

Operative PCL Rehabilitation Protocol

Christopher M. Larson, MD

This protocol provides you with general guidelines for initial stage and progression of rehabilitation according to specified time frames, related tissue tolerance and directional preference of movement. Specific changes in the program will be made by the physician as appropriate for the individual patient.

****Please fax initial assessment and subsequent progress notes directly to TCO at 952-944-0460****

REMEMBER: It can take up to a year to make a full recovery, and it is not unusual to have intermittent pains and aches during that time!

PHASE I: WEEKS 0-6 AFTER INJURY

Goals

- PCL ligament graft protection
- Edema reduction to improve passive ROM and quadriceps activation
- Address gait mechanics
- Patient education

Guidelines

- PRICE (Protect, Rest, Ice, Compress, Elevate) protocol
- Avoid hyperextension (12 weeks)
- Prevent posterior tibial translation (12 weeks)
- *Isolated hamstring exercises should be avoided for 4 months*
- Weight bearing
 - Non-weight bearing with crutches (6 weeks)
- Range of motion (ROM)
 - Prone passive ROM from 0° to 90° for the first 2 weeks, then progress to full ROM as tolerated
- Brace
 - Brace to be worn locked in extension at all times (including sleep) except for range of motion exercises and rehabilitation

Exercises

- Patellar mobilizations
- Prone passive ROM
- Quadriceps activation
 - Quadriceps sets
 - Straight leg raises (SLR) once the quadriceps are able to lock joint in terminal extension and no lag is present
- Gastrocnemius stretching
- Hip abduction/adduction
- Upper body and core strength as appropriate

PHASE II: WEEKS 6-12 AFTER INJURY

Goals

- PCL ligament protection
- Continued ROM as tolerated
- Address gait mechanics during crutch weaning
- Double leg strength through ROM (no greater than 70° knee flexion) and single leg static strength exercises
- Reps and set structure to emphasize muscular endurance development (3 sets of 20 reps)

Guidelines

- Continued avoidance of hyperextension and isolated hamstring activation
- Prevent posterior tibial translation
- Weight bearing
 - Progress to weight bearing as tolerated (WBAT)
- Range of motion
 - Full ROM, supine and prone ROM after 6 weeks
 - *Caution to not be over-aggressive with flexion creating stress on the repair*
- Brace
 - To be worn at all times
 - Lock with weight bearing, otherwise ok to unlock/open

Exercises

- Continue PRICE protocol
- Continue exercises as weeks 1–4
- Gastrocnemius and light hamstring stretching
- Weight shifts to prepare for crutch weaning
- Pool walking to assist with crutch weaning
- Squat progression (squat → squat with calf raise → squat with weight shift)
- Double leg press (0–70° knee flexion)
- Hamstring bridges on ball with the knees extended
- Stationary bike with zero resistance when ROM > 115°
- Light kicking in pool

PHASE III: WEEKS 13-18 AFTER INJURY

Guidelines

- Patient to remain in brace for all activities (ok to unlock/open all activities)
- Full weight bearing in brace
- Full passive ROM
- *Avoid isolated hamstring exercise until week 16*

Goals

- Joint protection
- Address gait mechanics
- Progressive weight-bearing strength, including progressive hamstring strengthening
- Can progress leg press and knee bends past 70° knee flexion after 16 weeks

Exercises

- Continue as in previous stages
- Double leg press 0–70° with progression to single leg
- Balance squats
- Squat progression
- Single leg bridges starting during week 16
- Proprioceptive and balance exercises
- Progress stationary bike resistance and duration

PHASE IV: WEEKS 19-24 AFTER INJURY

Goals

- Continue to build strength, and single leg endurance for all lower extremity musculature with increasing emphasis to developing power

Guidelines

- Ok to change to custom brace for higher end activities

Exercises

- Continue OKC and CKC strength and endurance work with progressive weight
- Initiate initial sport-specific drills near end of this phase
- Clinical examination and/or PCL stress radiographs to objectively verify healing of PCL after week 24

PHASE V: WEEKS 25-36 AFTER INJURY

Goals

- Patient education and return to activity progressions

Exercises

- Initiate absorption activities
- Continue strength and endurance exercises, and OKC for quadriceps and hamstrings
- Straight line jogging progression:
 - Outline:
 - Week 1: 4 min walk; 1 min jog for 15–20 min
 - Week 2: 3 min walk; 2 min jog for 20 min
 - Week 3: 2 min walk; 3 min jog for 20 min
 - Week 4: 1 min walk; 4 min jog for 20 min
- Once running progression is completed, continue single plane agility with progression to multi-planar agility
- Sport-specific drills