

Post Surgical Care of Cruciate Ligament Rupture Repair

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. Remember, a ruptured ligament is a severe orthopedic injury and although surgery is necessary to reduce future arthritis and minimize pain and healing time, the joint will never be “good as new.”

Surgical Site and Incision Protection and Care:

- Your pet has a light bandage covering the incision site called a Hypafix. This is meant to act as a barrier to keep the incision site clean from debris. The Hypafix placed by the TSVS team post operatively can stay on until suture/ staple removal and removed by your referring veterinarian at that time. However, if it becomes wet or dirty, it does need to be removed, so the incision site is not compromised. The Hypafix can be removed by your primary veterinarian's hospital staff. If the Hypafix comes off on its own prior to suture removal, that's OK! Please ensure the incision site is kept dry and free from debris until the sutures or staples are removed.
- If you purchased a Lick Sleeve for your pet to wear following surgery, please read the information and instructions below:
 1. The Lick Sleeve does not take the place of an Elizabethan collar, or "e-collar". When you are not with your pet, the e-collar needs to be put on.
 2. If the Lick Sleeve gets wet or soiled, it needs to be removed, washed, and dried before putting it back on. During this process, the e-collar needs to be kept on your pet until the Lick Sleeve is cleaned, dry, and reapplied.
 3. We recommend keeping the Lick Sleeve on the pet for an additional 48 hours after the sutures/staples are removed.

We have included some helpful videos about the Lick Sleeve:

- Lick Sleeve Instructional Video: <https://www.youtube.com/watch?v=tgBxqrWvjI4>
- How to Apply the Lick Sleeve on the Rear
Leg: <https://www.youtube.com/watch?v=Nf7BChpFfgw>
- How to Apply the Lick Sleeve on the Front
Leg: <https://www.youtube.com/watch?v=UP46TxwKONI>
- Make Dog Urination Instructions with a Lick Sleeve: <https://www.youtube.com/watch?v=rwtBsKoe86M>

The following instructions will be your guide to exercise and rehabilitation.

Week 1:

1. Set up a consultation within the first 7 days of your pet's post-operative care to assess comfort level, ensure understanding of rehabilitation therapy which will improve and result in quicker return to function for your pet. Kim Barrier, CCRVN (kim@tsvs.net), Texas Specialty Veterinary Services-Mobile Rehabilitation & Conditioning and Underwater Treadmill therapy, Please contact at (800) 707-0167.
2. Provide pain management with NSAID's the first ten to fourteen days unless your pet was pretreated with Prednisolone (cortisone) in which case we need to wait three days.
3. Start your pet on Antinol Plus, a joint supplement by Pet HealthWorks. If your primary veterinary hospital does not carry this product, you can purchase Antinol Plus online at www.antinolplus.com with our TSVS code S6685378.
4. 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.
Please go to www.tsvs.net/videos for better understanding of ice therapy application.
5. 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
6. **Perform passive range of motion exercise (gently flex and extend the knee); 10 slow repetitions three times a day. Please go to www.tsvs.net/videos for video example on passive range of motion exercises.**
7. Precede and follow (before and after) the passive range of motion exercise with massage of the quadriceps muscles (large muscles above the kneecap).
Please go to www.tsvs.net/videos for video example of massage therapy.
8. Begin slow leash walks of less than 5 to 10 minutes three times a day

Weeks 2 & 3:

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. If your pet's limping or pain appears to worsen after running out of pain medication, please call and request a refill for as long as it continues to help.
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 and refill pain meds if stopping caused more limping. **See www.tsvs.net/videos for massage therapy example video.**
6. Schedule a recheck with your doctor ten days after surgery to remove any sutures and evaluate range of motion, limb girth, and percent weight bearing
7. Most patients begin to bear some weight by week 3, but every pet is different and some may take longer

Weeks 4 & 5:

1. Increase the slow leash walks to 20 to 30 minutes two or three times daily

2. Have your pet perform 10 repetitions of sit-stand exercises three times a day
3. 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
4. Have your pet sit and stand for 10 to 15 repetitions two or three times a day, standing sideways against a wall keeping the affected knee next to the wall so he/she cannot rock their weight off the leg
5. If available, swimming exercises for one to three minutes twice a day is helpful
6. Most pets will be putting decent weight on the legs at this point in time on a slow walk but have a noticeable limp
7. The most important thing is to have observable improvement every two weeks at this point

Weeks 6 - 8:

1. Schedule another recheck with your doctor 8 weeks after surgery to evaluate your pet's progress and to repeat radiographs to evaluate for complete healing of the bone.
2. Take your pet on leash walks for 30 to 40 minutes once a day, slow enough to ensure that your pet is weight bearing on the affected limb
3. Take your pet on incline walks or hills or ramps for 5 to 10 minutes once or twice a day
4. Take your pet up a flight of stairs, if available, 5 to 10 times slowly twice a day
5. Continue swimming if possible

Weeks 9 - 12:

At this point, your pet's healing should be complete and should gradually return to full activity by the end of 12 weeks.

