

Y-T humeral condyle (dicondylar) fractures

Your cat has suffered a fracture involving both the humeral condyle of the elbow and the humeral shaft.

Every fracture is different, however repair typically involves placement of a transcondylar lag screw in combination with one or more plates +/- additional lag screws. Cerclage wires, Kirschner-wires and intramedullary pins may also be employed to augment repairs. External skeletal fixators are also occasionally used.

The repair of humeral dicondylar fractures is complex and technically demanding. Adequate fixation of the small pieces of bone involved presents a significant biomechanical challenge. Major nerves course lateral (radial nerve) and medial (median and ulnar nerves) to the elbow joint. Unique to the cat the median nerve and brachial artery actually course through a small hole in the humerus just above the condyle called the supracondylar foramen. The proximity of the nerves and arteries to the fracture site presents additional challenges; fractures in this region can cause significant nerve injury, as can reparative surgery. As these fractures involve the joint osteoarthritis is inevitable, and anything less than perfect anatomical reduction can result in abnormal wear of the already compromised joint. Not surprisingly the complication rate associated with these types of fracture repairs is significantly higher than for most other types of fracture.

Some of the potential complications that may arise are detailed below.

- Even though uncommon, anaesthetic death can occur. This type of fracture is commonly associated with chest trauma which can affect the animals ability to breathe; compromised lung function increases the anaesthetic risk. It is common to delay surgery for several days to allow lung function to improve, however fracture repair can become more difficult with time. It is therefore possible that lung function may still be compromised at the time of surgery.
- Infection is relatively uncommon if the fracture site was uncontaminated before surgery, as strict sterile technique is used during the surgery and antibiotics are administered during and after the procedure, however the risk of infection increase with surgery time, and these fractures take longer to repair than most other fracture types. Statistically approximately 1 in 50 animals undergoing orthopaedic surgery are likely to develop a post surgical infection; this will be higher for risk factors such as soft tissue injuries, contaminated wounds or pre-existing disease in the patient, and also higher for longer than average surgery times as typically is the case for repair of Y-T dicondylar fractures. Contamination of the wound in the early post-operative period may increase this risk e.g. your cat licking the wound in the first few days after surgery may significantly increase the risk of infection. Should infection occur, early detection and treatment generally results in rapid resolution, although very occasionally removal of the implants may be required once the bone has healed. More serious problems may occur if infection progresses untreated or if your cat suffers infection with a multiple resistance bacteria e.g. MRSA. If you suspect an infection contact your VET immediately.
- Adequacy of fixation is limited by the small condylar pieces of bone: smaller pieces of bone can accommodate less implants, these fracture repairs are inherently less stable than fracture occurring in the mid portion of long bones. Loss of fixation occurs more commonly than with many other fracture types. It is important to note that excessive early activity will reduce the likelihood of the bone healing and will further increase the risk of implant failure or loosening.
- When the bone is in multiple pieces the fragments may be quite fragile e.g. there may be microfractures or even fissures in the individual bone pieces. Occasionally these bone pieces may suffer additional fractures during attempted repair. Bone in older cats is more brittle and splinters more easily.
- Nerve injury may occur at the time of fracture or during surgery.

- As the fracture is inside the joint it is inevitable that arthritis will develop and progress. Anything other than perfect anatomic alignment (which is unlikely to be possible if there is fragmentation at the joint surfaces) will exacerbate this. Fortunately, most cats recover satisfactory joint function providing the fractures heal, although some degree of lameness is not uncommon.
- Even after the bone has healed it is still important to have a controlled, gradual increase in activity, similar to human patients undergoing rehabilitation following surgery. If activity in cats is increased too quickly after surgery straining of joint structures may occur. Rest and anti-inflammatory medications typically resolve these problems.

AFTERCARE OF YOUR CAT FOLLOWING SURGERY:

Your pet should be kept confined to a cage to restrict activity. Confinement should be maintained at all times for **at least** the first six weeks following surgery.

Ice packs for 10 to 15 minutes several times daily are recommended in the first few days following surgery to reduce swelling and improve comfort.

DECLARATION:

I have read the information contained herein (2 pages) and am satisfied I have a sufficient understanding of the procedures my cat is scheduled to undergo including potential complications that may occur, the requirements for aftercare following surgery and the somewhat guarded prognosis (i.e. uncertain outcome) associated with Y-T fracture management.

I hereby consent for my cat to undergo fracture repair as scheduled by my Vet.

Owner's signature:

Witness:

Print name:

Print name:

Date:

Date: