



AUCKLAND BONE AND JOINT SURGERY

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MPFL RECONSTRUCTION REHABILITATION PROTOCOL

GENERAL GUIDELINES

- Mr. Boyle may alter time frames for use of knee brace and crutches
- Supervised physiotherapy takes place for 3-6 months
- Use early caution with hamstring stretching/strengthening based on donor site morbidity
- No closed kinetic chain exercise for 4 weeks

GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING

- Patients may begin the following activities at the dates indicated (unless otherwise specified by Mr. Boyle):
 - Bathing/showering after suture removal
 - Driving:
 - 4 weeks post-op for left leg surgery
 - 6 weeks post-op for right leg surgery
 - Sleep with brace locked in extension for 4 weeks
 - Brace locked in extension for ambulation for 6 weeks
 - Can unlock brace for physiotherapy and rehab exercises
 - Use of crutches for 6 weeks after surgery
 - Partial weight bearing for 4 weeks after surgery
 - Return to work as directed by physiotherapist/Mr. Boyle based on work demands

REHABILITATION PROGRESSION:

Frequency of physiotherapy visits should be determined based on individual patient status and progression.

The following is a general guideline for progression of rehabilitation following MPFL reconstruction for recurrent patellar instability. Progression through each phase should take into account patient status (e.g. healing, function) and surgeon advisement. Please consult Mr. Boyle if there is any uncertainty concerning advancement of a patient to the next phase of rehabilitation.

PHASE I:

Begins immediately post-op through approximately 6 weeks

Goals:

- Protect graft and graft fixation
- Minimize effects of immobilization
- Control inflammation and swelling
- Regain active quadriceps and VMO control
- Maintain full knee extension
- Educate patient on rehabilitation progression

Knee ROM:

- 0-6 weeks: 0° - 90° knee flexion (increase slowly as patient tolerates)

Brace:

- 0-4 weeks: post-op knee brace locked in full extension for all activities except therapeutic exercises; locked in full extension for sleeping
- 4-6 weeks: unlock knee brace for sleeping, continue with brace locked in full extension for ambulation

Weightbearing Status:

- 0-4 weeks: PWB with two crutches to assist with balance
- 4-6 weeks: FWB with two crutches to assist with balance

Exercises:

- Massage infrapatellar fat pad
- Quad sets and isometric adduction with biofeedback for VMO
- Heel slides from 0-90° of flexion
- Non-weight bearing gastrocnemius/soleus/hamstring stretches
- SLR in four planes with brace locked in full extension (can be performed in standing)
- Resisted ankle ROM with theraband
- Patellar mobilisation (begin when tolerated by patient) – undertake in 4 directions, especially inferior and superior

PHASE II:

Begins approximately 6 weeks post-op and extends to approximately 8 weeks

Criteria for advancement to Phase II:

- Satisfactory quads set, SLR without extension lag
- Knee flexion to approximately 90°
- No sign of active inflammation

Goals:

- Increase knee flexion

- Avoid overstressing graft fixation
- Increase quadriceps and VMO control for restoration of proper patellar tracking

Brace/Weightbearing Status:

6-8 weeks post-op: discontinue use for sleeping, unlock for ambulation if SLR with no lag

Exercises:

- Continue exercises as noted above, progress towards full knee flexion with heel slides
- Progress to weight-bearing gastrocnemius/soleus stretching
- Begin aquatic therapy if available, emphasis on normalization of gait
- Balance exercises (e.g. single-leg standing)
- Remove brace for SLR exercises
- Stationary bike, low resistance, high seat
- Short arc quad exercises in pain free ranges (0-20°, 60-90° flexion), emphasize movement quality
- Wall slides progressing to mini-squats, 0-45° of knee flexion

PHASE III:

Begins at approximately 8 weeks post-op and extends through approximately 4 months

Criteria to advance to Phase III include:

- Satisfactory quadriceps tone and no extension lag with SLR
- Non-antalgic gait pattern
- Good dynamic patellar control with no evidence of lateral tracking or instability

Weightbearing Status:

- May discontinue use of crutches when the following criteria are met:
 - No extension lag with SLR
 - Full knee extension
 - Non-antalgic gait pattern (may use one crutch until gait is normalized)

Exercises:

- Step-ups, begin at 5cm and progress towards 20cm
- Stationary bike, add moderate resistance
- Jogging in pool with wet vest or belt, if available
- 4 way hip flexion, adduction, abduction, extension
- Leg press 0-45° of flexion
- Closed kinetic chain terminal knee extension with resistive tubing or weight machine
- Swimming and/or elliptical for endurance
- Toe raises
- Hamstring curls
- Treadmill walking with emphasis on normalization of gait
- Continue proprioception exercises
- Continue flexibility exercises for gastrocnemius/soleus and hamstrings, add iliotibial band and quadriceps stretching as indicated

PHASE IV:

Begins at approximately 4 months post-op and extends through 6 months

Criteria for advancement to Phase IV:

- Good to normal quadriceps strength
- No evidence of patellar instability
- No soft tissue complaints
- Normal gait pattern
- Clearance from Mr. Boyle to begin more concentrated closed kinetic chain exercises and resume full or partial activity

Goals:

- Continue improvements in quadriceps strength
- Improve functional strength and proprioception
- Return to appropriate activity level

Exercises:

- Progression of closed kinetic chain activities
- Functional progression, sport-specific activities or work hardening as appropriate

MPFL = medial patellofemoral ligament

SLR = straight leg raise

PWB = partial weight bearing

VMO = vastus medialis obliquus

ROM = range of motion

FWB = full weight bearing