



FOCUS ON REHAB

Welcome

Welcome to a new year of Focus On Rehab, the West Chester Veterinary Rehabilitation Specialty Center's educational newsletter for the veterinary community. This edition features the role rehabilitation therapy plays in successfully treating the obese and overweight patient.

Ann Caulfield, VMD

Michelle Lazarski PT, CCRP

Obesity — A Growing Problem

The statistics are staggering: the number of seriously overweight and obese people in the U. S. has doubled over the past 40 years. More than 50 percent of the U. S. population is considered obese/overweight and approximately half a million people will die this year of obesity-related illness. It should come as no surprise that as the waists and weights of Americans continue to expand, we, in the veterinary community,

are facing a parallel obesity epidemic in our animal patients.

In 2008 a nationwide survey by the Association for Pet Obesity Prevention (www.PetObesityPrevention.com) found



Heidi before (far left top photo) and (above) after her weight loss program

that more than 44 percent of dogs and 57 percent of cats are considered overweight or obese.

The reasons for this human and animal health crisis are, on the surface, simple - too many calories consumed and a lack of adequate exercise to burn them. We are a sedentary nation surrounded by tasty, inexpensive and calorically dense foods (pet foods and treats included). If we look more deeply, however, it's a complicated picture involving the psychology of overeating and overfeeding. We eat to relax, we feed to nurture, and, as cherished members of our families, it's no wonder Fluffy and Fido are suffering with obesity and all of its comorbidities.



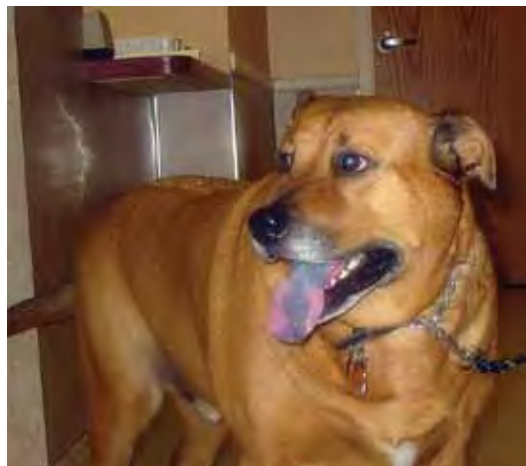
Contents

Obesity—Pathophysiology

Case Study—Doris

West Chester Veterinary
Rehabilitation Specialty Center
1141 West Chester Pike
West Chester PA 19382
westchestervetmedcenter.com

HOURS:
Mon-Wed: 9am-8pm
Fri: 9am-5pm
Sat: 9am-Noon
Call: 610-696-8712



Obesity — Pathophysiology

There's no such thing as a "healthy but overweight" pet! Back in 2002 the Journal of the American Veterinary Medical Association published a well-regarded study by Nestle-Purina that sounded a wake-up call to veterinary practitioners. "The effects of diet restriction on life span and age-related changes in dogs" by Dr. Richard Kealy et al suggested that by maintaining a lean healthy body condition score (BCS), a dog's total life span could be extended by as much as two years and the onset of signs of chronic disease could be significantly delayed.

What is it about those extra pounds that are so deleterious to good health?

The Endocrine Connection

Excessive white adipose tissue is no longer considered a benign energy storage tissue. It is a major endocrine organ responsible for expression, production, and release of potent chemical mediators called adipokines. As a group, adipokines have far reaching effects throughout the body. They include:

- Inflammatory cytokines (interleukon-6, tumor necrosis factor)
- Hormones (leptin, adiponecton (AdipoQ))
- Proteins (growth factors and acute-phase proteins)

The figure above taken from *Beyond The Scale: Canine Obesity*, a supplement to the VLS Journal 2009, summarizes adipokine activity and makes it clear how obesity, a chronic inflammatory disease, is associated with a number of serious conditions like diabetes mellitus, osteoarthritis (OA) and neoplasia.

The Veterinary Team's Role

It is a certainty that if more than 40 percent of our patients presented to us with a serious, potentially life threatening, curable disease we would act instantly and aggressively to diagnose and treat that animal's condition. Unfortunately, obese and overweight patients are too often managed much differently. How often have you said the following?

