

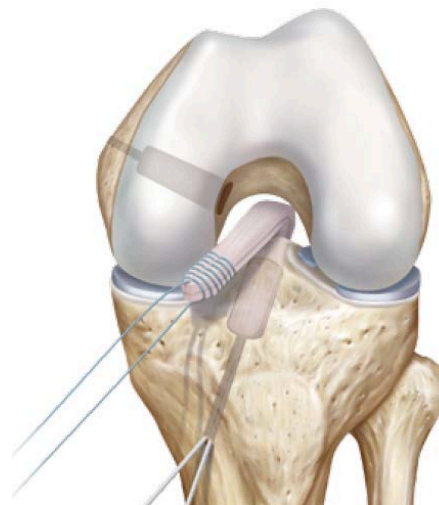


POSTERIOR CRUCIATE LIGAMENT RECONSTRUCTION:

General guidelines:

- It takes 3-4 months for the PCL graft to heal into the bone. It must be protected against excessive forces until then.
- Forces pulling the tibia posteriorly need to be avoided:
 - Hamstring strengthening (esp open chain)
 - Knee hyperextension
 - Downhill walking/running
- These guidelines are general. They will be modified as required for the individual patient by Mr Love. If you have concerns or questions, please contact the consulting rooms directly.
- Combined reconstructions (eg posterolateral corner, or ACL/PCL) will have a slower rehabilitation protocol.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Week	1-6	7-12	13-18	19-28	29+
PCL Brace	Day & night	Day & night	Activities	Wear out	
Weight-bearing	Non-weight-bearing	WBAT	FWB	FWB	FWB
ROM					
Activities of Daily Living					
Showering without brace	2 weeks				
Sleeping without brace	10 weeks				
Full weightbearing without crutches	8 weeks				
Driving	Once comfortably fully weight-bearing				
Physiotherapy					
	PRICE Calf stretching Quads activation	PRICE Quads HS stretches	Proprioception HS strengthening	OKC and CKC strength	Return to run Sport-specific



ROM – Range of motion PRICE – Protection, Rest, Ice, Compression, Elevation. WBAT – Weight bearing as tolerated, FWB – full weight bearing, OKC – Open chain kinetic, CKC – Closed chain kinetic



Phase 1: 0 - 6 weeks Post-op

Goals:

1. Protect the PCL graft
2. Oedema and swelling control
3. Quads activation
4. Safe range of motion, protecting against posterior tibial sagging

Precautions:

- Avoid hyperextension
- No isolated hamstring strengthening (for first 4 months)
- Prevent posterior tibial translation
- NO weight-bearing

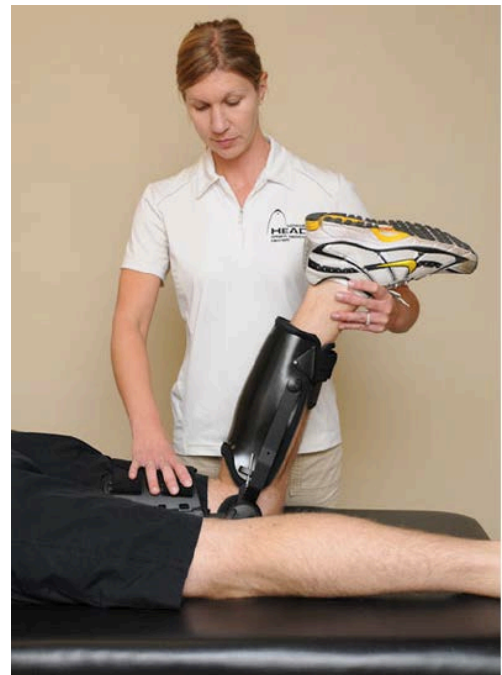
Brace:

- Week 0-2: Locked at 0 degrees
- Week 2-6: Passive ROM: 0-90 flexion. Keeping the knee brace on, with anteriorly directed force on proximal tibia

The brace can be taken off for showering from week 2. Knee must be kept in extension, NWB during that time. If brace is off (eg post-shower), keep anterior directed force on proximal tibia at all times. Place pillow behind the tibia when sitting with leg elevated.

