



# Posterior Cruciate Ligament (PCL) Injury

## WHAT IT IS

The posterior cruciate ligament (PCL) is one of four ligaments that stabilizes the knee. It is located inside the knee joint and connects the front of the femur (thigh bone) to the back of the tibia (shin bone). The PCL stabilizes the knee by limiting posterior (backward) movement of the tibia in relation to the femur. The PCL is somewhat thicker and stronger than its counterpart, the ACL (anterior cruciate ligament), and is more rarely injured.

Because the PCL is a ligament, an injury to this structure is referred to as a sprain. There are 3 grades of all ligamentous injuries. A Grade 1 (mild) sprain involves slight stretching of the ligament, a Grade 2 (moderate) sprain refers to partial tearing, and a Grade 3 (severe) sprain is a complete tear of the ligament.

## HOW IT HAPPENS

The PCL can be injured by hyperextending the knee or by sustaining a blow to the front of the leg, just below the knee, especially when the knee is bent (as often happens in car accidents when the front of the legs hit the dashboard).



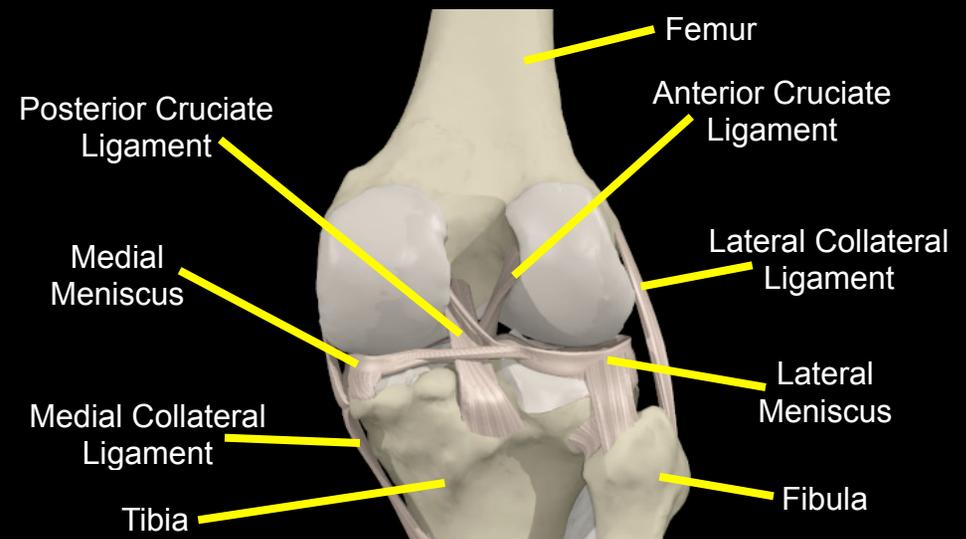
## WHERE IT HURTS

A PCL injury may cause very little pain initially, or may produce pain in the back of the knee that is increased by kneeling, squatting, or ascending or descending ramps or stairs. Immediate swelling may occur within a few hours after injury. As the swelling increases the knee may feel tight or harder to bend and straighten. Injury to the PCL may also leave the knee feeling unstable and prone to buckling or giving-out.

## IMMEDIATE TREATMENT

- **PROTECT** the knee from further injury by using crutches and/or a knee immobilizer.
- **REST** the knee from all activities until severity has been determined.
- **ICE** the knee for 15 -20 minutes to decrease pain and swelling. Ice may be applied as often as once per hour.
- **COMPRESSION** wraps can be used to decrease swelling and provide minimal support.
- **ELEVATE** the knee above the level of the heart to decrease swelling.
- **IBUPROFEN** can help decrease both pain and swelling. Take **NO MORE** than 1200 mg per day following the label's recommended amounts.

## RIGHT KNEE - POSTERIOR VIEW



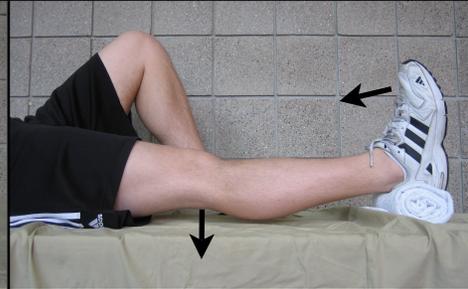
## REHABILITATION EXERCISES

### Seated Heel Slides



Place a towel under your heel and slide your heel towards your backside, causing your knee and hip to flex. Return heel to starting position. Repeat 30 times.

### Quad Sets



Contract the quadriceps muscle (on the front of the thigh) by pressing the back of your knee to the floor and pulling your toes towards you. Hold contraction for 3 seconds. Repeat 10-30 times.

### Mini Squats



Stand with feet shoulder-width apart and back straight. Bend knees and lower hips 6-12 inches, making sure to keep your knees behind your toes. Hold for 3 seconds before returning to starting position. Repeat 10-30 times.

### Stationary Bike



Ride a stationary bike to gently increase knee range-of-motion. Start with the seat high, so you can just reach the pedals, then gradually lower the seat as motion increases.

### Straight Leg Raise



Perform a quad set (see previous exercise) and then raise your heel 6-8 inches off the floor, keeping your knee straight. Hold for 3 seconds, gently lower the leg, and then relax the quadriceps. Repeat 10-30 times.

### Straight Leg Hip Extension



Lie on your stomach and lift your foot off the floor 3-4 inches, keeping your knee straight. Hold for 3 seconds. Repeat 10-30 times.

### Side-Lying Hip Abduction



Lie on the side of the uninjured leg and lift your heel off the ground about 10-12 inches. Keep your knee as straight as possible and hold for 3 seconds. Repeat 10-30 times.

### Side-Lying Hip Adduction



Lie on the side of the injured leg, crossing the uninjured leg over top the injured. Raise the injured knee and foot off the floor about 3-4 inches. Keep your knee straight and hold for 3 seconds. Repeat 10-30 times.

## ADVANCED CARE

Consult a physician if you suspect a Grade 3 PCL sprain, as other structures in the knee are likely to be damaged as well. For Grade 1 & 2 sprains, return to activity usually occurs within 4-8 weeks after the injury, once there is minimal to no swelling, pain-free full range of motion, and full muscular control. Strengthening, flexibility, and balance activities should be continued to prevent future injuries.

## Injury Prevention & Care - A Campus Recreation Program

<http://crec.unl.edu/ipcare>

The content of this handout is provided as general information and may not apply to specific individuals or specific injuries. The information is not intended to replace the medical advice of a physician. Campus Recreation welcomes persons with all abilities. Please inquire about the availability of accommodations for special needs. The University of Nebraska-Lincoln is an equal opportunity educator and employer with a comprehensive plan for diversity.

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