American Animal Hospital
Caring for your pets as if they were our own.

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CRUCIATE LIGAMENT RUPTURE

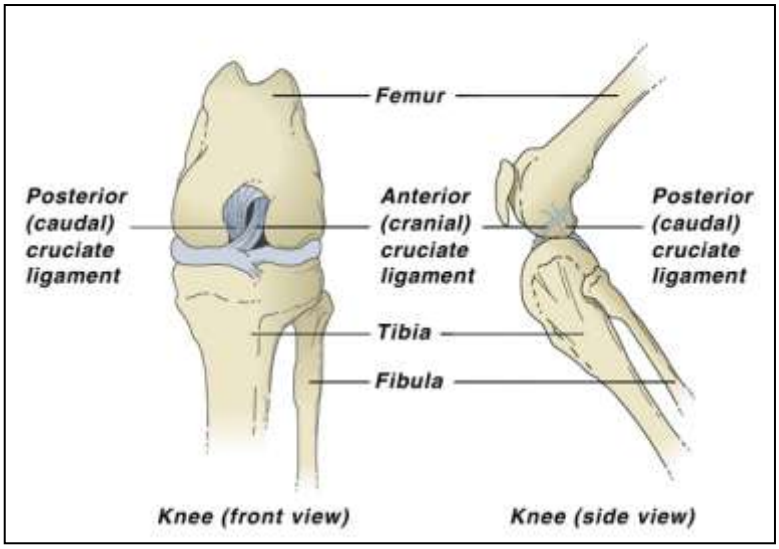
What and where are the cruciate ligaments?

There are two bands of fibrous tissue called the *cruciate ligaments* in each knee joint. They join the femur and tibia (bones above and below the knee) together so that the knee works as a hinged joint.

They are called cruciate ligaments because they "cross over" inside the knee joint. One ligament connects from inside to outside the knee joint and the other outside to inside, crossing each other in the middle.

Humans have the same anatomical structure of the knee. Cruciate ligament rupture is a common knee injury of athletes.

How does the injury occur?



- The knee joint is a hinged joint and only moves in one plane, backwards and forwards. Traumatic cruciate damage is caused by a twisting injury to the joint. This is most often seen in dogs and athletes when running and suddenly changing direction so that the majority of the weight is taken on this single joint. This injury usually affects the anterior (front) ligament. The joint is then unstable and causes extreme pain, often resulting in lameness.
- The injury also occurs commonly in obese dogs, just by stumbling over a pebble while walking.
- A more chronic form of cruciate damage can occur due to weakening of the ligaments as a result of disease. The ligament may become stretched or partially torn and lameness may be only slight and intermittent. With continued use of the joint, the condition gradually gets worse until rupture occurs.

How is it diagnosed?

- With traumatic cruciate rupture, the usual history is that the dog was running and suddenly stopped or cried out and was then unable to bear weight on the affected leg.
- Many pets will "toe touch" and place only a small amount of weight on the injured leg.
- During the examination, the veterinarian will try to demonstrate a particular movement, called a drawer sign. This indicates laxity in the knee joint. Many dogs will require mild sedation or pain medications to perform this test. Other diagnostic tests such as radiographs (x-rays) may also be necessary.
- Other tests such as arthroscopy may be needed to rule out other damage to the joint.

Is other joint damage common?

Inside the knee joint are pieces of cartilage called *menisci*. Many times these cartilages are also damaged when the cruciate ligaments rupture. They are usually repaired at the same time as the ligament surgery.

Is an operation always necessary?

Dogs under 10 kgs (22 lbs.) may heal without surgery. These patients are often restricted to cage rest for two to six weeks. Dogs over 10 kg. (22 lbs.) require surgery to heal. Unfortunately, most dogs will eventually require surgery to correct this painful injury.

What does surgery involve?

There are various techniques available to replace the action of the cruciate ligaments. These surgeries most often involve the placement of artificial ligaments along the outside of the knee joint. There is a newer surgical technique available called tibial plateau leveling osteotomy (TPLO) that is especially beneficial for larger, more athletic dogs. Your veterinarian will discuss with you the best treatment option for your pet.

Is post-operative care difficult?

It is important that your dog have limited activity for six to eight weeks after surgery. Provided you are able to carry out our instructions, good function should return to the limb within three months. Unfortunately, regardless of the technique used to stabilize the joint, arthritis is likely to develop. As your dog ages, stiffness is likely to develop in the joint. Weight control and nutritional supplements such as glucosamine / chondroitin may help reduce the risk of arthritis in your pet.

Is obesity such a problem?

Obesity can result in cruciate ligament rupture and knee arthritis. If your dog is overweight, the recovery time will be much longer. Obesity also increases the risk of injury to the other knee. We will be happy to prescribe a weight reduction diet. Weight loss is as important as surgery in ensuring rapid return to normal function.