Tibial Tuberosity Advancement

A surgical treatment for lameness

COASTWAY VETS
PET CARE YOU CAN TRUST
Cranial Cruciate Ligament Rupture

Many surgeries carried out at Coastway are done to repair muscular skeletal injuries, which are those associated with the combined movement of bones, muscles, tendons and ligaments. The most common type of injury is a cranial cruciate ligament rupture, which causes hind lameness in dogs.

When this ligament is torn or ruptured, any weight placed on the injured leg causes instability, this means that the shin bone (tibia) travels forward relative to the thigh bone (femur). The stifle feels as though it is ‘giving-way’ and this can cause the dog to appear severely lame.

A thorough assessment is needed to help identify the best surgical option to treat each individual injury.

We would generally start by carrying out an initial examination followed by a deeper assessment under sedation to help detect instability. Radiographs would also need to be taken at this stage to aid diagnosis and surgical planning.
What is TTA?

There are several traditional surgical treatments to repair a cranial cruciate ligament rupture - intracapsular, extracapsular and plateau levelling techniques – as well as a procedure called Tibial Tuberosity Advancement, or TTA.

TTA works by altering the anatomy of the knee to eliminate any instability by cutting the front of the shin bone (the tibia), moving it forward and stabilising it in its new position using one of a number of ways. This procedure is significantly less traumatic than many other traditional methods of surgical treatment. It has a shorter recovery time, improved complication rate and there is a better prognosis for a long term return to function, compared to other types of repair.

Although in most cases we recommend opting for a TTA procedure to repair a cranial cruciate ligament rupture, each surgical procedure we offer is costed differently and it’s worth exploring all options before deciding on a treatment plan. In some cases we can arrange a direct payment from your pet insurance company, although a few checks would need to be made first.
Our Orthopaedic Specialist

Coastway Vet’s orthopaedic specialist and one of the pioneers of this procedure in the UK is Alex Li. Alex runs his own busy referral practice, Chiltern Referral Services in Buckinghamshire, which was one of the first centres in the UK to be approved by the University of Zurich to perform TTAs. This has led to Alex having an unusually high level of experience with this procedure. He visits our Brighton practice on a regular basis, Wednesday is his usual day for surgeries. Appointments to see Alex can be made through Paul Lawrence, who manages his caseload, by calling 01273 692257, or you can speak to your regular Coastway vet about a referral.

The Day of Surgery

If you’ve decided to go ahead with a TTA for your pet, at their morning admission appointment we’ll go through the surgery again with you and answer any queries that you might have. We understand that for many owners this is a worrying time and we’ll do all we can to explain things fully and reassure you. We’ll then take your pet into our hospital and introduce them to our ward nurse. It is the ward nurse who will be with your pet for most of the day and look after them before and after their operation. At the appropriate time before surgery your pet will receive a premed, which will help relax them.
Alex and his surgical team will then anaesthetise them and begin to prepare the leg for surgery. The surgery includes the placement of a titanium cage with or without a plate with a possible bone graft (see photo). Many dogs with ruptured cranial cruciate ligaments also tear their cartilages (menisci), so during surgery we check for any damaged portions of the cartilages that need to be removed. At the same time, remnants of the ruptured ligament can be trimmed. The whole surgical procedure normally lasts two hours and finishes with some post-operative radiographs. Alex will then call you to discuss the operation.

After talking with Alex, you’ll be asked to contact the ward nurse later in the day to check on your pet’s progress. Some pets go home the same day as their surgery, others are kept in and return home the next day. If your pet is kept overnight, there will be a vet and nurse team looking after them at all times.

**Possible Complications**

TTA surgery is generally a very successful procedure with a success rate of around 90%, but there are some potential complications. These include infection, implant loosening and fracture. A small percentage of dogs will also tear their cartilage following surgery. In this event a sudden increase in lameness usually develops and a second operation may be necessary to remove the torn piece of cartilage. The biggest and most obvious complication following surgery is caused by pets licking their own surgical wound. To prevent this, we recommend you use an Elizabethan Collar for the first 7-10 days. Try to keep your pet quiet and calm following surgery as any sudden or extreme movement can also cause implant failure.
Aftercare

Aftercare following TTA surgery is very important, with full rehabilitation taking a number of months. Your pet will be sent home with a course of painkillers and antibiotics. At the discharge appointment we run through how best to care for your pet at this time, including the use of the Elizabethan Collar. The surgical wound may, or may not be covered. We would normally want to arrange a check up in the first 5-7 days and any skin sutures would generally be removed at 10-14 days if they are not dissolving.

Please keep your pet in a comfortable, safe indoor location with no free access to stairs for the initial 24 hours following the procedure. Your pet may be groggy for the first day or so. If you feel your pet’s in pain, let us know and we can supplement their pain medication.

Confine your pet to one level of the house on carpeted floors (to avoid slipping). Baby gates might be needed to restrict the use of stairs. Please do not allow your pet to run or jump during this restriction period.

Your pet should start touching his toe down within the first 2 weeks. You should see the leg usage steadily improving from this point.
Exercise must be restricted for the first six weeks (typically 5 minutes, three to four times daily) until the soft tissues and bone heals. Essentially, exercise is limited to toileting on a short lead to retain control in case there is a squirrel to chase!

**Follow up radiographs**

At the six week check we will take more radiographs (under sedation) to assess how well the leg is healing. Some pets at this stage will have healed enough to allow for more exercise, generally returning to ‘normal’ exercise levels within the following six weeks. Other pets however are slower to heal and will need a further six week restriction period. Hydrotherapy is a very useful rehabilitation tool at this stage.

**Long term**

The prognosis for most dogs treated with a TTA to correct a ruptured cranial cruciate ligament is good to excellent with the majority of dogs returning to a normal gait, level of activity, and endurance.

In all of these cases, eventually we can expect some degree of osteoarthritis (OA) in the affected joint. Unfortunately, arthritis progresses regardless of treatment, but is much slower when
surgery is performed and the knee is stabilised. Managing mobility in the affected limb is very important and joint supplements are recommended for any dog with this injury, no matter which surgical procedure is chosen. Laser therapy is another therapeutic tool to aid recovery and manage OA.

Weight management is also extremely important. This is crucial to help slow the progression of OA and prevent cruciate failure in the other leg. Our Nurses Clinics provide free help and advice on weight loss and are available at all of our local surgeries.

“If you’re at all worried, you can call for advice 24 hours a day.”