

SPRING
2015

NEWS



My CFC Story: Stories from visitors to the Canine Fitness Centre

Send your story to frontdesk@caninefitness.com

Brenda wrote in to tell us about her dog, Jenny, and their experience with the CFC.

Jenny is a five year old Australian Cattle Dog cross that actively competes in Agility. Last summer (2014) I had Jenny coned almost all summer trying to heal a very bad hot spot on her leg. She was either wearing a cone or had her leg wrapped. No matter what I did the spot kept getting worse as she would attack her leg at any given chance. I also took her to the vet several times with no luck (the suggested treatments did not help). It was very stressful for me. After four months of no success I finally took her to the Canine Fitness Centre. It turns out her neck and front ribs were out of alignment. Two treatments ([manual therapy] and laser) and one week later this is how good her leg looked. Of note, she wasn't coned either, it actually healed that fast once correctly treated. So happy I took her to CFC.

-Brenda O.

Jenny's story is not unusual. It is estimated that approximately 60% of lick granulomas caused by excessive licking are due to nerve irritation and not to allergic reactions, psychological problems, or external skin irritations, as often suggested to owners following veterinary examinations.

Cones, wraps, and constant distractions in the form of toys or bones may prevent the dog from licking but do not solve the underlying problem: irritation of the nerves caused by a musculoskeletal issue causing pain, tingling, or other sensation in the affected area. (See. Pg. 4)



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Surgery or Conservative Management?

Treatment options for medial patella luxation

The patella (knee cap) sits in a groove at the front of the femur. Luxation of the patella occurs when the patella moves out of this groove or track. It can occur with varying severity graded from I (least severe) to IV (most severe).

The condition can occasionally be caused by traumatic injury but is more often a congenital defect that can be contributed to by an abnormally shallow femoral groove (the track the patella sits in) or weak quadriceps or gluteal muscles. 15%-20% of dogs with luxating patellas will also tear cranial cruciate ligaments.

Surgery or Conservative Management?

Surgery can be performed to resolve this issue however not all cases require surgery. Whether surgery is appropriate depends on the severity of the luxation. Grades I-II or subluxations that occur infrequently or as an isolated incident are often treatable with the use of conservative management, while grades III-IV, full dislocations that occur frequently, are severe, painful, and may be triggered by the exercises used in conservative management may require surgery followed by post-surgical rehabilitation that addresses the deficits in the muscles that contribute to strain on the patella and ligaments in the knee.

While the outcomes can vary human studies have found the following patterns in comparisons between the results of conservative management and surgical intervention:

- In patients experiencing full dislocations of the patella (as in the canine Gr. III-IV) conservative management treatment results in a 40%-60% recurrence of full dislocation.
- However, in patients who have received surgery for grades I-IV in comparison to patients who went through conservative management there is no significant difference in the recurrent subluxations (Gr. I-II luxations) between the groups, regardless of the severity of the luxations prior to treatment.
- Surgery doubles the risk of patellofemoral osteoarthritis in comparison to patients who treated only with conservative management.

Why not a brace?

Humans may use external orthotic braces, however there is little supportive research for their effectiveness, in dogs it has been discussed that a brace constructed with enough external force to prevent the luxation of the patella would have more negative consequences than positive effects therefore bracing specifically for patella luxation is not currently used in canine patients. Bracing is more appropriate for cruciate ligament injuries apart from patella instability.

Non-Operative Intervention

Non-operative intervention is appropriate in less severe cases of patellar instability. The patella is the least stable when the knee is in a neutral position when the muscles that pull the patella laterally, such as the quadriceps, are relaxed/passive.

In humans, the patella is most stable in full extension of the knee when the quadriceps are fully contracted, through to the first 20-30 degrees of knee flexion, as the ligaments guide the knee into the femoral groove. If there is a deficit in the strength of the muscle groups that act as this guide the patella may not find the femoral groove and luxation or dislocation can occur. Poor neuromuscular coordination and instability of core muscles in the back, abdomen, and hips may also contribute to patellar instability.

Conservative management focuses on the following to address these deficits:

- Lifetime management via the strengthening of the quadriceps, hips, back, and abdominal muscles via targeted exercises.
- Neuromuscular training including gait and postural retraining.

Surgery

In some cases muscle weakness alone is not the key cause of patella luxation. When these deficits combine with an abnormally shallow femoral groove, or a predisposed abnormal hyper-elasticity of soft-tissue restraints (ligaments) surgery may be necessary to prevent frequent and painful grade III-IV dislocations.



Small breeds are 12 times more likely to have medial patella luxation

Andris, R., The management of recurrent patellar dislocation *Orthopedic Clinics of North America* (2008) 39: 313-327

Smith, T.O., et. al. Operative versus non-operative management of patellar dislocation. A meta analysis. *Knee Surgery Sports Traumatol Arthrosc* (2011) 19:988-998

We Like Big Butts: Gluteal muscle strength and muscle activation in the management of patellofemoral pain syndrome

At the Canine Fitness Centre we love a well built hind end, but when it comes to patellofemoral pain there is more to a muscular bum than just an aesthetic appeal.

A systematic review of findings shows strong evidence associating patellofemoral pain syndrome (PFPS) in human cases with abnormalities in the behaviour and strength of the gluteal muscles. There is also increasing evidence of the positive effects of treating these deficits in the gluteal muscles in the management of PFPS.

Studies using electromyography to monitor muscle performance show during functional activity such as walking, running, or stair climbing, that onset of gluteus medius activity and sometimes gluteus maximus activity is delayed, and that there is a decrease in the strength of this muscle activity.

