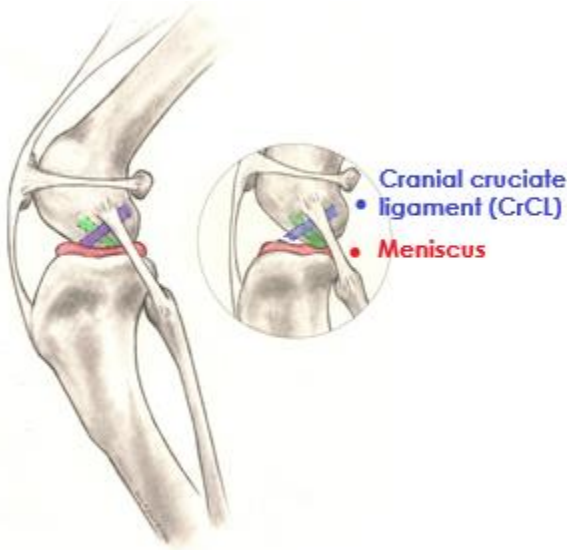


WHAT IS A CRUCIATE LIGAMENT INJURY?

Cranial cruciate ligament (CrCL) damage is the most common orthopedic injury in dogs. It causes lameness and it affects all breeds and ages. However, there are many factors that may contribute to CrCL disease, including obesity, exercise level, and genetics (*some breeds are more predisposed to CrCL disease*).



WHY DOES IT OCCUR?

Although a small minority of injuries may occur due to trauma, the most common cause is slow, progressive overloading of the ligament leading to eventual tearing.

Symptoms can range from an occasional limp that improves with rest, to more severe discomfort and non-weight bearing lameness of the affected limb. Pets can have both knees affected, requiring treatment at the same time.

WHAT ARE THE TREATMENT OPTIONS?

MEDICAL TREATMENT Unfortunately, once the CrCL has been torn and there is substantial knee instability (moderate to severe), medical management is not effective for long term athletic activities. In patients with a partial tear with only mild instability, other modalities

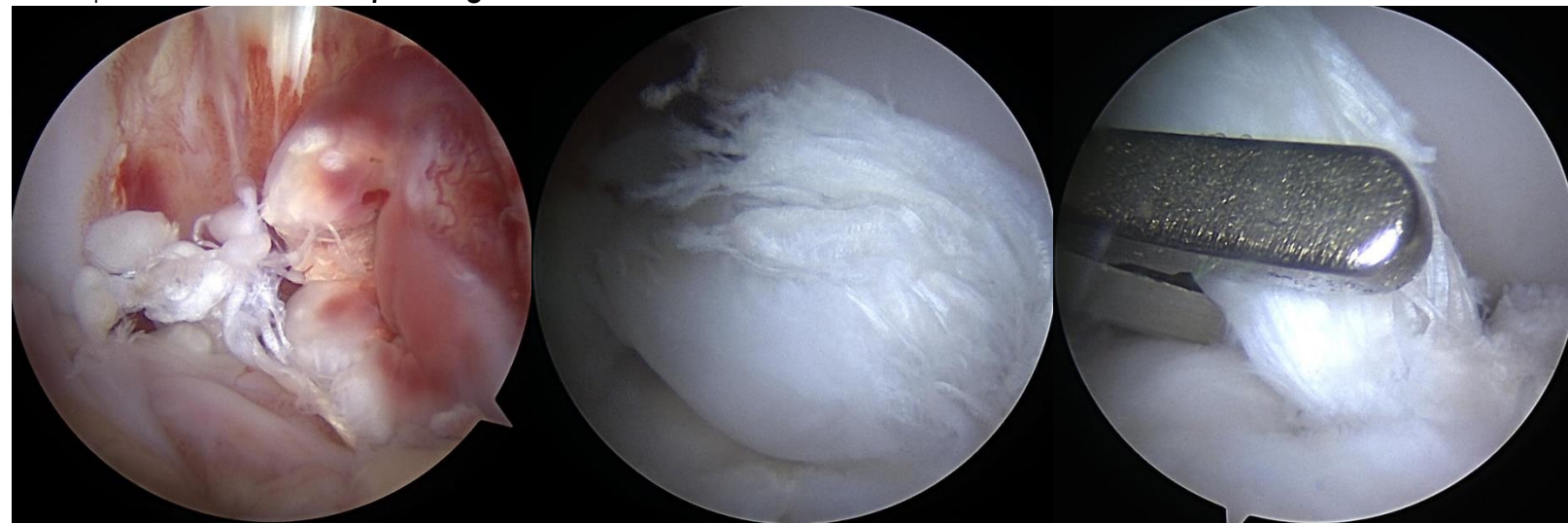
including rest, NSAIDs, and Platelet Rich Plasma (PRP) joint injection treatments may be recommended.

However, surgical intervention may be inevitable if instability and associated lameness progresses or persists.

SURGICAL TREATMENT The goal of surgical intervention is not only to provide stability of the knee joint but to reduce the progression of osteoarthritis, which can lead to debilitating discomfort, reduced mobility, and affect the long-term quality of your pet's life. Osteoarthritis cannot be reversed once present.

