

Cranial Closing Wedge Osteotomy

Cruciate ligament rupture

Cranial Closing Wedge Osteotomy (CCWO) is a surgical procedure to stabilise a stifle (knee) with a ruptured cranial cruciate ligament. The cranial cruciate ligament is one of the main stabilisers of the stifle joint, preventing forward movement of the tibia relative to the femur. It also stops internal rotation of the tibia and hyperextension of the stifle.

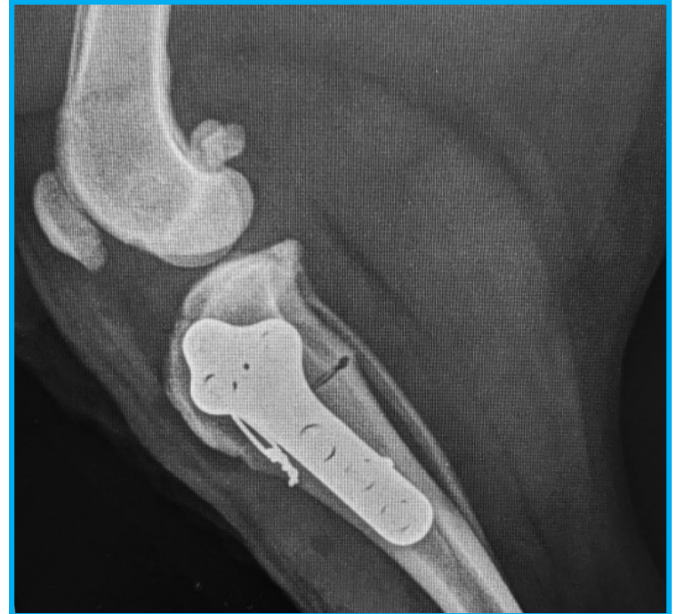
When your dog is weight bearing, the weight bearing surface of the tibia slopes downhill, and it is the cranial cruciate ligament that prevents the femur from sliding downhill. When the ligament is torn, the joint becomes unstable, leading to pain, inflammation and arthritis.

The Surgery

The joint is examined and remnants of the cruciate ligament are removed. The menisci (cartilage) inside the stifle are examined and damaged tissue is removed. During the CCWO, a wedge of bone is removed from the tibia. The resulting gap disclosed and the bone is stabilised with a wire loop and a metal plate. The procedure flattens the tibial plateau, so during weight bearing the force is transferred across a flat surface.

Post operative care

CCWO is a major procedure and it is important to follow these instructions closely for best chance of a successful outcome.



Surgical Wound:

Your dog will have a wound on the inside of their leg. Please check this area twice daily, and report any swelling, redness or discharge from the wound.



Medication:

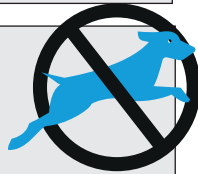
Your pet will be prescribed antibiotics and pain relief, it is important to follow instructions to avoid complications. Please report any changes in demeanour, vomiting or diarrhoea to your vet immediately.



Exercise restriction:

Strict rest for six weeks is essential for uncomplicated bone healing.

This means confinement to a cage or room with no furniture to jump on and off, especially when your dog is unsupervised. Stairs should be avoided and toileting should always be on a lead.



Cold & Warm Therapy:

For 3 days post operatively – use an ice pack wrapped in a towel applied to the outside of the joint (not directly over the wound) for 5-10 mins 2-3 times daily.

Some swelling of the operated leg is to be expected and cold therapy and gentle massage from the toes up towards the stifle will reduce this



Gentle Exercises:

Once your dog becomes more comfortable, start gentle passive flexion and extension exercises of the injured joint. Your clinic will show you how to do this. Start with 5 repetitions twice daily, and increase to 20 repetitions three times daily. Stop immediately if your dog resents this, or seems painful.

Hydrotherapy:

This can be started once the surgical wound has healed, under the guidance of your vet.



Post operative care (continued)



Physiotherapy:

Physiotherapy videos:

Videos of the physiotherapy exercises can also be seen on our website www.provetsurg.co.uk

2-4 weeks post-operatively

Elevated Sit-Stand

Place a small box or large book behind your pet's back legs and ask them to sit onto the item. Then ask them to rise back into a stand. Repeat 3-4 times twice daily. If the operated leg flops out to the side, try doing the exercise with the operated leg alongside a wall.

Weight Shifting

Stand your dog on a firm surface. Stand behind them and pop your arm under their belly to stop them sitting down (without holding them up). Using a treat, slowly lure them to turn their head round to their ribs on the right side, hold this position for a few seconds and then slowly lure them round to the ribs on the left side. Repeat 3 times each side twice daily.

In the same position, bring the treat between their front legs to lure their head down and between the front legs. This encourages them to shift their weight onto their back legs. Repeat 4 times twice daily.

4-6 weeks post-operatively

Sit to stand against a wall

Place your dog with the operated leg alongside a wall. Ask for a sit onto the floor and then a stand. Ensure the operated leg is not falling out to the side. Repeat 4 times twice daily.

Weight shifting on a wobbly surface

Progress from weight shifting using a treat on a firm surface to performing the exercise with your pet standing on a piece of foam/other soft surface.

Lateral Weaving

Place six items in a line with a space your dog's length in between them. Encourage your dog to SLOWLY weave in and out of the cones/items. Repeat 4 times twice daily.

Low Pole Work

Place poles or items close to the ground for your dog to step over. Make sure there is a dog's length between each item. SLOWLY walk your dog over the items to encourage lifting and placing of each leg. Ensure they do not jump or hop their back legs over. Repeat 4 times twice daily.

Introducing Exercise:

At six weeks post-operatively x-rays will be taken and providing healing is progressing well, you can start short lead walks of 5-10 minutes twice daily. This can be increased by 5 minutes weekly, and once your dog is walking comfortably on the lead for 30 minutes, you can let him/her off the lead for the last 5 minutes of the walk.

At all times your dog should make steady progress. If he/she stops improving, or becomes more lame, please contact your vet immediately.



Outcome

90-95% of patients return to pre-injury levels of exercise. Occasionally, patients need intermittent or ongoing anti-inflammatory medication post operatively to maintain their lifestyle.

Complications

Complications can occur with any surgical procedure. Late meniscal injury (a tear in the cartilage inside the joint) is the most common complication. This can occur months or sometimes years after surgery and requires a further operation to remove the damaged cartilage from the joint. Infection is seen in around 3% of cases and can require removal of metal implants. Very rarely we see fracture, or implant failure post operatively. Cruciate ligament rupture is a degenerative disease in dogs and so rupture of the cruciate ligament in the other stifle is seen in up to 70% of patients within 12-18 months.



RCVS Knowledge Canine Cruciate Registry (CCR)

At ProVet Surg we pride ourselves on maintaining high standards in our surgical techniques and patient care. We take part in the Royal College of Veterinary Surgeons (RCVS) CCR, a national database that collects evidence on each of the techniques used to treat cruciate disease. This RCVS Knowledge database relies upon us as veterinary professionals, and you as pet owners to input your pet's experience into a quick and easy online tool that will then notify you at relevant time points, to seek your opinion on your pet's recovery. To find out more information on the CCR, please visit <https://caninecruciateregistry.org> or ask your surgeon at your next appointment.

