

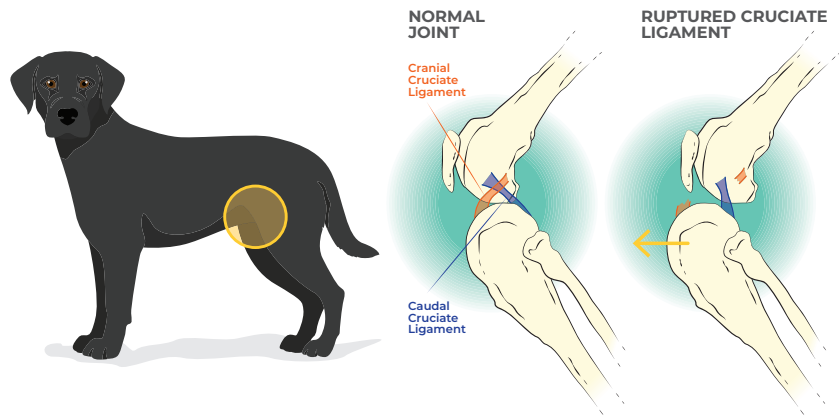


Fabelotibial suture (FTS) for cruciate ligament disease



Anatomy

There are two cruciate ligaments present in the knee or stifle joints of dogs. There is a cranial ligament and a caudal ligament.



Function

The cranial cruciate ligament is the ligament that usually ruptures. Its function is to prevent over extension and limit internal rotation of the knee joint. The ligament also stops the tibia moving forward relative to the femur abnormality when your dog weight bears on their limb.

Symptoms

Lameness is the main sign seen after a cruciate rupture and it may appear suddenly or be gradual in onset. Improvement in lameness may be seen initially but the dog will usually remain with a limp. In some cases there may be a history of trauma such as a road traffic accident or catching the foot on a fence or in a rabbit hole.

Types of cruciate rupture

⊖ Partial ruptures

In young large breed dogs partial ruptures of the cranial cruciate ligament are commonly seen and these will usually go onto complete rupture.

⊖ Traumatic ruptures

Traumatic ruptures can happen to any dog of any age and usually there is a history of landing awkwardly or catching the foot in a rabbit hole.

⊖ Arthritis associated

A rare form of cruciate rupture is seen secondary to inflammatory arthritis (e.g. Rheumatoid).

⊖ Complete rupture in middle aged dogs

The most common scenario is cruciate rupture in a middle aged dog that can occur during normal exercise. The ligament degenerates with age therefore weakening



Clinical examination

When examining the knee of a dog with a long standing cranial cruciate ligament rupture, the joint is not usually very painful, there may be a thickening of the soft tissues inside of the knee joint and there will probably be some muscle loss around the thigh. The integrity of the ligament can be difficult or impossible to assess in the conscious dog especially if the dog is tense.

Investigations

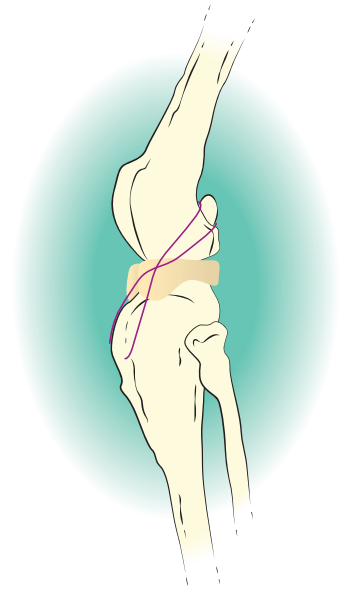
To investigate the lameness patient are often sedated or anaesthetised for palpation and radiographs. Signs on radiographs can include classic osteoarthritic changes and a joint effusion (an increase in the normal volume of joint fluid).



Fabello Tibial Suture (FTS)

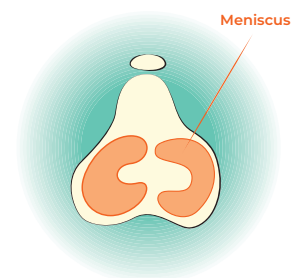
FTS is an operation that is designed to stabilize the dog's knee joint but placing non-absorbable suture (often either monofilament nylon or braided suture) around the lateral fabellotibial ligament and through holes in the tibia (shin bone). The suture is placed under the skin but outside of the joint and mimics the direction of the ruptured cranial cruciate ligament to help stabilize the joint.

The surgery is designed to improve stability of the joint until such a time that sufficient scar tissues has formed around the joint for this to stabilize the joint long term. Ultimately 100% of FTS placed will either stretch or break. However, as long as this occurs after sufficient scar tissue has formed around the joint to stabilize the joint, the suture has done its job. Even after a suture has stretched or broken, as long as the joint is stable it is rare that surgery would be required to remove the FTS.



Menisci

There may also be damage to the meniscal cartilages (these are pads of tissue that sit between the bones of the knee and act as shock absorbers). Damaged menisci are painful, and the damaged portion is removed. If the meniscus is undamaged, then meniscal tear can occur in the future- however the incidence of this with FTS appears uncommon (2% of cases).



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Outcome following FTS

Varied outcomes have been reported in the literature following FTS of between 40 – 85% of dogs achieving normal function. This is in contrast to ~ 95% of dogs having tibial plateau level osteotomy (TPLO) surgery. As such, TPLO is considered the 'gold standard' surgery. However, if it is not possible to pursue TPLO surgery, successful FTS suture is likely to result in a significantly better result in medium – large breed dogs than conservative management (i.e no surgery), for which it is anticipated that only ~ 20% of dogs will achieve satisfactory outcome.

Complications

Complication can occur following FTS in ~17% of cases and ~ 7% of cases may require a second surgery to manage complications. Minor complications include some swelling around the knee joint or ankle joints, or both and discharge from the operation site for a few days post-operatively.

More major complications include infections, premature breakage of the suture before sufficient scar tissue has formed (rendering the joint unstable again), peroneal nerve deficits and late meniscal injury. The risk of major complications such as premature suture breakage can be minimised with careful postoperative management.

Post-operative care

Generally dogs may be reticent to weight bear on their operated limb following FTS for the first few days. Normally by 7-10 days postoperatively some weight bearing on the limb would be expected with a progressive improvement in function each week thereafter. Best function is anticipated after several months.

If your dog has FTS surgery then you will be given a comprehensive sheet detailing the care needed after surgery. It is critical to the success of this surgery your dog's activity is strictly limited and controlled. Generally six weeks of cage rest are recommended post-operatively. Re-examination is recommended at six weeks postoperatively to assess function and stability of the knee joint.

Diet

If your dog is overweight, it is essential that you try and diet him or her to reach an optimal weight as discussed with ourselves or your own veterinarian. Maintaining a patient at optimum bodyweight will slow the rate of progression of osteoarthritis in the knee joint that will subsequently develop in all dogs that have cruciate ligament disease.