

POST-OPERATIVE MEDIAL PATELLOFEMORAL LIGAMENT (MPFL) RECONSTRUCTION PROTOCOL

Mr Mathias Nagy, Specialist Knee Surgeon

Scarborough & Bridlington

Ensure patient achieves milestone prior to progression

Timings are a guideline only and progression should be individual to the patient

No return to contact sports prior to 3 months post-op – return to sport dictated by particular sport, ability, fitness, confidence, and completion of Phase 4 of the protocol

PHASE 1: EARLY POST-OPERATIVE PHASE. Day 1 to 2 weeks post-op

Goal	Treatment	Milestone to Progress to Phase 2
Minimise swelling and pain	<ul style="list-style-type: none">• Use of ice• Ensure adequate pain relief• Elevate leg• Use of crutches• Cricket pad splint for mobilizing for 48 hours	<ul style="list-style-type: none">• Minimal or no effusion• Pain levels managed to enable exercise progression• Full or nearing full extension• Knee flexion 70° - 90°• Ability to activate quads• Symmetrical gait pattern with crutches
Regain full range of extension/hyperextension	<ul style="list-style-type: none">• Extension exercises: static quads, heel props, prone hanging• Passive stretching	
Increase knee flexion as pain allows	<ul style="list-style-type: none">• Passive, active assisted and active flexion exercises	
Activate quadriceps	<ul style="list-style-type: none">• Static quads hourly• Use of EMS if available• VMO• SLR if possible	
Early hip/gluteal strengthening	<ul style="list-style-type: none">• Hip abduction/extension/ER strengthening	
Restoration of normal gait pattern	<ul style="list-style-type: none">• Gait re-ed with elbow crutches, WB as pain and control allows	

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PHASE 2: QUADS ACTIVATION AND CORE STRENGTH. Weeks 2-6 post-op.

Goal	Treatment	Milestone to Progress to Phase 3
Minimise swelling and pain Regain full range of extension/hyperextension	<ul style="list-style-type: none"> Continue as above Extension exercises as above Passive stretching 	<ul style="list-style-type: none"> Minimal/no effusion Full range extension Full or nearing full range flexion SLR with no lag Bilateral squat to 60° with even, symmetrical WB FWB Single leg stand for at least 5 seconds
Increase knee flexion as pain allows	<ul style="list-style-type: none"> Active flexion exercises Progress to quads stretch 	
Improve quads strength	<ul style="list-style-type: none"> Static quads SLRs - ensure no lag VMO 	
Improve gluteal strength and general lower limb strength	<ul style="list-style-type: none"> Continue hip abduction/extension/ER/bridging Hamstring curls and calf raises Exs bike Begin mini squats once adequate strength and control 	
Restoration of normal gait pattern	<ul style="list-style-type: none"> Ensure FWB without crutches once adequate quads control 	
Commence proprioceptive work/balance work	<ul style="list-style-type: none"> Weight transfer Progress to single leg stands once adequate quads control Wobble board/sit fit 	
Improve core strength	<ul style="list-style-type: none"> Core stability strengthening 	

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PHASE 3: STRENGTH AND CONTROL. Weeks 6-12 post-op.

Goal	Treatment	Milestone to Progress to Phase 4
Minimise swelling and pain Regain/maintain full range of flexion and extension	<ul style="list-style-type: none"> Continue cryotherapy and elevation as necessary Continue stretching regime 	<ul style="list-style-type: none"> Minimal/no activity related effusion Full ROM No instability/patellar apprehension Normal, symmetrical gait/jogging pattern 10 x single leg squats to 60° with good alignment and control (i.e. no valgus & good hip/knee/ankle alignment) Single leg stand with eyes shut over 80% of unaffected leg
Improve quads, hamstrings, gluteal and general lower limb strength Improve neuromuscular control	<ul style="list-style-type: none"> Squats to 90°, lunges, leg press, VMO Hamstring curls Continue hip abduction/extension/ER with increased resistance Exs bike, step ups, cross trainer Knee alignment/prevent valgus - single leg squats, lunges (+/- trunk rotation), step ups/downs (ensure good hip/knee/ankle alignment) 	
Restoration of normal gait pattern Improve proprioception	<ul style="list-style-type: none"> Treadmill walking - forwards/backwards/incline Progress to straight line jogging only when good load acceptance and neuromuscular control Single leg stands eyes shut Wobble board/sitfit/BOSU/trampette 	
Improve core strength Commence bilateral load acceptance/early plyometrics if returning to sport	<ul style="list-style-type: none"> Progress core stability strengthening Bilateral drop jumps Jumps with symmetrical squat landing 	

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PHASE 4: RETURN TO SPORTS PREPARATION. Upon achievement of phase 3 goals. Over 12 weeks post-op.

Goal	Treatment	Milestone to Progress to Return to Sport
Minimise activity related swelling and pain	<ul style="list-style-type: none"> Continue cryotherapy and elevation as necessary post exercising 	Dynamic neuromuscular control with multi-plane activities – without instability or pain
Increase lower limb muscle strength and endurance	<ul style="list-style-type: none"> Continue strengthening all muscle groups using increased loads for resistance Continue core stability strengthening 	
Improve neuromuscular control following fatigue	<ul style="list-style-type: none"> Ensure ability to control alignment after fatigue and during sports specific drills 	
Normal straight line running pattern in full control	<ul style="list-style-type: none"> Progress jogging to running Increase speed/distance Change surface/incline Forward running/backward running 	
Improve proprioception	<ul style="list-style-type: none"> Progress to dynamic proprioception exercises 	
Progress bilateral load acceptance to unilateral load acceptance/plyometrics and work to fatigue	<ul style="list-style-type: none"> Tuck jumps Squat jumps - forward/back/rotational Bilateral plyometric static and multi-plane exs Single leg hop Forward, side hops/drop from step with controlled single leg landing Unilateral plyometric static and multi-plane activities Increasing speed and intensity to fatigue 	
Commence sports specific running agility drills	<ul style="list-style-type: none"> Sprinting Cutting and pivoting Acceleration and deceleration 	
Commence sports specific skills	<ul style="list-style-type: none"> One on one practice drills, ball skills, kicking, boxing, racquet sports 	

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