



ALTOONA VETERINARY HOSPITAL

Cranial Cruciate Ligament Injury and Repair



with

Dr. Kelsey Witte



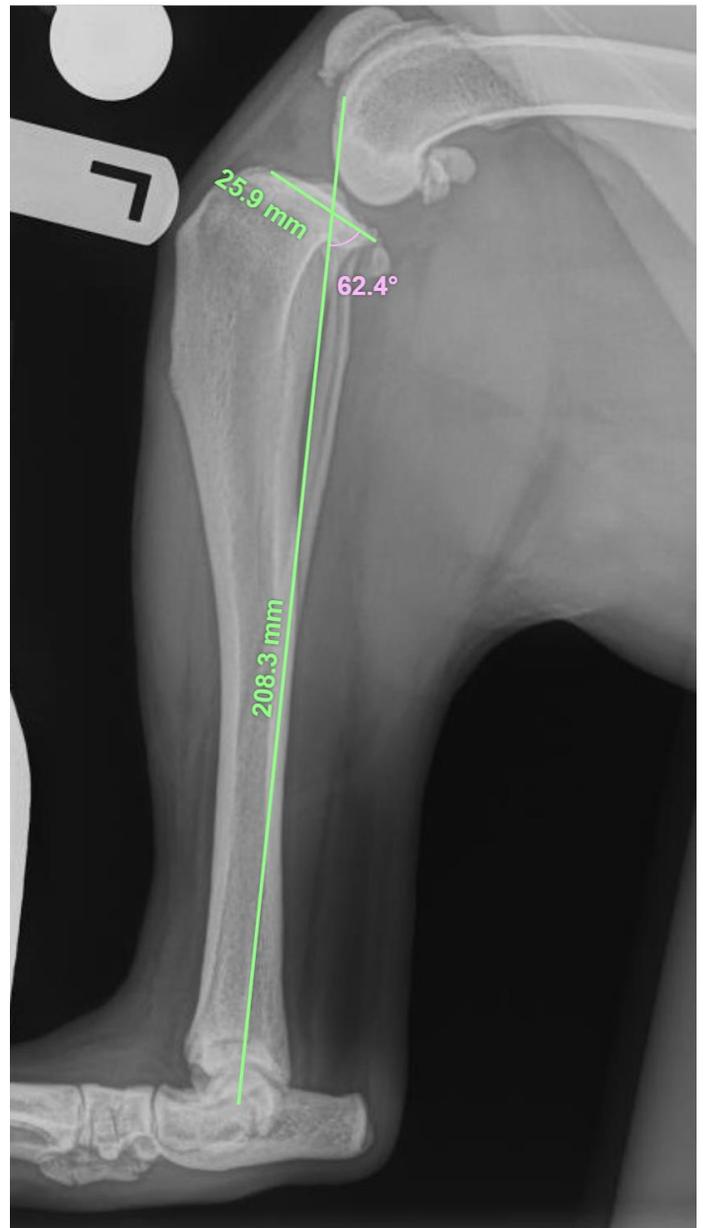
CRUCIATE INJURY

A Cranial Cruciate Ligament (CrCL) tear is comparable to an ACL tear in human. This ligament is responsible for keeping the stifle (or knee) stable. Without this ligament, the knee becomes unstable and leads to rubbing of the joint surfaces, leading to pain, discomfort and subsequent limping. Eventually, this instability leads to arthritis and chronic pain. Unlike humans, who primarily tear their ACL through strenuous athletic events, there are many reasons why dogs' CrCL may tear.

Common factors leading to Cranial Cruciate Ligament injuries include:

1. **Breed:** Labrador Retrievers, Pit Bull Terriers, West Highland Terriers, Rottweilers. Although many other breeds are susceptible.
2. **Older Pets**
3. **Obese Pets**
4. **An Increased Tibial Plateau Angle**
5. **Trauma** (athletic dogs)

