ProFormance CANINE

TPLO Surgery

Tibial Plateau Leveling Osteotomy will typically return a dog to athletic performance levels. Other surgical techniques will generally make the dog comfortable, but inconsistently returns them to athletic performance.

Q. How does the TPLO work?

The TPLO, like the TTA, is a geometry altering surgery. This means it changes the biomechanics of the knee by rotating the tibial plateau so the patellar tendon and the caudal cruciate ligament takes over the function of stabilizing the cranial cruciate deficient knee.

Q. Why not replace the cranial cruciate ligament?

Primary reconstruction of the anterior cruciate ligament is the surgery of choice in people. Anterior is the term used in upright two legged patients vs. cranial which is the term used in four legged patients. This technique was used for several years with poor success in dogs. The problem is that when the joint reconstruction is at its weakest, the dog's leg is feeling good and they tear apart the repair with too much activity. Geometry altering surgeries are the latest progression of surgeries that, over the last decade, have been found to provide the best repair option in dogs with cranial cruciate deficient knees.

Q. What patients are candidates for the TPLO surgery?

Any size animal, but especially large and giant breed dogs, dogs with an athletic lifestyle, dogs with ruptures in both knees at the same time, dogs with angular deformities of the hindlegs and dogs which have had other cruciate repairs that have failed.

Q. Who can perform the TPLO surgery?

Originally, only board certified surgeons who had taken the specialized training course taught by the developer of the procedure, Dr. Barley Slocum, could perform the TPLO surgery. Now, non-specialists are performing TPLO's so it is important to ask how many surgeries they have performed and how they were trained. Studies have shown it takes at least 75 procedures to become proficient with the TPLO surgery. We have performed approximately 15,000 TPLO surgeries over more than a decade.

Q. What are common complications of the TPLO surgery?

Complications arising from the TPLO surgery are rare in our hands. Some infrequent complications include patellar tendonitis, incision inflammation, rarely fractures of the tibial crest, infection and implant loosening or bending. We remove 1-2% of TPLO implants due to plate reactions which result in a draining tract at the bottom of the incision. This occurs after the bone is healed, so the dogs do great and don't need further treatment.

Q. What should I expect when my dog comes home the day after surgery?

It is very common for swelling and mild bruising to occur at and below the surgery site. It is not uncommon for lymphatic edema to occur around the foot 2-3 days after surgery. This generally resolves 3-5 days later with massage and alternating hot and cold compresses. Most dogs will be slightly toe touching the day after surgery, or at least by staple removal. The dog will be a little sore, but generally comfortable on anti-inflammatories and pain medication after the initial 12-24 hours on narcotics in the hospital.

Q. What will be expected of you after surgery?

For the first two weeks after surgery you will need to help support your dog with a belly sling when going out to the bathroom. Otherwise, your pet should be strictly confined for the first 4 weeks. Cold packing the leg for the first few days, then alternating hot and cold packing will decrease swelling and increase circulation to the surgery site. Passive range-of-motion physical therapy should be started after the skin staples are removed in about 10 days. Our rehabilitation experts will help show you how to perform the therapy. Controlled physical therapy is the key to your pet's recovery.

Q. What if I have problems once my dog gets home after surgery?

Contact your family veterinarian or local emergency hospital if you need immediate care. You can also email Dr. Huss directly if this is not a time sensitive problem.

Q. Why are recheck exams and X-rays necessary?

Recheck examinations are important to make certain your pet is recovering at a normal rate and not over-doing it. Minor problems can be addressed early, before they become severe. One month postoperative X-rays are important to make certain implants are in place and not loosening. We also make sure there are no sprains or fractures. Three month postoperative X-ray rechecks are used to evaluate bone healing prior to allowing more intense physical activity. If your pet's healing is not on schedule at one month, we will likely have you return for a two month recheck.

Postoperative lateral knee radiograph of a TPLO with a 3.5 mm broad plate and 9 screws.

Q. Can the surgically corrected leg be reinjured?

The first six weeks are the most critical for healing and recovery. After the initial healing period, it is rare to have the knee reinjured. Occasionally the patellar tendon may be sprained during extreme activity. This will resolve with anti-inflammatories and rest. Osteoarthritis will eventually develop to some degree, but this is difficult to predict. Normally this will just mean your pet will need anti-inflammatories as they age.

Q. What is the chance my dog's other knee will need surgery?

In one study 38% of dogs ruptured the cranial cruciate ligament in the opposite knee within 18 months. A newer study finds 50% of dogs will rupture the opposite leg within 24 months. In our experience this estimate is low. In certain breeds, especially Rottweilers and Chocolate Labrador Retrievers, it is very common for us to diagnose ruptures in both knees at the time as the first surgery. The only things that can be done to try to decrease the chance of contralateral cranial cruciate ligament rupture, is repair the injured knee as soon as possible, keep the dog's weight normal to lien and maintain the dog's muscle mass with exercise.

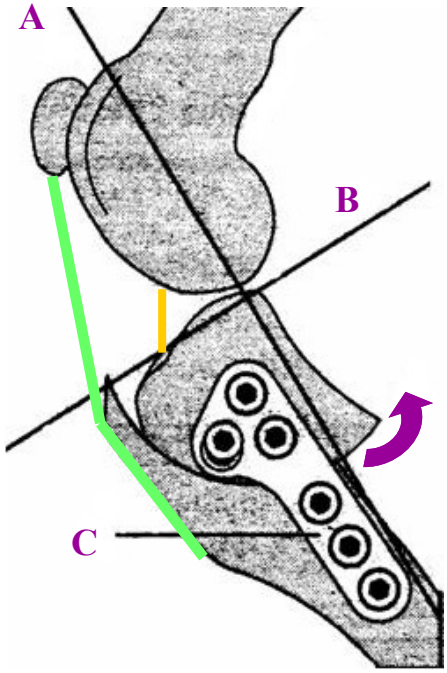

Figure of a rotated knee with a standard TPLO plate. A: center of vertical forces down the leg, B: leveled tibial plateau, C: standard TPLO plate and 6 screws, yellow line is where the cranial cruciate ligament is located, green line is the patellar tendon.

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