

## Post-operative Information: Femoral Fracture, Pins/Wire Stabilization

Your pet has had a fracture of the femur (i.e. broken thigh bone) repaired with metallic pins and wires. 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 6 weeks

- No RUNNING, JUMPING, or FURNITURE ACCESS for 6 weeks. STAIRS ONLY WITH ASSISTANCE/GOOD TRACTION
- Please keep your pet in a comfortable, safe indoor location with no free access to stairs for the initial 24 hours following the procedure. Your pet may be groggy for the next 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 any medication adjustments or return for an examination and additional pain medications as needed.
- It may be several days before your pet defecates (pooops) due to medications given related to the surgery.
- Confine to one level/section of the house on carpeted floors. Limited, *assisted* access to stairs is recommended for 6 weeks. Use a belly band for support when walking across slick floors or up/down stairs to prevent falling. Use baby gates, etc. to prevent free access to stairs during this restricted period.
- Please use a short, hand-held leash when taking your pet outside to urinate/defecate. Confine your pet to a small area/room/crate when unattended. Please do not allow your pet to run or jump during this restriction period.
- Your pet should start touching his/her toe down within the first 2 weeks. Thereafter, leg use should steadily improve. If you notice a sudden deterioration or he/she stops using the leg at any time after surgery, please call your veterinarian for advice. An exam and/or x-rays may be needed to determine if an infection or implant failure has occurred.
- Your pet will feel like using the leg normally before the bone is well healed. Please continue the restriction during this difficult time when he/she is feeling "too" well! Failure to do so can result in serious healing problems.

### INCISION CARE

- A wound dressing may have been applied to the incision. It may be removed in 3 days if present. Remove it sooner if there is blood visible under the dressing (strike through).
- Please look at incision once 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:* a) gapping (the edges should be exactly touching); b) discharge (other than small amount of crusting); c) swelling (other than slightly raised skin near edges). Some bruising is normal and will resolve in 5-7 days.
- Do not allow your pet to lick or chew the incision as this can compromise the incision and predispose to infection. If necessary, please use an E-collar if you must leave your pet unattended.

### LICK SLEEVE

- If you are using a Lick Sleeve, please still check the incision each day. Unbuckle and roll the sleeve down from the top. It should be wrapped back around the belly twice to properly fit.
- It may be trimmed at the bottom to fit your pet's leg if needed.
- Unbuckle for bathroom breaks if interferes with urination (males).
- Wash if becomes soiled. Line drying is recommended. We may be able to provide a second one for a fee.
- Most questions may be answered at: <https://www.licksleeve.com/pages/faq>

### 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.
- Please see your veterinarian in **6 weeks for progress x-rays**. Adjustments may be made to the physical therapy schedule based on these results. Your pet may need an additional x-ray 12 weeks after surgery if the bone is not healed at 8 weeks.
- Your pet should start touching his/her toe down within the first 2 weeks. Thereafter, leg use should steadily improve to 90% normal at 6-8 weeks. If you notice a sudden deterioration in leg use at any time after surgery, please see your veterinarian for exam.

### DIET

- Ideally, keep your pet on the thin side of normal his/her whole life. Any orthopedic condition can progress with arthritis over time due to excessive, wear & tear; carrying less body weight will relieve some of this stress from the joints. Good parameters to monitor body condition are: 1) you should be able to feel the ribs and pelvic bones, but not see them; 2) your pet should have an "hour glass" figure when viewed from above looking down; 3) your pet should have a tucked up belly when viewed from the side.
- Glucosamine/chondroitin supplements ("chondroprotectants") might have some beneficial effects in patients who have a fracture extending into the joint, but this has not been clearly established. You and your veterinarian should discuss whether or not these products would be helpful for your pet.

