



POSTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

REHABILITATION PROTOCOL

REHABILITATION PROGRESSION

The following is a general guideline. Please consult Dr. Syal/Dr. Soswa if there is any uncertainty concerning advancement of a patient to the next phase of rehabilitation. Rehabilitation should be individualized according to patient status.

PRECAUTIONS

- supervised physiotherapy is expected for approximately 2-6 months
- functional ACL brace to be worn immediately post-op or once able to fit, and continued for duration of rehab
- bathing/showering without brace after 14 days
- sleep with brace locked in extension for 1 week, position pillow under proximal posterior tibia at rest to prevent posterior tibial sag
- use crutches to weight bear for 1-6 weeks – may begin ambulating immediately post-op

PHASE I (WEEK 0-4)

- weeks 0-4: ROM = full extension to 90° flexion
- extension: knee extension on a bolster, avoid prone hangs secondary to hamstring guarding
- flexion: use gravity or assistance to minimize hamstring activity, such as supine wall slides or seated knee flexion
- patellar mobilization, hip abduction and adduction, ankle pumps
- hamstring and calf stretching, calf press with exercise bands, progressing to standing calf raise with full knee extension.
- quadriceps sets, open chain knee extension against gravity, straight leg raises
- leg lifts in standing with brace on for balance and hip strength – avoid hip extension 2° to hamstring restrictions
- progress to next phase: pain free gait using brace without crutches, no effusion, flexion to 90°
- cryotherapy for knee & modalities for inflammation as needed

PHASE 2 (WEEKS 4-12)

- weeks 5-6: ROM = full extension to 120°, gradually attain full flexion, avoid forced flexion
- extension and flexion: same as phase I
- quadriceps strengthening – closed chain exercises short of 70°
- non-impact balance and proprioceptive drills
- gait drills, hip and core strengthening, stretching for specific muscle imbalances
- 4-8 weeks: wall slides/mini-squats (0-45°), leg press (0-60°)
- standing 4-way hip exercise for flexion, extension, abduction, adduction (from neutral, knee fully extended)
- ambulation in pool (work on restoration of normal heel-toe gait pattern in chest-deep water)
- 8-12 weeks: stationary bike (foot placed forward on pedal without use of toe clips to minimize hamstring activity; seat set slightly higher than normal)
- progress to next phase: normal gait all surfaces, functional movements unloading affected leg & without pain with good control, single leg balance > 15 sec., full ROM
- cryotherapy for knee & modalities for inflammation as needed



PHASE 3 (WEEKS 12-24)

- continue closed kinetic chain exercise progression, treadmill walking, jogging in pool with wet vest or belt
- swimming (no breaststroke or "frog kick").
- quads strengthening - closed chain, progressing to multi plane and open chain
- impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other & then 1 foot to same foot
- movement control exercises, begin with low velocity, single plane activities with progression to increased velocity and multi plane
 - ▶ walk/job progression
 - ▶ forward/backward running, 1/2, 3/4, full speed
 - ▶ cutting, cross-over drills, etc.
- Initiate sport-specific drills as appropriate for patient

PHASE 4 (MONTHS 6-9)

- sport specific functional progression: slide board, jog/run progression, figure 8, carioca, backward running, cutting
- progress impact control exercises to reactive strengthening and plyometrics
- work hardening/training & replicate sport/work specific energy demands

PHASE 5 (MONTHS 9-12)

- safe return to all athletics & sports
- maintenance of strength, endurance & proprioception
- use of functional PCL brace with sport activity - for completion of 12 months post-op
- possible continuation of PCL brace at discretion of surgeon

SOURCES:

- Sherry, M. Rehabilitation Guidelines for Posterior Cruciate Ligament Reconstruction. UW Health Sports Rehabilitation. (www.uwhealth.org/files/uwhealth/docs/pdf2/SM_PCL.pdf)
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- Petrigliano FA, McAllister DR. Isolated posterior cruciate ligament injuries of the knee. Sports Med Arthrosc. Dec 2006;14(4):206-212.
- Peccin MS et al. Interventions for treating posterior cruciate ligament injuries of the knee in adults. Cochrane Database Syst Rev. 2005(2):CD002939.
- Shelbourne KD et al. Magnetic resonance imaging of posterior cruciate ligament injuries: assessment of healing. Am J Knee Surg. Fall 1999;12(4):209-213.