Therapeutic exercises:

1. PRICE
2. Prone passive ROM as shown, in brace.
3. Static quads activation
4. Straight leg raises (once quads are able to keep the leg fully straight with no lag)
5. Gastrocnemius stretching
6. Upper body and core strengthening



Criteria for progression to Phase 2:

1. Good quads control: No extensor lag, active set strong
2. Full knee extension
3. Minimal swelling, no active inflammation



Phase 2: 7-12 weeks Post-op

Goals:

1. Protect the PCL graft
2. Regain range of motion
3. Quads strengthening and hamstring stretching
4. Progress weight-bearing as tolerated
5. Address gait mechanics during crutch weaning

Precautions:

- Avoid hyperextension
- No isolated hamstring strengthening (for first 4 months)
- Prevent posterior tibial translation

Brace:

- Fully unlocked, use for all activities
- Remove for showering
- Can be removed for sleeping from 10 weeks

ROM:

- Progress to full ROM, both supine and prone
- *Avoid over-aggressive flexion force, which will stress the repair*

Weight-bearing:

- WBAT with crutches
- Crutches can be discontinued when:
 - No quads lag with SLR
 - Normal gait pattern, weaning from 2 to 1 crutch initially.
 - Minimum ROM from full extension to 90 degrees flexion

Therapeutic exercises:

1. PRICE
2. Closed chain quads: wall squats to 45 deg, progressing to mini-squats (0-70deg)
3. Gastrocnemius and light hamstring stretching
4. Weight shifts for crutch weaning
5. Pool walking
6. Stationary bike, no resistance, minimize HS activation, once ROM >115 deg

Criteria for progression to Phase 3:

4. Near-full ROM (minimal flexion loss, 10-15 degrees acceptable)
5. Normal gait
6. Good quads strength and no patellofemoral issues



Phase 3: 13-18 weeks Post-op

Goals:

1. Regain muscle strength and endurance
2. Restore any residual ROM loss
3. Commence isolated hamstring strengthening exercises
4. Prepare athletes for sport-specific activity

Precautions:

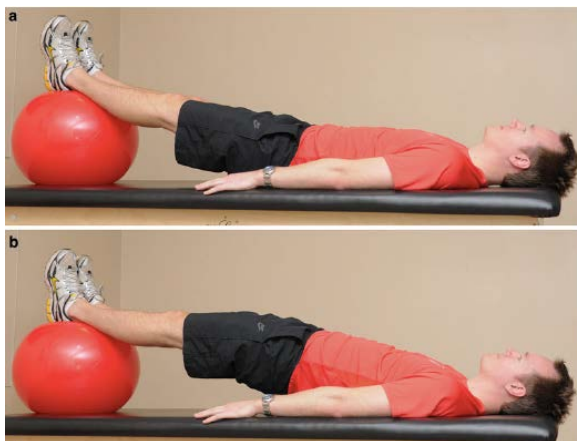
- Avoid rapid increases in rehabilitation or work intensity
- No running

Brace:

- Wean from brace for ADLs
- Continue to use brace when exercising

Therapeutic exercises:

- Double leg press, progress to single
- Ball bridges
- Single leg bridging can start at 16 weeks post-op
- Bike and treadmill walking
- Aquajogging
- Swimming – no breaststroke



Ball bridges



Single leg bridging

Criteria for progression to Phase 4:

1. Normal gait
2. Good strength and stability with functional exercises
3. Quads girth > 90% of contralateral side



Phase 4: 19+ weeks Post-op

Goals:

1. Graduated return to full-manual work
2. Return to sport-specific training
3. Return to running

Precautions:

- Commence *Return to running* program as prescribed, only once criteria met
- No high-stress activities (downhill running, skiing, heavy loads when walking)

Brace:

- Discontinue brace wearing completely

Therapeutic exercises:

- Work hardening program
- Graduated return to sport-specific drills, as allowed by return to running program
- Increase biking resistance and endurance as tolerated
- Swimming – all strokes allowed

Return to running:

- Prior to commencing the *Return to Running* program, there must be:
 - Good strength and stability with functional exercise
 - Quadriceps girth >90% of uninjured side
- *Return to Running* program available via website

Agility training:

- Agility running can commence at 7-8 months post-op, as long as straight-line, flat surface running is completely tolerated
- Plyometrics can begin at the same time