
MPFL Reconstruction

General Goals

1. Restore normal joint function
 - a. Control pain and inflammation
 - b. Restore range of motion
 - c. Restore muscle strength
 - d. Improve proprioception and agility
 - e. Restore endurance

2. Return to pre-injury unrestricted and sporting activity
 - a. 90% muscle strength and endurance as determined by isokinetic testing or functional hop test
 - b. Functional hop test
 - i. 3 consecutive SLH for distance (90% of contralateral normal)

Post-Op Phases

1. Phase I: 0-4 weeks
 - a. Brace:
 - i. Protected weight bearing. WBAT in with brace locked in extension
 - ii. On at all times during the day and while sleeping and may be off for hygiene.
 - b. Exercises
 - i. Quad sets (SLR's) hourly in brace +/- e-stim (4 directions)
 - ii. Ankle pumps, HS and gluteal sets
 - iii. Active extension from 90-50 degrees out of brace
 - iv. * Patella Mobs – superior/inferior and med/lat
 - v. AROM/PROM exercises – (0-90 degrees)
 - vi. Hip flexor exercises, hip abductor exercises

2. Phase II: 5-8 weeks
 - a. Criteria to progress to phase II
 - i. Minimal swelling
 - ii. Gait with full extension, progressing at 4 weeks
 - iii. Ability to lock knee while weight bearing
 - b. Unlock brace after 4 weeks for ambulation. D/C brace after 6 weeks.
 - c. Exercises
 - i. Increase AROM/ PROM beyond 90 degrees: no limits
 - ii. Stationary bike: no resistance
 1. Advance duration as tolerated
 - iii. Resisted gastroc/soleus exercises with theraband only
 - iv. Progress to bilateral toe raises and then to unilateral toe raises
 - v. Resisted hamstring curls with therabands
 - vi. Step-ups (lateral and forward) on 2-4 inch steps
 1. Increase at own individuals pace

- vii. Forward and backward walking with theraband around thighs
- viii. Ankle weights to SLR if no extension lag.

3. Phase III: 9-12 weeks

a. Criteria to progress to phase III

- i. Full active extension and full flexion
- ii. No extension lag
- iii. Good quad control on single leg stance
- iv. Stairs foot over foot
- v. WBAT

b. Program

- i. Stationary cycle with light resistance
 - 1. RPM>80
 - 2. Progress to 15-20 minutes per day
- ii. Leg Press or Total Gym 40-45 degrees knee flexion toward full extension
- iii. Calf raises using leg machine to add resistance
- iv. Proprioception exercises
 - 1. Balance Board/BABS
 - 2. Theraband “kicks” (wt bear on operative leg)
 - 3. Pool program if available
 - 4. Resistance Walking (forward/backward)
 - 5. Hip exercises (all muscle groups)
- v. Stair stepper or seated Kinitron if no anterior knee pain
 - 1. Begin for 1-5 minutes
 - 2. Short steps (4-6”) Can gradually increase time to 15 minutes

4. Phase IV: 12 weeks +

a. Criteria to progress to phase IV

- i. Full AROM
- ii. Normal gait
- iii. No swelling or pain

b. Program

- i. Increase intensity and resistance for exercises above
- ii. Heel taps
- iii. Start light agility drills
 - 1. Carioca
 - 2. Single-leg hopping on total gym
- iv. Slow lunges with tubing
- v. May begin jogging and more aggressive cardio rehab

c. Exercises at 16 weeks

- i. Perform isokinetic testing (180deg/sec) or single leg hop 3 consecutive for distance
- ii. Lunges and side-to-side and front-back agility work
 - 1. Side-to-side jumps and hops
 - 2. Side-to-side steps
- iii. Single leg hopping off total gym
- iv. Braiding
- v. Jumping rope
- vi. Weight machines

1. Increase weight and intensity for all lower extremity muscle groups
2. 10% increases weekly
3. Open and closed chain exercises
4. Plyometrics

vii. HEP

viii. May return to athletics when clears functional testing

Return to Athletics Criteria

1. Satisfactory clinical exam
2. <10% isokinetic strength deficit (Leg Press Test)
3. Completion of sport replication activity/Sport specific rehabilitation
4. Single leg hop test - Limb symmetry > 90%
5. Single leg triple hop test – Limb symmetry > 90%
6. Crossover Hop Test - Limb symmetry > 90%
7. Running T-Test - <11s

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