

## CRANIAL CRUCIATE LIGAMENT RUPTURE

One of the most common orthopaedic injuries seen in dogs is rupture of the cranial cruciate ligament (CCL) in the knee. When the CCL ruptures, the dog's knee becomes unstable and painful. This instability can lead to cartilage damage and inflammation resulting in arthritis. Arthritis is permanent and usually progressive.

Dogs with CCL injury can present with acute or chronic rupture of the CCL. Acute rupture usually occurs during athletic activity such as ball chasing or running, where extreme forces overload the ligament and it tears. The dog will be in pain immediately and most will not walk on the leg at all after the event. Chronic rupture involves partial tears of the CCL with mild, intermittent lameness. There is slow degeneration of the ligament ending in complete rupture. Damage to other structures in the knee (such as the meniscus) is common with chronic injuries.

Your veterinarian can diagnose CCL injury by a physical examination and will recommend referral for surgery if appropriate. On consultation with our board certified specialist in small animal surgery, the diagnosis will be confirmed with examination and x-rays.

### Treatment Options For CCL Rupture

The recommended treatment for CCL rupture is surgery. Conservative management involves rest and anti-inflammatory medications. This does not address the instability in the knee but is aimed at reducing pain and progression of arthritis. Conservative treatment may sometimes be successful in very small dogs, but generally is not as good as surgical treatment.

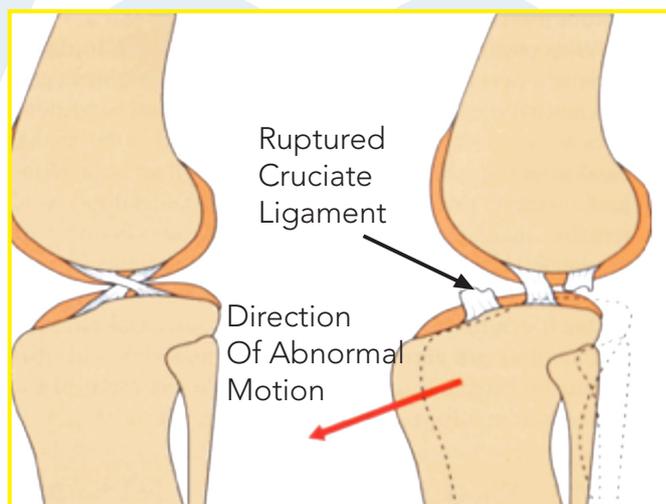
Surgical treatment is aimed at producing a stable joint, reducing secondary damage, and reducing the progression of arthritis.

There are many options available to stabilise the joint, the two most common procedures performed at BVSC are **extracapsular stabilisation**, **tibial tuberosity advancement (TTA)** and **tibial plateau levelling osteotomy (TPLO)**.

**Extracapsular stabilisation** involves placing a prosthetic ligament across the outside of the joint to prevent the abnormal motion of a CCL ruptured knee. This is the most common surgical method used by general practice veterinarians and works well in small, non-athletic dogs.

For large breeds, athletic dogs, or those with abnormal anatomy, an osteotomy (cutting of the bone) technique such as the TTA or TPLO procedure is recommended to change the mechanics of the joint such that a functioning CCL is no longer required.

More detailed information on these techniques are available in separate information sheets on this website.



### What Is Involved?

A 1-2 day hospital stay is usual for knee surgeries. Your dog will be admitted the morning of surgery for preoperative examination, radiographs, surgical planning and pre-emptive pain control.

Continuous observation and pain control is maintained postoperatively until your dog is comfortably up and about. We are very particular that your dog is cared for and pain is prevented or absolutely minimised. This is why we recommend this surgery is performed in a hospital where there are expert staff watching over your dog all day and all night.

We recheck your dog two weeks after surgery to check the surgical site and joint function. We recommend physiotherapy is started at this time to improve return to normal function. You can read more about the physiotherapist available at BVSC by visiting our website.

Final assessment is at six or eight weeks after surgery to confirm appropriate healing and joint function. For osteotomy techniques, x-rays are taken at this time to ensure the bone has healed normally.

### Outcomes Of Surgery

Return to normal activity is almost always achieved. Unrestricted activity can usually resume between 8-12 weeks, however improvement in muscular strength will continue for up to 6 months.

Dogs with CCL rupture usually have some degree of arthritis in their joint. Surgical treatment significantly reduces the progression of the arthritis compared with non-surgical treatment, but arthritic changes will persist even in those dogs that have had surgery.

CCL surgeries are complex procedures and require experienced surgeons. Potential minor complications include wound bleeding and swelling. Infection may occur, but this is infrequent with less than a 1% probability in our hospital. More serious complications include movement or loosening of the bone or implants. This is also uncommon but may be the consequence of too much activity in the postoperative period. Late injury of the menisci can occur after the surgery regardless of technique used. On occasion, these complications may require a second operation.

Our mission at **Brisbane Veterinary Specialist Centre** is to produce the best possible outcomes for our surgical patients while minimising the risks and preventing pain. We do this by having expert, caring staff, state-of-the art facilities and equipment and by attending to the individual needs of our patients. We look forward to being given the opportunity to help you and your pet.

To make an appointment for your pet ask your veterinarian for a referral and contact our friendly reception staff on **(07) 3264 9400**.