
Stretching for patient-specific muscle imbalances
Cardiovascular Exercise
Swimming with flutter kick (no breaststroke) or stair master. No running

Progression criteria

Patients may progress to Phase IV if they have met the above-stated goals and have:

- Normal gait without crutches
- Full ROM
- No effusion
- No patellar apprehension
- Single leg balance with 30° knee flexion greater than 15 seconds
- Good control and no pain with squats and lunges

Phase IV - Start after Phase III criteria is met (~ 14-16 weeks post-op)**Rehabilitation Goals**

Good eccentric and concentric multi-plane dynamic neuromuscular control (including impact) to allow for the return to sport/work

Precautions

Post-activity soreness should resolve within 24 hours
Avoid post-activity swelling

Suggested therapeutic exercise

Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to the other and then 1 foot to the same foot
Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
Sport/work specific balance and proprioceptive drills
Hip and core strengthening
Stretching for patient-specific muscles imbalances

Cardiovascular exercise

Replicate sport or work specific energy demands

Return to sport/work

The patient may return to sport after receiving clearance from the orthopedic surgeon and the physical therapist/athletic trainer. Progressive testing will be completed. The patient should have less than 15% difference in Biodex strength test, force plate jump and vertical hop tests, and functional horizontal hop tests.