

Nonoperative PCL Tear Rehabilitation Protocol

Joseph D. Lamplot, M.D.

Referral for Rehabilitation Services

Patient Name: _____ Diagnosis: _____ PT Duration: _____ / Week _____ Weeks

Phase	Precautions	Treatment Recommendations	Emphasize
Phase 1: 0-6 Weeks	<ul style="list-style-type: none">PRICE (Protect, Rest, Ice, Compress, Elevate) protocolAvoid hyperextension (12 weeks)Prevent posterior tibial translation (12 weeks)Isolated hamstring exercises should be avoided until week 12Partial weight bearing with crutches (2 weeks) <p>Range of motion (ROM)</p> <ul style="list-style-type: none">Prone passive ROM from 0° to 90° for the first 2 weeks, and then progress to full ROMPCL Jack brace or Rebound brace to be worn at all times, including rehabilitation and sleep (minimum of 12 weeks)	<ul style="list-style-type: none">Patellar mobilizationsProne passive ROMQuadriceps activationQuadriceps setsStraight leg raises (SLR) once the quadriceps are able to lock joint in terminal extension and no lag is presentGastrocnemius stretchingHip abduction/adductionStationary bike with zero resistance when ROM <115°Weight shifts to prepare for crutch weaningPool walking to assist with crutch weaningCalf raises and single leg balance when weaned from crutchesUpper body and core strength as appropriate	<ul style="list-style-type: none">PCL Ligament protectionEdema reduction to improve passive ROM and quadriceps activationAddress gait mechanicsPatient Education
Phase 2: 6-12 Weeks	<ul style="list-style-type: none">Continued avoidance of hyperextensionPrevent posterior tibial translationLimit double leg strengthening exercises to no more than 70° of knee flexion <p>Weight bearing</p> <ul style="list-style-type: none">Weight bearing as tolerated (WBAT) <p>Range of motion</p> <ul style="list-style-type: none">Full ROM, supine and prone ROM after 6 weeks BracePCL Jack brace or Rebound Brace to be worn at all times	<ul style="list-style-type: none">Continue PRICE protocolContinue same exercises as weeks 1-4Gastrocnemius and light hamstring stretchingLeg press limited to 0-70° of knee flexionSquat progression (squat, squat with calf raise, squat with weight shift), static lungeHamstring bridges on ball with the knees extendedProgressive resistance stationary bikeLight kicking in poolIncline treadmill walking (7-12% incline)Single leg dead lift with the knee extendedProprioceptive and balance exercises	<ul style="list-style-type: none">PCL ligament protectionFull ROMAddress gait mechanics during crutch weaningDouble leg strength through ROM (no greater than 70° knee flexion) and single leg static strength exercisesReps and set structure to emphasize muscular endurance development (3 sets of 20 reps)

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Phase 3: 12-18 Weeks

- Discontinue PCL jack brace
- Double leg press with progression to single leg
- Single leg knee bends
- Balance squats
- Single leg dead lift
- Single leg bridges starting during week 16
- Continue bike and treadmill walking
- Running
 - Running is allowed once the patient has demonstrated sufficient strength and stability with functional exercise and quadriceps girth is greater than or equal to 90% compared to the contralateral normal side.
 - 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
 - Clinical examination and/or PCL stress radiographs to objectively verify healing of PCL after week 15
- Reps and set structure to emphasize muscular strength development
- Progress ROM strength to beyond 70° knee flexion
- Isolated hamstring exercises may begin after week 12
- Prepare athlete for sport-specific activity

This protocol is adopted from Pierce, C. M., O'Brien, L., Griffin, L. W., & Laprade, R. F. (2013). Posterior cruciate ligament tears: functional and postoperative rehabilitation. Knee Surgery, Sports Traumatology, Arthroscopy, 21(5), 1071–1084. <http://doi.org/10.1007/s00167-012-1970-1>

I hereby certify these services as medically necessary for the patient's plan of care.

Physician's Signature

Date_____