

## **PCL NON-OPERATIVE REHABILITATION PROTOCOL**

### for physiotherapists

**This protocol is a guide only for isolated PCL injuries that have been appropriately assessed and deemed suitable for conservative management. Rehabilitation should obviously be individualised and may need to be modified depending on progress and ongoing clinical review.**

**The injury should be diagnosed as soon as possible and a dynamic PCL brace fitted.**

#### **PHASE 1 – 0-6 WEEKS AFTER INJURY**

##### **Goals**

1. PCL ligament protection
2. Oedema reduction to improve passive ROM and quadriceps activation
3. Address gait mechanics
4. Patient education

##### **Treatment Guidelines**

- Reduce swelling and pain with ice, cryotherapy cuff and elevation.
- Avoid hyper-extension (12 weeks).
- Prevent posterior tibial translation (12 weeks).
- Isolated hamstring exercises should be avoided for 12 weeks.
- Partial weight bearing with crutches (2 weeks).
- Prone passive ROM 0-90 degrees for 2 weeks, then progress to full ROM.
- PCL brace to be worn at all times including sleep and rehabilitation (minimum 12 weeks).
- Patellar mobilisations.
- Quadriceps sets; straight leg raises once quadriceps able to lock joint in full extension and no lag is present.
- Gastrocnemius stretching.
- Hip abduction/adduction.
- Stationary bike with no resistance when ROM more than 115 degrees.
- Pool walking to assist crutch weaning.
- Calf raises and single leg balance when weaned from crutches.
- Upper body and core strength exercises.

## **PHASE 2 – 6-12 WEEKS AFTER INJURY**

### **Goals**

1. Continue PCL protection
2. Achieve full range of movement
3. Continue to address gait mechanics
4. Double leg strength through ROM (no greater than 70 degrees of knee flexion) and single leg static strength knee exercises
5. Reps and set structure to emphasize muscular endurance development (3 sets of 20 reps)

### **Treatment Guidelines**

- Continue to avoid hyperextension.
- Prevent posterior tibial translation.
- Limit double leg strengthening exercises to no more than 70 degrees of flexion.
- Weight bear as tolerated.
- Full ROM, supine and prone ROM after 6 weeks.
- PCL brace to be worn at all times.
- Continue exercises from Phase 1.
- Gastrocnemius and light hamstring stretches.
- Leg press limited to 70 degrees of flexion.
- Squat progression (squat – squat with calf raise – squat with weight shift).
- Static lunge.
- Hamstring bridges on ball with knees extended.
- Stationary bike with progressive resistance.
- Light kicking in pool.
- Incline treadmill walking.
- Proprioceptive and balance exercises.

## **PHASE 3 – 13-18 WEEKS AFTER INJURY**

### **Goals**

1. Reps and set structure to emphasize muscular strength development
2. Progress ROM strength to beyond 70 degrees of knee flexion
3. Isolated hamstring exercises may begin after 12 weeks
4. Prepare for sport specific activity

### **Treatment Guidelines**

- Discontinue PCL brace.
- Double leg press with progression to single leg.

- Single leg knee bends.
- Balance squats.
- Single leg bridges starting during week 16.
- Continue bike and walking on treadmill.
- Running is allowed once sufficient strength and stability demonstrated with functional exercise and quadriceps girth is greater or equal to 90% compared to the contralateral normal side.
- Once running progression is completed, continue single plane agility with progression to multi-planar agility.

## **PHASE 4 – 19+ WEEKS AFTER INJURY**

### **Treatment Guidelines**

- Continue exercises from Phase 3.
- Set and reps to emphasize muscular power development.
- Non-contact return to play after clinical review and clearance.
- Full contact return to sport when the following criteria met:
  - Full active ROM.
  - No evidence of instability.
  - Greater than 90% function on return to sport testing.
  - Mentally ready and confident to return to sport.