

SURGERY FOR CRANIAL CRUCIATE LIGAMENT FAILURE



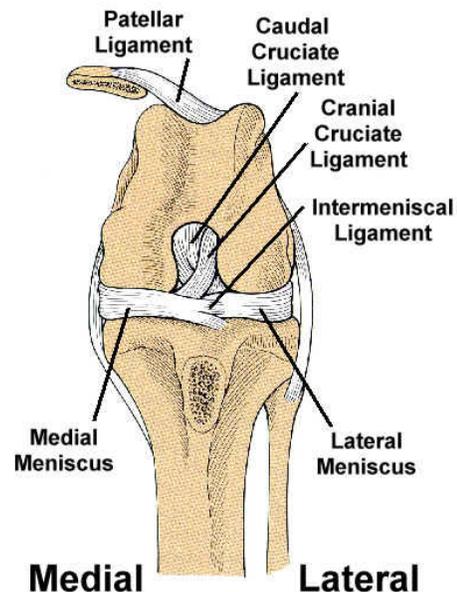
The cranial cruciate ligament stabilises the knee during weight-bearing, preventing forward motion of the Tibia (shin) with respect to the Femur (thigh bone). It resists what is known as the Cranial Thrust Force and as such limits front to back (and rotary movement) of the knee so that it can act as an effective and stable hinge joint. When the ligament is ruptured the knee becomes unstable and surgery is undertaken to either replace the action of the ligament (Extra-articular repair (EAR) surgery) or neutralise the destabilising force on the knee (Tibial plateau leveling osteotomy (TPLO) surgery). There are advantages and disadvantages with both procedures and these will be considered when the surgeon advises on the most appropriate procedure for your pet.

EAR Procedure

The action of the ligament is replaced using a pre-tensioned nylon ligament and stainless steel crimp which is implanted around the joint to act as a stabiliser and scaffold for fibrous tissue formation.

TPLO Procedures

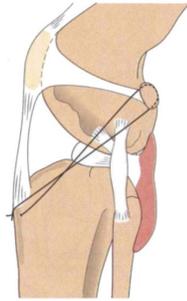
The Cranial Thrust Force is neutralised during weight bearing by permanently altering the angle of the load bearing platform (Tibial Plateau) at the top of the Tibia with a precise, gliding bone cut which is repaired using a special plate and screws. In some smaller dogs, a small wedge of bone is removed to alter the tibial plateau angle; this procedure is known as a CCWO surgery.



These surgical procedures both involve surgical entry into the knee joint itself to remove the torn remnants of ligament and to check for Meniscal (cartilage) damage. They are both highly successful procedures resulting in significant improvement in limb function. The majority of operated dogs regain approximately 75-80% function allowing a return to a variety of normal activities. All dogs that suffer CCL rupture develop osteoarthritis (OA) and surgery does not prevent this although in the majority, OA can be successfully managed through a combination of lifestyle alterations and medication or dietary supplementation.

In dogs the reason for rupture of the ligament itself is unclear but a variety of genetic, conformational and environmental factors such as body weight and activity levels are thought to be responsible for what is usually a steady deterioration and breakdown of the ligament over a period of time before instability develops and clinical signs become obvious. Final progression to instability and obvious lameness is often associated with a specific event at exercise. Occasionally a previously unaffected ligament can tear as a result of

sudden overload at exercise. This is more like the situation in humans where CCL rupture is usually a sporting injury.



Extra-articular repair



Securos CCR System



TPLO

Aftercare following Surgery

Post operatively it is essential that sufficient time is allowed for healing to take place prior to normal exercise and activities being resumed. Failure to allow this will result in significant complications that may require further surgery and negatively affect the outcome. A minimum eight week period of strictly controlled lead exercise is advised combined with room rest or confinement.

All operated dogs will be re-examined after six to eight weeks and those who have undergone TPLO procedures will have X-rays taken as a routine to check on the progress of healing of the osteotomy. In approximately 90% of cases recovery is uneventful. As with any major surgery however, a minority may encounter complications. In the case of EAR surgery, complications include early failure of the implant and a return to instability and surgical site infection (SSI) and with TPLO surgery, SSI, problems with healing of the bone cut and implant associated problems can occur. In between 2 and 5 % of cases, after initial recovery of function another complication can occur in the form of late injury to the meniscus or 'cartilage' of the knee. In these cases a further surgery is likely necessary to trim or remove the damaged tissue. The majority (80%+) of treated dogs will have an uncomplicated and good functional recovery.

