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Road to Recovery with Rehabilitation Medicine

BY SALLY SILVERMAN

When little Chloe King arrived at the Ryan Hospital emergency services very late one Sunday night last November, the prognosis was not good. The five-year-old Dachshund had tumbled down the stairs four days earlier, and though she was able to walk immediately after the fall, had become progressively weaker and, eventually, had lost her ability to walk at all.

In the early morning of November 20, Chloe underwent a hemilaminectomy performed by Annie Lo, DVM to remove pressure on her spine.

Fast forward to August, and Chloe is walking on her own, seemingly pain-free. The long scar along her back is covered with her tawny fur and, except for a rear paw slipping out from under her occasionally when she gets excited, it's hard to believe that she was once unable to walk at all.

The road was a long, grueling journey of continuous rehabilitative care. Within 24 hours after surgery, Ann Caulfield, VMD was visiting Chloe. Dr. Caulfield is the clinician in the Rehabilitation Medicine Service at Ryan Hospital, which was launched in 2011. In addition to her veterinary degree, Dr. Caulfield has received advanced training and certification in veterinary rehab therapy at the University of Tennessee's Veterinary College and completed the International Veterinary Acupuncture Society's (IVAS) training program in both canine and equine acupuncture. She has years of clinical experience in rehabilitation medicine.



Dr. Ann Caulfield

Following surgery, Chloe was still paralyzed in both hind legs. When Dr. Caulfield lightly pinched the dog's toes, looking for a response, she did not pull back, turn to look at her feet or even appear agitated.

"What I saw was not good," said Dr. Caulfield. "She had no deep pain response or voluntary motor response."



Despite that, Dr. Caulfield felt that Chloe was a good candidate for early intervention rehabilitation therapy, and started right away with a variety of things appropriate for a dog so recently out of surgery.

"We started with assisted standing exercises," said Dr. Caulfield.

Chloe was rolled onto a bolster that supported her belly, while pressure was applied to one hip, then the other, shifting her weight back and forth and front to back.

"This exercise challenges the dog's balance and encourages strengthening. It's also mentally important for the animal to be in that upright position."

Chloe, she said, was like a limp noodle hanging over the bolster. Still, Dr. Caulfield, assisted by nursing staff and students, repeated the exercise four to six times daily for a minute or two.

Massage was another aspect of the therapy.

"We did a lot of soft tissue massage on Chloe's upper body. With the hind end not working, it's common to see abnormal upper body compensatory movement disorders such as stress and strain on the shoulder and trunk muscles because they are being overused. From a neuro-stimulatory standpoint," said Dr. Caulfield, "massaging the feet and legs also helps to stimulate the sensory nervous system."

And massage has a bonus, too. It feels good, reduces stress and stress hormones, which can be impediments to healing.

"By incorporating massage into every session with Chloe, it was helpful to her not only physically, but mentally as well."

Finally, Dr. Caulfield facilitated normal movement patterns one back leg at a time through the natural movements of walking.



Dennis, Chloe and Carol, nine months after Chloe's surgery.

TRANSITIONING TO CONTINUED CARE AT HOME

After three days at Ryan, it was time for Chloe to go home. Dr. Caulfield joined Dr. Lo at the discharge appointment with Chloe's owners Dennis and Carol King. Chloe couldn't stand, was in pain and had a large, stapled incision down her spine. Dr. Caulfield worked on Chloe in her characteristic calm manner.

"I explained to the Kings the exercises that they would have to continue with Chloe, and why they were important," said Dr. Caulfield.

She demonstrated each of the exercises three or four times, inviting the Kings to put their hands over hers to mimic the movements and amount of pressure she was using.

"They were pretty overwhelmed," said Dr. Caulfield. "It's not unusual at this point for people to also worry if they have made the right decision or not."

"It was a lot," said Dennis King. "But when we took her in for the surgery, we did it with the knowledge that we would see it through. We would go all the way."

Committed to seeing that Chloe got every chance she could, the Kings took up residence on their first floor, moving some mattresses onto the living room, and covering a small dining table to use as a treatment center. And they followed as faithfully as possible the instructions given to them by Dr. Caulfield.

At the first follow-up visit, two weeks after the discharge, the little dog could maintain a standing position without help. Dr. Caulfield told the Kings to remove the bolster support, and come back to see her every two weeks.

MAKING PROGRESS

Within a month there was increased tone in the hind legs and, though she could still not get up on her own, Chloe was able to stand for a longer period of time. Dr. Caulfield formalized her walking program with a minute of sling-supported walking three times daily. At this point standing exercises were made more challenging by prescribing that the front legs be elevated to put more weight on the back end. It was clear that Chloe was getting some sensation in her feet and beginning voluntary motor movement.

"Throughout this process, we were challenging Chloe with what was appropriate for her stage of recovery," said Dr. Caulfield. "We were gradually increasing hold times and the number of repetitions until she was ready to move to the next level."

By January, Chloe needed less support with the sling and was able to walk over poles on the ground to improve her balance.

Chloe's progress continued to improve and today she is walking in balance, with no assistance.

In addition to enhancing the dog's recovery, Dr. Caulfield sees the rehabilitation team as a sort of cheerleader for pet owners who might be frustrated.

"People want to be involved in a meaningful way, to help their pets recover as quickly and as comfortably as possible," said Dr. Caulfield. "We give them that option. And when they start to assess how they are doing, and see the little changes, that's really meaningful for them."

Protocols used to indicate that a post-surgical case like Chloe be confined to a crate for six weeks before beginning any rehabilitative therapy.

"Now," said Dr. Caulfield, "we know that we are better able to address all of a dog's needs with appropriate intervention, starting from day one."

In addition to improving surgical outcomes through controlled exercise, Dr. Caulfield also works with a variety of species to increase joint flexibility and muscle mass and improve mobility. Pain management and weight management are two of the areas that will receive focus in the future.

Dennis King recalls the first moment that he saw a response from Chloe when he touched her foot and how incredible the feeling was. He couldn't wait to share the news with Dr. Caulfield, who he said was so generous with her time, calling to check on Chloe between their biweekly visits.

"I can't say enough good things," he said. "I will give you four words: competent, caring, compassionate and encouraging." 