



# Non-Operative PCL Injury

## General Principles:

This protocol was designed to provide the rehabilitation professional with a guideline of postoperative care. It should be stressed that this is only a protocol and should not be a substitute for clinical decision making regarding a patient's progression. Actual progression should be individualized based upon your patient's physical examination, progress, and presence of any complications.

The non-operative protocol will be used also for pre-operative treatment of PCL injuries.

**NOTE: Protocol may need to be modified if multiple ligaments are involved.**

**Ligament testing should only be performed by the physician throughout the protocol.**

## PHASE I (Immediate)

### Week 1 - 2

#### Orthotics-

1. Knee immobilizer only as needed
2. Hinged PCL brace for exercises and daily activity

#### Weight Bearing-

1. Progress as tolerated with normal gait

#### Modalities (PRN)-

1. Ice, Electrical Stimulation
2. Compression and elevation as needed for control of pain and swelling
3. Ice for 20 minutes follow exercises throughout protocol
4. May use electrical stimulation if needed for neuromuscular re-education
5. Moist heat or pulsed ultrasound after 48 hours

#### ROM-

1. Progress as tolerated with active and passive ROM
2. Take special care to support the tibia to avoid stressing the ligament
3. NO resisted hamstring exercises

#### Exercises-

1. Quad sets
2. Knee extension stretch with heel propped, prone hangs, calf and hamstring stretching
3. Straight Leg raises
  - a. All planes (be aware if other ligaments are involved w/ PCL injury)
  - b. Increase resistance as tolerated
4. Isometric Quads at 60, 40, and 20° of flexion
5. Isotonic Quads from 60° to 0°
  - a. Increase resistance as tolerated
6. Upper body bicycle for cardiovascular endurance
7. NO resisted hamstring exercises



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## PHASE II (Intermediate)

### Week 3 - 6

#### Orthotics-

1. Continue use of hinged PCL brace at all times

#### Weight Bearing-

1. Should be progressing to full weight bearing as tolerated

#### Modalities (PRN)-

1. Continues Phase I modalities only as needed

#### ROM-

1. Should be progressing to full active and passive ROM

#### Exercises-

1. Stationary bike when ROM allows
2. Shuttle / Leg Press
  - a. Bilateral
  - b. Progress resistance as tolerated
3. Resisted Calf Raises
4. Closed Chain strengthening
  - a. Wall Squats, mini-squats, step ups, lunges
  - b. Progress as tolerated
5. Balance / Proprioception
  - a. Bilateral progressing to unilateral
  - b. Progress to eyes closed, unstable surface
6. Isotonic Hamstring curls from 0 to 60° of flexion, LIGHT resistance only
7. Aquatics

## PHASE III (Strengthening)

### Week 7 – 12

#### Orthotics-

1. Continue use of hinged PCL brace for rehab and functional activities only
2. Discontinue use of brace for daily activity

#### Weight Bearing-

1. Full weight bearing as tolerated

#### Modalities (PRN)-

1. Continue only as needed

#### ROM-

1. Maintain full active and passive ROM



## Non-Operative PCL Injury

### Exercises-

1. Continue Phase II exercises as tolerated progressing resistance and repetitions
2. May increase resistance on hamstring curls, progressing through full range
3. Isokinetics
  - a. Begin with 240 to 300 degrees per second
  - b. Progress to 180 to 300 degrees per second
4. With Physician approval may begin straight ahead jogging

### **PHASE IV (Advanced Strengthening)**

#### **Week 13+**

### Orthotics-

1. Continue use of PCL brace for high risk activity and exercise until notified by physician

### Exercises-

1. Progress Phase III exercises as tolerated
2. Initiation of light sports activity
  - a. Plyometrics
  - b. Shuttle Bounding
  - c. See Interval Golf and Running programs
3. Isokinetic Test at 180, 240, and 300 degrees per second for MD review and full release to sport activity