

## **Post-operative Information: Tibia Fracture (Internal fixation with Plate and Screws)**

Your pet has had a fracture of the tibia (i.e. broken shin bone) repaired with metallic implants called bone plates and screws. These implants are surgically attached to the bone, bridging the fracture to provide stability until the bone heals to its original strength. The majority of patients will have their implants for their entire life, and do not have long term activity restrictions.

### **ACTIVITY RESTRICTION x 8 weeks**

- Please keep your pet in a comfortable, safe indoor location with no free access to stairs for the next 24-48 hours as he/she recovers from anesthesia and surgery. Your pet may be groggy for the first few days. He or she may whine or appear more anxious than usual; this may indicate pain/discomfort or side-effects of the medications. Please call your veterinarian for assistance with medication adjustments or return for exam and additional pain medications as needed.
- Confine your pet to one level/section of the house on carpeted floors. Use baby gates, etc. to prevent access to slippery floors or stairs. Do not allow jumping on/off furniture. Confine to a small area/room/crate when unattended. Please do not allow any playing, running or jumping. For dogs, use a short leash when going outside to urinate/defecate.
- Your pet should start touching his/her toe down within the first 2 weeks. Thereafter, leg use should steadily improve each week. By 6 weeks, he/she should be 90% recovered. If he/she suddenly deteriorates or does not appear to be progressing well enough, please return to your veterinarian for exam; x-rays may be needed to diagnose the problem.
- Your pet will feel like fully using the leg before the bone is healed. Please continue restrictions during this difficult time when he/she is feeling "too" well! Failure to do so may cause serious healing problems.

### **INCISION CARE**

- Please look at incision twice daily. It should be dry, slightly red along the margins, and slightly swollen/thick on the edges. Over several days, it should lose redness and swelling.
- Problems to call your veterinarian about: discharge, gapping, excessive swelling.
- Do not allow your pet to lick or chew the incision. Pets tend to want to lick early in the healing period and this can compromise the incision and predispose to infection. If necessary, please use an E-collar if you must leave your pet unattended.

### **BANDAGE CARE (if present)**

- A bandage *may have been* applied to the operated limb. The goal of the bandage is to provide pressure to the surgical site to minimize swelling and improve patient comfort for the first few days. Please place a plastic baggy over the foot whenever you take your pet outside to prevent soiling of the bandage; remove when indoors. You may remove the bandage in 5 days. If the bandage slips below the incision or becomes soiled or wet *before this time*, please remove it by simply cutting away one layer at a time (use caution, avoid skin); no need to replace.

### **PROGRESS EXAMS**

- Return to your veterinarian in 10-14 days for a progress exam. Skin healing and leg function will be evaluated, sutures will be removed, and any physical therapy questions will be addressed.
- If your pet is doing well, the next visit will be 6-8 weeks after surgery. Leg function will be evaluated, x-rays will be taken of the fracture site to judge healing, and physical therapy recommendations will be adjusted.
- Your pet may need to be seen again at 12 weeks if healing was incomplete at the second visit.

## PHYSICAL THERAPY REGIMEN

(We can also recommend professional physical therapy assistance in the Twin Cities. Studies have shown that a formal program can decrease post-operative recovery time. Please let your veterinarian know if you are interested in a referral.)

- Our lives are often very busy, so if you must err, err on the "do less" side of these instructions. Less physical therapy will result in a slower return to function, but more aggressive physical therapy by a non-professional too early may result in failure of the implants and surgical repair.
- *Week 1:* Apply ice packs (wrapped in thin cloth) to the incision area twice daily for 10-15 minutes. Baggies of frozen peas work well for this, or make an ice pack by freezing 2 parts isopropyl alcohol to one part water in a ziplock bag. Continue 5 days.
- *Week 2:* Range of Motion Exercise-- Have your pet lie on his/her good side. Apply a warm compress to shin area. Grip the foot with one hand; slowly and gently push the foot up into flexion of all joints; hold for 5 seconds. Slowly pull the foot and push the leg down and back into full extension of all joints; hold for 5 seconds. Repeat this motion 15-20 times twice daily. This exercise should not be performed to the point of pain or resentment. Continue 4 weeks.
- *Week 3:* Sit/stand Exercise (for dogs)—Have your pet repeatedly sit and stand for 15-20 repetitions twice daily. Use small treats to encourage participation. Continue 4 weeks.
- *Week 5:* Massage-- Have your pet lie on his/her good side. Skin massage around the shin and knee involves using your fingers loosely on the surface of the skin, applying enough pressure to move the skin relative to the underlying tissues. Muscle massage of the shin/calf involves deeper kneading and pushing of the muscles. Perform massage for 10-15 minutes twice daily. Continue 4 weeks.
- *Week 7:* Active exercise (for dogs)-- Place your pet on a short leash and have him/her walk at your side. Walk outside on even/solid footing for 10 minutes twice daily. Continue 4 weeks.
- Swimming is wonderful rehabilitation exercise (for some dogs) when performed correctly. You may allow controlled swimming after week 6. Controlled swimming requires that your pet not jump or leap into the water; walking into the water until it is deep enough to swim is required. Throwing balls to fetch often results in sudden jumping and lunging, which can cause serious problems in the healing phase. Do not over extend your pet; start with short excursions (5 minutes) and increase duration and frequency gradually.

## LONG TERM LIFESTYLE

- After the fracture is fully healed, there are no restrictions on activities for your pet. A gradual return to full function should occur, to allow for a smooth return of muscle function and strength following the restricted period.
- Once a fracture is well healed, there is minimal risk to that site in the future. The plate and screws do not create any problems in the vast majority of patients. Occasionally these metal implants can become infected; it is believed these infections originate from bacteria normally found in the blood stream in patients with infections elsewhere in the body or from dental disease. Implants can also loosen or create bone pain caused by cold temperatures. On occasion metal implants will have to be removed months to years after the original surgery if they cause the patient problems. Please have your veterinarian evaluate any lameness or pain you notice associated with the operated leg. This implant removal is rarely indicated, but will require a second surgical procedure that is not accounted for in the original surgery fees.