Cleveland Clinic
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Physical Therapy Protocol: Medial Patellofemoral Ligament Reconstruction + Tibial Tubercle Osteotomy

Phase 1: Weeks 0 through 6 – Reduce Inflammation & Regain Motion

Physician Goals: Decrease postoperative inflammation and pain, regain full motion, prevent significant stiffness
Restrictions: Flat foot weight bearing (10-20% body weight), brace on at all times, brace locked in full extension unless doing PT/HEP; range of motion 0-90° weeks 0-2, no flexion restriction after week 2
Exercises: Patella mobilization, prone lying, supine with logroll under heel, gentle stretching to achieve full extension, straight leg raises with brace locked in full extension, full arc quads without weights prone knee flexion, heel slides, gastroc and hamstring stretching, floor-based body weight glute, hip, and core strengthening
Total Visits: 18 – twice to three times per week with daily at home range of motion exercises, quad sets, ankle pumps

Phase 2: Weeks 6 through 12 – Return to Activities of Daily Living

Physician Goals: Progress to full weight bearing, normalize gait, begin to build lower extremity strength and endurance while gradually increasing impact, return to activities of daily living
Restrictions: Progress to WBAT over 2 weeks, brace unlocked once able to perform straight leg raise without lag, wean out of brace once gait is normalized
Exercises: Progress all of the above exercises, advance closed chain quad strengthening, stationary bike, swimming OK, advance hip/core/glute strengthening
Total Visits: 12 – once to twice per week depending on patient's ability to perform HEP independent of PT sessions

Phase 3: Weeks 12+ – Return to Recreation / Sport

Physician Goals: Build lower extremity strength and endurance in anticipation of returning to high impact activities and/or sports, transition from formal PT to home exercise program alone
Restrictions: Return to running, cutting/agility work, and sports per criteria below
Exercises: Progress lower extremity strengthening without restrictions, initiate plyometric program based on patient needs, begin single leg balance/strengthening exercises, begin endurance training with elliptical, continue to advance hip/core/glute strengthening
Total Visits: 12 – once to twice per week depending on patient's ability to perform HEP independent of PT sessions

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Return to Running Criteria:

- ☐ Trace effusion, flexion within 5° of contralateral side
- ☐ Limb symmetric index (LSI) on anterior reach Y balance test ≥ 90%
- ☐ LSI on quadriceps torque output on isometric measurement ≥ 75%
- ☐ 12” single leg squat tolerance with good hip control
- ☐ Able to walk > 1 mile with no limping or pain
- ☐ Able to “hop” with upper extremity assistance on operative leg 5 times without pain or compensation
- ☐ Single leg balance with eyes closed ≥ 30 seconds

Return to Cutting / Agility Training Criteria:

- ☐ Return to running criteria met above
- ☐ No effusion
- ☐ Full range of motion
- ☐ Quad LSI on isokinetic ≥ 85%
- ☐ Hamstring LSI on isokinetic ≥ 85%
- ☐ LSI on anterior reach Y-balance ≥ 95%
- ☐ Single leg hopping pain free

Return to Sport Criteria:

- ☐ LSI ≥ 95% hamstring curl and leg press
- ☐ Able to perform single leg squat to 75° with correct form
- ☐ Single leg hop LSI ≥ 95%
- ☐ Y-balance ≥ 95% (mean of 3 trials in anterior, posterolateral and posteromedial ÷ 100)
- ☐ Vertical jump test, single leg hop distance, and timed single leg hop over 20 feet ≥ 90% contralateral side