

# **POSTERIOR CRUCIATE LIGAMENT INJURIES**

## **What is the posterior cruciate ligament?**

The posterior cruciate ligament, or PCL, is one of the four major ligaments that helps hold together the bones of the knee. The anterior cruciate ligament, or ACL, is better known, partly because ACL injuries are far more common than PCL injuries. But PCL injuries generally cause less disability and instability of the knee than ACL tears do. The PCL prevents the tibia (shinbone) from sliding backwards in relation to the femur (thigh bone). The PCL is injured 1/10<sup>th</sup> to 1/20<sup>th</sup> as commonly as the ACL

## **What causes a PCL tear?**

The PCL is very strong, but a powerful force can rupture the PCL. The most common mechanism of injury is the so-called "dashboard injury". When the knee is bent, and an object strikes the shinbone, causing it to be driven backwards, it can cause a PCL tear. This type of PCL injury is seen in motor vehicle accidents or motorcycle injuries. In sports, a PCL tear can occur from falling directly onto a bent or flexed knee. Another mechanism of injury is hyperflexion of the knee, with the foot pointed downwards. This position stresses the PCL, and if the force is strong enough, a PCL tear will result. Finally, the ligament can be injured with a hyperextension mechanism---this usually will result in several of the ligaments being injured. The PCL may occur as an isolated injury or it can occur with other ligaments such as the ACL ("bicrociate"), with either of the side ligaments (MCL or LCL) or with a knee dislocation. Most of the time the ligament tears within its substance but occasionally it can pull a piece of bone off of the tibia (avulsion fracture).

## **What are the symptoms of a PCL tear?**

Knee pain, swelling and decreased range of motion are common with PCL injuries. Acutely the pain may be referred to the back of the knee region and the patient may develop some bruising in the back of the upper lower leg region. In chronic settings the patient may present with knee cap pain (patellar pain) which is commonly associated with a PCL deficient knee. Knee instability is also a potential symptom of a PCL tear, although not nearly as common as with an ACL injury, particularly if it associated with other ligaments. When patients experience knee instability as a result of a PCL tear, they feel like they can't "trust" their knee, or, under certain circumstances, feel like their knee is going to "give out".

## **How is a PCL tear diagnosed?**

An important piece of information in making the diagnosis of a PCL tear is knowing the "mechanism of injury", in other words, how the injury happened. In the case of a motor vehicle accident, knowing that your knee struck the dashboard gives your

