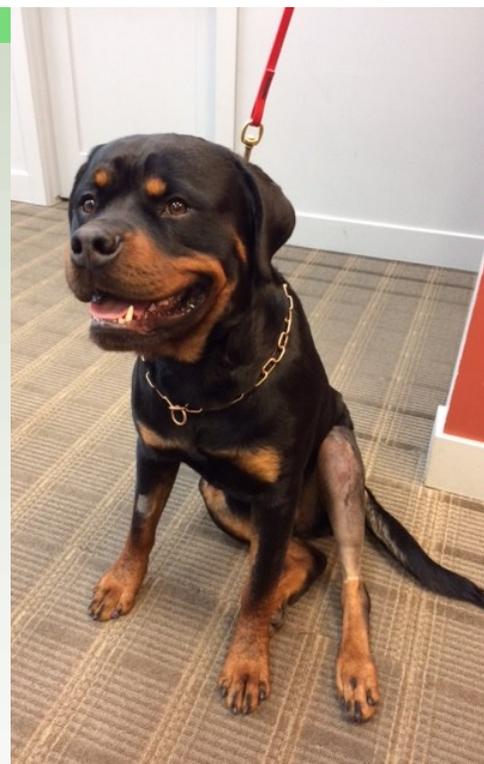




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Spring 2019

Post-Operative Cruciate Rehabilitation

This issue will highlight the stages of rehabilitation after a cruciate surgery. It will discuss the therapies or exercises that are prescribed for each stage post-operatively, and the importance that they play in a successful recovery. The goals for any post-operative case are to reduce pain, promote healing, maintain muscle mass, promote joint stability, maintain joint flexibility and retrain proprioception. The early stages of rehabilitation focus on resolving pain and inflammation, stimulate early tissue healing and preserving muscle mass. The following stages of rehab focus on improving strength and mobility, mobilizing scar tissue, and to enhance functional return. In this issue each therapist has described a couple of their favorite exercises in detail for each stage of rehab. Keep on reading to find out more!

Veterinary Testimonial

"My internship with the therapists at the Canine Fitness Centre really helped with learning hands on physical rehabilitation skills that I could take back to my veterinary practice. My patients have benefited from the knowledgeable and dedicated staff that work with Laurie and especially from Laurie herself. I'm so glad for my time with them; it was worth the minus 30 weather."
—Kristin Zajackowski, DVM, CCRT - Victoria, BC

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Canine Fitness Centre
4515 Manhattan Rd SE
403-204-0823
www.caninefitness.com

Spring 2019

Day 1 to 2 weeks post op

Laurie Edge-Hughes, BScPT, MAnimSt (Animal Physio), CAFCI, CCRT

Post-operative rehab in the first two weeks after a cruciate repair is primarily about pain management, swelling control, and owner education. To this end, my favourite two therapies at this stage are joint compressions and laser therapy.

1. **Joint compressions** stimulate joint mechanoreceptors, which, in turn, assists in pain management, edema resolution, and mimics early weight bearing.

Start



End



Bend the dog's stifle. Cup the stifle in one hand and the tarsus in the other. Slowly and rhythmically press the two together. Do 10 compressions.

2. **Laser Therapy** is a wonderful tool that has the ability to reduce pain by inhibiting transmission at the neuromuscular junction, thereby reducing nerve firing. It has the ability to reduce oxidative stress and improve angiogenesis. Additionally, laser can stimulate tissue healing via augmentation of collagen synthesis.



3-4 Weeks Post op

Jennifer Gordon, BScPT, CCRT, CAFCI

At the 3-4 week post operative time frame, the dog has entered the sub-acute healing phase. This sub-acute phase is marked by the new growth of connective tissue and capillaries that help repair damaged tissue. Our goals at this stage are to prevent stiffness, improve range of motion, reduce inflammation and help to overcome the fear of movement. This is a good time to begin some gentle loading activity and active range of motion.

My two favorite exercises at this stage are sitting practice and stair standing.

1. **Sitting practice** – often the dog wants to stick their surgical leg out to the side while sitting. We can encourage them to tuck it under themselves by either tapping their paw with our foot or practicing sitting along a wall with the surgical leg towards the wall so as to not have room to have the leg stick outwards.

