MPFL post op protocol Mr Chim Gupte

Medial Patellofemoral Ligament Reconstruction

Phase I: 0-3 Weeks

Precautions: No OKC quads through large arc of motion (mini-SAQ 10-0° KF permitted)

Weight Bearing	Brace	ROM	Therapeutic Exercises
•PWB WBAT •May stand in tandem •Advance off crutches indoors per quad control/ROM/ swelling	• Locked at 10-15° KF • On when up, with leg lifting • Optional for sleep • Open for seated ROM	• Emphasize full Extension • Progress Flex multiple x/day (NO forceful flexion) • Gentle stationary bike for ROM	• Quad Sets/Mini-SAQ *NMES as needed • SLR x 3 (Flex, Abd, Ext): Locked brace No brace per quad control • Beginner mat exercises for core and proximal hip strength (Isometrics)

Goals: Control effusion and pain; Attain full knee extension; Attain a volitional quad set; No lag w/SLR; KF ROM ≥90°; Able to perform ≥30 reps prior to fatigue w/leg lifting

Phase II: 3-6 Weeks

Precautions: Continued effusion/pain control w/WB and HEP progression; Avoid pivoting on a planted foot; Observe/correct for knee/hip alignment w/CKC drills; Observe for knee hyperextension with stance phase of gait

Weight Bearing	Brace	ROM	Therapeutic Exercises
FWB Per quad and pain control (Normalize gait pattern; Avoid hyperextension thrust in early stance)	• Gradually open brace per quad control with gait, CKC activities	• Full Ext • Progress Flex toward full ROM	• Initiate Basic Core Stability Poses •Increase repetitions w/proximal hip strength/abdom exercises (up to 40 reps) • Initiate basic CKC drills: 2 leg support • Emphasize terminal knee extension control in CKC (espec. w/gait) • Initiate basic L/E proprioception and balance drills: 2 leg support

Goals: Effusion resolved; Preserve full extension; Flexion ROM ≥ 120°; Normalizing gait pattern in FWB; Normal LE kinematics w/2 leg CKC activities; Multi-planar L/E strength = Grade 5/5 w/MMT

Phase III: 6-10 Weeks*			
Precautions: Continue to observe/instruct for proper L/E alignment and mechanics with CKC drills (avoid functional valgus); Avoid pivoting on a planted foot			
Weight Bearing	**Brace**	**ROM**	**Therapeutic Exercises**
FWB	Protective use when out of home: environmental hazards, crowds	Full ROM	• Progress core poses Basic Intermediate • Initiate basic cardio with bike, elliptical, walking (15-20 minutes, minimal intensity, steady pace) • Progress CKC drills to 1 leg per control/symptoms • Progress L/E proprio/balance drills to single limb
Goals: Able to perform 2 leg squat ≥ 60° x 20 reps w/kinematic & symptom control; Restore normal mechanics with single leg CKC L/E activities; Able to maintain single leg balance ≥ 60 sec.; Restore normal stair climbing			

Conduct Level I (Return to Function) Lower Extremity Physical Performance Testing
Goal = Achieve ≥85% LSI w/Level I Test Activities

Phase IV: 10-14 Weeks*			
Precautions: Observe for return of effusion and/or pain with increased activity levels			
Cardiovascular Fitness	**Proprioception/ Balance**	**Core Stability**	**Strength**
• Progress cardio w/ bike, elliptical, walking (20-25 minutes, moderate intensity, steady pace)	•2 1 limb support w/challenge elements • SurfaceChallenge/ Perturbation •BOSU, Dynadisc, trunk and/or extremity mvmt, perturbation	•Intermediate A dvanced Core poses per control	• Progress CKC drills with directional challenge (lunging, resisted side-stepping) -Progress reps to endurance level per symptoms/tolerance • Initiate basic L/E large muscle group weight training: 2 1 leg support (First w/eccentric phase only, then both conc/eccen)
Goals: Quad girth returning; Normalization of walking speed and distance; Able to perform 2 leg squat to 90° x 20 reps & 1 leg squat ≥45° KF x 20 reps with kinematic & symptom control			

Phase V: 14-18 Weeks*			
Precautions: Observe for return of effusion/pain with increased activity levels; Avoid sporting activities involving significant pivoting at ≤ 6 mos. post-op; Advise return to running per criteria below*			
Cardiovascular Fitness	**Proprioception/ Balance**	**Core Stability**	**Strength/ Power**
• 25-40 minute workout (moderate intensity) w/3-5 brief near-maximal intensity bursts w/recovery periods •Initiate running program if scores ≥ 85% w/Level II Testing	•1 leg stance w/sport simulation activity • Add resistance band at U/E or L/E for challenge	•Advanced Core Stability Poses •Add challenge w/Exercise ball under legs/trunk	• Progress weight training to 1 leg • Add trunk rotation, U/E movement patterns w/CKC strength drills (squatting, lunging) • Initiate basic 2 leg plyometric drills (emphasize squat landing with good alignment) • Initiate basic agility/footwork drills (initiate quick foot chopping, feet and hips move together, no pivoting on a planted foot)
Goals: Normal quad girth; Demonstrates good self-awareness of proper L/E alignment with CKC drills; Able to perform 1 leg squat ≥ 60° x 20 reps w/kinematic & symptom control			

Conduct Level II (Return to Fitness) Lower Extremity Physical Performance Testing
Goal = Achieve ≥85% LSI w/Level II Test Activities

Note: Return to running should be based on the following criteria:
1) Chondral health at the Patellofemoral/Tibiofemoral joints
2) Previous history of regular running
3) Level II PPT scores ≥ 85%

Attention:
Progression to Phase VI only pertinent to patients with an athletic history who desire to return to pounding/pivoting activities. Progression based on PF joint chondral health, symptom tolerance, and patient's return of strength, fitness and coordination.

Phase VI: 18+ Weeks (Athletic Progression)*			
Precautions: Closely observe alignment with plyometric, agility, cutting and sport drills; Modify intensity of exercises per symptoms and control over L/E alignment			
Cardiovascular Fitness	**Proprioception/ Balance**	**Core Stability**	**Strength/ Power**
•Continue regular cardio workouts 4-6x/wk • Once able to run x 20 minutes symptom-free, initiate sprint drills -Linear -Focus on acceleration -Progress % intensity per fatigue, symptoms • Progress sprint drills: -Increase % intensity -Add direction change in acceleration -Add deceleration drills -Add direction change in deceleration	•Blend strength elements (CKC L/E, OKC U/E) into balance drills per control •Continue to progress dynamic challenge elements	•Advanced poses w/movement and/or plyometric elements (w or w/o ball, BOSU) •Blend upper body/lower body strengthening elements into core stability poses	• Progress plyometrics: -Jump intensity -2 1 leg (take-off/land) -Traveling -Direction change -Surface challenge w/landing (BOSU) • Progress agility/footwork drills -Increase intensity/speed • Initiate sport specific drills
Goals: Normal quad girth; Patient to become independent with exercise program and demonstrate good self-awareness of proper L/E alignment with high level drills good self-awareness of proper L/E alignment with high level drills			

Conduct Level III (Return to Sport) Lower Extremity Physical Performance Testing

Goal = Achieve ≥85% LSI w/Level III Test Activities

Note: Return to sport based on the following criteria:
1) MD clearance
2) Level III PPT scores ≥ 85% LSI
3) Preserved symptom control with return to activities

Time frames in later phases of rehab are estimates only. Patients may be progressed faster/slower based on their ability to attain goals for each phase.