



JACKSONVILLE VETERINARY SURGERY & ORTHOPEDICS

TIBIAL PLATEAU LEVELING OSTEOTOMY (TPLO)

ANATOMY:

The cranial cruciate ligament (CCL) in dogs is the equivalent of the human ACL. It is a small ligament within the stifle (knee) that keeps the tibia and femur in alignment. The CCL prevents the tibia from sliding back and forth relative to the femur, termed cranial thrust or drawer. It also prevents hyperextension and excessive internal rotation. When the CCL tears, the joint becomes unstable, painful and arthritic and can subsequently lead to tearing of the cartilage between the bones (the meniscus).

HOW DOES IT OCCUR:

In most cases, CCL tears are caused by degeneration of the ligament. We do not know what causes this to happen, but in approximately 50% of dogs, the ligament in the opposite stifle will also degenerate over time. A small percentage of dogs will present with both CCL's torn simultaneously.

DIAGNOSIS:

The diagnosis of a CCL tear is generally made by one or a combination of several findings. These include pain on range of motion, thickening of the affected stifle, effusion (increased fluid) within the joint and instability on palpation. Sedation may be required for complete evaluation. Radiographs (x-rays) can also assist in the diagnosis and often show inflammation, arthritis or instability.

TREATMENT:

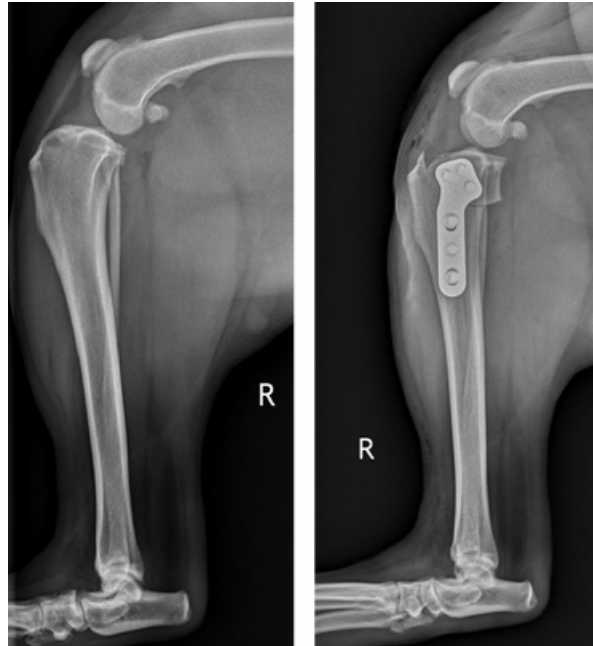
The tibial plateau leveling osteotomy (TPLO) stabilizes the stifle by eliminating cranial thrust, thus negating the need for the CCL. To do this, a biradial cut is made in the proximal tibia and rotated until the tibial plateau angle is ~5 degrees. This is calculated from measurements made on preoperative radiographs. The bone is held in place by a metal plate and screws. The bone will heal over several months and becomes a permanent method of fixation.

COMPLICATIONS:

Complications are uncommon following TPLO surgery, and most can be treated easily. Complications can be prevented by following the postoperative instructions given to you by your surgeon. Potential complications following TPLO surgery include infection, delayed bone healing, fracture, implant failure or late meniscal injury.



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Radiographs of the stifle of a dog before and after TPLO

HEALING:

Healing time is approximately 2-3 months. The first half of this time allows for the bone to heal, and the second half allows for increases in muscle strength and conditioning. The metal implants stay in forever but can be easily removed once bony healing is complete, if necessary.

POSTOPERATIVE CARE:

During the recovery process it is imperative that your dog's activity be restricted to short leash walks only. Running, jumping or off-leash activity can result in delayed healing or failure of the procedure. Your dog should be confined to a crate or small room when not directly supervised. The first two weeks are limited to leash walking only to urinate and defecate, approximately 3-5 minutes. During the first two weeks, your dog **MUST** wear an e-collar or anti-lick device at ALL unsupervised times to prevent infection. After sutures are removed, weeks 2-6 will allow for increased leash walks, starting at 5 minutes and progressing to 15 minutes over the course of the month, 3-4 times daily. If the radiographs at 6 weeks post op show appropriate healing, then leash walking becomes unlimited from weeks 6-10, followed by a gradual return to normal activity from weeks 10-12.



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FOLLOW-UP:

Recheck visits are planned 10-14 days following surgery for removal of skin sutures. Radiographs are taken 6 weeks after surgery to evaluate bone healing. Your veterinarian will forward the radiographs to us for evaluation of healing and recommendations.

WHAT TO EXPECT:

- **Day 1:** The night of surgery, most dogs will sleep through the night. You can offer a small meal (~1/2 normal amount) with their medications, fresh water should be available. Your pet may need some assistance going outside. You can use a sling or towel for assistance. Some animals may be dysphoric from the anesthesia. Give them their pain medications and keep them in a dark, quiet space.
- **Days 2-5:** Most dogs develop a small amount of swelling and bruising, starting red then turning purple. The hock (ankle) may develop edema (fluid swelling, like a water balloon). This is normal and should go away in a few days. If your pet allows, apply an ice pack wrapped in a small towel to the incision for 5-10 minutes, 2-3 times daily. You can massage the leg below the incision and gently perform range of motion exercises if tolerated.
- **Days 6-14:** The swelling will gradually go away and most dogs are using the operated limb lightly but regularly by 2 weeks postoperatively.
- **Weeks 3-6:** This is the hardest part of the recovery, as most dogs are feeling better and want to do more than they are allowed. Do not allow them to run, jump or play off-leash – this can result in complications. Their limp should gradually improve over this time. Morning stiffness and a slight limp are typical.
- **Weeks 6-10:** If the follow-up radiographs show appropriate healing, unlimited leash activity is encouraged. By the end of this period, any morning stiffness and residual limp should slowly go away.
- **Weeks 10-12:** Allow your dog to gradually resume normal activity. Most dogs return to near normal activity by 12 weeks postoperatively.