1. Take your pet on faster 30 to 40 minute walks once or twice a day
2. Take your pet for a run-straight only, no turns-for 10 to 15 minutes twice a day

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 is highly recommended for at least six months, if your pet does not have arthritis. If your pet does have arthritis, it is recommended to use this supplement for the life of your pet. There are

numerous joint supplements on the market, but TSVS recommends Antinol Plus over all the available options. Antinol Plus has no contraindications and no serious side effects. If your primary veterinary office does not carry Antinol Plus, you can purchase online at www.antinolplus.com using the TSVS code S6685378.

Other systemic forms of anti-inflammatory medications to consider are Adequan (you may contact your veterinarian if interested).

Complications

Prior to surgery a local nerve block were performed to help control intra-operative and post-operative pain. The analgesic effects should last 4-8 h. Occasionally the pet will knuckle and/or drag the toe of the operated leg, because of temporary loss in proprioception (not being aware of where their foot is placed). Helping the animal reposition the foot and making them walk usually helps them regain that proprioception faster. This side effect may last until the following morning. Please let us know if you have any other concerns.

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 ligament 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 new artificial ligament.

The most common complication is delayed healing, where, despite our best efforts to stabilize the joint, individual patients respond slower than others. Since we sometimes place two sutures in larger breeds for security against premature rupture, some patients will have an audible “clicking” or “snapping” noise from the sutures rubbing against each other. This noise will stop over time in most cases as scar tissue builds up.

Occasionally, your pet may develop a small pocket of fluid called a seroma, around the knots or metal implant we use to secure the new ligament on the outside of the knee. See your veterinarian if this swelling is larger than a grape. On rare occasions, especially in large-musclcd patients or patients with injuries several months old with severe swelling, the peroneal nerve which provides sensation to the top of the paw and controls the muscles that flex the paw can be inadvertently injured. If your pet seems to have serious leg pain or loss of sensation with foot dragging several days after surgery, please notify me right away.

If your pet is not using the leg somewhat by three weeks, please call to set up a recheck. Additionally, if your pet starts using the leg and then stops using the leg or stops improving week by week or worsens week by week, call to set up a recheck.

Note: Approximately 6-10% of patients with extra-capsular technique repairs, including tightrope procedures, will develop reactions to the internal nylon sutures and/or crimp tubes. As long as the sutures have been in place for at least 10-12 weeks, they may be removed and the resulting fibrous tissue will stabilize the joint.

If you have any questions, please feel free to ask your veterinarian or call me at the number above.

Your pet had the following procedure(s) done:

- Cleaned out torn ligament remnants, inspected the cartilage (meniscus) and flushed out the joint
- Examined synovial lining of the joint for evidence of autoimmune (immune system attacks it's own tissue) inflammatory disease. Biopsy recommended: no
- Performed a meniscal release procedure to prevent future tearing of the cartilage
- Removed torn or damaged medial meniscus cartilage
- Debrided and removed osteophytes around joint surfaces
- Found early, smooth osteophytes around joint surfaces that did not need removal
- Imbricated (tighten) the joint with sutures to help stabilize the joint
- Placed a double lateral Nylon suture to replace the torn ligament and stabilize the joint

At Home Care Instructions:

- Support/pressure bandage placed post-operatively to be removed in _____ hours / days
- We would highly recommend purchasing a harness to aide in the recovery of your pet. Please contact Kim Barrier, CCRVN with TSVS Rehab, to purchase a harness. (800) 707-0167 or kim@tsvs.net . You may also purchase a harness at www.helpemup.com or call (720)237-6852.
- 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
- Start Cephalexin tonight and give for 7 days
- Start Galliprant pain medication tonight and give for 7 days (refill if limp worsens after running out for as long as it is helping)
- Start Gabapentin 10mg/kg BID or Tramadol 3-5 mg/kg TID-QID pain medication tonight and give for 10-14 days (refill if limp worsens after running out for as long as it is helping)
- Weight loss is very important for healing and to minimize risk of rupturing other leg (40-60% chance in all dogs and 75% chance in overweight dogs)
- Start Antinol Plus (joint supplement, see above) or speak with your veterinarian about Adequan injections

Recheck instructions:

- Recheck in ten days: Suture Removal
- Please return to pet to for recheck radiographs (xrays) to be taken at 8 weeks following original surgery date.**
- Set up a consultation within the first 7 days of your pet's post-operative care to assess comfort level, ensure understanding of rehabilitation therapy which will improve and result in quicker return to function for your pet.
 - **Kim Barrier, CCRVN (kim@tsvs.net), Texas Specialty Veterinary Services – Mobile Rehabilitation & Conditioning and Underwater Treadmill therapy. Please contact (800) 707-0167**

If you want to do comprehensive physical therapy at home on your own, please visit www.topdoghealth.com and purchase a step by step guide to post-surgical home therapy for pet owners titled Extracapsular Cranial Cruciate Ligament Repair for \$19.95.

Please go to www.tsvs.net/videos for educational videos that will aide in rehabilitation therapy for your pet during recovery process.

Please send a copy of this form home with the owner!

Camila Souza, DVM, MS, DACVS-LA