

## Post-operative Information: Extracapsular Repair of Cruciate Ligament Injury

Your pet has had his/her knee surgically stabilized following injury to the cranial cruciate ligament, a major ligament inside the knee joint. Without this ligament the femur (i.e. thigh bone) slides backward relative to the tibia (i.e. shin bone), creating discomfort and damaging the cartilage in the joint. The goal of the surgery is to eliminate this instability using a synthetic implant on the outside of the joint capsule that mimics the biomechanical function of the cruciate ligament. Over time, fibrous scar tissue will develop along this implant to enhance and permanently stabilize the joint. After the healing period, the new stability will reduce the discomfort and on-going cartilage damage, but will not completely eliminate the changes that lead to degenerative joint disease ("arthritis"). The majority of animals will resume normal activities, but knee stiffness and soreness may remain after exercise and progress with advancing age.

### ACTIVITY RESTRICTION x 6 weeks

- Please keep your pet in a comfortable, safe indoor location without free access to stairs for the next 24 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 will feel like fully using the leg before the knee is healed. Please continue the restriction 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 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.

### 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.
- 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.
- Fish oil (added to food or in capsule form) is advised in patients with joint problems. Although there is some debate about effectiveness, using fish oil as an additive shows great promise. A good dose range is about 100mg/kg body weight. For an example, a 75 pound dog (34kg) would get about 3400 mg per day. There are also joint focused diets that have fish oil already added to them.
- Glucosamine/chondroitin supplements ("chondroprotectants") might have some additional beneficial effects in these patients, 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 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.) **\*\*\*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 physical therapy will result in a slower return to function, but more aggressive physical therapy by a non-professional too early may re-

sult in failure of the implants and surgical repair. Cats (and some dogs) often resist physical therapy dramatically; avoid any activity that results in major uncooperative behavior.

- *Week 1:* Icing: Cooling the surgical area will reduce pain and swelling. Do this as often as possible the week following surgery- several times a day. Apply ice packs (wrapped in thin cloth) to the incision area as often as possible 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 foot with one hand and slowly and gently push the foot up into flexion of all joints. Slowly pull the foot and push the leg down and back into full extension of all joints. Repeat this motion 5 times once daily. This exercise should not be performed to the point of pain or resentment. After ROM, apply ice packs as described above.
- *Week 2:* Expanded ROM Exercise-- Have your pet lie on his/her good side. Apply a warm compress to knee area. Grip the foot with one hand and 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 10 times twice daily. This exercise should not be performed to the point of pain or resentment. Apply ice packs after ROM (as above). Continue 4 weeks.
- *Week 3:* Massage-- Have your pet lie on his/her good side. Superficial skin massage around the thigh 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 thigh involves deeper kneading and pushing of the muscles. Perform both types of massage for 10-15 minutes twice daily. Continue 4 weeks.
- Walk 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, etc. Use small treats to encourage participation. Encourage the use of all limbs by moving slowly and occasionally stopping and backing up 1-2 steps.
- *Week 4:* 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 6:* Expanded walking (for dogs)-- 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.
- 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 knee 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. If stiffness and lameness develop over time, intermittent and occasional use of anti-inflammatory/pain-relieving medications can help improve knee function as needed.
- It is very common (about 50% of patients) for both knees to develop this ligament injury. Prevention is difficult; the most effective thing you can do toward prevention is to maintain your pet on the thin side of a normal body weight and condition.
- Some patients will damage a cartilage pad in the joint (i.e. meniscus) even after surgical stabilization; this may require a second surgery in the future. A very small percentage of patients will have a reaction to the suture implants that are stabilizing the joint; this also may require a second surgery to remove the material.

*Prepared by CITY OF LAKES VETERINARY SURGERY*