

Posterior Cruciate Ligament (PCL) Injuries

Ligaments are connective tissues that provide stability and help control movement. The posterior cruciate ligament (PCL) is located in the back of the knee and connects the thighbone (femur) to the shinbone (tibia) to prevent the shinbone from moving too far backward.

The PCL is very strong, but a powerful force can rupture or tear it. PCL tears can occur when a football or soccer player falls on a bent knee. Motor vehicle accidents are another common cause of injury to the PCL. When a driver or passenger of a motor vehicle strikes a bent knee just below the kneecap (patella) against the dashboard, the force can tear the PCL and damage other ligaments, bones, and muscles. Excessive tension, such as results from a dislocated knee, can also damage the PCL.

Signs and Symptoms

- Marked, immediate swelling (within 3 hours of the injury)
- Difficulty walking after the injury
- Painful to move the knee
- Occasionally, a feeling of instability, or the knee giving way

Diagnosis

To determine the extent of the injury, physicians rely on an account of the accident, a physical examination, and several diagnostic tests. Your doctor will need to know if you have a history of knee injuries. During the examination, your doctor will compare the injured leg with the normal leg and see if there is any sag or movement in the shinbone. PCL injuries may be isolated or combined.

Isolated PCL Injuries:

- Can sometimes be treated nonsurgically, especially if partially torn
- Do not involve any other structures in the knee

Combined PCL Injuries:

- May involve injury to other ligaments, bone, nerves or blood vessels
- May require surgery

MRI (magnetic resonance imaging) can be used to confirm the diagnosis. X-rays do not show ligaments, but they can reveal any associated damage to the bones and cartilage. For example, if the PCL is torn completely from its attachment to the shinbone, it may a piece of bone may be torn away as well. This is called an avulsion fracture and can be seen on an X-ray.

Treatment

The type of injury dictates the type of treatment. For partial or incomplete PCL tears, the initial treatment is RICE: rest, ice, compression, and elevation. You may have to use crutches for a short time, and your doctor may prescribe some anti-inflammatory drugs such as aspirin or ibuprofen. After the swelling subsides, you will need to follow a program of physical therapy to strengthen your quadriceps muscle and regain range of motion.

Some patients may require surgery to stabilize the knee. Arthroscopic surgery, which uses small incisions and pencil-sized instruments, is used to identify and repair damage in the knee. Fractures may need to be fixed to ensure proper healing. If the PCL is completely torn, it may be reconstructed using an autograft (tissue from the patient) or allograft (cadaver tissue).

Rehabilitation

The goals of rehabilitation are to restore range of motion and to strengthen the quadriceps muscles, which help stabilize the knee. After surgery, you may have to use crutches and a knee brace. Full recovery typically takes several months.