

Posterior Cruciate Ligament (PCL) Tear

Most sports fans have heard about ACL (anterior cruciate ligament) injuries and the damage they do. But little attention is paid to a corresponding ligament in the knee, the PCL, or posterior cruciate ligament. The connective tissues called ligaments provide stability and help control movement. The 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. For example, 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 the driver or passenger strikes the 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 three 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, the physician relies on an account of the accident, a visual examination, and several diagnostic tests. The doctor will need to know if you have a history of knee injuries. During the examination, the 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 usually be treated nonsurgically

Do not involve any other structures in the knee

May be either partial or complete tears

- Combined PCL injuries

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

Usually require surgical repair

An MRI (magnetic resonance image) 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 take a piece of bone 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 you need. For minor 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 require surgery to stabilize the knee. Arthroscopic surgery, which uses small incisions and pencil-sized instruments, is used to determine and repair damage to the cartilage in the knee. Avulsion fractures may need to be fixed with internal screws to ensure proper healing. If the PCL is completely torn, it may be reconstructed using a portion of the patellar tendon or some other autograph.

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. Exercises such as squats and leg presses are used because they put less stress on the knee. Full recovery takes several months.

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