Post Surgical Care of Distal Femoral Fracture

Home patient care after orthopedic surgery is critical to the success of the surgery. Allowing your pet too much activity may alter the anticipated outcome of the surgery. Since this injury involves the stifle (knee) joint in a young, growing dog, we must carefully balance the need for immediate use of the limb to prevent stiffening of the joint with not too much activity that might cause the implants to fail or migrate.

Please be sure to read the handout “Preventing Quadriceps Contracture” so you are aware of the catastrophic outcome if you do not follow these instructions very carefully. This injury is not technically a “fracture” but in most cases a “separation” of the growth plate at the end of the femur just above the stifle. A growth plate is the area of the bone that actually “grows” the bone and helps to form the joint and is the weakest part of the bone.

In most cases, with prompt internal fixation of these injuries (preferably within a few days), the growth plate remains normal and continues its job growing bone. Unfortunately, sometimes the growth plate is crushed or damaged and heals “closed” not allowing any further growth to occur. There is no way to know now if this is going to happen; we can only fix the injury and then radiograph the leg in four to six weeks to see if the growth plate has remained open and functioning.

Depending upon the age of your pet and the extent of the growth plate damage, some patients will end up with only mild shortening of the limb which needs no further treatment. By some unknown mechanism, Mother Nature sends a signal to all the remaining growth plates to build more bone than normal above and below the injured growth plate growing a near normal limb. In other cases, if the length is ten percent or more deficient, painful and expensive limb lengthening surgery may be necessary to ensure proper development of the muscles, joints and ligaments.

In the vast majority of the cases this complication does not occur and bone healing is very fast with normal limb length. The surgeon will make an incision into the stifle and align the growth plate as near perfectly as possible to preserve the growth plate function and then place one to three small pins across the fracture. These pins usually stay inside the leg forever, but in some cases, they may need to be removed. In rare cases, the pins can migrate out of place and need to be removed through a small incision. These fractures heal very quickly, usually within four weeks.

General Exercise and Activity Restrictions:
The patient should be confined for a minimum of 6-8 weeks following the surgery. Only three activities are allowed during this time:
1. The patient can be in the house under the immediate control (leash) of the owner, on a carpeted surface only, without playing or fooling around.
2. The patient is left in a traveling kennel or exercise pen while unattended (see notes on exercise pens and kennels). Never put the patient in an outside run, patio or free in backyard.
3. The patient is under the direct supervision of the owner on a leash while outside for sunning, elimination's, or physical therapy walks.

Activities That Are Not Permitted:

1. No Free Activity (playing, jumping, running or long strenuous walks).
2. No Stairs (1 or 2 are alright to go outside)
3. No outdoor dog runs or "Doggie Doors".
4. No slippery floors (tile, linoleum or wood)
5. No general confinements (garage, patio, bathroom, porch, laundry room, bedroom or kitchen) without a kennel.

Note: Most dogs do very well with the 6-week confinement restriction. However if your dog is difficult to control or has an exceeding amount of energy, the use of small amounts of a tranquilizer may be necessary to help during this confinement period. If you cannot control your dog or you cannot take care of your dog post-operatively it may be better to board your dog with your veterinarian for the first 3 weeks after surgery.

The following instructions will be your guide to home care.

Week 1:

1. Provide pain management with NSAID’s the first ten to fourteen days and Tramadol for three days if available 
2. No running, jumping, playing. No off leash activity.
3. Apply an ice-pack to the stifle for 10 to 15 minutes two to four times a day for the first 24 to 36 hours after surgery if no bandage
4. If inflammation has resolved after 72 hours, apply a hot-pack to the stifle for 10 to 15 minutes two or three times a day if no bandage
5. Perform passive range of motion exercise (gently flex and extend the knee); 10 slow repetitions three times a day
6. Precede and follow the passive range of motion exercise with massage of the quadriceps muscles (large muscles above the kneecap)
7. Begin slow leash walks of less than 10 minutes three times a day
8. Schedule a recheck with your doctor 1 week after surgery to evaluate range of motion and percent weight bearing

