



What is cranial cruciate ligament rupture?

Cranial cruciate ligament rupture (CCLR) is the most common orthopedic problem that we treat in medium to larger breed dogs. In humans, we have an anterior cruciate ligament (ACL) in our knee which is analogous to the dog's cranial cruciate ligament in their knee. ACL tears in people are common and usually occur with an injury or sporting incident. This can happen in dogs, too, but sometimes it can be a more chronic condition that happens over time.

The first sign of a CCLR in a dog is usually limping in one of the back legs. In the more chronic presentation, this can just start out as a stiffness and then progress to limping. At other times, a dog will become lame acutely and even hold the leg up in the air. Then over the next couple days, the dog will appear to improve and start using the leg better, but still limp. Some dogs might even become normal with rest, but then when reintroduced to activity, start limping again. This is a very common problem in the dog, but every dog can present with slightly different signs. Unfortunately, because of the way a dog uses its leg in running, playing, and even walking, surgery is indicated to return them to soundness. Tibial plateau leveling osteotomy (TPLO) is a highly successful way to treat this problem surgically.

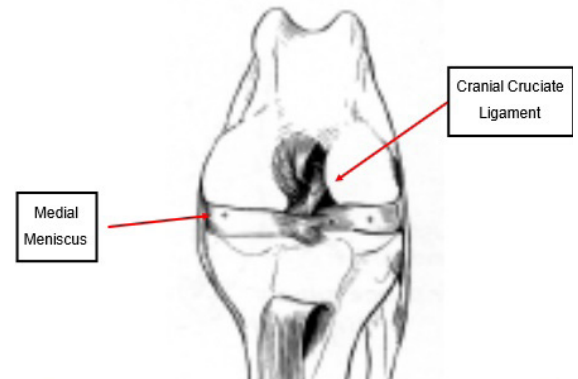


Diagram of a dog's knee from the front view
(without the kneecap)

How does a TPLO help dogs with cranial cruciate ligament rupture?

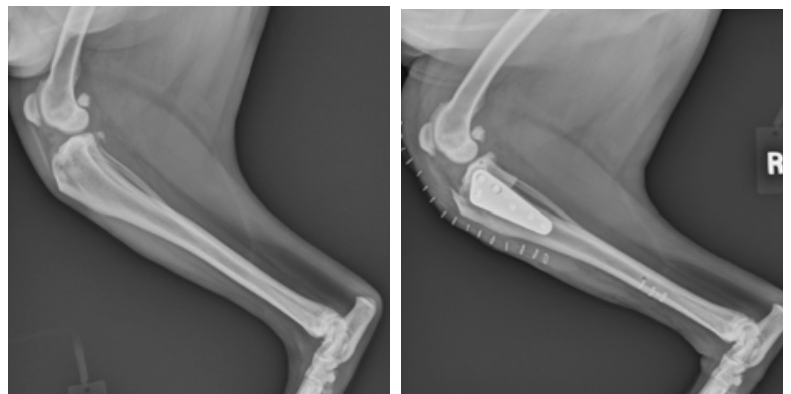
The cranial cruciate ligament normally connects the femur (thigh) and tibia (shin) bones and maintains these bones in proper orientation when a dog walks or runs. When the ligament is ruptured, the tibia is allowed to slide forward in relation to the femur. This abnormal motion occurs with every step the dog takes, and this causes pain, inflammation, and ultimately, arthritis. The TPLO stops this abnormal motion, making pain and inflammation subside and minimizing the progression of arthritis. To see a detailed description of the physics behind the procedure, please see our "Physics of the TPLO" handout.

What happens in TPLO surgery?

TPLO surgery involves cutting the top portion of the tibia and rotating it, thus changing the way that the femur and tibia interact during movement. The modified tibia bone is then held together with a bone plate and screws. The plate and screws are necessary until the bone has healed together at the cut, a process that takes approximately eight weeks.

What care is required after surgery?

Your pet will usually be discharged to home the day following surgery. Activity will be restricted for approximately 12 weeks – the most strictly for the first eight weeks while the bone is healing. Use of the operated leg is encouraged, but in a very controlled fashion. When your pet is not on-leash or under your direct control, he or she will need to be in a crate or very small room with no opportunity to run, jump, or play. X-rays will be taken eight weeks after surgery. If healing is going well, then you will be instructed to gradually increase activity over the next 4-6 weeks. Please also see handout on "Aftercare for Orthopedic Surgeries."



Pre- and post-operative x-rays of a TPLO patient.