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

\*\*\*A video demonstration of exercises can be found on our website: [www.clvsurgery.com](http://www.clvsurgery.com) under the "Post-Operative Care" section \*\*\*

- Our lives are often very busy, so if you must err, err on the "do less" side of these instructions. Less PT 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 1-2 (Day 1-14): Icing:** Cooling the surgical area will reduce pain and swelling. Do this as often as possible the week following surgery- several times a day. You may start this *with the Lick Sleeve in place, if present*. Apply ice packs (wrapped in thin cloth once bandage is removed) to the incision area twice daily for 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.

- **Range of Motion (ROM) Exercise-** Have your pet lie on his/her good side. Grip the front of the thigh with one hand and hold the foot with the other. Slowly push the foot up into flexion of knee and then slowly pull the foot and push the thigh down and back into extension of knee. Repeat this motion slowly and smoothly *10 times twice daily*. Flex and extend only to your pet's comfortable limit. Do not go to the point of creating pain or resentment. Following ROM, apply ice packs as described above.

- **Indoor walking--**Lay out a path that will allow you and your pet to turn corners and walk around objects on one level of the house with solid/non-slip flooring. Place your pet on a short leash. Walk slowly enough so that your pet has to put each foot down and does not hop. If he/she is barely putting foot down, stop every few steps and ask your pet to back up a few steps. Walk your path for *5 minutes twice daily*. Use small treats to encourage participation.

- **Week 3-8: Sit/stand Exercise (for dogs)**—Have your pet repeatedly sit and stand for *10 repetitions twice daily*. Use small treats to encourage participation. Do not push down on his/her rump.

- **Continue ROM Exercise:** As above. At the end of each motion (flexed/bent knee and extended/straighter knee), hold for 5 seconds. Discontinue icing unless desired/recommended. A warm compress may be used before ROM to warm the joint.

- **Walking-** for 5 minutes twice daily; add 5 minutes each week until your pet is walking a normal pace at least 20 minutes twice daily and using the operated limb every step. Use small treats to encourage participation. Avoid walking locations that will result in uncontrolled activities, such as meeting other dogs, ice, etc. Use small treats to encourage participation.

- **Massage-** Your pet may stand or lie down. Perform both superficial skin massage & deeper muscle massage. Skin massage around the knee joint involves using your hand loosely conformed to the surface of the skin; enough pressure is applied to move the skin relative to the underlying tissues. Muscle massage of the thigh and shin involves deeper kneading and pushing of the muscles. Perform massage for 10-15 minutes twice daily.

- **Week 8:\*\*Confirm appropriate healing with your veterinarian prior to the following increased activities below.\*\***

- **Expanded walking-** Place your pet on a short leash and have him/her walk at your side. Walk outside with varied but gradual incline with solid footing for 10 minutes twice daily. Continue 4 weeks, gradually increasing time and distance.

- **Week 12: Jogging exercise-**On a short leash, intermittently jog and walk your dog for 10 minutes twice daily. Continue 4 weeks, gradually increasing time and distance.

- **Light play exercise-**On a long leash, encourage playing and romping with your dog for 15 minutes twice daily. Use toys for teasing and tugging. Continue 2 weeks.

- Swimming is wonderful rehabilitation exercise when performed correctly. You may allow controlled swimming after week 8. 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 you 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.

- Occasionally the K-wire/pin(s) that have been placed across the fracture will cause irritation and limping. These are easily and quickly removed under heavy sedation if a limp persists after 6 weeks.

- Quadriceps muscle contracture ("tiedown"), or extensive scarring of the thigh muscles, can occur following some femur fractures, especially those near the knee. The scarring comes from excessive muscle damage sustained during the original injury. Over time, this scarring prevents normal flexing of the knee joint; early physical therapy exercises as outlined above and effective pain management (that allows physical therapy to proceed) is essential to preventing this loss of knee function following these types of injuries.

- If the fracture occurred at a growth plate, the trauma of the injury and the disruption caused by surgery to repair the fracture can cause a growth plate to "close" or stop growing. This may result in abnormal growth patterns in the bone and can cause angulation of the joints. Monitoring is required during the first 2 months following repair to determine whether growth plate problems will develop.