**Mr Rob Gilbert**

**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 Mr Gilbert**

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

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| **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 | * Passive, active assisted and active flexion exercises |
| Activate quadriceps | * 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)**

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| **Goal** | **Treatment** | **Milestone to Progress to Phase 3** |
| Minimise swelling and pain | * Continue as above | * 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 |
| Regain full range of extension/hyperextension | * Extension exercises as above * Passive stretching |
| Increase knee flexion as pain allows | * Active flexion exercises * Progress to quads stretch |
| Improve quads strength | * Static quads * SLRs - **ensure no lag** * VMO |
| Improve gluteal strength and general lower limb strength | * 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)**

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| **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)**

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| **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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