In this Newsletter

Welcome to Small Animal Sports Medicine and Rehabilitation Service’s second newsletter! In this newsletter you will find information on how to recognize pain in pets as well as an update on our research activities. A brief video description of our Service and our previous newsletter are available on our website at www.CanineSportsMed.ColoState.edu.

Research update

The research component of our service is growing and gaining recognition! This year our team presented five projects at the Veterinary Orthopedic Society conference, an amazing accomplishment for such a young program. These projects include two studies evaluating canine activity monitors as a way to measure response to treatments, a study evaluating how data is impacted by different protective covers for our pressure-sensing mat, one study evaluating the treatment of limb deformities in puppies by halting growth of one side of the growth plate, and one study evaluating the accuracy of a stance analyzer to detect lameness. One of the activity monitor studies was just published and is available online at: https://veterinaryevidence.org/index.php/ve/article/view/40/48.

Our inaugural research intern, Dr. Nastasha Olsen has been instrumental in the coordination and conduction of many of our 2015-2016 projects. This one-year research internship was made possible through a generous private donation for which we are extremely grateful. Nastasha will be leaving CSU this summer to begin her residency in surgery at Purdue University. She has been a great asset to our service and we wish her the best in her future endeavors!

We are thankful to the supporters of our research program and to our amazing canine study participants (pictured below and to the left)! If you would like to find out more about our ongoing studies please visit our research website at www.dogjoints.com. Our current projects that are actively enrolling patients are highlighted below:

**Osteoarthritis** - We are conducting a number of new and ongoing studies evaluating treatments for osteoarthritis, including stem cell therapy, low level laser therapy, and acupuncture. The stem cell study, made possible by generous support of the Shipley Foundation, evaluates the use of stem cells administered into the bloodstream of patients with osteoarthritis. Preliminary results are promising and we will be sharing our findings in future newsletters after the data is analyzed. The laser and acupuncture studies evaluate the effects of these treatments on daily activity measured with accelerometers, gait data, owner assessment, and veterinary examinations.

**Canine prostheses** - The Eldred foundation has supported a new project to objectively evaluate if prostheses are a good alternative to full limb amputations in dogs. If you know of a dog who is facing a full limb amputation due to trauma or cancer in the lower front leg, he or she may be eligible to participate in our study, making it possible to ‘keep’ most of his or her leg!

All of our clinical studies incorporate gait analysis using a pressure mat. This technology allows us to objectively assess lameness by quantifying the amount of weight a dog places on each limb, the length of their strides, and many other factors. Our pressure mat was donated by the Eldred Foundation and this fantastic gift has proven invaluable for both clinical and research applications.

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**Study participants (located in the Fort Collins area) needed:**
- Medium to large breed dogs with lameness due to osteoarthritis for enrollment in our arthritis studies.
- Medium to large breed dogs with a lower forelimb problem requiring amputation for our prosthesis study.

More info: www.dogjoints.com

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For questions, suggestions, to unsubscribe from future newsletters or to support our service and research efforts please contact us either via email (caninerhab@colostate.edu) or phone (970-297-5000) or mail (Dr. Felix Duerr, CSU-VTH, 300 W Drake Rd, Fort Collins, CO 80523).
How can I recognize pain in my dog or cat?

Our next few newsletters will focus on pain in small animals. We will start the series by discussing how to recognize pain followed by pain management strategies in the following newsletters.

 Detecting pain in dogs and cats is difficult, yet essential for your pet to have a long, happy life or continue performing to their full potential as an athlete! There are many reasons for pain in animals, including disease or problems originating from the body. Often, pain is masked or otherwise overlooked. This may be the case when a pet experiences joint-related pain.

Pain in cats is even harder to identify than in dogs; frequently cats stop jumping up on high objects when they experience joint-related pain. Pain in dogs and cats is often caused by decreased flexibility. Changes in behavior and routine, especially during a visit to the veterinarian, survival mode can kick into overdrive due to adrenaline from anxiety or fear, further masking signs of pain. Additionally, our pets try very hard to please us, making it difficult to identify if they may not feel 100%. These factors can make it extremely challenging to diagnose and treat your pet’s source of pain.

No one knows your pet better than you, so veterinary professionals frequently rely on you and your vigilance for recognizing the first signs of pain. You can help facilitate better, faster and more accurate pain management for your pet by looking for and keeping track of the signs of pain discussed below.

**Cats** may exhibit very subtle changes in behavior as a sign of pain. One such change is decreased activity, which is often attributed to old age. Old age itself is not a disease although it often comes with a higher likelihood of problems like osteoarthritis. Examples of less subtle signs can include inappropriate urination or defecation which may be an indication of difficulty getting in and out of the litter-box associated with pain and decreased mobility. A cat who grooms one part of its body excessively may also be indicating arthritis pain or other underlying disease. Alternately, a lack of grooming may be a sign of discomfort caused by decreased flexibility. Finally, just because your cat is purring does not mean that he or she is not in pain. Cats purr when they are happy, but they also purr when they are sick, stressed, and in pain.

**Dogs** are typically better at communicating their discomfort than cats. Dogs, however, can also be very "stoic" and hide their pain. Often, pain can simply look like subtle changes in daily routine. This can include not bringing their favorite ball as often, no longer following you around the house, reluctance to charge up the stairs, or simply changing their posture to “do their business.” More serious signs of pain can include various forms of aggression. Pain may lower a dog's general threshold for aggressive behavior as a protective or defensive response. Pain is often overlooked as an underlying cause for this sudden change in behavior, especially when a child is at the unfortunate receiving end of this defensive display.

If you feel your pet might be experiencing pain, it is a good idea to communicate your concerns to your veterinarian. Early identification of the pain source and appropriate treatment will make pain management much more effective.

Please remember that many pain medications that are safe for humans can be very dangerous for dogs and cats, so always consult with a veterinarian before treating pain with a human product, changing the dose of previously prescribed medications or using medications from other pets. Please contact us if you have questions or other ideas to see addressed. We are here to work with you and your pet to provide the best quality care and pain management.

Written by Theresa Wendland and Felix Duerr