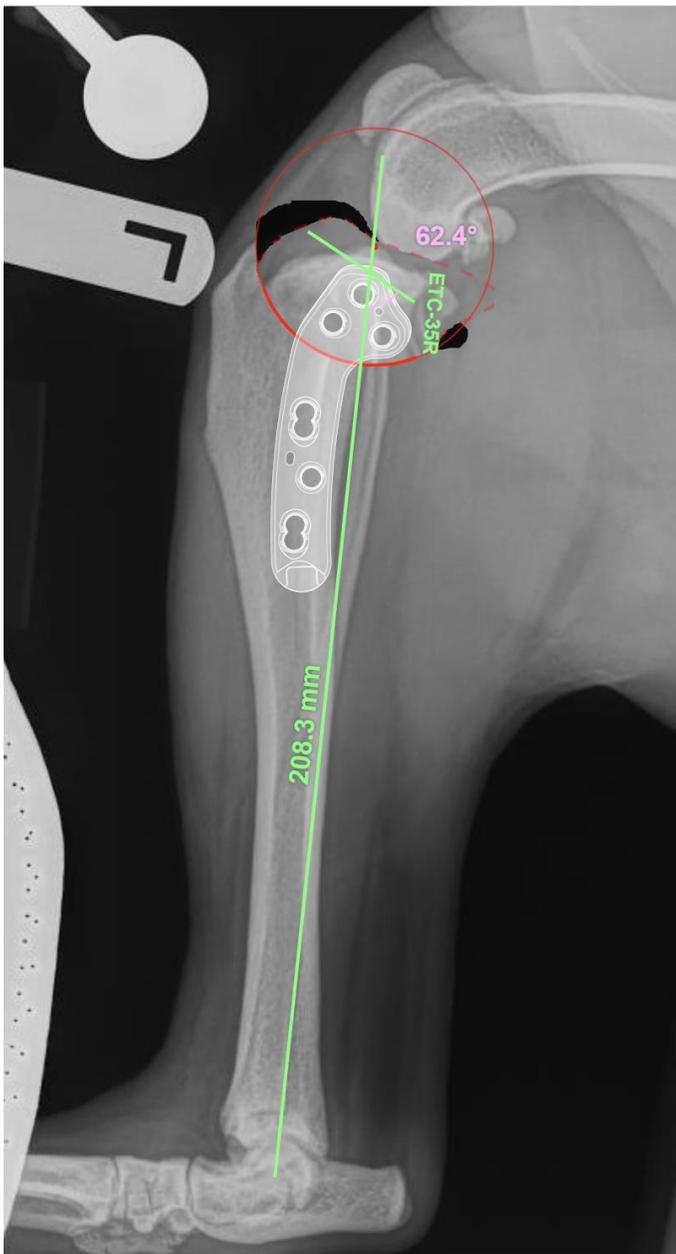
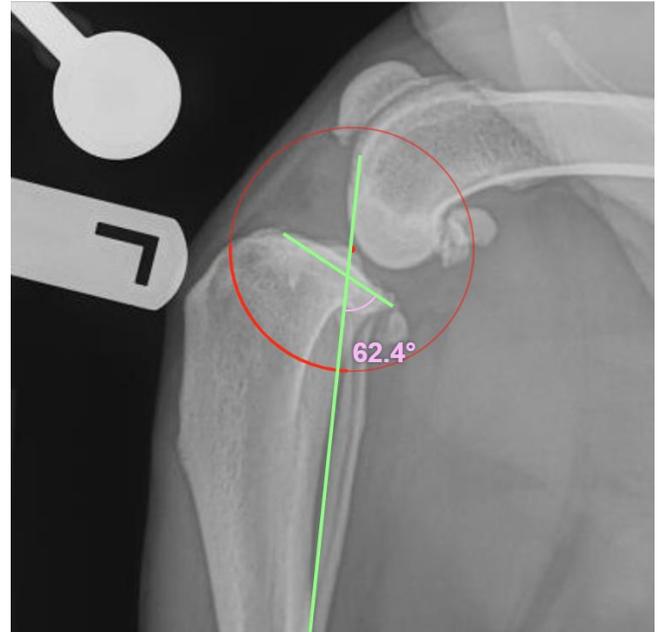
Tibial Plateau Leveling Osteotomy (TPLO) is a common surgical procedure performed following CrCL rupture. This procedure involves lessening the angle of the knee to help prevent further instability and pain. When the CrCL ruptures, the tibia (shin bone) slides forward in relation to the femur (thigh bone). The TPLO helps to lessen this mobility by changing the angle at which the femur and tibia interact.



This image shows a steep 'tibial plateau angle' or angle of the shin bone that allows excessive mobility and motion of the knee.

