

MATTHEW POSNER, MD

ORTHOPAEDIC SPORTS MEDICINE SPECIALIST

(JUL 2020)

MPFL RECONSTRUCTION REHABILITATION GUIDELINES

PHASE 1: Generally 0 – 6 Weeks Post-Op	
GOALS:	1) Protect surgical repair 2) Promote healing 3) Control post-op pain/swelling 4) Prevent quadriceps inhibition 5) Straight leg raise (SLR) without lag, pain free 6) Range of motion (ROM) limitations: 0° extension to ≥ 90° flexion
PRECAUTIONS:	– Wear brace AT ALL TIMES (even when sleeping)
CRUTCHES:	– Weight Bearing: • WBAT with brace locked in extension • Use axillary crutches for gait as needed
BRACE:	– Wear brace locked in extension during ambulation, respecting WB restrictions above
WOUND:	– Post-op dressing remains intact until post-op day #3 (~72hrs after surgery) – Shower after post-op day #3 (no need to cover incision site) – DO NOT SUBMERGE knee in water until incisions are fully healed – Bilateral compression stockings for 3 – 7 days: unilateral use thereafter as needed – Suture/staple removal at 10 – 14 days per Ortho/PT
CRYOTHERAPY:	– Cold with compression/elevation (ice with compression wrap)
REHABILITATION:	– Begin patellar mobilizations after suture/staple removal – Begin scar massage after incision has healed and scar is formed – NOTE: Blood Flow Restriction (BFR) training if available • 2- 3 times per week • 40 - 80% Limb Occlusion Pressure (LOP) • 30-15-15-15 or sets to failure • Continuous or intermittent
~Weeks 1 - 2	– Calf pumps with theraband – Assisted heel slides within the limits of 0° - 90° – Quad sets (use e-stim until patient can perform 10 SLRs without extension lag) – Supine passive extension with towel under heel – Gentle HS and calf stretching – Hip/glute muscle endurance exercises
~Weeks 3 - 4	– Continue progressing exercises from weeks 1-2 as appropriate – Short arc quads; add light weight as tolerated – Seated ankle ROM and proprioceptive training – Heel raise progression – Double leg mini squats

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~Weeks 5 - 6	– Leg press 0° - 60° (<u>NOTE</u>: when ROM > 85°) – Hip extension endurance exercises – Stationary bike (knee flexion 100°) – Beginner level pool exercises when incisions are fully healed; primarily in the sagittal plane (i.e. no breaststroke or whip kick motion) • Only gait training and deep-water jogging
FOLLOW-UP:	– Supervised rehab: 2 - 3x per week – PT re-eval: every 1 - 2 weeks – Ortho re-eval: ~7 – 10 days and 6 weeks
DOCUMENTATION:	– Precautions, pain level, medications, and modalities – Observation: incision sites – signs of infection – Neurovascular status: distal pulses, motor and sensation intact

PHASE 2: Generally, 7 – 12 Weeks Post-Op

GOALS:	1) Normal gait and stair ambulation 2) Full knee ROM 3) Good quad control 4) Single leg stand control
PRECAUTIONS:	– <u>NO RUNNING</u> – 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 – Avoid post-activity swelling
CRUTCHES:	– Discontinue crutches
BRACE:	– Transition to lateral buttress brace when gait is normalized, and 120° knee flexion achieved
REHABILITATION:	– Continue Phase 1 exercises as needed – <u>NOTE</u>: all strengthening should be done with brace on
~Weeks 7 - 8	– Stationary bike for conditioning – Gait training • Cone walking, marching, retro-walking, exercise band, etc. – General lower extremity stretching • Calf, HS, quad, hip flexors, and hip adductors – Progressive standing balance exercises • Tandem stance, single stance, tandem walk, ect. – Begin light elliptical/stairmaster when gait is normalized – Progressive LE strengthening (i.e calf press, leg press, squats 0° - 60°, and HS curls). <u>NOTE</u>: Emphasize knee extension strength

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~Weeks 9 - 10	- Progressive strengthening and neuromuscular control - Double leg to single leg - Pool program: Sagittal plane jogging in waist deep (NO Whip Kick)
~Weeks 11 - 12	- Progressive conditioning and strengthening - Progressive pool program as tolerated
FOLLOW-UP:	- Supervised rehab: 2 -3x per week - PT re-eval: monthly - Ortho re-eval: ~12 weeks post-op

PHASE 3: Generally, 3 – 6 Months Post-Op

GOALS:	- Jog at own pace and distance without pain ≥ 90% isokinetic quad and HS strength compared to the uninvolved limb ≥ 90% SL hop for distance and crossover hop test compared to the uninvolved limb - No patellar apprehension - Meet occupational requirements at 4 – 6 months - Mitigate future injury risk
PRECAUTIONS:	NO PARTICIPATION in contact sports or physically demanding military training until cleared by Ortho
BRACE:	Buttress brace as needed
REHABILITATION:	- Continue Phase 2 exercises as needed - Gradually increase exercise intensity (i.e. no increase in knee pain or effusion since the previous exercise session)
~Weeks 13 - 16	- Non-impact aerobic conditioning - General LE stretching - Progressive strengthening - Lunges, leg press, calf press, squats < 90°, HS curls, hip extension/abduction/adduction, ect. - Isokinetic training if available - Progressive balance training as needed - SL stance in varying degrees of knee flexion - Impact control exercises - Hopping: - Jump from 2 feet to and land on 2 feet
~Weeks 17 - 26	- Progressive jogging program beginning no earlier than 16 weeks (NOTE: Must be able to perform 10 single leg sit to stands with good control) - Increase time and/or distance no more than 10-20% per week - Impact control exercises - Single leg hopping:

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	○ Jump from 2 feet land on 1 foot ○ Jump from 1 foot land on 1 foot
FOLLOW-UP:	– Supervised rehab: 1-2x per week – PT re-eval: monthly – Ortho re-eval: ~6 months post-op

PHASE 4: Generally, 6+ Months Post-Op	
RETURN TO SPORT:	1) Isokinetic testing limb symmetry $\geq 85\%$ 2) Y-balance limb symmetry $\geq 90\%$ 3) SL hop for distance and crossover hop test symmetry $\geq 90\%$ 4) Pass Service fitness test at 6 – 8 months
REHABILITATION:	– Phase 3 exercises are continued and gradually increased in intensity and duration as tolerated
MISCELLANEOUS	– Progress activities for return to sport/collision sports or aggressive military training (i.e. airborne school) based on the patient's functional performance and endurance. This time period will be directed by the Ortho Surgeon and the Physical Therapist. This may require between 6 – 9 months before cleared without restrictions.

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