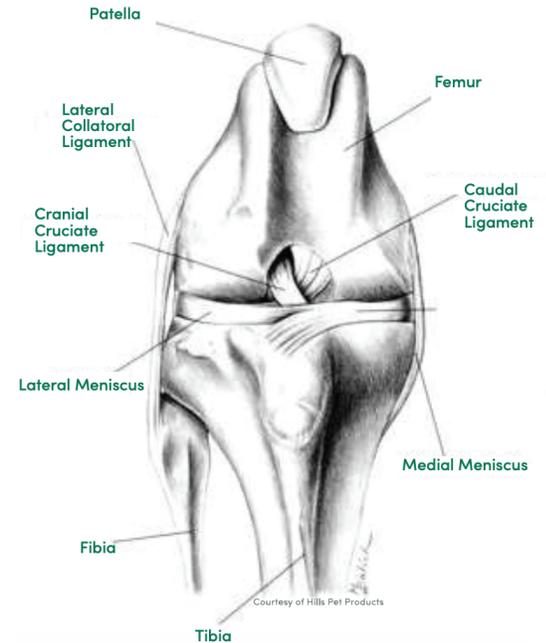




FREQUENTLY ASKED QUESTIONS: TIBIAL PLATEAU LEVELING OSTEOTOMY (TPLO)

WHAT IS THE ANATOMY OF THE STIFLE?

The cruciate ligaments are important stabilizing elements within the canine stifle joint (knee). There are 2 cruciate ligaments in the knee called the cranial and caudal cruciate ligaments. These same structures are present in the human knee but they are called Anterior and Posterior cruciate ligaments. The cranial cruciate ligament (CCL) is commonly injured in both canines and humans. (referred to as the ACL in humans). Two cartilage pads called menisci are also found within each knee (the medial and lateral menisci). Due to anatomical reasons, often the medial meniscus will become damaged secondary to the ruptured CCL and resulting joint instability. This by itself often results in significant pain and lameness.



WHAT ARE THE CLINICAL SIGNS?

The most common clinical sign associated with a ruptured CCL is lameness. The lameness can vary from being mild and intermittent to non-weight bearing. In some cases the knee will make a clicking or popping noise as the dog walks. This often indicates medial meniscal damage.

WHY DID THE CCL RUPTURE?

In most dogs it appears that their CCL degenerates or weakens over time, which predisposes them to rupturing their CCL, with relatively minimal trauma. The cause of this degeneration is yet to be fully understood. Because this degeneration of the CCL is occurring in both knees, there is an approximate 40% chance that dogs with a ruptured CCL in one knee will go on to rupture the CCL in the opposite knee at some point in their lifetime.

HOW IS IT DIAGNOSED?

Diagnosis of a ruptured CCL is done by palpation (feeling the knee) and radiographs (x-rays). Most dogs with a ruptured CCL will have instability within the knee called cranial drawer movement or cranial tibial thrust. This is the hallmark physical finding. In dogs with chronic or partial tears of their CCL or in very tense dogs, cranial drawer movement may not be detectable. In these cases radiographs are helpful and usually confirm some degree of osteoarthritis and joint effusion (swelling); however, the CCL is never visible on radiographs.

IS SURGERY NEEDED?

Surgical stabilization of the knee is the recommended treatment for dogs with a ruptured CCL. There are several different techniques that can be utilized to stabilize the CCL-deficient knee. With any technique, the knee joint is first explored, the torn ends of the CCL removed, and the menisci are evaluated. If the medial meniscus is damaged, that portion will be removed. Fibrocartilage (scar tissue cartilage) will later fill in this void and replace the function of the damaged meniscus. This portion of the surgery can be done arthroscopically or through a small open surgical approach.

FREQUENTLY ASKED QUESTIONS: TIBIAL PLATEAU LEVELING OSTEOTOMY (TPLO)



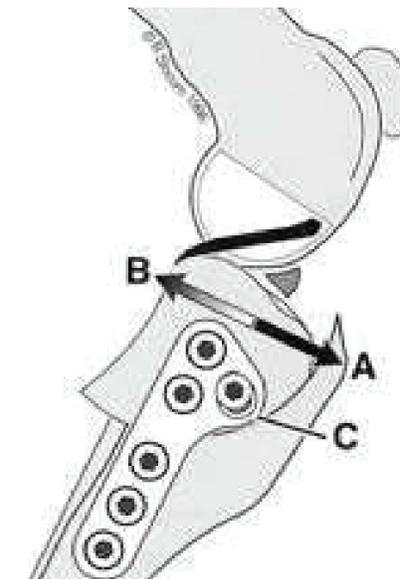
ANIMAL SURGICAL
& ORTHOPEDIC CENTER
A BETTER WAY TO OPERATE • SINCE 1986

WHAT IS THE TPLO TECHNIQUE?

The theory for the technique is based on the fact that the slope of the tibial plateau causes cranial thrust (instability) in the CCL-deficient stifle.

The technique produces functional stability of the knee by the leveling or flattening of the tibial plateau slope. This is accomplished by cutting the top portion of the tibia (osteotomy) and leveling the tibial plateau to prevent cranial tibial thrust during weight bearing. The tibia is then stabilized with a bone plate and screws while healing occurs.

This technique is recommended in medium to large breed dogs and athletic dogs, and can return them closer to normal function than any other currently available technique.



WHAT IS THE PROGNOSIS?

The TPLO has gained nationwide acceptance by providing dogs with a faster recovery, better functional outcome, and decreased development of osteoarthritis dogs with “traditional repairs”. Over the last 15+ years the TPLO has been the most commonly performed surgery for CCL rupture in medium to large breed dogs.

The typical dog will achieve about 95% of normal limb function following TPLO surgery. However, the level of pre-existing osteoarthritis can also affect the prognosis. Signs of Osteoarthritis often include stiffness or lameness early in the morning, after heavy exercise or on cold days. Dogs with severe osteoarthritis may have persistent lameness.

WHAT ARE POSSIBLE COMPLICATIONS?

The following complications have been reported: infection, inflammation of the patellar tendon, fracture of the tibial tubercle, breakage or loosening of the bone plate or screws, delayed healing on the osteotomy site, rupture of the caudal cruciate ligament, post-operative meniscal injury, and bone cancer (very rare).

Many of these complications can be the result of too much post-operative activity. We see an approximate 3-4% overall complication rate with this technique in our hospital.

WHAT DOES RECOVERY LOOK LIKE?

Post-Operative care is similar to an extracapsular repair, but recheck radiographs will be required 8 weeks post-operatively to assess bone healing. Most dogs are adequately healed at that time, but occasionally we do need to consider another recheck radiograph at the 12 week mark. Your dog's activity level must be restricted to short leash walks only (preventing running/jumping activities) for a full 10-12 weeks. We will start with very short walks to urinate/defecate only and then gradually increase those walks through the rehabilitation period. When your pet is alone, he/she should be restricted to a small area or a crate.

Adequately restricting your pet's activity level plays a major role in the success of the surgery. Most dogs with a TPLO are using the leg with near normal function by 10-12 weeks post-op.