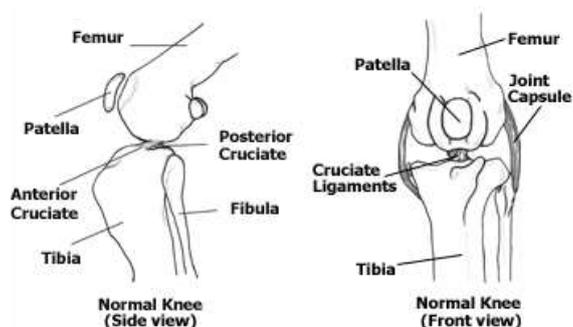


# CRUCIATE REPAIRS IN DOGS



## ***What is the cruciate ligament?***

There are two bands of fibrous tissues that cross over within the joint of the knee, they are known as the cranial and caudal cruciate ligaments. These ligaments provide stability to the knee joint. In dogs, the cranial cruciate ligament is the one that is most likely to rupture.



## ***What causes this ligament to rupture?***

Cruciate rupture most commonly occurs due to long-term degeneration where the tissue fibers are weakened over time. This ligament can also rupture as result from a sudden injury such as jumping, sudden turns, etc. Some breeds are more susceptible to cruciate disease. Overweight pets are also at increased risk due to the excess pressure placed on the joints.

## ***Does it need to be repaired?***

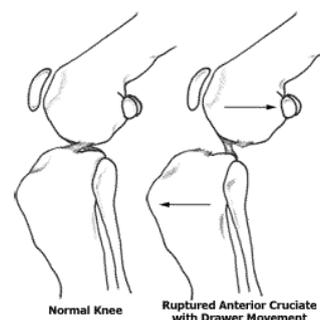
This is not something that will fix itself over time. In fact, the joint will only deteriorate further, leading to ongoing pain, inflammation and severe osteoarthritis. The only time that surgical correction would not be recommended is when the pet has an underlying condition that would put it at great risk to receive a general anaesthetic, e.g. severe heart disease, immune conditions, etc.

## ***My pet doesn't appear to be in any pain...***

This is a false statement. The rupture of the ligament has caused instability in the joint, causing it to move in unnatural directions. Limping itself is a sign of pain. Inflammation and fluid buildup will also cause pain. Even though your pet may still be eating, drinking and wanting to play, do not confuse this with signs that they are not uncomfortable. Footballers report this injury to be extremely painful, there is no reason not to believe that this is the same in pets, just because they don't vocalize it.

## ***How is this diagnosis confirmed?***

The Veterinarian will perform a physical test known as a 'cranial draw test'. Here they are checking the amount of movement within the joint to test the stability. Please be aware that due to the increased pain that this can cause, pets may not be tolerant of our Veterinarians performing this check. In some instances, sedation and xrays are required to confirm the diagnosis.



### ***How is the procedure performed?***

The Veterinarian will first visually inspect the joint, where they will then remove any torn fragments of the cruciate ligament, also checking the meniscus (cartilage that cushions and stabilizes the knee) and remove any damaged portions. Our Veterinarians perform an 'extracapsular technique' where a strong, non-absorbable suture (nylon) is passed around a small bone at the back of the knee, which is then placed through a small hole that is drilled in the front of the tibia bone. The nylon is then tightened to prevent drawer motion, taking over the job of the ruptured ligament. Scar tissue eventually forms over the suture material, which helps to further stabilize the joint.

Please note the 'extracapsular technique' is not suited to all patients. There may be circumstances in which a Tibial Plateau Levelling Osteotomy (known as a TPLO) will need to be performed. This technique uses surgical plates and screws and is recommended for medium to large breed dogs. It is performed by an Orthopedic Specialist (referral is required).

### ***What will we need to do when we get home?***

Your pet will need *strict rest* for the first *six weeks* after the operation. This means that they will need to be confined to a crate or small room, depending on the breed of dog. We have crates of various sizes available for hire at the clinic. Small/medium breeds are best confined to a crate where you can be sure that they cannot jump up on any furniture or run around. Your pet must remain on leash for toileting, with a maximum of 10 minutes 'break time' from the crate. There is to be no walking up and down stairs, jumping up or any uncontrolled activity. Do not walk on slippery or wet surfaces. Total recovery time is around 12 weeks in total.

### ***Where to from here...***

If the procedure can be performed by one of our Veterinarians, a surgical appointment can be made with one of our nurses, who will also give you pre-operative notes and book an admission time. In most cases, this is a day procedure. An evening discharge appointment will be made with the Veterinarian, where they will discuss the surgical outcomes with you and answer any further questions you may have. You will also be presented with after care instructions which run through exercise instructions and what is required/allowed over the following 12 weeks. In some cases, overnight hospitalization may be recommended, but this is reviewed on anaesthetic recovery and will not be known until the day.

