Fracture

Unfortunately, broken bones are common in our pets. They can happen in the very young, the middle aged, and the very old. There are a variety of reasons a fracture could occur, and the treatment may vary depending on a number of factors.

Trauma is a common cause of fractures in pets. Dogs and cats have a lot of hazards around them that can induce trauma. Animals under the age of 1 are still growing, and they have cartilaginous areas at the ends of their bones called “growth plates” where the bones lengthen. These cartilage zones are inherently weaker that the bone itself, so they tend to be the location of many breaks in young animals. Because these bones are still growing, they require a certain type of fixation when we repair them so that the bone growth is not tethered; tethering the bone could result in a shorter leg than the normal side. Pins are used through the bone plates such that the bone growth continues to slide along the length of the pins while still providing a rigid fixation for the fracture to heal. In dogs that are over 1 year of age, other types of fixation may be used, such as bone plates and external fixators. If there is no evidence of infection or compound fracture, then a bone plate is often applied with screws to the fractured bone to provide a strong internal repair. If infection is suspected to be present, or if the fracture is a very obvious open fracture, then an external fixator may be applied. These consist of pins that enter the bone through the skin and then connect together outside the fractured bone by a rod or cement column. Once fracture healing is complete, the apparatus is removed, and no implant is left behind.

After fracture surgery, a splint or a bandage may be placed to help increase the stability of the repair. This is usually changed every 5-7 days. Our patients need strict cage rest to prevent them from doing too much activity, with the exception of brief leash walks encouraging use of the leg several times daily. Placing weight on the operated limb in a controlled fashion helps stress the bone in a good way, encouraging new bone growth, while too much activity could ruin a fracture repair.

Radiographs are taken 4-8 weeks after surgery to assess bone healing and to make recommendations regarding return of normal activity. Occasionally, healing may be slower than originally anticipated; in these cases, your pet may require extra time for healing, and another radiograph may be recommended 10-14 weeks after surgery.

Complications of fracture fixation include infection, implant failure and poor bone healing. If infection occurs, then the implant may need to be surgically

removed after the bone has healed. Prolonged antibiotic treatment may be needed before the implant can be removed if infection is found and the bone has not yet healed. At the time of implant removal, the implant and the soft tissues around the implant may be cultured to see what antibiotic may be best to use after surgery. If the bone will not heal, the implant may be removed, and an external fixator may be placed. In rare instances, if healing will not occur and infection cannot be cleared, amputation may be the best option for your pet. Implant failure may occur when our patients do too much activity in the post operative period, or if the bone is not strong enough to hold implants. If the bone has healed before implant failure, then a relatively simple procedure to remove implants may be needed. If the bone has not healed, then surgical intervention to again repair the fracture is necessary.

Occasionally we may see fractures caused by minimal trauma in abnormal bone in older dogs; these are called pathologic fractures. Bone cancer, either primary or metastatic, can be the cause of this problem. Occasionally, fungal infections can severely weaken bone and leave them prone to fracture. Abnormal bone does not heal well, and fracture fixation is often not helpful because of this. If a pathological fracture is suspected, a bone aspirate or biopsy may be obtained under anesthesia to see if cancer can be confirmed. If cancer is the cause, and your pet is a candidate for amputation, then that is the preferred route of treatment. Following surgery, chemotherapy may be recommended depending on the type of cancer present.

Fractures can be difficult for owners to deal with due to the amount of aftercare involved, but the majority of fractures will heal well and our patients will be able to make a full recovery.