Start

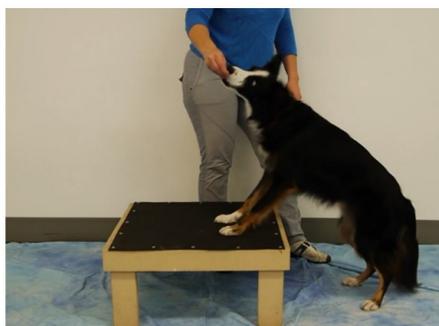


End



2. **Stair standing** – starting on a low step or one stair (depending on the size of your dog). Encourage them to have their front legs on the step. This will help to actively stretch into hip extension, stretch their back nicely and gently load the hind legs to encourage some weight bearing.

Start



End



5-6 Weeks Post op

Sue Van Evra, BSc, MSc, BHSc(PT), Dipl. Canine Rehab

The stages of tissue healing are not mutually exclusive and tend to overlap. At weeks 5-6 the tissue is still in the fibroblastic repair/sub-acute stage, but also beginning the tissue remodeling phase. During this time, the healing involves tissue realignment and the re-establishment of tissue strength.

By week 6, one goal is to have full stifle range of motion, so I **continue range of motion** exercises as needed to achieve this goal. As we continue to increase the length of leash walks and the degree of weight bearing on the post operative limb, we expect intermittent swelling so I **continue to use laser and/or ultrasound as required**.

At this stage, my favorite exercises are muscle re-education using Neuromuscular Stimulation (NMS) where indicated, and (2) backwards walking.

1. **NMS – on the quadriceps, hamstrings and/or gluteals**, using co-contractions, alternating or on individual muscles helps to activate muscles that have been inhibited and restore the motor control/timing of muscle contractions.

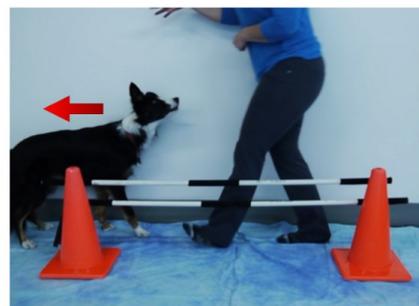


2. **Backing Up** helps to strengthen the hamstrings and gluteals as well as work on proprioception. Lure your dog forwards in a narrow passage way. Stop near the end then ask the dog to back up.

Start



End



7-8 Weeks Post-op

Margaret Kraeling, PT, CCRT

CFC News Spring 2019

By this time in the healing process we are wanting to progress to more specific strengthening exercises. I like to focus on exercises that require controlled movements. In the first picture below, the dog has two front feet placed on one cinderblock and the surgical hind leg placed on a second cinder block. Then I give a small touch stimulus to encourage them to lift the “good” leg off the ground and so step up onto the block. I will usually repeat this about 6 times.



A similar exercise can be done stepping forward with the surgical leg, as seen in the picture above on the right. In this case I have added some foam on the step table to increase the proprioceptive challenges.

If you have an owner with a dog that is obedience trained they will be familiar with platform work and this can then become a very useful home exercise.



9-12 Weeks Post op and Beyond

CFC News Spring 2019

Sandra Oxtoby, BKin, MScPT , Dipl. Canine Rehab

My favourite part of working with CCL post op is the systematic return to function and sport based on the dogs future. We need to determine what the goals are of the owner for this dog to return to. For a household pet, 9-12 weeks will require rehabilitation exercises to prepare for the return to day to day activities: stairs, on/off couch and bed, in/out vehicle. My favorite exercises for this stage of rehab are destination jumping, hind end proprioception, and tug of war.

1. Destination Jumping



We need to ensure the dog is rocking its weight backwards (not just pulling with the front end) and propelling off symmetrically from behind. What I love the most is starting the stage of preparing sporting dogs to return to their work.

2. Hind End Proprioception



With any surgery, the proprioception of the joint is compromised. It is critical for post op CCL patients, that we retrain hind end awareness. With backwards walking we take away the visual system for awareness and balance and increase the sensory input from the hind. We also need to prepare for the 12 weeks and beyond: return to off leash, education on what 'play' they can do going forward: tug of war, chase, or balls.

3. Tug of War – Straight Line Backwards



We'd love to help your post-op patients to get the best recovery possible! Give us a call!

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