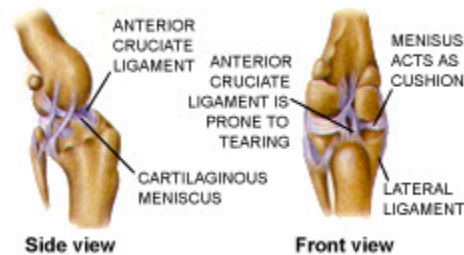


Cranial Cruciate Ligament Rupture

Dog and cat knees are similar to humans. For example, knees have five ligaments, two menisci, a knee cap, and joint cartilage. The ligament most commonly affected in dog and cat knees - the cranial cruciate ligament - is the same ligament most commonly damaged in professional athletes. Dogs and cats usually tear this ligament when out running around, or sometimes when landing wrong after a jump.



The cranial cruciate ligament is a large, strong ligament located within the knee joint. It is not actually a single structure, but is, in fact, made up of a bundle of individual fibers tightly bound together to form the ligament. Most of the time when the ligament is injured, it is completely torn in half. Sometimes, though, only a portion of the ligament will tear. Though only a portion of the ligament may be torn, the whole ligament is damaged.

When a cranial cruciate ligament is torn, it causes sudden pain and often results in the pet holding its leg up. It also causes an instability in the knee joint. The pet may put the leg down and start using it within a day or so, but will continue to limp for several weeks. Normally, at the end of several weeks, the initial pain subsides and the pet is willing to use its leg more; however, the joint remains unstable. Every time the animal puts weight on the leg, the tibia (shin bone) slides forward in relationship to the femur (thigh bone). This abnormal motion causes wear and tear on the joint cartilage, causing pain and leading to arthritis. This motion can also put excessive stress on the menisci (C shaped pieces of cartilage within the knee joint), causing damage or tearing.

Surgery is the only corrective measure for cranial cruciate ligament injuries. Many surgical procedures have been tried on people and animals during the last 60 years; however, most orthopaedic surgeons agree that the procedures are not as successful as they would like. Knees that suffer this injury are never completely normal even after surgery is performed. Surgery does, though, stabilize the knee, allowing it to regain normal motion and thereby reducing the formation of arthritis. Surgery has been and remains the treatment of choice for this injury. If surgery is not performed, progressive arthritis will occur and the lameness will worsen with time.

There are many different ways to stabilize a knee with a cruciate ligament injury. The procedure that we usually use here is a modification of the DeAngelis procedure, which involves placing either heavy gauge suture material or orthopaedic wire from the back of the femur, across the joint, and to the front of the tibia. This will tighten up the joint and

stabilize it. Over time, scar tissue will lay down around the suture or wire to form a structure which mimics the function of the normal cranial cruciate ligament. The majority of animals will regain normal or near normal use of their leg after the surgery and after a period of rehabilitation. Strict limitation of activity is necessary after the surgery for a period of six weeks so that the animal does not over stress the repair before the scar tissue has formed. Total rehabilitation time, as in people, can be several months.

The preceding information was written by Dr. George Siemering and Dr. Dan Brehm. Dr. Siemering and Dr. Brehm are the surgeons at SouthPaws and perform a full range of soft tissue, orthopaedic, and neurological surgical procedures. They can be reached at (703) 451-0909.