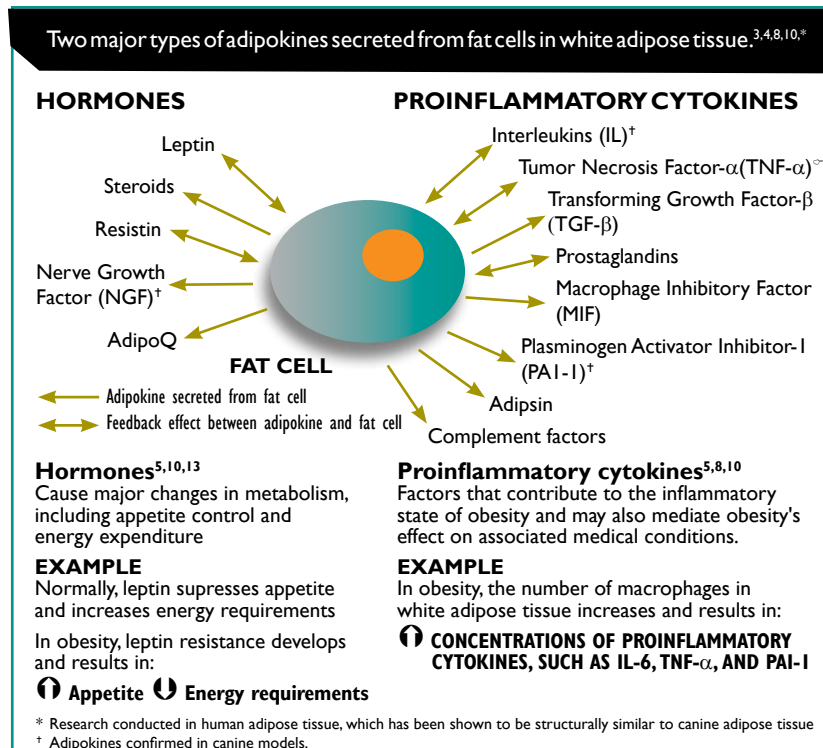
"People don't want to hear it, they get offended, deny their pet is overweight and tune me out. I give up ..."

"Owner is over-weight, it's too sensitive ..."

"This animal isn't that overweight, I'll just have the owner cut back on food and feed green beans ..."

"This pet is healthy, just a little overweight ..."

As veterinary health care providers we have a great opportunity to make a dramatic difference in the lives of our overweight patients by being strong advocates for healthy weight management.



Exercise: "Motion is Lotion for the Joints!"

Exercise is a key part of any successful weight loss program. Regular aerobic exercise burns calories, increases lean muscle mass and metabolic rate, relieves pain and alleviates boredom. A number of studies have shown that weight loss and moderate, low impact exercise can be as effective as medications in relieving pain associated with chronic OA. Dr. Julie Churchill, Diplomate of the American College of Veterinary Nutrition states, "There is no more potent analgesic for managing OA than weight loss."

So how do we get these pets moving again?

Aquatic exercise is an extremely beneficial tool for initiating exercise therapy programs in the obese/overweight patient. Utilizing water's buoyancy makes movement more comfortable and safer for a deconditioned animal, particularly those with painful or unstable joints. During exercise in an aquatic environment, we can de-weight an unstable stifle or arthritic hip joint by 70 percent or more.

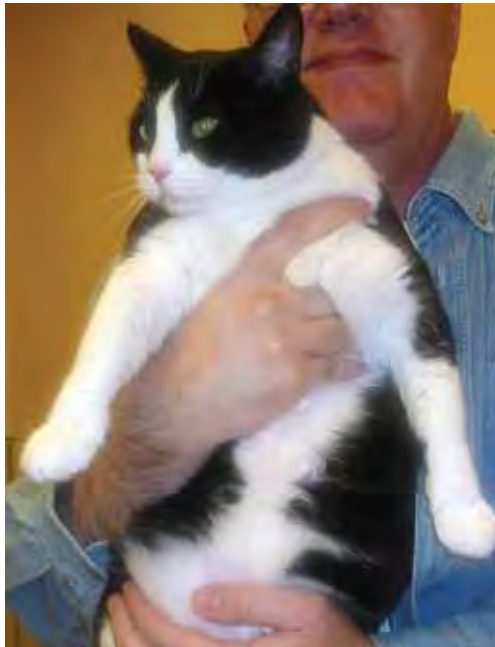


Carefully supervised aquatic exercise assists in weight-loss

One word of caution: the energy demands of aquatic exercise can be significantly higher when compared to a land-based activity like walking. Given the severe deconditioning and compromised cardiovascular and respiratory function of many obese patients it is critical that exercise sessions be properly developed, progressed gradually and adequately supervised. In most patients, aquatic therapy programs are prescribed in conjunction with a home walking program carefully designed to fit the owner's schedule, the patient's medical restrictions and exercise tolerance. Home exercise

programs are constantly reassessed and modified based on the individual pet's progress.

Don't forget about those chubby felines!



Hoshi arrived at the WCVRSC weighing 18 lbs. She is in our weight management program and is now down to 15 lbs. Her goal weight is 12lbs.

