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CASE STUDY: Long-Term Care for Fibrocartilaginous Embolism in a Labrador Retriever
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Zeus, a seven-year-old, male neutered Labrador Retriever presented for recheck after the initial onset of Fibrocartilaginous Embolism (FCE) in February 2016. Physical assessment determined a right-sided T13-L1 FCE. The veterinary hospital was in the early stages of developing a rehabilitation department, which limited modalities available to the patient. To provide the patient with therapeutic services, creativity and resourcefulness was implemented.

A goal was set to facilitate Zeus using the right pelvic limb functionally, go for walks, have control of elimination and be happy. When Zeus first started rehabilitation on day two of being hospitalized, he had to be muzzled which helped with relaxation and trusting the therapists. Placing him over a physioball challenged his balance and proprioception while allowing the therapists to encourage use of his own body weight, build confidence, and cause less fatigue for the therapists. Bicycling with pelvic limbs, percussive exercises to increase tone and awareness such as clapping to the gluteal muscles and massage helped build that trust between patient and therapist. By day three, Zeus seemed more trusting and did not need to use a muzzle. Massage was used to target sore or fatigued areas, the bicep tendon and brachiocephalicus muscles of the left thoracic limb, compensating for the right pelvic limb. Additionally, bilaterally the trapezius and cervical muscles were equally tense. Physioball work continued to facilitate neuromuscular re-education to the pelvic limb.

Day four, Zeus was discharged to the owner with home exercises and would return for twice-weekly rehab sessions. Therapeutic exercises included assisted walking, proprioception stimulation, muscle strengthening, and limb placement exercises to facilitate neuromuscular re-education. A Help ‘Em Up™ harnesses was recommended to help assist in his activity and continue progress towards meeting his goals. A protective boot was recommended for Zeus' affected leg (right pelvic limb) when he was walked outside to reduce abrasions and injury to the toes and skin. He was routinely
scraping his toes down to the quick on digits three and four. Instructions were also given to remove the boot when he was on non-abrasive surfaces indoors (although it may be helpful on slippery floors) or when he was resting. Zeus did not want to walk with the Ultra Paws™ and other boots, but did great with the lightweight Pawz Disposable Rubber Dog Boots™.

After three months, Zeus regained a strong unassisted gait and persistent incoordination with difficulty on slippery floors and stairs. He was returning to his happy self and was having fewer accidents in the house. By this time, Zeus would be anxiously waiting at the rehab door for his turn. A land treadmill to work on gait patterning was used with pushing through the foot to elicit a flexor withdrawal and sensory input alternating with tapping the calcaneus to encourage hip flexion and muscle memory of foot placement.

Rehabilitation included an Assisi™ pulsed electro-magnetic field loop for tissue healing and pain control as well as massage to relieve tense muscles, decrease pain, increase mobility, and improve circulation. Shoulders, trapezius and sartorius continued to be the targeted muscles. Sitting with correct limb placement was elicited by pinching the toes and Zeus was reminded to flex the limb, thus making it easier to go into a stand with the leg already underneath his hip. More progressive exercises were added, such as walking backwards and sideways which were then combined into a square targeting area to focus on the pelvic limbs from hamstrings, adductors and abductors to quadriceps. Weaving and cavaletti exercises were a challenge for Zeus. His “lab” personality, made him not care if he knocked over cones for example. Treats were a great motivator help slow him down, which helped improve limb clearance over the poles (for Zeus a great trick was to put peanut butter on a tongue depressor and use that to lure him around).

Kinesthetic awareness by stepping over cavaletti’s, objects of various shapes and textures (Astro Turf, cushions, and foam), steps, ramps and outside on slight hills helped his progression. By now, Zeus’ rehabilitation were decreased to once a week.

Seven months later, Zeus had another possible FCE episode, appearing suddenly uncomfortable and reluctant to walk or exercise. Zeus exhibited an arched back and seemed to have difficulty or reluctance standing up. His squatting posture in pelvic limbs was unstable and weak.

Examination at the veterinary hospital revealed no overt source of pain, and he appeared more energetic. Carprofen was dispensed for symptomatic treatment and since that time, the pelvic limb strength and coordination appeared to be improving, although he still appeared slightly more uncoordinated in his pelvic limbs.
Zeus continues to love doing his exercises, having peanut butter as a reward. Some days, there is a more pronounced “cowboy” stance, but he can maneuver corners and steps with much greater ease than before. There have been no accidents in the house. Despite not having rehabilitation sessions including hydrotherapy or laser, Zeus made an excellent recovery and met his original therapeutic and functional goals. It really shows how much we can do with our hands and a little bit of creativity to help our pets.

About the Author
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Since 2001, Sandy has traveled through the U.S. to work with a variety of animals including monk seals in Hawaii, gorillas in Texas, marine mammals and birds in Alaska. She also shares a passion for such animals as rabbits, rodents, exotics, large animals and of course dogs and cats. Sandy was awarded California Veterinary Technician of the Year in 2014. In 2008 Sandy started teaching at Foothill College in the Veterinary Technology Program. She has been the advisor for the Student Chapter of NAVTA since 2011 and was awarded Advisor of the Year in 2012. She is on the California RVT Association Board Of Directors and served on the Subcommittee to the Veterinary Medical Board for Animal Physical Rehabilitation. She is the founder and creator of the Small Animal Surgery day. This is an event that invites local veterinarians, Foothill College alumni and students to help spay and neuter small animals from local rescue groups. Since that time there has been over 250 small animals altered because of this event. Sandy has become an active conference lecturer on animal physical rehabilitation and marine mammals. She became certified through the Canine Rehabilitation Institute in Animal Physical Rehabilitation and has been in the field since 2004. She is on the Academy of Physical Rehabilitation Veterinary Technicians.

Sandy also spends time at Holistic Veterinary Care, Wildwood Veterinary Hospital and the Marine Mammal Center in California.

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