

**MEDIAL PATELLOFEMORAL LIGAMENT (MPFL) REPAIR AND RECONSTRUCTION
REHABILITATION PROTOCOL****PHASE I** (Surgery to 6 weeks after surgery)

- **Appointments**
 - Rehabilitation appointments begin 7 to 10 days after surgery and continue once every 10 to 14 days.
- **Rehabilitation goals**
 - Protection of the post-surgical knee
 - Restore normal knee range of motion
 - Normalize gait
 - Eliminate effusion (swelling)
 - Restore leg control
- **Precautions**
 - Brace locked in extension for gait and activities of daily living.
 - Use axillary crutches for gait as needed with brace on. Weight bearing as tolerated.
 - Range of motion limitations as stated below.
- **Range of Motion Exercises**
 - 0°-90° of knee flexion for passive and active assisted range of motion.
- **Suggested Therapeutic Exercises**
 - Quadiceps sets
 - Four way leg lifts with brace on in supine for hip strengthening.
 - Ankle pumps
 - Ankle isotonic with exercise band.
- **Cardiovascular Exercises**
 - Upper body circuit training or use of an upper body ergometer.
- **Progression Criteria**
 - 6 weeks after surgery

PHASE II (Begin after meeting Phase I criteria, usually 6 weeks after surgery)

- **Appointments**
 - Rehabilitation appointments are 1 to 2 times per week.
- **Rehabilitation goals**
 - Single leg stand control
 - Good control and no pain with short arc functional movements, including steps and partial squats
 - Good quad control
- **Precautions**
 - Use a lateral buttress knee sleeve for all activities.

- Avoid over-stressing fixation: begin movement control and gentle strengthening with closed chain movements in a shallow arc of motion and by using un-weighting techniques (such as the pool or double leg support).
- Avoid post-activity swelling.
- **Suggested Therapeutic Exercises**
 - Gait drills (begin with pool)
 - Functional single plane closed chain movements (begin with pool)
 - Continued gradual progression of range of motion
 - Gradual progress of lower extremity strengthening with precautions to avoid dynamic valgus or medial knee displacement.
 - Balance and proprioception exercises
- **Cardiovascular Exercises**
 - Upper body circuit training or upper body ergometer.
- **Progression Criteria**
 - Normal gait on level surfaces
 - Good leg control without extensor lag, pain or apprehension
 - Single leg balance greater than 15 seconds
 - At least 12 weeks after surgery

PHASE III (Begin after meeting Phase II criteria, usually 12-14 weeks after surgery)

- **Appointments**
 - Rehabilitation appointments once every 1 to 2 weeks
- **Rehabilitation goals**
 - Full range of motion
 - No effusion (swelling)
 - 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 over-stressing the repaired tissues and increased patellofemoral forces.
 - Avoid post-activity swelling
- **Suggested Therapeutic Exercises**
 - Continue range of motion 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
 - Initiate low amplitude agility drill in the sagittal plane – avoid frontal and transverse initially because of the potential for dynamic valgus.
- **Cardiovascular Exercises**
 - Swimming with flutter kick (no breast stroke) or StairMaster

- No Running
- **Progression Criteria**
 - Full range of motion
 - No effusion (swelling)
 - No patellar apprehension
 - Single leg balance with 30° of knee flexion greater than 15 seconds.
 - Good control and no pain with squats and lunges.

PHASE IV (Begin after meeting Phase III criteria, usually 16 to 18 weeks after surgery)

- **Appointments**
 - Rehabilitation appointments are approximately once every 2 to 3 weeks
- **Rehabilitation goals**
 - Good eccentric and concentric multi-plane dynamic neuromuscular control (including impact) to allow for return to work/sports.
- **Precautions**
 - Post-activity soreness should resolve within 24 hours
 - Avoid post-activity swelling
- **Suggested Therapeutic Exercises**
 - 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 exercises beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities.
 - Progression to multi-planar agility drills with progressive increase in velocity and amplitude.
 - Sport/work specific balance and proprioceptive drills.
 - Hip and core strengthening.
 - Stretching for patient specific muscle imbalances
- **Cardiovascular Exercises**
 - Replicate sport or work specific energy demands.
- **Progression Criteria**
 - Return to sport/work criteria:
 - Dynamic neuromuscular control with multi-plane activities and without pain, instability or swelling.
 - Approval from the physician and/or sports rehabilitation provider.

REFERENCES

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