PCL Reconstruction

Based on -Casey M et al (2012) PCL tears : functional and post operative rehabilitation. Knee surgery sports traumatol arthrosc.

PRE SURGERY

Patients may be seen by the physiotherapist before surgery. During these sessions the following should be considered:

- Information about the rehabilitation (discuss mutual expectations). Emphasize that knee rehabilitation is more than strength-training of the upper-leg muscles alone. The (neuromuscular) rehabilitation addresses the whole lower extremity, core stability and training of the kinetic chain.
- Decrease pain, swelling and inflammation.
- Achieve/maintain normal range of motion (ROM with a focus on good patellar mobility.
- Achieve/maintain normal gait pattern.
- Maintain muscle strength, prevent atrophy.
- Training of the first-days postoperative exercises (i.e. straight-leg raising (SLR), static quadriceps, prone passive knee extension and gastro stretches). Emphasize the importance of full extension.
- Practice non-weight-bearing walking with crutches for the first 6 weeks postoperatively. Consider elbow crutch grip modifications to ease pressure on hands e.g. ‘oarsome’ grips.

POST SURGERY

Precautions

- Immobiliser brace 3 days
- Jack Brace after 3 days 0-90 for 6 weeks then full range of movement as tolerated.
- Brace for 24 weeks at **all** times inc; sleep, rehab etc…
- Avoid isolated hamstring exercises for 12 weeks
- Avoid hyper-extension for 12 weeks
- Crutches TWB for 6 weeks

Phase 1 (0-6 weeks)

- PRICE - Control of pain and swelling
- Patella mobs
- Physiotherapist guided prone passive knee flexion
- Quadriceps activation – quadriceps sets and SLR if no lag
- Gastrocnemius stretches
- Hip adduction / hip abduction
- Upper body and core strength as appropriate
- Unlock Jack Brace ROM (see brace instructions) as long as achieved good knee extension control as hyper-extension of the knee should be avoided until week 12

Phase 2 (week 6 to week 12)

- Continue to wear Jack Brace at all times
- Progress weight bearing as tolerated and wean off elbow crutches as able – use weight shifts, walking on the spot, pool walking to assist
- Gait re-education
- Full ROM supine and prone (carefully with flexion), wearing brace for exercises
- Double leg strength through range (no greater than 70°) e.g. squat, leg press, mini-deadlift, straight-knee bridging. All with emphasis on muscular endurance development (3 sets x 20 reps)
- Stationary bike (zero resistance) when ROM > 115 flexion
- Progress to small step up for quadriceps strengthening
- Gastrocnemius and light hamstring stretches
- Proprioceptive exercises

Phase 3 (13-18)

- Continue to wear Jack Brace at all times
- Avoid isolated hamstring until 16 weeks
- Progress loaded ROM past 70° with squat, leg press
- Progress proprioception/single-leg loaded exercises e.g. balance squats <70° initially (unaffected leg on step behind) avoid full knee extension on return, leg press, mini-deadlift
- Single leg straight-knee bridges from week 16
- Progress bike intensity

Phase 4 (week 19 to week 24)

- Remain in Jack Brace for all activities
- Continue to build strength and single leg endurance, gradually progressing emphasis to developing power inc; OKC and CKC
- Initiate light sport-specific drills towards end of this phase

Phase 5 (week 25 to week 36)

- Wean out of Jack Brace starting at week 24 if they are ready
- Maximising muscle endurance and strength OKC/CKC for quadriceps, hamstrings and calf
- Aim for balance and proprioception equivalent of unaffected leg.
- Straight line interval jogging progression, when able to jog for 20 minutes progress to multi planar agility.
- Sports-specific drills: maximising neuromuscular control with emphasis on jumping, agility training and sport-specific tasks. Variations in running, turning and cutting manoeuvres are allowed. Duration and speed to be increased and maximised.