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.
         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.
Advancing 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.
      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.