Campbell Clinic ORTHOPAEDICS

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PCL Tear Nonsurgical Rehabilitation Protocol

Phase	Precautions	Treatment Recommendations	Emphasize
Phase 1: 0-6 Weeks	▪ PRICE (Protect, Rest, Ice, Compress, Elevate) protocol ▪ Avoid hyperextension (12 weeks) ▪ Prevent posterior tibial translation (12 weeks) ▪ Isolated hamstring exercises should be avoided until week 12 ▪ Partial weight bearing with crutches (2 weeks) Range of motion (ROM) ▪ Prone passive ROM from 0° to 90° for the first 2 weeks, and then progress to full ROM ▪ PCL Jack brace or Rebound brace to be worn at all times, including rehabilitation and sleep (minimum of 12 weeks)	▪ 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 ▪ Stationary bike with zero resistance when ROM <115° ▪ Weight shifts to prepare for crutch weaning ▪ Pool walking to assist with crutch weaning ▪ Calf raises and single leg balance when weaned from crutches ▪ Upper body and core strength as appropriate	▪ PCL Ligament protection ▪ Edema reduction to improve passive ROM and quadriceps activation ▪ Address gait mechanics ▪ Patient Education
Phase 2: 6-12 Weeks	▪ Continued avoidance of hyperextension ▪ Prevent posterior tibial translation ▪ Limit double leg strengthening exercises to no more than 70° of knee flexion Weight bearing ▪ Weight bearing as tolerated (WBAT) Range of motion ▪ Full ROM, supine and prone ROM after 6 weeks Brace ▪ PCL Jack brace or Rebound Brace to be worn at all times	▪ Continue PRICE protocol ▪ Continue same exercises as weeks 1–4 ▪ Gastrocnemius and light hamstring stretching ▪ Leg press limited to 0–70° of knee flexion ▪ Squat progression (squat, squat with calf raise, squat with weight shift), static lunge ▪ Hamstring bridges on ball with the knees extended ▪ Progressive resistance stationary bike ▪ Light kicking in pool ▪ Incline treadmill walking (7–12% incline) ▪ Single leg dead lift with the knee extended ▪ Proprioceptive and balance exercises	▪ PCL ligament protection ▪ Full ROM ▪ 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)

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