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Cruciate Rupture Treatment Options Information

Cruciate ligament injury is the most common cause of hindlimb lameness in dogs. Cruciate ligament injuries are mostly caused by degeneration and stretching of the cruciate ligament - this is why dogs which rupture one cruciate ligament often rupture the other in the future.

Some breeds are more susceptible to cruciate rupture and obesity is a big risk factor for cruciate rupture.

Signs of cruciate ligament rupture occur in two main forms:

1. *Chronic* form occurs in dogs with mild ongoing lameness, it may initially resolve with rest and pain relief. Eventually the lameness worsens or does not respond with pain relief.
2. *Acute* form occurs in dogs with sudden onset lameness, these are often more obviously painful.

When a cruciate ligament is torn, the joint becomes unstable. The bones then move in an abnormal way, which is why cruciate ligament injury leads to knee pain, inflammation, accumulation of fluid in the joint, arthritis, cartilage and meniscal tears.

How is cruciate ligament injury diagnosed?

It can be diagnosed by your veterinarian. **As affected animals are often very sore, sedation, and even anaesthesia may be required for thorough examination of the knee.**
X-rays are used to confirm the diagnosis, assess the viability of the other joints in the leg, and to plan the surgical treatment of your dog's cruciate rupture.

How are dogs with cruciate ligament injury treated?

Surgery is the gold standard treatment for cranial cruciate rupture.
Surgery involves opening the joint to remove any damaged cartilage and either placing an artificial ligament or changing the anatomy of the joint so that the ligament is no longer required. The type of surgery performed will depend on the nature of your dog's injury, and the size of your pet. Cruciate ligament surgery is tailored to your dog - there is no one size fits all approach.
Other important components of treatment for a dog with cruciate ligament injury include:

- Chondroprotective agents to promote joint health
- Anti-inflammatory agents to reduce inflammation in the joint and associated pain
- Post-operative exercises/physiotherapy
- Strict rest and exercise restriction

What happens if we do NOT do surgery?

Occasionally a dog that has ruptured its cruciate ligament will improve without surgery. However, over time the joint instability results in arthritis (even within a few short months) and the lameness will often reappear. This lameness is usually permanent, and often requires long term medications to control pain. If you choose not to proceed with surgical correction then we will help you control your pet's arthritis as much as possible with long term nutritional, physical and medical management. Some degree of arthritis results even when surgery is performed, but as the joint is stabilised this is much less severe. The sooner surgical treatment is performed, the less long-term arthritis issues your pet will suffer.

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Whilst deciding on treatment options it is best to start some conservative medicine to help protect your pets joint, this should include; weight management, pain relief (Anti-inflammatory), exercise restriction, physiotherapy, Zydax injection course (Chrondroprotective) and Glyde Chews (Chrondroprotective).

Determining which surgical option will be the best option for your pet will be considered based on your pet's age, weight, activity level and nature of activity.

Surgical Options

De Angelis Technique

This is a traditional style repair commonly performed by veterinarians, also known as extra capsular fixation.

The concept of this procedure is to replace the function of a damaged cranial cruciate ligament with a heavy monofilament suture placed along a similar orientation to the original cruciate ligament, but outside of the joint (the actual ligament is inside the joint). The suture needs to stabilize the tibia ("shin-bone") relative to the femur ("thigh bone"), while allowing normal knee movement, until organized scar tissue can form and assume the stabilizing role.

Postoperative care at home is very critical and involves **strict activity restriction for approximately 4 months**. Premature and excessive activity risks complete or partial failure of the stabilizing suture that can render the surgery a complete or partial failure.

MMP (modified marquet technique)

This method makes a straight cut along the front of the tibia ("shin-bone").

The front of the tibia, called the "tibial tuberosity" is advanced forward until the patella tendon is oriented approximately 90 degrees to the tibial plateau.
This orientation renders the knee relatively stable, independent of the role of the cranial cruciate ligament. The amount of advancement needed to obtain this is determined by x-ray.

Postoperative care at home is very critical and involves **strict activity restriction for approximately 4 months**. Premature and excessive activity risks re-fracture of the bone prior to bone healing.