Repair

During the procedure, the surgeon will make a cut through the tibia (see the thick red line in the photo to the right), and reposition it to create a less steep angle. The tibia is then reattached using a surgical plate and screws. Subsequently, the instability of the knee is dramatically lessened.



Over time, the bone will heal, and the knee becomes much more stable and less painful.

The goal of surgery is that your dog will return to full function within 4 months.

Following surgery, 95% of patients will make a 95% recovery, depending on patient age, size, and concurrent disease, compliance with postoperative recommendations, and rehabilitation.

Office Visits

Initial Visit:

Estimated cost: \$525-750

- Examination
- Preoperative lab work
- Radiographs (x-rays)
- Sedation may or may not be required in order to perform the proper exam/obtain radiographs

Surgical Day:

Estimated cost \$3750-4000

- Surgery
- Post Operative Pain Management
- Surgical cost also includes the following re-checks postoperatively:
 - 2 weeks: Recheck with veterinarian to examine surgical site and discuss progress
 - 8 weeks: Recheck with possible sedation for radiographs to ensure proper healing of osteotomy (bone incision)
 - Intermittent phone calls as needed for discuss progress and rehab

Rehab & Recovery

Recovery is an important part of surgery. The number one cause of postoperative complications is lack of confinement, and the number two cause is licking of the incision. First and foremost, please ensure that your pet is confined as instructed, and ensure that your pet is not licking their incision.

See an explanation of the rehab exercises on separate page.

First 2-3 Days:

- Ice/cold therapy. Apply ice for 15-20 minutes every 4 hours with gel pack
- Sling to support, but not to carry

First 0-4 weeks:

- Passive range of motion: 15-20 reps, 2-3 times per day
- Mobility Exercises: weight shifts, cookie stretches: 5 reps, 2-3 times per day

Weeks 4-8: (5 minutes, 3-4 times daily)

- Controlled weight bearing encouraged.
- May walk up stairs one at a time.
- Mobility exercises: Cookie stretches, weight shifts, circle walking with affected leg on inside, backwards walking, dancing
- Sit to stand
- Walks through tall grass or ladder walks (walk through rungs of a ladder laying on the ground)
- Side stepping
- Stairs – slow and steady: have full control of speed, one step at a time.

Rehab Exercises

Passive Range of Motion: Have your dog lay down. Straighten the knee until slight resistance is felt and hold gently for five seconds. Then bend the limb just until patient resists and hold gently for another five seconds. Slowly circle through this cycle. The process should not be painful or feel like you are forcing the limb.

Weight Shifts: Start standing, in a safe, nonslip area. Keeping your dog in standing position, gently push their weight off balance: back to front and side to side.

Cookie stretches: While standing, use a treat to guide your dog's head into deep stretching: turning their nose 1) from shoulder to shoulder, 2) from nose to sky, nose to chest, and nose to floor, and 3) from nose to either hip.

Circling: From standing, use a treat to encourage your dog to make a tight circle (you should not have to move your feet when guiding them) with the affected leg on the inside of the circle. Do this slow and controlled.

Backwards Stepping: Hold a treat in your hand and gently bump into your dog, having them step backwards at least 5 steps, slow and controlled.

Dancing: Similar to backward stepping, but holding your pet's front limbs and encouraging them to take steps forward and back, bearing equal weight on either hind limb.

Sit to Stand: Encourage your dog to go from sitting to standing position. In order to get the most from this exercise, a standing dog's rear legs should come to their front legs to sit, without moving their front legs. They should also be able to go from sitting to standing without stepping forward.

Ladder Steps (or stepping through grass): Use a ladder (or makeshift a ladder with 5 horizontal poles, about 2 feet apart, parallel to one another), have your dog walk through the rungs slowly, guided with a treat. If a ladder/poles are not available, walking through tall grass can create the same type of exercise.

Side Stepping: Have your dog stand facing your right or left hand, as you hold a treat. With their side facing you, step toward them while holding the treat to encourage them to step to the side. You may have to slightly bump them to get them to take a step. Complete five steps each way per session.

Contact Us

We are here to help!

Do not hesitate to contact us with any questions or concerns.



515-967-4281

altoonaveterinaryhospital@mchsi.com

altoonavet.com