

Cruciate Ligament Rupture

What is the Cruciate Ligament ?

There are two cruciate ligaments in the stifle (knee). They attach the femur (thigh bone) to the tibia (shin bone) and allow some degree of twisting, allow the stifle to flex and extend, and importantly stabilize the joint – preventing front-to-back slippage.

Of the two ligaments, the one that almost always gets damaged is the *Anterior Cruciate Ligament*.

How does the Cruciate rupture ?

Often, only a simple slip on uneven ground, slippery floor or sand will damage the ligament. Certainly turning sharply while running at full speed, or leaping eg. to catch a frisbee, and landing badly are common causes of cruciate rupture.

When the leg twists, it tightens the cruciate ligaments around each other and it then only takes a relatively small sideways force to rupture one of the cruciates.

Sometimes, instead of the cruciate ligament rupturing, the bone where it inserts into the femur is actually pulled off (avulsion fracture).

What happens after the rupture occurs ?

The stifle joint becomes immediately un-stable, with the tibia being forced forward relative to the femur. There is sudden and intense pain due to the severe stretching of the structures around the joint, in particular the joint capsule.

Inflammatory fluid also fills the joint, further intensifying pain and thinning the lubricating joint fluid and producing destructive inflammatory enzymes that attack the cartilage.

Continued instability combined with the above effects causes rapid erosion of cartilage with subsequent irreversible bony changes; that is *arthritis*.

How is cruciate rupture diagnosed ?

In many cases, palpation of the injured stifle will reveal a positive anterior draw sign (abnormal forward movement of the tibia in relation to the femur). Sometimes the stifle joint is too painful to allow satisfactory palpation and sedation is required.

Because of the number of different types of traumatic injuries that can occur in the stifle, a general anaesthetic, X-rays and palpation are recommended.

What is the recommended treatment ?

The **ONLY** satisfactory way of treating a ruptured cruciate ligament is to perform surgery. Surgery replaces the function of the original

ligament with a synthetic prosthesis that therefore stabilizes the joint, limiting the degenerative joint disease that leads to severe arthritis.

The prosthesis is placed around the Fabella bone and through its tough ligamentous attachment to the femur, and through the bony ridge at the top front of the Tibia.

The prosthesis remains permanently in situ, and is stronger than the original ligament. The currently used (since 1993) prosthesis has never broken or come undone since it's introduction at our surgeries.

What other damage can occur as a result of the cruciate rupture ?

In 40% of cases there is also damage to the meniscus (cartilage) in the stifle. Because of this, it is now highly recommended that the injured joint be thoroughly explored and any torn cartilage be surgically removed. Damaged cartilage left in the joint will cause ongoing

lameness of varying severity and accelerate arthritic degeneration.

