

Fracture of the Humerus

Surgery Service



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Locations

Auburn Hills

3412 E. Walton Blvd.
(West of Squirrel Rd.)
(248) 371-3713

Grand Rapids

1425 Michigan St. NE
(East of Fuller Rd.)
(616) 284-5300

MVS Southfield

29080 Inkster Rd.
(North of 12 Mile Rd.)
(248) 354-6660



Anatomy

The humerus connects with other bones to form the elbow and the shoulder joints. The radial nerve is critical for normal function of the forelimb and wraps around the outer side of the humerus bone above the elbow joint.

Cause of fracture

Because the humerus bone is well protected by thick surround muscles, a fracture of this bone requires substantial trauma, such as being hit by a car. Gun shot injuries not only will fracture the bone, but also will result in a dirty open wound. This could potentially result in infection and delayed healing of the bone. Also, if the fractured bone is sharp it may penetrate through the skin and result in infection of the bone. If the pet sustains a fracture without any known trauma, there may be an

underlying disease that has weakened the bone such as nutritional deficiencies. Foods that have too much phosphorus and too little calcium or too much vitamin A will make the bones weak. Some animals have an inherited collagen defect that weakens the bones, resulting in bone fractures with minimal trauma. Bone cancer also can weaken the bone and predispose the pet to a spontaneous fracture.

Surgery

For most fractures of the humerus bone, a bone plate and series of screws are used to stabilize the fracture. This treatment results in the least aftercare for the client and has an excellent chance for a successful outcome.

If the fracture is caused by a gunshot or other trauma that results in an open wound over the fracture site, an external fixator may be the treatment of choice. Also, if the bone is fractured in multiple small pieces the best treatment may be an external skeletal fixator. This apparatus consists of multiple pins that penetrate the skin and bone and are connected to external bars that run parallel to the bone.

An older technique to repair a humeral fracture involves placement of a single pin into the marrow cavity of the bone and use of wires that are wrapped around the bone. This method of repair is only used in certain types of humeral fractures. The use of a cast as the sole treatment for humeral fractures commonly results in a nonhealing fracture or malalignment of the bone (bent bone).



Fracture of the Humerus Continued...

Home care

After surgery, you can continue to give your pet a prescribed pain reliever to minimize discomfort. It's also extremely important to limit your dog's activity and exercise level during the post-operative period. Detailed instructions will be given to you after the surgery. The surgeon will monitor the healing process with at least two follow-up exams. The first is scheduled at two weeks after the surgery. During the second exam, at five to eight weeks after the surgery (depending on the age of the dog), radiographs will be made to evaluate the healing bone.

Results

Surgical repair of a fractured humerus bone with a plate and screws or external skeletal fixator offers multiple benefits including a faster recovery, earlier use of the limb after surgery, better chance to return to athletic activity, less risk of a second surgery being required, and better range of motion of the joints above and below the fracture. Uncommon complications include infection, nonhealing of the fractures, breakage of the metal plate, osteoporosis of the bone, bone cancer induce by metal implants, cold sensitivity, and fracture of the bone again.



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Fracture of the Humerus Continued...

Assessment and recommendations

Patient: _____ Date: _____

Treatment

Surgery is recommended by an MVS surgeon.

The following has been prescribed

No medications or special diet are necessary at this time

Pain controlling medication: _____

Nonsteroidal anti-inflammatory medication: _____

Antibiotics: _____

Exercise

Confine your pet to the house other than very short leash walks necessary for bowel movements and urination

Restrict exercise to leash walks 10 minutes twice daily

A Spika splint/bandage has been applied. Twice daily, please check for:

• Swelling of toes (if there is no swelling the middle two toe nails will touch each other)

• Cold toes – this may indicate poor circulation

• Foul odor

• Discharge seeping through the bandage

• Increased lameness

• Excessive licking or chewing at the bandage

• Please note that a new bandage/cast will feel strange to your pet initially, but he/she will typically get used to it within 12 hours. If your pet continues to be uncomfortable or more lame after the bandage has been changed, please call us.

Preparation for surgery

Start fasting your companion at midnight before the surgery; water should not be withheld

Pepcid AC 10 mg tablets: give _____ tablet(s) with water (use a syringe if needed) at 6 AM on the day of surgery

*Composed by Daniel A. Degner, DVM, DACVS
Edited by Ned F. Kuehn, DVM, MS, DACVIM*



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