Images from: <http://www.peteducation.com/article.cfm?c=2+2084&aid=474>

## POST OPERATIVE RECOVERY INSTRUCTIONS

### First Four weeks following surgery:

**STRICT CONFINED REST:** Your pet must remain confined for the first four weeks following surgery. This is best achieved with the use of a crate or puppy pen. For large breed dogs the laundry or an ensuite may be an option during this time. Floors must be made 'nonslip' to prevent injury to the knee. Non-slip mats or carpet must be used in the laundry/ensuite if this is where your pet is to be housed. Mats should also be used to make a path outside for toileting.

During this initial four-week period, they will need to be taken outside for toilet breaks 3-4 times a day, ON LEASH, AT ALL TIMES. Depending on the size of your pet, a sling may be required to help support your pet to walk, helping take the weight off the affected leg. A towel can be used to make a simple sling, placed under the abdomen.

**MEDICATIONS:** Your pet will be provided with 1-2 weeks of pain relief and anti-inflammatories to minimise inflammation (swelling) and discomfort. They will also be provided with antibiotics to prevent the development of infection. Please follow all instructions on the labels

A course of Cartrophen is started generally at the first post-operative check following surgery. Cartrophen is an injection given once a week for four weeks to limit wear and tear on the joint and reduce arthritic changes. It also lubricates the knee, making movement easier. Your nurse will book these appointments with you.

**BANDAGE CARE:** Your pet has a bandage in place to limit movement, provide support and reduce swelling. This bandage must be kept clean and dry. A plastic bag can be placed over the bandage to prevent it from getting wet when toileting but must be removed *immediately* afterwards. If the bag remains on, the limb will sweat, causing moisture that can lead to infection and wound complication. If the bandage begins to slip, is chewed by your pet or becomes wet or soiled, please contact the clinic. This bandage usually remains on for the initial 3-4 days' post surgery.

The surgical site should be checked twice a day for any signs of swelling, redness or discharge. It is very important that your pet does not lick at the area whilst it continues to heal. Any Elizabethan Collar may be required during this time. If you notice any of these signs or if your pet begins to show increasing signs of discomfort, please contact the clinic.

Sutures are removed two weeks' post op. Most patients will begin to toe-touch with the leg at this time.

**PHYSICAL THERAPY:** Physical therapy can help speed along recovery. It assists by increasing blood flow to the area and can help to prevent a build-up of scar tissue due to immobility.

You can start to perform gentle exercise with your pet once the bandage has been removed. Exercises are preferably performed two to three times a day, if your pet will tolerate them. At no time should force be used to complete an exercise. Any exercise should be performed gently without causing pain.

- Find a comfortable place to sit with your pet, the floor is best as there is less risk of them jumping down from a surface, causing potential injury to themselves. Make sure your pet is comfortable with soft bedding to

sit/lay on and preferably begin after toileting

- Exercises include extending and flexing the limb and 'cycling' the limb, both a minimum of 10 times each. These exercises should be performed at least 2-3 times per day
- Application of gentle heat (very mild, not hot!) can be applied once the swelling has subsided. The Veterinarian will advise once this can occur, usually 5 days post-operatively
- Gentle massage of the whole body, including the affected limb is recommended to help relax your pet.
- Veterinary staff can assist in showing how the movements are to be performed. We also have contact details available for pet masseur services that provide home visits.
- Canine hydrotherapy can be very effective for rehabilitation. Adelaide Dog Mobility and Hydrotherapy is run through Glenside Veterinary Clinic (08) 8379 0222.

**Four to Eight weeks following surgery:**

**PHYSICAL THERAPY:** Continue with the basic exercises and massage with the addition of 'sit and stand' exercises at least twice a day, minimum of 10 repetitions. These can be performed when walking or as a treat-based activity. This activity will help to build up the muscles of the hind legs.

**LEAD WALKING:** At four weeks, your pet can start at five minutes of lead walking on flat, non-slippery surfaces. The short lead walks can increase by 1 minute increments per day. Four weeks after this (at 8 weeks) your pet should be walking on non-slippery, flat surfaces for 20 minutes a day. Off lead activity is still not allowed.

At eight weeks, we can introduce some irregular surfaces and hill walking. For calm patients, they can have some periods of off-lead activity, but still limit to 5 minutes a day to start with.

Running and jumping should not be allowed until 12 weeks after the operation. Most patients return to 80-90% of normal function in this period, however improvements should continue over the next 6-9 months.

**Eight to twelve weeks following surgery:**

At eight weeks, we can introduce some irregular surfaces and hill walking. For calm patients, they can have some periods of off-lead activity, but still limit to 5 minutes a day to start with.

Running and jumping should not be allowed until 12 weeks after the operation.

Most patients return to 80-90% of normal function in this period, however improvements should continue over the next 6-9 months.

Most pets will 'pull' their operated knee from time to time every now and then, so it can be important to have anti-inflammatories on hand. Provide your pet with a couple of days rest at these times.