

Cruciate Ligament Rupture

What is the cruciate ligament?

The function of the cruciate ligament is to limit internal rotation and forward movement of the tibia in relation to the femur, preventing hyperextension in the knee. The ligament is damaged if the leg is rapidly rotated (example: when the animal suddenly turns toward the leg with the foot firmly planted) or if the leg is forcefully hyperextended (example: stepping into a hole while running).

Rupture of the anterior (cranial) cruciate ligament is one of the most common injuries in dogs and a major cause of arthritis in the knee. Rupture of the ligament may be complete or partial.

What are the clinical signs?

- Pain
- Refusal to bear weight on the leg immediately after injury occurs
- Lameness gradually improves over 2-3 weeks
- Secondary arthritis

How is it diagnosed?

- Demonstrating instability in the knee joint, oftentimes under sedation
- X-rays to rule out other potential bone problems
- Partial tears may be more difficult to diagnose
- Valley fever test may be indicated

How is it treated?

Treatment consists of four components:

- 1) Rest – no activity until the joint heals
- 2) Non-steroidal anti-inflammatory drugs – to help control inflammation and pain
- 3) Weight reduction/ control- to reduce stress on the joint
- 4) Surgery – to reduce instability in the knee
 - Extracapsular Repair (dogs under 40#)- This involves opening the joint, cleaning damaged cartilage, and then closing the joint and joint capsule using suture material to mimic the function of the cruciate ligament.
 - TPLO (dogs over 40#)-This involves cutting the tibia bone and repositioning it using a bone plate so that the joint angle is changed. The new joint position stabilizes the knee causing less stress and pain in the joint.
 - * Both surgeries take 8-12 weeks for recovery. Physical therapy is an important component of recovery, improving the overall outcome of surgery.

What if the surgery is not done?

Untreated animals show degenerative arthritis within a few weeks to months. The severity is directly related to the size of the dog and the arthritis progresses with age. Dogs that rupture one cruciate ligament are also at higher risk of rupturing the cruciate ligament in the other knee.