

Cruciate Ligament Injury and Repair in Dogs

The knee (stifle) joint of the dog is one of the weakest in the body. Just as athletes (football players, in particular) frequently suffer knee injuries, the dog also has knee injuries. The knee joint is relatively unstable because there is no interlocking of bones in the joint. Instead, the two main bones, the femur and tibia, are joined with several ligaments. When severe twisting or excessive extension of the joint occurs, the most common injury is a rupture of the anterior cruciate ligament (ACL). When it is torn, instability occurs that allows the bones to move in an abnormal fashion in relation to one another. When this happens, it is not possible to bear weight on the leg without it collapsing.

Contributing Factors

A special note is appropriate concerning the dog's weight. Obesity or excessive weight can be a strong contributing factor in cruciate rupture. The ligament may become weakened due to carrying too much weight; this causes it to tear easily. Obesity will make the recovery time much longer, and it will make the other knee very susceptible to cruciate rupture. If your dog has a weight problem, there are prescription diets that can be used to assist weight reduction.

Prevalence

Rupture of the ACL is most common in middle aged and older dogs, particularly those that are overweight house pets.

Causes

In younger dogs, rupture of the ACL is usually the result of trauma to the stifle joint. In some cases, the ligament may only partially tear; however, this will eventually lead to complete tearing of the ligament. When ACL rupture occurs in older dogs, it is most frequently initiated by a progressive degenerative change in the ligament with eventual total rupture.

Clinical Signs

Dogs with a ruptured ACL are usually lame and may refuse to bear weight on the affected leg. Eventually, most dogs become more willing to bear weight but some degree of lameness remains.

Diagnosis

The most reliable means of diagnosing this injury is to move the femur and tibia in a certain way to demonstrate the instability. This movement is called a "drawer sign." It can usually be demonstrated with the dog awake. If the dog is very painful, has very strong leg muscles, or is uncooperative, it may be necessary to use sedation in order to examine the joint adequately.

Treatment

If your dog is seen on an emergency basis and is diagnosed with an ACL, an anti-inflammatory medication such as Metacam, Rimadyl or Deramaxx may be prescribed. You will also be instructed to restrict your dog's activity and see your veterinarian or a veterinary surgeon as soon as possible.

Correction of ACL rupture requires surgery. If surgery is not performed within a few days to a week, arthritic changes will begin that cannot be reversed, even with surgery.

Occasionally, the injury that causes a ruptured anterior cruciate ligament will also result in tearing of one or both of the menisci or "cartilages." At the time of surgery, these are examined and removed if necessary.

Prognosis

Following proper and prompt surgical correction, the joint is sound again. Most dogs walk and run without any lameness; however, some have either a mild limp or lameness associated with cold and damp weather.

Occasionally, a dog that has a ruptured cruciate ligament will become sound (will no longer limp), even if surgery is not performed. However, progressive, degenerative arthritis will develop and result in lameness a few months later. Once these degenerative changes are established, the lameness cannot be corrected, even with surgery.