

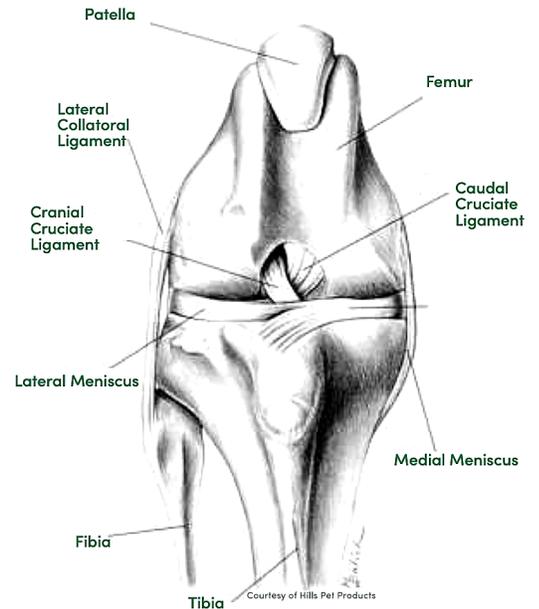


FREQUENTLY ASKED QUESTIONS: CRANIAL CRUCIATE LIGAMENT REPAIR – EXTRACAPSULAR STABILIZATION

WHAT IS THE ANATOMY OF THE STIFLE?

The cruciate ligaments are important stabilizing elements within the canine stifle joint (knee). There are 2 cruciate ligaments in the knee called the cranial and caudal cruciate ligaments. These same structures are present in the human knee but they are called Anterior and Posterior cruciate ligaments.

The cranial cruciate ligament (CCL) is commonly injured in both canines and humans. (referred to as the ACL in humans). Two cartilage pads called menisci are also found within each knee (the medial and lateral menisci). Due to anatomical reasons, often the medial meniscus will become damaged secondary to the ruptured CCL and resulting joint instability. This by itself often results in significant pain and lameness.



WHAT ARE THE CLINICAL SIGNS?

The most common clinical sign associated with a ruptured CCL is lameness. The lameness can vary from being mild and intermittent to non-weight bearing. In some cases the knee will make a clicking or popping noise as the dog walks. This often indicates medial meniscal damage.

WHY DID THE CCL RUPTURE?

In most dogs it appears that their CCL degenerates or weakens over time, which predisposes them to rupturing their CCL, with relatively minimal trauma. The cause of this degeneration is yet to be fully understood. Because this degeneration of the CCL is occurring in both knees, there is an approximate 40% chance that dogs with a ruptured CCL in one knee will go on to rupture the CCL in the opposite knee at some point in their lifetime.

HOW IS IT DIAGNOSED?

Diagnosis of a ruptured CCL is done by palpation (feeling the knee) and radiographs (x-rays). Most dogs with a ruptured CCL will have instability within the knee called cranial drawer movement or cranial tibial thrust. This is the hallmark physical finding. In dogs with chronic or partial tears of their CCL or in very tense dogs, cranial drawer movement may not be detectable. In these cases radiographs are helpful and usually confirm some degree of osteoarthritis and joint effusion (swelling); however, the CCL is never visible on radiographs.

IS SURGERY NEEDED?

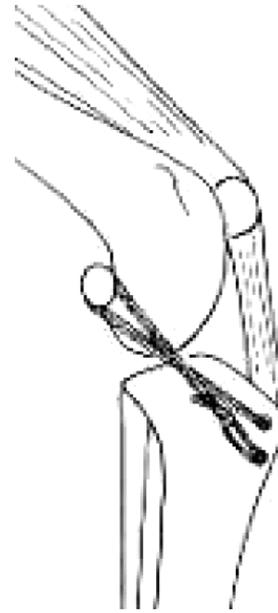
Surgical stabilization of the knee is the recommended treatment for dogs with a ruptured CCL. There are several different techniques that can be utilized to stabilize the CCL-deficient knee. With any technique, the knee joint is first explored, the torn ends of the CCL removed, and the menisci are evaluated. If the medial meniscus is damaged, that portion will be removed. Fibrocartilage (scar tissue cartilage) will later fill in this void and replace the function of the damaged meniscus. This portion of the surgery can be done arthroscopically or through a small open surgical approach.



WHAT IS THE EXTRACAPSULAR STABILIZATION TECHNIQUE?

To prevent cranial tibial thrust, the knee is stabilized by using strong nylon sutures placed just on the outside of the joint capsule. Eventually, scar tissue aligns itself around the sutures and ultimately, the scar tissue holds the knee stable.

This technique is primarily reserved for use in small breed dogs (less than 30 pounds). Recently, a very strong synthetic material (TightRope) was introduced with a technique utilizing bone tunnels in the femur and tibia for suture placement, called the TightRope CCL. This technique offers increased stability as compared to prior extracapsular repairs, and offers increased stability for larger-breed dogs.



WHAT IS THE PROGNOSIS?

The prognosis following surgery is generally good for smaller dogs; however, larger dogs will often stretch out the extracapsular sutures and have continued instability within the joint. This will result in decreased range of motion (stiffness) and progression of osteoarthritis (although likely much slower than without surgery).

Smaller dogs would be expected to return to about 90–95% of normal limb function, while larger dogs may only obtain 75–85% normal limb function. The level of pre-existing osteoarthritis can also affect the prognosis. Signs of osteoarthritis often include stiffness or lameness early in the morning, after heavy exercise, or on cold days. Dogs with severe osteoarthritis often may have persistent lameness.

WHAT ARE POSSIBLE COMPLICATIONS?

As with any surgery, complications are a possibility. Although not very common, the following have been documented: infection, reaction, or irritation to the heavy nylon stabilization sutures, breakage of the stabilization sutures before the development of sufficient scar tissue, and post-operative damage to the meniscus.

Typically we see some type of complication in about 5–10% of these cases, however the complication rate can be much higher in larger-breed dogs.

WHAT DOES RECOVERY LOOK LIKE?

Your dog's activity level must be restricted to short leash walks only (preventing running/jumping activities) for a full 8–10 weeks. We will start with very short leash walks to urinate/defecate only and then very gradually increase those walks through the rehabilitation period. When your pet is alone, he/she should be restricted to a small area or crate.

Adequately restricting your pet's activity level plays a major role in the success of the surgery. It generally takes up to 4–6 months before your dog will be fully recovered from a "traditional repair".