

OBESITY AND NUTRITION IN SMALL ANIMAL PRACTICE

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“PREVENTING OBESITY IS THE AREA IN WHICH ROUTINE VETERINARY CARE IS PARAMOUNT.”

Cedar, a six-year-old male neutered Shepherd cross, presented with suspected osteoarthritis pain and weakness in the hind end, compounded by obesity. His history of inflammatory bowel disease made choosing a diet difficult as he could not tolerate kibble diets; he needed calorie reduction on his current diet. Recovery and green-lipped mussel supplements were added to his raw diet daily, as well as omega fatty acids. He had been receiving acupuncture treatment weekly.

Our rehabilitation veterinarian added pain control in the form of a newer NSAID, Galliprant, with hopes it would be tolerated by his sensitive system. Our rehab plan involved laser therapy, massage, therapeutic exercises at home, electrical stimulation, plus soaking and walking on a water treadmill.

Cedar's diet when we began his program was approximately 1,750 kcal/day of raw food. He could safely lose 1 to 2 per cent body fat (0.83 to 1.66 kg) per week.

Cedar's weight loss journey is ongoing, but his owner is happy with his progress: 5 kg lost in nine months. It can be frustrating, but we watch the trends in weight loss rather than the numbers on the scale. Cedar's exercise tolerance and weight loss have improved his overall mobility and comfort level.

“ENGAGEMENT OF OWNERS AND THEIR UNDERSTANDING AND WILLINGNESS TO IMPLEMENT ANY WEIGHT-LOSS PROGRAM IS THE KEY FACTOR IN SUCCESS AND SHOULD BE THE FOCUS OF EACH APPOINTMENT.”

Obesity and nutrition are hot topics these days. With significantly more animals per household, the pandemic leaving many people less active, and many of our feline patients being kept indoors, we are facing challenges in maintaining healthy body conditions for pets.

Full disclosure: I am not a certified/boarded nutritionist. However, I am a small animal internal medicine specialist. In that capacity, I manage many patients with multiple comorbid disease processes who are overweight, under-muscled, and even underweight.

Several guidelines have been published on this topic. See below for tips for owners and resources for your veterinary team. I recommend having a bank of resources to print out for each client with a pet in a weight-loss program. I also suggest assigning one lead staff member to monitor each pet and perform check-ins for those patients routinely. Some quick takeaways are:

1. Optimal weight-loss support occurs through taking a full dietary history and performing a detailed assessment of the pet, owner of the pet, and environment in which they live.
2. Diet selection is based on the amount of weight to be lost, comorbidities, and macronutrient and micronutrient needs for each dog or cat.
3. Frequent follow-ups are required, and owners must be prepared for the intensity of the weight-loss plan.
4. The recommended resources below can be helpful in achieving compliance, success, and maintenance. Many are pre-made, helpful, and readily available.
5. Exercise and rehabilitation may be of use in patients where a combination of obesity and pain hinder success following nutritional intervention.

THE BIG PROBLEM

The big problem is that, not being a primary care provider, prevention is an aspect I typically have limited access to. Preventing obesity is the area in which routine veterinary care is paramount. Client education for puppies and kittens is where we can intervene in hopes of preventing the issue entirely later in life. Inform owners about ideal body condition scoring, limitations to the weight/food guide charts in pet foods, and appropriate physical activity. I would recommend bringing pets into the clinic for routine weight monitoring or having owners check weights at home for nervous pets.

THE PET

The first step is to accurately identify both the pet's baseline body and muscle condition scores. Use a consistent scoring system for your hospital. Remember that the same animal can be both overweight and cachexic, leading to varying needs for protein in diets.

Consider having an objective chart on the wall to encourage owners to evaluate the patient themselves so they can have a clear idea of where you are and what your goal is for their pet.

HOW DID THE PET GET TO THIS WEIGHT AND HOW ARE THEY MAINTAINING IT?

The history is key. Nutritional assessment is a topic on its own, but assessment is essential to identify previous diets, if the pet has had earlier failures in weight loss programs, and to what degree owners are committed. This may be the most important part of the job. For any plan to be both successful and maintained, owner education is essential.

