Lateral Suture for the Treatment of Cranial Cruciate Ligament (CCL) rupture

What is the CCL and what is its role in the knee joint?

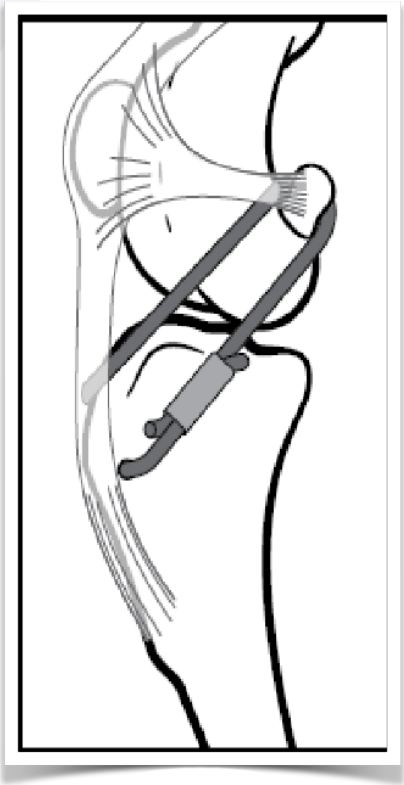
The cranial cruciate ligament (CCL) is one of the ligaments responsible for the stabilisation of the stifle joint (the knee). The stifle is formed between the femur (thigh bone) and the tibia (shin bone), and alongside other structures, an intact CCL prevents excessive motion of this joint, e.g. hyperextension, internal rotation and tibial shear force.

The operation

The procedure consists of two main parts:

Arthrotomy – surgical exploration of the knee joint, assessment of the CCL and the menisci (cartilage). Damaged and degenerated tissues of the ligament and the meniscus are removed from the joint.

Stabilisation – a suture is passed around the joint capsule (under the skin and muscles) in such way to act as a substitute for the CCL, and stabilise the knee, preventing abnormal movement between the bones.



Prognosis

Approximately 85% of dogs return to the level of limb function they enjoyed prior to injury.

Complications

The complication rate is low, but as with any other surgeries, they are recognised. These include risks and complications associated with general anaesthesia, infection of the surgical site, implant failure, late meniscal injury and the potential for the opposite leg to develop CCL rupture.

* This information sheet is your guide for post-operative care following surgical repair of CCL rupture. Please read and follow the instructions for the most optimal outcome.

Exercise

It is extremely important your dog is strictly rested during the first 6 weeks following the operation. During that time, your dog is not allowed to run, jump onto furniture, play with other dogs or climb flights of stairs. Slow, short lead walks are allowed during toilet breaks for up to 5 min twice daily.

It is critical that this is done in a controlled way. Patients are expected to bear weight on the operated leg within 7 days after the procedure. Early use of the leg is beneficial for the maintenance of muscle mass.

Gentle passive flexion and extension of the operated leg can be started once your dog becomes more comfortable. Start with 5 repetitions twice daily, gradually increasing to 20 repetitions twice daily. Stop the exercise if your dog seems painful.

If any of these exercises seem to make your dog lame, stop them immediately and contact your vet.

Post-operative care

Wound care - If stitches are present, these should be removed 10-14 days after the operation. Monitor the surgical site twice daily, and contact your vet if you notice any discharge or swelling.

Medication - Your dog will be discharged with a combination of anti-inflammatories and antibiotics. Take care to closely follow the instructions, and report any changes (e.g. vomiting, diarrhoea) to your vet immediately.

Diet - It is recommended to reduce the calorie intake by about 20% during the initial 6 weeks of rest, but try to avoid drastic changes in the type of food.

Follow-up care - With the lateral suture procedure, it will not be necessary to take follow-up radiographs at the 6 to 8 week mark. Instead, a clinical exam and consultation will determine whether exercise can be gradually introduced.

If there are no concerns, your dog should be walked 5-10 minutes, 2 to 3 times daily for the first week after this appointment. If your dog experiences the expected steady progress, this should be increased by 5 minutes per walk, every subsequent week, until twice daily 30-min walks are achieved.

At this point, if there are no concerns, your dog can begin exercising off-lead! However, if your dog becomes increasingly lame at any point, contact your vet immediately.

Physiotherapy

2-4 weeks post-operatively

Sit – stand

Sit and stand for 5 repetitions, increasing weekly.

Elevated sit-stand

Place an elevated surface (e.g. a small box) behind your dog's back legs, and ask to sit on this surface, up to 5 times a day.

Alternate weight-bearing

Stand behind your dog, and using a treat encourage them to turn to one, and then to the other side. In this position, you can also bring the same treat between their front legs, encouraging them to put their head between the front legs.

4-6 weeks post-operatively

Unstable surface weight bearing

This exercise is done in the same manner as with alternate weight-bearing, but on a soft surface such as a soft padded mat or foam roll.

Weaving

Create an obstacle line, made of 6 objects. The distance between the objects should be the length of a dog. Walk your pet slowly between the obstacles. The exercise is done 5 times daily, on a short lead.

Pole exercise

Place poles or objects close to the ground, in such way that your dog needs to step over them. Ensure they walk slowly, and do not jump over the obstacles. Repeat 3 times twice daily.

Cold and warm therapy

In the first 3 days after the operation, an ice pack wrapped in a towel can be applied to the surgical site, for 15 minutes, 2-3 times daily. This reduces the level of inflammation and discomfort. Some swelling in the area of operation is normal. After the initial 3 days, switch to a warm pack (not too hot!) for 4 weeks. This stimulates the blood flow to the surgical site, and stimulates healing of the tissues.

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Following this advice should help your pet recover quickly however if you have any questions please contact your veterinary practice.