
Tibial Plateaux Levelling Operations. What's involved and what are the benefits?

The surgery involves cutting the tibia and flattening the tibial plateaux to around 6 degrees. The cut ends of the tibia are then held together to heal with bone plates. This healing will take up to 3 to 4 months and so the post operative rehabilitation is important and takes around 12 weeks.

What are the advantages?

There have been many studies into CCL disease and the different methods of addressing it. All show that one technique alone is no better than another and that all techniques have their own problems. However there has been work that shows that levelling of the tibial plateaux may slow down the progression of osteoarthritis and allows early partial cruciate tears to heal. Because the techniques do not rely on physical restraint but on the dog's own weight bearing and muscle action, the benefit of the surgery is seen far quicker than with other more traditional techniques, often the dog is showing improvement by the time the sutures are removed at 10 days.

Complications:

This is a major surgical procedure that involves cutting the tibia, as a result there can be major complications. Allowing your dog to over exercise, lick the wound, jump onto sofas and furniture, run up and down stairs etc can lead to significant complications that can be time consuming, involve further surgeries and extra costs to you. The recognised complication rate is 15 to 40% of which as many as 5 to 10% may need further surgery to address.

Post operative infections:

Every possible effort is made to reduce the possibility of wound infection. We use completely disposable drapes, gowns, gloves and skin barrier preparations. All surgeries are performed in our dedicated theatre. Staff wear theatre scrub suits, hats, masks and footwear, attention to detail in theatre and theatre practice is paramount. Dedicated powered equipment is used for the surgery. Intravenous antibiotics are given during. The wound is covered with a sterile dressing and a Buster Collar is mandatory until the sutures have been removed. Still a small number of patients will have problems with post -operative infections, on the whole these are 3 to 4 weeks after surgery and restricted to soft tissues around the site but joint infections and infections of the plates and screws do still occasionally occur.

Delayed healing or non healing of the osteotomy:

Again every effort is made to create an optimal environment for healing of the osteotomy site. On the whole plates are used, powered equipment is used for cutting of the bone and placement of the screws. Exercise control for the 3 months post operatively is critical.

Malunion (abnormal healing of the bone):

Cutting of the bone can lead to incorrect setting and angular deformity, we use the standard jig for the procedure to try and avoid this and radiographs are taken before and after surgery and again after 6 to 8 weeks.

Late meniscal injury:

This may occur any time after the procedure but often seems to occur after 6 weeks. The use of arthroscopy to inspect the menisci has been shown to reduce this complication.

Haemorrhage:

A rare but potentially life threatening complication is profuse bleeding during surgery due to laceration of the popliteal artery. Studies have shown that using a less invasive approach and careful attention to detail should make this complication very unlikely. The risk of this complication is extremely low.

Patella tendon desmitis:

In this instance the patella tendon becomes painful. It generally settles with time.

Post operative swelling:

All cases are kept in for 24 hours after the surgery. This allows us to ensure they are having sufficient pain relief and a dressing is placed for 24 hours to prevent post op swelling. Some swelling around the hock is sometimes observed within a few days of going home. This resolves with some gentle massage and time.

Post operative pain:

All cases stay in for 24 hours post op to ensure they receive sufficient pain relief, this will include Non Steroidal Anti Inflammatories (NSAIDs), opiates (morphine) and local anaesthetics as needed. Sometimes cases may stay in longer if need be.

What can I expect post op?

- The surgical site will be covered with a sterile dressing and may be bandaged. Your dog will be wearing a Buster Collar and this must be worn 24/7.
- Your dog must not be allowed to exercise freely at all outside. Restriction to a small kennel, back room or cage for the first 8 weeks is essential. Lead toilet exercise is all that is allowed.
 - The wound should be checked by your vet 48 to 72 hours after going home.
 - 10 days after the surgery your dog should be checked again by your vet to remove any skin sutures and check on progress. The Buster Collar can now be taken off.
 - Assuming all is well we would normally see your dog again after 6 to 8 weeks (having had nothing to eat that day) at which time we would take repeat radiographs under sedation, this is so that we can check on osteotomy healing and determine whether exercise can be increased.

If at any stage your dog becomes suddenly lame, the site becomes hot or swollen or you are in any way concerned please contact your vet straight away.



Above are post operative x rays of two different cases that have had Tibial Plateaux Levelling Osteotomies to address cruciate ligament injury. The left image is from a smaller dog (Spaniel) using a cranial closing wedge and the right image is a much larger dog (50kg Retriever) using the Slocum's method and double plated for security.