Week 2:
1. Apply a hot pack to the stifle for 10 to 15 minutes two or three times a day until the swelling has resolved
2. No running, jumping, playing. No off leash activity.
3. Stop passive range of motion exercise if your pet is using the leg correctly
4. Increase the slow leash walks to 10 to 20 minutes three times a day
5. Continue massage
6. If you notice your pet’s pain level getting worse after the last pain medication, please call and ask for a refill
7. Schedule a recheck with your doctor 2 weeks after surgery to remove any sutures and evaluate range of motion and percent weight bearing
8. Most patients should be walking normally by 2 weeks, but every pet is different and some may take longer

Week 3:

1. Increase the slow leash walks to 20 to 30 minutes two or three times daily
2. No running, jumping, playing. No off leash activity.
3. Have your pet perform 10 repetitions of sit-stand exercises three times a day
4. Have your pet perform 10 to 15 repetitions of figure-of-eight walks two or three times a day, circling to the right and left
5. Recheck 3 weeks after surgery if your pet is not walking normally or improving week to week.

Weeks 4:

At this point, your pet’s healing should be complete and should gradually return to full activity by the end of 6 weeks. It is highly recommended that you take your pet in four weeks after surgery to have a final radiograph to evaluate healing and the growth plate function.

Additional Instructions:

1. Licking at the incision should be discouraged because it may lead to chewing at the sutures or staples causing a wound infection. It may be necessary to bandage the leg or use an Elizabethan collar to prevent licking.
2. Bandages, if used, should always be kept dry and clean. Any odors and/or persistent licking are indicators that there may be a potential problem and should be checked by your veterinarian immediately. Bandages and splints should be checked weekly by your veterinarian or veterinary technician.
3. Feed your pet its regular diet but reduce it by 10% to allow for reduced activity.
4. Mild swelling may occur near incision or low on limbs. Your veterinarian should check moderate or severe swelling immediately.
5. Use of a joint protective supplement with glucosamine and chondroitin is highly recommended for at least six months to prevent any arthritis from forming in the joint.

Complications

As with any surgical procedure, complications can occur. Unlike human patients who can use a sling or crutches, our patients do not know enough to stay off a healing leg so restricted activity is a major responsibility of you, the pet owner. Failure to follow these instructions carefully can lead to delayed healing or even failure of the implants. The most common complication is delayed healing, where, despite our best efforts to stabilize the bone, individual patients respond slower than others. Occasionally, your pet may develop a small pocket of fluid called a seroma, around the metal pins we use. See your veterinarian if this swelling is larger than a grape. Quadriceps contracture is a catastrophic complication where the large thigh muscles on the front of the leg shorten and form scar tissue. This is totally preventable if you perform the necessary physical therapy. Notify your doctor immediately if you think the joint is stiffening up. Lastly, if your pet develops a serious discrepancy in limb length compared to the normal leg, your doctor may recommend further surgery to correct this. If you have any questions, please feel free to ask your veterinarian or call me at the number above.

Follow Up Instructions:

- ☐ 90/90 bandage placed post-operatively to be removed/rechecked in ____ days
- ☐ Support/pressure bandage placed post-operatively to be removed in ____ days
- ☐ Recheck in five days to check range of motion and incision.
- ☐ Recheck in ten days: Sutures / Staples removal / Dissolving sutures
- ☐ Feed your pet its regular diet but reduce it by 10% to allow for reduced activity.
- ☐ Any swelling or redness near the incision should be checked immediately.
- ☐ Recheck every 2 weeks after suture removal to evaluate progress
- ☐ Please use an Elizabethan Collar on your pet after bandage removal to prevent licking of the incision as this is the number one cause infections
- ☐ Tegaderm clear bandage can be left on until it falls off or at suture removal
- ☐ Start Keflex  Clindamycin  Baytril  Ciprofloxin tonight and give for 14 days
Start Rimadyl, Metacam, Previcox, Derramax, Zubrin pain medication tonight and give for 14 days (refill if limp worsens after running out for as long as it is helping)

Start Tramadol pain medication tonight and give for 3-5 days (refill if limp worsens after running out for as long as it is helping)

Start Dasuquin, Cosequin, or Glycoflex (joint supplement) ASAP and use for 3 months to minimize osteoarthritis during healing for life due to underlying osteoarthritis go slow the progression over time

Start essential fatty acid supplement, ie. Derm Caps to reduce joint inflammation ASAP for same amount of time as joint supplement

Call Rod Newman, MS, CCRP to schedule your initial physical therapy consultation at 615-414-4867 or email him at rnewman@caninerehabnashville.com (cost included in surgery fee)