Specialist Referral Service
Willows Information Sheets

Total elbow replacement surgery
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Does my dog need a total elbow replacement?

Total elbow replacement (TER) surgery is a major procedure with possible complications. As a result it is only performed in dogs where the benefits of surgery outweigh the possible risks and where alternative methods of treatment are less successful.

TER surgery is primarily performed in medium and large dogs. Candidates for surgery are dogs with persistently painful elbows that are not responding satisfactorily to medical management. Signs of elbow pain include lameness, stiffness, restlessness and reluctance to exercise and play.

The most common cause of elbow joint pain is osteoarthritis associated with elbow dysplasia (osteocondrosis / OCD). This can affect dogs as young as six months of age. (See also elbow dysplasia information sheet)

Are there any contraindications to TER surgery?

Dogs with elbow dysplasia/osteoarthritis, no matter how severe, are not candidates for TER surgery if signs of pain and lameness are mild and readily controlled by conservative measures.

Candidates for TER surgery must be in good general health. Blood tests may be recommended to ensure that internal organs, for example the liver and kidneys, are working properly and that the blood cells are normal.

It is important that the dog has no general infections, for example the skin (pyoderma), and that the elbow joint to be replaced is not infected. If there is any doubt regarding the latter it may be necessary to collect a sample of fluid from the joint and send it to a laboratory for analysis. Any previous major surgery on the elbow, for example to repair a dislocation or fracture, may increase the possibility of complications with TER surgery. Previous arthroscopic examination of the elbow is not a contraindication.
What does TER surgery involve?

Dogs have to be evaluated to see if they are a suitable candidate for TER surgery. This is done on a separate day to the surgery; often a few weeks before. The first step is to ‘measure’ the patient for the prostheses (implants). This requires obtaining very specific X-rays (radiographs) of the elbow and placing them against line drawings (templates) of the various sizes of prostheses available.

Your dog will usually be admitted the day before the surgery. He or she may be fed that morning and water should not be withheld.

The surgery

Joint replacements are amongst the most challenging operations performed by veterinary orthopaedic surgeons. A team of surgeons and a nurse are involved. The operating theatre and a vast array of surgical instruments are prepared the day before. Two principle types of elbow joint replacement are performed, namely the SIRIUS and TATE, each having their advantages and disadvantages.

The operations are performed through an incision over the elbow joint. Careful preparation of the three bones that make up the elbow (the humerus, radius and ulna) is necessary prior to placement of the relevant prostheses. The artificial components are inserted into the joint where bone has been removed and secured in a variety of ways. The tissue that surrounds the joint is carefully stitched (sutured) prior to closure of the rest of the wound.

Radiographs (X-rays) are obtained at the end of the operation to check the position of the prostheses. A padded dressing may be applied to the limb following surgery.

Aftercare

Aftercare following TER surgery is very important with rehabilitation taking many months. Courses of painkillers and antibiotics are prescribed at discharge. If your dog tends to excessively lick the wound it may be necessary to use a plastic Elizabethan collar. Visits to your own veterinary surgeon are necessary within the first two weeks to check the wound and remove any sutures.

Exercise must be very restricted for the first few weeks until the joint capsule and other soft tissues heal. Exercise is primarily for toileting purposes. It must be on a lead or harness to prevent strenuous activity, such as chasing a cat or squirrel. At other times confinement to a pen or a small room in the house is necessary with avoidance of jumping and climbing. After a few weeks, exercise may be gradually increased in a controlled manner (still on a lead). Hydrotherapy may be recommended.

The first check-up at Willows is one month after the operation. Limb and elbow function are evaluated at this time. Depending on progress advice is given regarding increasing exercise. The next check-up is three months following surgery when radiographs are obtained to evaluate the TER. The bone surrounding the prostheses is checked and compared to the radiographs obtained immediately following surgery. This enables stability of the prostheses to be assessed. Further advice is given regarding exercise.

Clinical and radiographic examination is recommended one year following TER surgery and annually thereafter.

Risks and complications

Total elbow replacement surgery is a major procedure. Elbow pain is reduced and limb function improved in the majority of dogs. However, there are potential complications including fracture of the humerus or ulna, loosening of the prostheses and infection.

Conclusion

Total elbow replacement surgery in dogs is undoubtedly a major undertaking, but can be beneficial in certain dogs with chronic elbow pain that fails to respond to medical management. We will be pleased to give as much help and support as possible if you decide to give your pet the opportunity of TER surgery.

If you have any queries or concerns, please do not hesitate to contact us.
Specialist Referral Service
www.willows.uk.net