JOINT EXPLORATION: ARTHROSCOPY

In conjunction to the TPLO procedure, we will first perform an **Arthroscopic Examination** of the stifle joint to evaluate the degree of ligament tearing, cartilage health, and condition of the meniscus. Arthroscopy is minimally invasive and allows the surgeon to have optimal visualization inside the joint, as well as perform several intra-articular procedures. Following the arthroscopy, the surgeon and team will proceed with the TPLO procedure. ***Arthroscopic images shown below.**



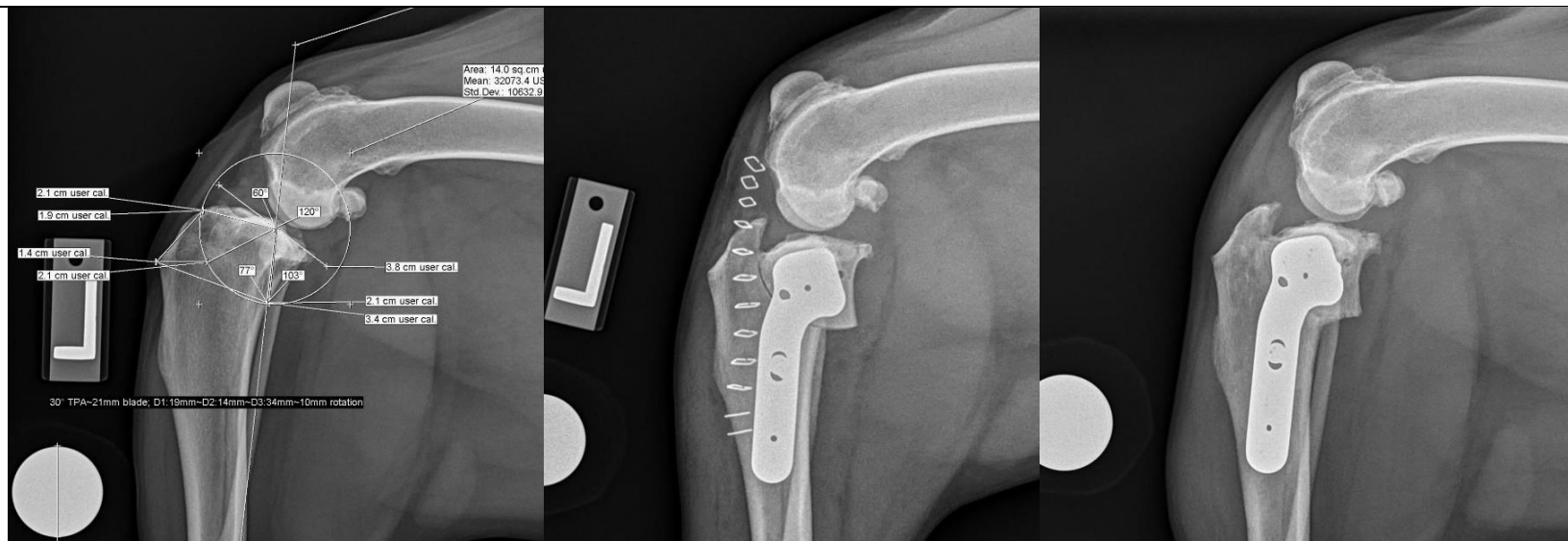
Cruciate Ligament Rupture

Meniscal Tearing

Torn Meniscus Removal

JOINT STABILIZATION: TPLO SURGERY

The surgical option most recommended by VetSurg is the **TPLO (Tibial Plateau Leveling Osteotomy)** procedure. A summary of the TPLO procedure involves cutting the top of the tibia bone (osteotomy) with a specialized crescent-shaped saw, rotation of the bone segment to a predetermined angle (based on pre-operative radiographs and measurements). Once the ideal angle is achieved, a stainless-steel surgical bone plate and screws will be placed to maintain this position. In severely unstable knees, the addition of a TightRope and SwiveLock *InternalBrace* implant may be recommended to maximize post-surgical knee stability. ***Standard TPLO radiographic images shown below.**

