



**Central Indiana Orthopedics**

INVESTED IN KEEPING YOU ACTIVE

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## **NON-OPERATIVE PCL TEAR REHABILITATION PROTOCOL**

The intent of this protocol is to provide the clinician with a guideline for a non-operative rehabilitation course of a patient with an isolated posterior cruciate ligament injury. It is by no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's course based on their physical exam/findings, individual progress, and/or the presence of complications. If a clinician requires assistance in the progression of the patient please consult with Dr Camilleri.

Please reference the exercise progression sheet for timelines and use the following precautions during your treatments. Thank you for progressing all patients appropriately and please fax all progress notes to Dr. Camilleri's office or hand deliver with the patient. Successful treatment requires a team approach and we value your care for the patient as well as your input. Please contact Dr. Camilleri at any time with your input on how to improve the therapy protocol.



## Protocol for Non-Operative Treatment of PCL Tears

### Precautions:

- Avoid greater than 90° of knee flexion for the first 6 weeks post injury.
- If greater than 90° of knee flexion is performed, this **MUST** be done with an anterior drawer force to prevent posterior subluxation.
- Posterior knee pain may mean the patient is progressing too quickly.

### Guidelines:

- Must be highly individualized.
- Quadriceps strength is related to return to sport and patient satisfaction.
- Protect the patellofemoral joint.
- Avoid open-chain knee flexion exercises. Utilize closed-chain exercises to enhance function of hamstrings.
- Early considerations: Quadriceps sets, straight leg raises, biofeedback, electrical stimulation for quads.
- Muscle function:
- Open chain knee extension: 90-60° and 20-0°
- Closed chain: Mini-squats, wall slides, step-ups, leg press/squat

### Phase I - Day 0-10:

- Range of motion: 0 – 60 degrees
- Effusion: Ice, elevation, NSAIDs
- Gait/Weightbearing: Protected weightbearing (50%) with crutches.
- Exercise: Isometric quadriceps when pain permits
- **Avoid open chain hamstring strengthening exercises**

### Phase II - Day 10-21:

- Range of motion: Early range of motion within limits of pain: Active-assisted and passive range of motion less than 60°. Can increase to 90° of knee flexion, this **MUST** be done with anterior drawer force protecting the knee.
- Effusion: Ice, elevation, NSAIDs, electrical stimulation
- Gait/Weightbearing: Weight bearing as tolerated with knee brace locked in extension.
  - Discontinue crutches when patient is able to and the effusion is controlled.
- Exercise: Isometric quadriceps when pain permits
  - Leg press 0-60 degrees.
- **Avoid open chain hamstring strengthening exercises**
- Avoid posterior tibial subluxation: Place a pillow under posterior aspect of lower leg when lying down.



## **Phase III - Weeks 3-5:**

- Range of motion: Progress as tolerated.
- Effusion: Ice, elevation, NSAIDs, electrical stimulation
- Gait/Weightbearing: Weightbearing as tolerated.
  - Discontinue the large hinged knee brace as tolerated.
  - Obtain a functional PCL brace.
- Exercise/Functional Training:
  - Focus on increasing strength and endurance of quadriceps.
  - Open chain knee extension exercises allowed IF no patellofemoral symptoms
  - Quadriceps sets and terminal knee extension.
  - May perform hip extension with knee extension.
  - No hamstring exercises with knee flexed.
  - Bike
  - Mini-squats 0-60 degrees
  - Leg press 0-60 degrees
  - Continue anterior drawer with knee flexion as above.

## **Phase IV - Weeks 5-8**

- Range of motion: Monitor
- Effusion: Monitor
- Gait/Weightbearing: As tolerated.
- Exercise/Functional Training:
  - Closed chain exercises to improve functional strength:
    - Mini squats
    - Wall slides
    - Step ups and leg press
    - Isotonic quadriceps progressive resistance exercises.
    - Proprioceptive training follows strengthening: Slide board

## **Phase V – Weeks 8-12**

- Begin a running program
- Gradual return to sport specific training

## **Return to sports criteria:**

- Full pain-free knee extension
- Full pain-free knee flexion
- Quadriceps strength > 85% of contralateral side
- Continue PCL brace until full return to play with no effusion (remainder of season)