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POST-OPERATIVE MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION PROTOCOL

- **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**
- **Any problems during rehabilitation please contact Jo Armstrong, Wrightington Physiotherapy Department, 01257 256533**

PHASE 1 EARLY POST-OPERATIVE PHASE (day 1 - 2 weeks)

Goal	**Treatment**	**Milestone to Progress to Phase 2**
Minimise swelling and pain	• Use of ice • Ensure adequate pain relief • Elevate leg • Use of crutches • Cricket pad splint for mobilizing for 48 hours	• 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	• Extension exercises: static quads, heel props, prone hanging • Passive stretching	
Increase knee flexion as pain allows Activate quadriceps	• Passive, active assisted and active flexion exercises • Static quads hourly • Use of EMS if available • VMO • SLR if possible	
Early hip/gluteal strengthening	• Hip abduction/extension/ER strengthening	
Restoration of normal gait pattern	• Gait re-ed with elbow crutches, WB as pain and control allows	

PHASE 2 - QUADS ACTIVATION AND CORE STRENGTH (approximately 2 weeks - 6 weeks)

Goal	Treatment	Milestone to Progress to Phase 3
Minimise swelling and pain Regain full range of extension/hyperextension	• Continue as above • Extension exercises as above • Passive stretching	• 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 Improve quads strength Improve gluteal strength and general lower limb strength	• Active flexion exercises • Progress to quads stretch • Static quads • SLRs - **ensure no lag** • VMO • 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	• Ensure FWB without crutches once adequate quads control	
Commence proprioceptive work/balance work	• Weight transfer • Progress to single leg stands once adequate quads control • Wobble board/sit fit	
Improve core strength	• Core stability strengthening	

PHASE 3 - STRENGTH AND CONTROL (approximately 6 weeks - 12 weeks)

Goal	Treatment	Milestone to Progress to Phase 4
Minimise swelling and pain	• Continue cryotherapy and elevation as necessary	• 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
Regain/maintain full range of flexion and extension	• Continue stretching regime	
Improve quads, hamstrings, gluteal and general lower limb strength	• Squats to 90˚, lunges, leg press, VMO • Hamstring curls • Continue hip abduction/extension/ER with increased resistance • Exs bike, step ups, cross trainer	
Improve neuromuscular control	• Knee alignment/prevent valgus - single leg squats, lunges (+/- trunk rotation), step ups/downs (ensure good hip/knee/ankle alignment)	
Restoration of normal gait pattern	• Treadmill walking - forwards/backwards/incline • Progress to straight line jogging only when good load acceptance and neuromuscular control	
Improve proprioception	• Single leg stands eyes shut • Wobble board/sitfit/BOSU/trampette	
Improve core strength	• Progress core stability strengthening	
Commence bilateral load acceptance/early plyometrics if returning to sport	• Bilateral drop jumps • Jumps with symmetrical squat landing	

PHASE 4 - RETURN TO SPORTS PREPARATION (from 12 weeks approximately)

Goal	Treatment	Milestone to Progress to Return to Sport
Minimise activity related swelling and pain	• 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	• Continue strengthening all muscle groups using increased loads for resistance • Continue core stability strengthening	
Improve neuromuscular control following fatigue	• Ensure ability to control alignment after fatigue and during sports specific drills	
Normal straight line running pattern in full control	• Progress jogging to running • Increase speed/distance • Change surface/incline • Forward running/backward running	
Improve proprioception	• Progress to dynamic proprioception exercises	
Progress bilateral load acceptance to unilateral load acceptance/plyometrics and work to fatigue	• 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	• Sprinting • Cutting and pivoting • Acceleration and deceleration	
Commence sports specific skills	• One on one practice drills, ball skills, kicking, boxing, racquet sports	

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