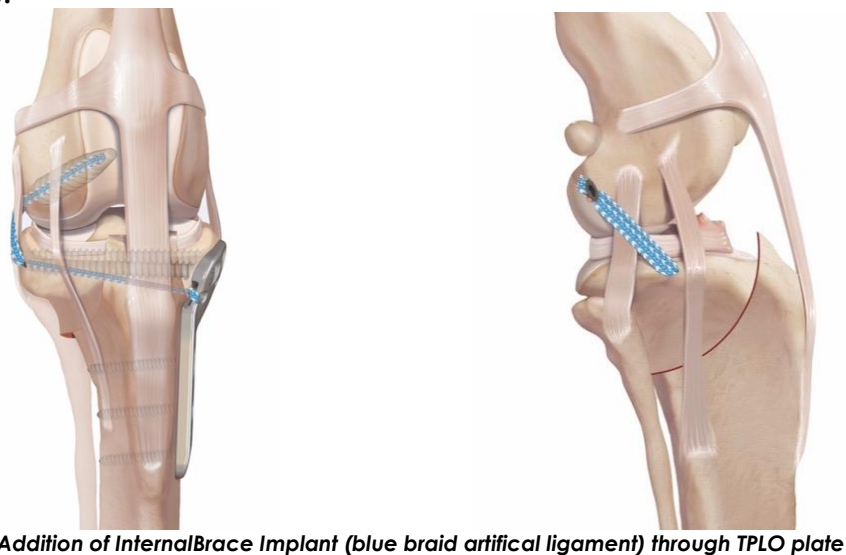


Pre-surgical measurements

Post-surgical Radiograph

6 weeks post-surgical Radiograph

*** Images of TPLO surgery with addition of *InternalBrace* implant for severely unstable knees (~6% of patients require this additional surgical procedure).**



Addition of *InternalBrace* Implant (blue braid artificial ligament) through TPLO plate

WHAT IS THE PROCESS BEFORE + AFTER SURGERY?

- **LABWORK + MEDICATIONS:** Prior to bringing your pet in for surgery, labwork will be needed to make sure there are no underlying conditions that may affect your pet's safety under anesthesia or affect recovery. This can be performed at VetSurg or by your primary veterinarian. We may also discontinue and/or start medications prior to surgery. ***Notify our team of all underlying health conditions (i.e. heart murmur, diabetes, allergies) and provide any associated veterinary records if not already in our record.**

- **RADIOGRAPHS:** Surgical planning radiographs (TPLO Series) will need to be performed prior to surgery. These are usually performed immediately prior to surgery under anesthesia. Despite the screening radiographs that your veterinarian may have taken, VetSurg Team will need to perform specific radiographic views that will determine your pet's specific measurements, including tibial plateau angle, rotation angle, and saw/implant size.
- **SURGICAL PREPARATION:** Once the pre-op radiographs are performed on your pet, the surgical team will prepare them for surgery. The surgical limb(s) will be shaved and your pet likely will have an epidural for pain management (this area too will be shaved). Your pet may also have a urinary catheter placed for post-operative hospitalization. Surgical preparation involves pre-op radiographs, shaving of the limb, epidural administration +/- urinary catheter placement (*Pre-op preparation may take up to 90 minutes*).
- **SURGICAL PROCEDURE + RECOVERY:** Surgery time can take several hours, depending on complexity and if the procedure is one or two-sided. After post-op radiographs are performed, your pet will start the recovery process from anesthesia. We will keep the pet parents updated before and following the procedure. Your pet will be hospitalized at least for the first night following surgery. The VetSurg Team will call the following day when it is time for your pet to be discharged; a team member will go over all medications and recommendations.

WHAT IS THE RECOVERY PROCESS FOLLOWING SURGERY?

Following your pet's TPLO procedure, it will be very important to keep them confined and activity restricted for the first 4-5 weeks until we perform recheck radiographs. **A crate is the safest way to confine your pet;** an x-pen can be used for small pets or older pets that will not try to jump out. The area can be large enough to have a bed and allow your pet to rotate and sprawl out comfortably. We typically recommend getting a crate slightly larger than classified by weight. Your pet likely will have a cast on the surgical limb for the first 10-14 days to protect the incision and reduce swelling.

STAGE 1: Weeks 1 - 4

This is the most important period of post-operative recovery; it can be challenging:

- Recheck visit at 10-14 days for cast removal, incision check, and skin suture/staple removal.
- NO OFF-LEASH ACTIVITY No running, jumping off/on furniture, or playing.
- Crate or x-pen confinement. When your pet comes out of the crate, your pet must be on a leash to prevent bolting, etc. A slow 5-minute bathroom breaks are allowed several times a day. Oral sedatives will be prescribed to aide in reducing anxiety during the recovery process.
- E-collar must be worn for 10-14 days until all incisions have completely healed. A cast or bandage may be maintained during this time. It is **IMPERATIVE** that your pet not lick the surgical site until completely healed to prevent infection and associated complications.



STAGE 2: Weeks 5 - 8

This stage will introduce low-impact walking sessions:

- At 5-6 weeks, we will perform an examination + radiographs to assess healing. Pending radiographic findings, an incremental walking program will be started to slowly build strength and endurance. Each week, the two to three daily walking sessions will be increased by 5 minutes, building up to 25 minutes by week 4. Walking on sand at the beach and small hills is beneficial in building muscle strength; we recommend incorporating different terrains if possible.
- Your pet may have time out of the crate under direct supervision inside the home (no off-leash activity outside).



STAGE 3: Weeks 9 - 12

This final stage will introduce off-leash sessions before returning to full activity:

- Recheck visit or an emailed update by the owner (send video if possible) following completion of STAGE 2; if progressing well then outside off-leash activity with intermittent rest periods (limit soreness) is permitted.
- Following completion of the final stage with no concerns, your pet may return to normal activities with no restrictions. The goal is to return your pet to doing the things they love and enjoy without discomfort.