



Medial Patellofemoral Ligament (MPFL) Reconstruction Protocol

I. Weeks 0-2:

- a. Restrictions:
 - i. Immobilizer must be on at all times when walking.
 - ii. Avoid valgus stress to knee.
- b. Goals:
 - i. Active flexion, passive extension ROM: 0-90 degree maximum.
 - ii. Reduce muscle atrophy.
 - iii. Reduce swelling.
- c. Weight bearing:
 - i. Partial weight bearing (20 lbs) with immobilizer and crutches.
- d. Exercise examples:
 - i. Quad and hamstring sets.
 - 1. Focus on Quad activation
 - 2. E-stim as indicated
 - ii. Gluteal sets.
 - iii. Hip belt abduction isometrics.
 - iv. Pillow adductor squeezes.
 - v. Crunches.
 - vi. Ankle dorsiflexion/plantar flexion isometrics or Theraband strengthening.
 - vii. Weight shifts.
 - viii. Cryotherapy multiple times during the day.

II. Weeks 2 to 6:

- a. Restrictions:
 - i. Avoid valgus stress to knee.
 - ii. Immobilizer discontinued when patient can perform straight leg raise flexion and abduction, and the physical therapist determines they have proper quadriceps control.
 - iii. Wear lateral buttress (Shield's brace) when walking.

- b. Goals:
 - i. Full weight bearing by 3-4 weeks without crutches
 - ii. Active flexion, passive to active extension ROM: 0-90 degree maximum.
 - iii. Reduce pain.
 - 1. Electrical stimulation.
 - 2. Soft tissue mobilizations and myofascial release.
 - iv. Reduce effusion.
 - v. Minimize hip, core and lower extremity atrophy.
- c. Weight bearing:
 - i. Weight bearing as tolerated with immobilizer, Shield's brace and crutches.
 - ii. When patient regains quadriceps control, immobilizer discontinued.
 - iii. When gait mechanics normalize, crutches discontinued.
 - iv. Advance proprioception training as weight bearing status allows.
- d. Exercise examples:
 - i. Isometric leg press with angle no greater than 85 degrees of knee flexion.
 - ii. Straight leg raises in all planes of motion.
 - iii. Clam.
 - iv. Prone plank.
 - v. Crunches.
 - vi. Ankle Theraband in all planes.
 - vii. Seated upper body strengthening.

III. Weeks 6 to 8:

- a. Restrictions:
 - i. Avoid valgus stress.
 - ii. Avoid any patellofemoral pain with exercise program.
 - iii. Shields brace is worn at all times when walking and exercising.
- b. Goals:
 - i. Full active range of motion of the involved knee at 8 weeks post-op.
 - ii. No effusion.
 - iii. Improved core and hip strength and endurance.
- c. Weight bearing:
 - i. Normal walking with Shield's brace on.
 - ii. Advance proprioception training.

- d. Exercises:
 - i. Maximize core, hip and lower extremity strength in all planes of motion.
 - ii. Maximize knee, hip and ankle mobility.

IV. Weeks 8 to 12:

- a. Restrictions:
 - i. Avoid valgus stress to involved knee/lower extremity during training and activities of daily living.
- b. Goals:
 - i. Maximize core, hip and lower extremity strength in all planes of motion.
- c. Weight bearing:
 - i. Full weight bearing activity no Shield's brace required.
 - ii. Advance to functional perturbation/proprioception training.
- d. Exercises:
 - i. Begin stationary bike.
 - ii. Continue to maximize core, hip, lower extremity mobility and stability programs.

V. Months 3 to 4:

- a. Restrictions:
 - i. Continue to maintain proper hip, knee and foot alignment during training and activities.
- b. Testing:
 - i. Y-balance test.
 - ii. Functional movement screen.
 - iii. Single leg press at body weight.
 - 1. 0-80 degree arc of motion.
 - iv. Address any asymmetries found in balance, movement and strength.
- c. Goals:
 - i. Begin to lay the foundation for return to sport.
- d. Exercises:
 - i. Initiate sport specific drills.
 - ii. Advance core, hip, lower extremity mobility and stability exercises.

- iii. Advance aerobic and anaerobic energy systems by use of non-impact conditioning such as bike and elliptical trainer.

VI. Months 4-6:

a. Restrictions:

- i. Continue to maintain proper hip, knee and foot alignment during training and activities.

b. Testing:

- i. Y-balance.
- ii. Functional movement screen.
- iii. Functional jump testing.
 - 1. Single leg vertical jump.
 - 2. Single leg long jump.
 - 3. Single leg triple jump.
- iv. Isokinetic testing (if available)
 - 1. 60 and 180 degrees/second.
 - 2. Concentric.

c. Goals:

- i. Full, unrestricted return to play.

d. Exercises:

- i. Advance core, hip, lower extremity mobility and stability exercises.
- ii. Advance to appropriate plyometric exercises for the individual's sport or occupation.
- iii. Advance aerobic and anaerobic energy systems by use of non-impact conditioning such as bike and elliptical trainer.