Treats may be perceived to solidify the animal/owner bond and as such are called “non-negotiables” in many cases. In addition, vague recommendations for cutting back or changing diets are not useful for owners and may lead to confusion and non-compliance.

The engagement of owners and their understanding and willingness to implement any weight-loss program is the key factor in success and should be the focus of each appointment. It is important to ask the owner for a clear history of what a “day in the life” of that pet looks like.



Lance exercising.

This allows you to define what they are eating, when they are eating, and how much they are eating. The environmental factors, such as other pets, treats at the parks, and other caregivers, all need to be considered for optimal compliance.

Common owner concerns are that their pet will always be hungry, won't have enough variety in their diet, will be deprived of treats that they “need” at a certain time, or will get bored with the allowed foods. These are often combined with issues of exercise restrictions due to owner schedules, obesity causing pain, indoor lifestyles, or owners who may have been injured or are themselves sedentary.

I would strongly consider the frequently asked questions from the Tufts obesity clinic as a great guide to start the consultation/conversation. The history allows you to make a clear, individualized plan for each patient that feels sustainable for the owners. In this way, history is the key to success.

DIETARY CHOICES

Use a generalized body mass calorie counting formula and determine the ideal weight for the patient. This will allow you to assess the caloric intake required to sustain this weight.

If the patient has comorbidities, consider consulting a board-certified veterinary nutritionist. This is of particular importance when one considers that patients may have requirements including fat restriction, minimum levels of protein to maintain muscle mass, or urolith prevention, and that patients may have hepatic insufficiency or renal disease.

Typically, for healthy overweight patients, feeding foods with reduced calorie density allows satiation and reduces demands from the pet and begging behaviour. Unfortunately, there are no regulations in Canada for over-the-counter diets, leading to a wide range of caloric densities. The caloric density of each over-the-counter diet or snack your patient receives must be evaluated.

Some research¹ suggests that dry foods with 300



Cedar with Trina Legge.

using wetted-down kibble for economic reasons. Adding water to dry food may need to be a gradual process over a few weeks.

Optimal diet is based on all the above, and I must admit that owner compliance and dedication is the most important factor of all.

TARGETS

Your initial calculation is based on current food intake. To calculate need energy requirements in kcal/day, I use this formula: $70 \times \text{body weight in kg}^{0.75}$. I usually start with 10 to 20 per cent reduction in daily intake as a start. Then I reweigh weekly and move down from there. My typical goals are for 0.5 to 2 per cent weekly body weight loss in dogs and cats. If the weight gain has been gradual, go slowly and steadily to maintain long-term weight loss.

Ask your owners whether they need immediate results, or whether they can be more patient and move the goals accordingly. In the end, goals that are achievable for the owner are more likely to be reachable and sustainable.

Call your veterinary food company of choice. They will be excited to help you formulate a weight loss plan.

MAINTENANCE

Once the weight loss goal has been reached, owners may want to move to an over-the-counter diet. Please take into account caloric differences and go slowly in the transition to allow for rechecks to be performed and avoid the all too common “rebound” of weight. As in humans, we often see previously obese patients regain the weight they lost.

Use handouts, clear objectives, and routine check-ins to keep compliance. We use our rehabilitation department in many cases to allow for continued contact and monitoring. Exercise has been instrumental in weight loss programs for us. I work closely with our rehabilitation department to ensure patients get the full spectrum of care they need to achieve a healthy, mobile, pain-free life.

Such is the case with Lance. Lance, an adult male cat, presented with lack of grooming, sedentary behaviour, generally unhappy demeanour, and chronic severe obesity, with a history of previous failed weight-loss attempts. The internal medicine team diagnosed him with pancreatitis, as well as osteoarthritis in his elbows, hips, and stifles.

Our first priority was pain control, which began in the form of buprenorphine. After a week and one laser treatment, he jumped up on the desk and began grooming himself again, right in the middle of his owner’s Zoom meeting.

We consulted with the veterinary team at Purina, who suggested a weight-loss plan based on their OM (overweight management) formula with salmon. Their suggested caloric intake was 180 kcal/day, which Lance handled well until he started to exercise more often. At that point, we increased it to 240 kcal/day. In addition, he was on joint supplements as part of a multi-modal approach to reduce pain and inflammation associated with osteoarthritis. We used laser therapy to relax myofascial tension and trigger points associated with muscle disuse and atrophy.