Impaired function of these muscles can cause decreased stability in the hip joint due to a decrease in neuromuscular control. Increased or excessive hip motion causes increased stress on the lateral patellofemoral joint which is indicated as a source of patellofemoral pain.

PFPS is a multifactorial problem and no single factor should be considered in isolation; therefore it is not possible to know whether these deficits in gluteal muscle activity are a cause of PFPS or a



result of PFPS. However, targeting the correction of the deficits in this muscle group could be an important addition to the overall management program for PFPS.

Physical therapists can accomplish this by re-training and stimulating the muscles to correct the neuromuscular deficits observed. This process can include a number of treatments including electrical muscle stimulation, gait re-training, and hip strengthening exercises. By stimulating and strengthening the gluteal muscles our therapists can stabilize the hip and reduce the strain on the patellofemoral joint.

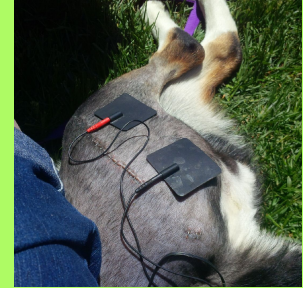
Barton, C.J., et al. *Br J Sports Med* 2013; 47:207-214

Lankhorst, N.E., et al. *Br Sports Med* 2013; 47:193-206

Modalities

The CFC uses a variety of modalities to address gluteal muscle deficits

• Electrical Muscle Stimulation



Electrical current is transferred to the muscles through external contact leads. E-stim is used for a variety of reasons, but in this specific case e-stim can be used to address the improper and delayed firing sequences of the gluteal muscles observed in patients suffering from patellofemoral pain syndrome. E-stim can be used to “re-educate” muscle function. Electrical muscle stimulation is more effective if combined with active exercise.

• Cupping

Cupping is a traditional form of alternative medicine where a cup is placed against the skin to create a vacuum, stimulating tissues and affecting blood flow to the targeted area.

At the CFC pliable medical grade silicone cups are used which can be moved around on the skin during the procedure to provide a massaging effect.

• Gait Training

Gait training is teaching or re-teaching the body how to move correctly through repetition of correct movements. It can involve a number of different types of equipment and varying levels of manual assistance from the therapists and assistants. Some of the gait training tools employed at the CFC are our water supported treadmill, cavaletti poles, and targeted assisted dry treadmill exercises.

\$10.00 Savings!

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Calgary, AB
www.caninefitness.com
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One coupon per customer.
Offer expires: June 21, 2015



Licking Problem?

On the cover of this season's newsletter we feature Jenny the agility dog. Jenny had a licking problem. Lots of the dogs we see at the CFC come to us with a licking problem and sometimes we discover a licking problem while seeing the dog for other more obvious symptoms.

In many cases lick dermatitis in dogs is mistakenly attributed to allergies, skin conditions, or psychological distress such as anxiety or boredom, but some bodies of research suggest that approximately 60% of granulomas caused by excessive licking may in fact be due to nerve irritation.

In 1995 a study was being conducted on the use of antidepressants to treat lick dermatitis in a small group of dogs. The primary purpose of the study was to investigate the effect that a psychiatric drug could have on what is

often considered to be a psychological condition. During screening of their study group the researchers discovered something interesting: 56% of their study group showed EMG abnormalities when tested. EMG tests for the health of muscles and the nerves that control them. The dogs in question showed abnormal electrical discharges in the muscles activated by the same nerves that supply sensation to the areas the dogs were licking.

These results revealed that the problem might not be behavioural at all, but rather a physical condition that is treatable either by surgery, or in the case of our clinic, conservative management using manual therapies and other modalities. So, the next time you see a dog with a licking problem give us a call, it might not be just in their head!

Steiss, J.E., Bradley, D.M., MacDonald B.J., et al. Letter to the editor in *Veterinary Dermatology*, Vol. 6, No. 2, pp.115-116, 1995.

Front End Impact: Preventing neck and shoulder injury

Lick granulomas on the front legs are often caused by nerve irritation in the neck. Here are a few every day activities that we can be more mindful of to prevent injury.

- **Jumping out of the car:** Instead of letting your dog leap from the back seat have them step down from the seat to the floor, and from the floor to the running board before stepping to the ground. Lift small dogs out of the car. If your dog rides in the back get a ramp for unloading, or lift them down.

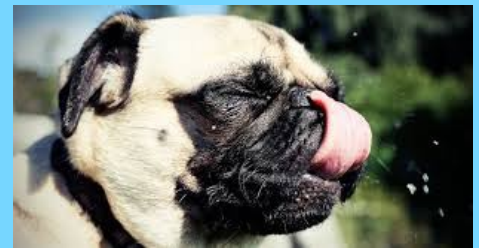


- **Jumping for competition:** Teach a mindful take off and help your dog learn to keep their head down on the landing. Jump the lowest competition height permitted and be aware of the turf. Do not jump your dog in slippery conditions.



- **Fetch:** Chuck-it accidents result in a good number of the injuries we see at the CFC. Hard stops on the front end and sudden changes of direction at high speeds are the culprit. Instead try fetching a "dead" object, which means having your dog hold a sit or down until the ball stops moving, then release for the retrieve. Fetch into water with a shoreline that has good footing is another safe alternative.

Charles the Pug



Charles the Pug was made famous for his licking problem in 2007 when the music video his owner created for him, titled Charles Has A Licking Problem, went viral on youtube. charleshasalickingproblem.com