
ACL and PCL Combined Reconstruction Physical Therapy Protocol

Phase I: Immediate Post-operative (Week 0 to 2)

Goals

- Restore full passive knee extension
- Diminish joint swelling and pain
- Restore patellar mobility
- Gradually improve knee flexion
- Re-establish quadriceps control
- Restore independent ambulation

Days 1 to 4

Weight Bearing

- Less than 50 percent weight bearing with two crutches

Brace

- Locked at 0 degrees
- Sleep in brace

Range of Motion

- Full passive extension (0 to 50 degrees)

Exercises

- Ankle pumps
- Heel prop/prone hang
- Straight leg raises
- Quad sets/glut sets
- Hamstring/calf stretch
- Neuromuscular electrical stimulation to quads as needed
- Continuous passive motion
 - Progress 5 to 10 degrees each day
- Cryotherapy with elevation for pain and inflammation every hour for 20 minutes

Days 5 to 13

Weight Bearing

- Partial weight bearing with two crutches
- 50 percent weight bearing at day seven
- 75 percent weight bearing at day 12

Range of Motion

- 0 to 65 degrees at day five
- 0 to 75 degrees at day seven
- 0 to 90 degrees at day 13

Exercises

- Continue exercises as listed above
- Patellar mobilizations

- Side lying hip abduction/adduction
- Prone hip extension
- Continue neuromuscular electrical stimulation with quad sets (if poor quad contraction)
- Continue cryotherapy for pain management

Phase II: Maximum Protection (Weeks 2 to 6)

Criteria to Progress to Phase II:

- Good quad control (able to do straight leg raise and have a good quad set)
- Full passive knee extension
- Range of motion 0 to 90 degrees
- Good patellar mobility
- Minimal joint effusion

Goals

- Control deleterious forces to protect grafts
- Nourish articular cartilage
- Prevent quad atrophy
- Decrease swelling

Weeks 2 to 3

Weight Bearing

- As tolerated with two crutches

Brace

- Continue use of brace

Exercises

- Continue exercises as listed above
- Bike (partial revolutions for range of motion)
- Multi-angle isometrics (80, 60, 40 degrees)
- Mini squats (0 to 45 degrees)
- Calf stretching
- Hamstring stretching
- Weight shifts
- Continuous passive motion
 - Discontinue once 110 degrees is reached
- Continue cryotherapy for pain management

Week 4

Weight Bearing

- Progress to weight bearing as tolerated with one crutch

Brace

- Discontinue sleeping in brace

Range of Motion

- Increase to 0 to 100 degrees

Exercises

- Continue exercises as listed above
- Bike (progress to full revolutions if able)
- Pool walking program
- Proprioception training
- Leg press (0 to 60 degrees)

Weeks 5 to 6

Weight Bearing

- Discontinue use of crutches

Brace

- Unlock brace for ambulation

Range of Motion

- Increase to 0 to 115 degrees

Exercises

- Continue exercises as listed above
- Terminal knee extensions
- Knee extensions (90 to 45 degrees)
- Standing hip exercises

Phase III: Moderate Protection (Weeks to 12)

Criteria to Progress to Phase III

- Range of motion to 0 to 115 degrees
- Full weight bearing
- Quadriceps strength to 60 percent of contralateral side
- Minimal to no joint effusion
- No joint line or patellofemoral pain

Goals

- Control forces during ambulation
- Progress knee range of motion
- Improve lower extremity strength
- Enhance proprioception, balance and neuromuscular control
- Improve muscular endurance
- Restore limb confidence and function

Weeks 7 to 12

Brace

- Discontinue brace

Range of Motion

- Increase to 0 to 125 degrees

Exercises

- Continue exercises as listed above
- Initiate swimming
- Initiate lateral and front step ups
- Lateral walks with resistance
- Progress closed kinetic chain exercises
 - Squats 0 to 60 degrees
 - Leg press 90 to 0 degrees
- Initiate light hamstring isotonic at week eight
- Progress proprioceptive training

Phase IV: Controlled Activity (Weeks 13 to 16)

Criteria to Progress to Phase IV

- Range of motion to 0 to 125 degrees
- Quadriceps strength to 70 percent of contralateral side
- Minimal to no joint effusion

- No patellofemoral complaints
- Satisfactory clinical exam

Goals

- Protect healing grafts
- Protect patellofemoral joint articular strength
- Normalize lower extremity strength
- Enhance muscular power and endurance
- Improve neuromuscular control

Weeks 13 to 16

Range of Motion

- Increase to 0 to 125 degrees

Exercises

- Continue exercises as listed above with emphasis on eccentric quadriceps strengthening
- Calf raises
- Bike/Elliptical/StairMaster
- Walking program
- Front and lateral lunges
- Pool running program

Phase V: Light Activity (Months 4 to 6)

Criteria to Enter Phase V

- Full active range of motion
- Quad strength at 75 to 80 percent of contralateral side
- Minimal to no effusion
- Satisfactory clinical exam

Goals

- Enhancement of strength, power and endurance
- Initiate functional and/or sport specific activity
- Prepare for return to functional activities

Months 4 to 6

Exercises

- Continue with strengthening program
- Initiate plyometric program at four months
- Initiate running program at four months
- Initiate agility program at five months
- Sport specific training and drills at five months

Phase VI: Return to Activity (Months 6 to 9)

Criteria to Progress Phase VI

- Satisfactory clinical exam
- Proprioception testing 100 percent of contralateral side
- Functional hop test greater than 80 percent of contralateral side

Goals

- Gradual return to full, unrestricted sports
- Achieve maximal strength and endurance
- Normalize neuromuscular control
- Progress skill training

Exercises

- Continue with strengthening programs
- Continue proprioception and neuromuscular control drills
- Continue plyometric program
- Continue running and agility program
- Progress sport specific training and drills