

Cranial Cruciate Ligament Rupture

- Cranial cruciate ligament (CCL) rupture is one of the most common orthopedic problems in dogs.
- The CCL in dogs corresponds to the anterior cruciate ligament (ACL) in humans.
- An injury to this ligament is debilitating and extremely painful.
- Dogs injure this ligament when the joint is hyperextended or rotated to an excessive degree. The injury can also develop over time in susceptible dogs.
- In some cases, particularly in larger dogs, surgical treatment is recommended.

What Is Cranial Cruciate Ligament Rupture?

Cranial cruciate ligament (CCL) rupture is one of the most common orthopedic problems in dogs. A dog's stifle joint corresponds to the human knee joint, and the CCL is comparable to the anterior cruciate ligament (ACL) in humans. Just as in humans, a partial or complete rupture of this ligament is debilitating and extremely painful, resulting in lameness and joint instability. Untreated, CCL rupture results in additional degenerative changes in the joint and, eventually, osteoarthritis. CCL rupture can occur in any dog. Risk factors include obesity, existing osteoarthritis or instability in the knee, and a lack of proper conditioning for the activity taking place, such as a normally sedentary dog that suddenly begins vigorous play.

What Are the Signs of Cranial Cruciate Ligament Rupture?

The first sign of the disease is typically hind leg lameness. The degree of lameness depends on whether the injury is chronic or acute/traumatic and whether the rupture is partial or complete. As a result, some dogs may be slightly lame while others are unable to place any weight on the affected limb. Other signs include:

- Pain and stiffness
- A dog that sits abnormally because it no longer can or wants to flex its stifle joint

- Difficulty rising
- Joint swelling and/or muscle atrophy (wasting) in the stifle area
- Decreased activity level

Causes of Cranial Cruciate Ligament Rupture

- **Chronic Rupture:** This occurs when the ligament has weakened and become damaged over time, as with osteoarthritis. Additional degenerative changes in the joint may result. Partial tears will eventually rupture completely if left untreated. Age, obesity, poor posture, and certain diseases can contribute to ligament deterioration and rupture.
- **Acute Rupture:** Dogs typically injure their CCL while engaged in some type of physical activity during which the joint is hyperextended or rotated to such an extreme degree that the ligament tears.

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Diagnosis

Diagnosis of CCL is usually made based on clinical signs, physical examination, and radiographs (x-rays). During the examination, your veterinarian may conduct a "sit test" with your dog. Dogs with partial or complete tears of the CCL are reluctant to flex the stifle joint and may sit abnormally to one side with the injured leg held straight out. Your veterinarian will also evaluate the joint for abnormal movement or instability; this may need to be done with your dog under sedation. Any swelling in the joint or muscle atrophy will also be noted.

Treatment

Your veterinarian may recommend medical or surgical treatment for CCL rupture. Treatment

Common Conditions

recommendations are based on several factors, including the severity of the injury, the condition of other structures in the knee, and the size and overall health of the patient.

Medical management typically consists of rest, appropriate pain medication (such as nonsteroidal antiinflammatory medications, or *NSAIDs*), and joint supplements. Once the acute phase has passed, it is very important to keep the dog's weight under control and follow a veterinarian-approved exercise plan. In many cases, small dogs (less than 30 pounds) can do well with medical management. Conservative (medical) treatment may also be recommended if the dog is not a good candidate for surgery.

Surgical treatment involves stabilizing the joint in order to create more normal joint movement. There are several surgical procedures that can accomplish this successfully. Some veterinarians perform the

surgery themselves; others may refer this procedure to a veterinary orthopedic specialist. Some veterinarians can perform CCL surgery using arthroscopic surgical equipment. If your dog is a candidate for CCL surgery, your veterinarian will discuss your surgical options with you.

After the surgery, closely follow your veterinarian's instructions regarding limitations on activity to allow the surgical site to heal. Pain medications and physical therapy will be prescribed as needed. The prognosis varies based on the degree of joint degeneration.

Caution

A significant percentage of dogs that have experienced a CCL rupture in one hind leg typically rupture the CCL in their other hind leg within a year.