

# PCL Nonoperative Rehabilitation Protocol



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## GOALS

- Promote tissues healing
- Decrease pain
- Decrease effusion
- Increase strength, endurance and power
- Improve proprioception and enhance dynamic stability
- Reduce functional limitations and disability

## TREATMENT

- Nonoperative treatment usually with isolated PCL injury

## ROM

- Knee flexion  $<90^\circ$  0-6 weeks post injury; if  $>90^\circ$ , MUST be done with anterior drawer (until full ROM)
- Posterior knee pain may mean patient is progressing too fast

## GUIDELINES

- Must be highly individualized!!
- Quad strength related to return to sport and patient satisfaction
- Protect PF joint
- Avoid open kinetic chain (OKC) knee flexion, utilize closed kinetic chain (CKC) exercises to enhance function of hamstrings
- Early considerations: QS, SLR, biofeedback, ES for quads
- Muscle function:
  - Open chain extension:  $90^\circ$ - $60^\circ$  and  $20^\circ$ - $0^\circ$
  - Closed chain: mini-squats, wall slides, step-ups, leg press/squat

## PHASE I:

### Without meniscus injury (0-10 Days)

#### ROM

- Progress as tolerated, no OKC hamstrings

#### EFFUSION

- Ice, elevation, NSAIDS, ES

#### GAIT/WB

- Weight bearing as tolerated (WBAT) with assistive device as needed and brace (brace may need extension stop)

#### EXERCISES

- Isometric quads when pain permits exercises

#### CAUTIONS

- Avoid OKC hamstrings

*If you have any problems or questions, please call your doctor's office (8am-5pm).*

*Answering service for after hours.*

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**PHASE II:**  
**(10-21 Days)**

**ROM**

- Early ROM within limits of pain:  
AA/PROM <90° or if >90°, MUST be done with anterior drawer

**EFFUSION**

- Ice, elevation, NSAIDS, ES

**GAIT/WB**

- Progress to WBAT knee brace locked (toward full extension as tolerated)
- Criteria to D/C crutches: pain controlled, effusion controlled
- Criteria to D/C brace: good quad control

**EXERCISES**

- Isometric quads when pain permits

**CAUTIONS**

- Important to avoid posterior tibial subluxation
- Pillow under posterior aspect of lower leg when lying down
- Avoid isolated OKC hamstring exercise

**PHASE III:**  
**(3-4 Weeks)**

**ROM**

- Progress as tolerated, no OKC hamstrings, continue anterior drawer with flexion ROM

**EFFUSION**

- Ice, elevation, NSAIDS, ES

**GAIT/WB**

- Begin SLB activities as tolerated

**EXERCISES/FUNCTIONAL TRAINING**

- Focus on increasing strength/endurance of quads
- OKC knee extension allowed as long as PF joint without symptoms
- Light resistance
- Quad sets and terminal knee extension
- No hamstring exercises with knee flexed, may do hip extension with knee extension

## PHASE IV: (4 Weeks)

### ROM

- Monitor

### EFFUSION

- Monitor

### GAIT/WB

- Progress SLB activities as tolerated

### EXERCISES/FUNCTIONAL TRAINING

- CKC exercises to improve functional strength:
  - Mini-squats
  - Wall slides
  - Unilateral step-ups
  - Leg press
  - Isotonic quad PRE
- Proprioceptive training follows strengthening:
  - Slide board

### RETURN TO SPORTS WHEN

- Pain-free full knee extension
- Full ROM
- Quad strength >85% of uninjured leg per Biodex testing
- Continue PCL brace until full return to play with no effusion (remainder of season)
- Monitor posterior drawer test (soft to firm to hard over 8-10 weeks)
- Inform patient that they have abnormal laxity of the knee that will persist