Cats benefit from regular, controlled exercise. There are a number of creative ways to get a cat exercising which an owner can easily incorporate into their daily kitty "play" time (see www.PETFIT.com). And yes, cats can even be exercised in an underwater treadmill!

At the West Chester Veterinary Rehabilitation Specialty Center we are trained and experienced in meeting the needs of these unique veterinary patients. Our weight loss programs have helped many dogs and cats reduce weight, improve fitness and regain a more comfortable active lifestyle. In some cases orthopedic surgery was avoided. Contact us if you have any questions about rehab therapy. We appreciate being able to help you help your patients.

Our Rehab Team



DR. ANN CAULFIELD

- Graduate University of Pennsylvania, School of Veterinary Medicine
- More than 15 years clinical experience
- International Veterinary Acupuncture, Society Program Graduate
- Canine Rehabilitation Certificate Program at University of Tennessee College of Veterinary Medicine



MICHELLE LAZARSKI PT, CCRP

- Graduate Boston University
- B.S. Physical Therapy
- More than 25 years clinical experience
- Certified Canine Rehabilitation Practitioner, University of Tennessee College of Veterinary Medicine

FOCUS ON REHAB

is a publication of the
West Chester Veterinary
Rehabilitation Specialty Center
1141 West Chester Pike
West Chester PA 19382
Tel: 610-696-8712
www.westchestervetmedcenter.com

DISCLAIMER

All activities discussed in this newsletter are conducted under veterinary supervision only. The West Chester Veterinary Rehabilitation Specialty Center is not liable, under any circumstances, for any loss of life or bodily injury claimed to be as a result of the reader's use of information contained in this newsletter.

Next Issue: Laser Therapy

Case Study — Doris, 6-year-old, female Labrador

Signalment: 6-year-old female, spayed, Labrador



Doris arrived with serious lameness and considerable pain.

History

Referred by an orthopedic surgeon for rehab therapy with a four month history of progressively worsening left rear limb lameness. A veterinary oncologist was concurrently managing Doris for recurrent mast cell tumor. She had recently completed a seven month course of prednisone.

Physical Exam

Body weight 94lbs, Body Condition Score (BCS) 9/9.

Doris presented with a grade 2/4 lameness in the left rear leg. She was painful upon manipulation of each elbow and the left stifle. Both elbows were mildly thickened. She had limited passive range of motion of her elbows, hocks and the left stifle. There was a palpable effusion of the left stifle and a medial buttress was detected in each stifle, with the left side greater than the right side. She also had a positive cranial drawer sign in the left stifle. Additionally, muscle atrophy was present bilaterally in the thigh musculature.

Diagnosis

Survey radiographs confirmed the mild left stifle effusion and degenerative joint disease (bilateral stifles, hocks and left elbow). Based on Doris's history, orthopedic exam findings and radiographs, a working diagnosis was made of left cranial cruciate ligament rupture and multi-joint osteoarthritis. After consulting with Doris's owners, her orthopedic surgeon, and her oncologist, it was decided to pursue a "pre-hab" (rehab therapy prior to surgery) program consisting of weight loss, exercise therapy and pain management.

Treatment

Doris was immediately weaned onto a prescription weight loss diet. Her projected ideal body weight was 70lbs with a BCS of 5/9. From her starting weight of 94lbs we calculated a staged approach

to her weight loss plan. Resting energy and protein requirements were calculated for each phase of her weight reduction. Doris's owners were instructed as to the proper amounts to feed and feeding strategies to help her achieve safe and successful weight loss. They were given a weigh-in schedule and a weight management counselor to co-ordinate her follow-up care and keep her owners motivated. She was weighed every two and a half weeks and her kcal food intake was adjusted based on her percentage of weight loss.

Therapies

Doris was started on an aquatic and home walking program. She exercised twice weekly in an underwater treadmill and started walking at home for five minutes three times daily. As she progressed, the duration and speed of her aquatic sessions were increased and Doris's owners were able to slowly increase the length of her home walks. By week 12, Doris was walking 20 minutes per session and there was no left rear lameness present. She was now transitioned to a home exercise program and seen periodically for weight and progress check-ups.



Doris in the underwater treadmill. Her waist now evident.

Results

Seven months after starting her weight loss and exercise therapy program Doris had achieved her healthy goal weight of 70lbs and BCS of 5/9. Her owners are delighted with their "new dog." Doris is able to hike and play with the children again. She is completely off NSAID's with no recurrence of her lameness. At this time surgery is not being considered to stabilize the torn cruciate.

Doris's owners are aware that she will always be prone to weight gain. Her energy requirements to maintain her at 70lbs were calculated and she was weaned onto a lower calorie maintenance food. She will keep a regular weight check schedule with her veterinarian and continue a moderate daily, low-impact home exercise routine.