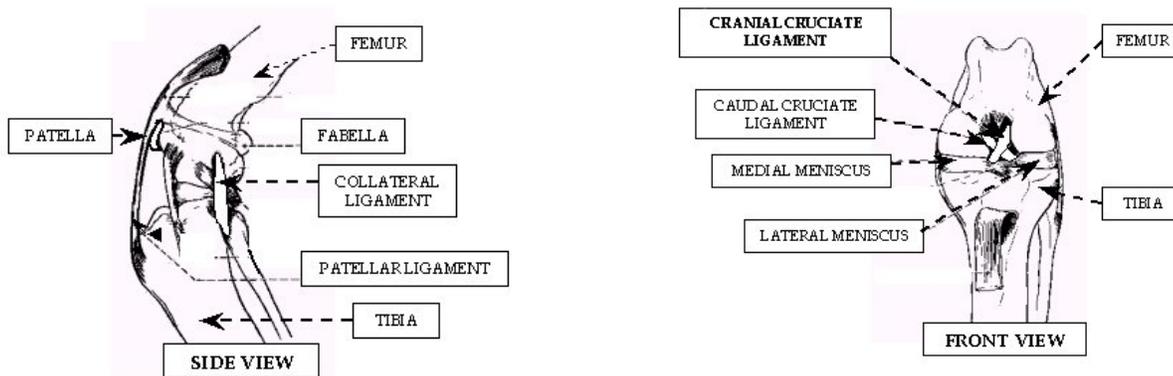




Cranial Cruciate Ligament injury

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The cranial cruciate ligament (CCL) in dogs is the same structure as the anterior cruciate ligament (ACL) in people. The most common cause of lameness in dogs is CCL injury. In contrast to people, whose ACL injuries typically result from a single traumatic event (ie, while skiing or playing football), dogs' CCL injuries frequently result from relatively minor incidents (ie, chasing deer or jumping off furniture). The specific cause of CCL injury is unknown; although conformation or genetics may play a role and increase a dog's risk of CCL injury, this idea is not substantiated. Because of the "wear and tear" nature of cruciate ligament injuries in dogs, the risk of this injury occurring in both knees is significant.



The CCL is located inside the knee, between the femur and tibia, and is responsible for keeping these two bones aligned. When the ligament is injured, the two bones shift back and forth relative to each other: during weightbearing, the tibia moves forward compared to the femur. This instability perpetuates swelling and inflammation inside the joint, leading to progressive arthritis and potential meniscal injury.

The knee contains two menisci. Each meniscus is made of cartilage and acts as a shock absorber, as well as contributing to joint stability. Meniscal injury most often occurs with CCL injury and requires removal of the meniscus. While removing the meniscus does increase the development of arthritis, the impact on longterm function is minimal.

The cranial cruciate ligament is not capable of healing itself and cannot be sewn together again after a tear has occurred. Because of this limitation, and because of the detrimental inflammation associated with any CCL injury, recommendations are the same whether a partial or complete CCL tear has occurred.

For the vast majority of dogs with CCL injuries, surgical treatment is recommended. Exceptions to this generalization are most often concurrent severe medical problems that could increase the risk associated with general anesthesia or potentially impair healing after surgery.

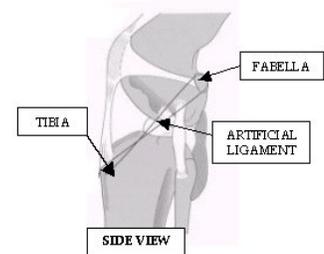
Surgery and general anesthesia carry inherent risk that can not be entirely eliminated. Infection can develop



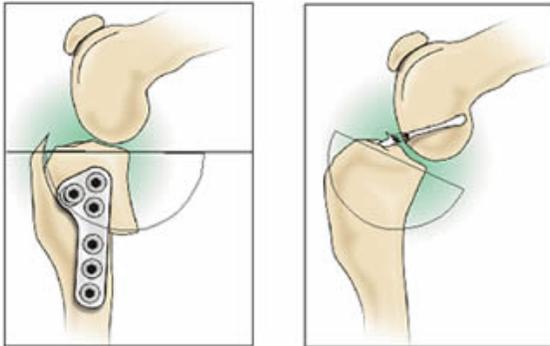
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at any surgical site; surgical implants can fatigue or migrate; and appropriate healing is just as important for successful outcome as meticulous surgical technique and conscientious postoperative care.

Extracapsular Stabilization: a loop of strong suture material is placed around the outside of the knee, mimicking the angle of the cruciate ligament. Although the suture material itself gradually loses strength, its placement stabilizes the knee and promotes scar tissue formation that will ultimately provide joint stability. This technique is typically recommended for smaller dogs and for cats.



Tibial Plateau Leveling Osteotomy (TPLO): a curved cut is made in the tibia, so that the upper part can be rotated to an angle that will eliminate shearing back and forth between the tibia and femur during weightbearing. After the bone is cut and rotated, it is held in place with a plate and screws.



Several other surgical techniques have also been developed for treating CCL injuries, and any of these procedures can also be discussed in detail.

Recovery: strict rest is necessary to allow healing after extracapsular stabilization or TPLO. During the first six to eight weeks after surgery, running, jumping, playing, and climbing furniture must be prevented. Dogs who are used to being in a crate should spend unsupervised time there. Recheck examinations are scheduled for two, six, and twelve weeks after surgery, with follow-up x-rays at the six and twelve week appointments.

Major points:

Cranial cruciate ligament injuries occur very frequently in dogs.

Surgical treatment is recommended for CCL injuries in order to minimize osteoarthritis progression.

Glucosamine chondroitin supplements are recommended longterm for dogs with CCL injuries. Omega 3 fatty acid supplements are also beneficial. *Dasuquin or Cosequin and Nordic Naturals are examples of high quality glucosamine chondroitin and omega 3 fatty acid supplements.*

Please contact Dr. Arthur to discuss any additional questions about cruciate ligament injury and treatment.