

# Introduction

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There is a relative lack of research and literature investigating injuries to the posterior cruciate ligament despite the fact that it is an important knee stabilizer (Allan et al., 2002).

The posterior cruciate ligament (PCL) is named for its insertion on the tibia. The ligament originates from the lateral surface of the medial femoral condyle and passes posteriorly and laterally behind the anterior cruciate ligament (ACL). The PCL attaches to the tibia in an area of slight depression on the posterior tibia (Bowen et al., 1998).

The primary function of the PCL is to prevent posterior displacement of the tibia on the femur. It is usually 3mm wider than the ACL but has approximately the same length. It has a greater tensile strength than the ACL. It is injured much less frequent than the ACL (Scott 1998).

The impression of rarity is due to the frequency with which it is missed or misdiagnosed in the recent injury.

The PCL can be torn in two main ways:

- 1- By hyperextension.
- 2- A blow to the upper end of the tibia when the knee is flexed as when seated on motorcycle or in the front seat of a car involved in a head-on collision (Dandy and Pusey 1982).

The peripheral ligamentous structures are relatively lax in this position and have a large elastic reserve, while the short PCL is tight and has exhausted its elastic reserve. These circumstances are sufficient to enable an isolated tear (Muller 1983).

Isolated PCL injuries do occur, but combined ligamentous injuries are more common. Associated injuries may involve ACL, medial collateral ligament, lateral collateral ligament, or posterolateral complex. Meniscal and articular cartilage injuries are also commonly seen in association with both acute and chronic PCL injuries (Morgan and Wroble 2002).

Treatment of the PCL-deficient knee is a controversial subject with options ranging from conservative management to complicated surgical reconstructions. Much of the controversy exists because there are few studies in the literature that document the long-term results of specific treatment options. Those that do provide long-term results often do not differentiate between so-called isolated injuries, combined injuries, and acute versus chronic injuries. The choice of specific option best suited for a particular patient is based on the injury pattern and the structures that are deficient, the patient's age and level of expectation, and the experience of the surgeon. Considerations include treatment of bony avulsions of the tibial insertion, isolated posterior cruciate injuries, posterior cruciate and combined instability patterns, and chronic, symptomatic PCL deficiency (Delee and Drez 2003).