Our rehab team created obstacle courses at the hospital, usually for wet food or with his carrier at the end of the run as a reward. At home, his owners played games with him, and he chased his catnip mouse around the house for exercise.

The improvement and weight loss of 2.88 kg over one year is astounding. His energy level significantly increased, as well as his quality of life. **WCV**

kcal/cup or less than 3,100 kcal/kg (dogs) and 3,250 kcal/kg (cats) and canned foods with less than 900 kcal/kg (dogs) or 950 kcal/kg (cats) are appropriate for weight management. See also the AAFCO guidelines for successful weight management.

The macronutrients of a diet (protein, fat, and carbohydrates) need to be optimized for each patient. Protein is essential for maintenance of lean body mass (muscle). Therefore, if patients are on a reduced caloric diet, it is important that they are still obtaining adequate protein. Consult a board-certified nutritionist to maintain adequate protein in the face of comorbidities. There are times when obesity may be protective when entering certain disease states. The obesity paradox is that patients entering into chronic illness with renal or cardiac disease have longer survival times than patients with lower body condition scores.

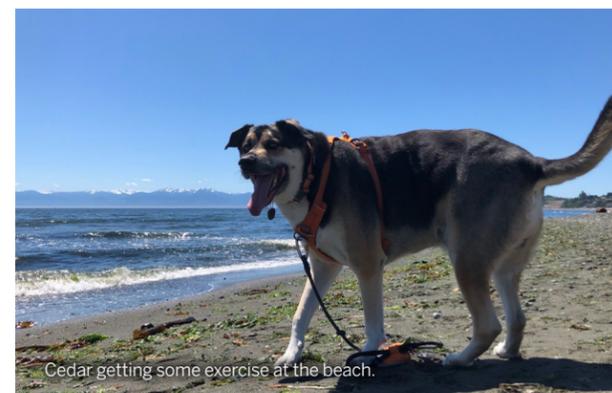
The importance of fat as a nutrient needs to be weighed against its high calorie density. There is a general feeling that low-fat diets are calorically low, but this is not necessarily the case. Fat has 2.25 times as many calories per gram as protein and carbohydrate, but even low-fat diets can be calorie dense, and this needs to be factored in when evaluating the “right” diet for each case.

Carbohydrates are not metabolized in cats and dogs the same way they are in humans. I advise caution in applying the fad of carbohydrate cutting to induce ketosis. Our patients with diabetes can be on diets low in carbohydrates, but they are quite calorically dense, which will not promote weight loss and may cause obesity despite these diets being promoted as weight management diets.

Micronutrients are important and must be adequately maintained in calorie-restricted diets. When over-the-counter diets were evaluated for weight loss, it was found that some were low in some micronutrients. This highlights the need for a nutritionist consultation when attempting weight loss with non-prescription diets.

Fibre is our friend with weight loss. The use of both insoluble fibres (e.g., cellulose and hemicellulose) allows a greater volume of food per calorie and promotes satiation. The fermentable fibres allow us to create satiety by hormonal production that helps pets feel satiated. The best combination for satiety is high fibre and high protein together.

Water is helpful to add bulk to food and create the sensation of satiety. You can either use wet food or for larger dogs, consider



Cedar getting some exercise at the beach.

Month	Weight
July 2020	11.48 kg
August 2020	10.97 kg
September 2020	10.4 kg
November 2020	9.6 kg
February 2021	8.37 kg
July 2021	8.6 kg

Lance’s weigh-ins.

¹D. E. Linder and V. J. Parker, “Dietary Aspects of Weight Management in Cats and Dogs,” *Veterinary Clinics of North America—Small Animal Practice* 46, no. 6 (2016).

To save space, the references for this article are made available on the Chapter’s website at www.canadianveterinarians.net/sbcv/west-coast-veterinarian-magazine.

TIPS FOR OWNERS

The following is a list of suggestions you can give to owners. Remember to be kind when dealing with owners. They can have shame associated with their pet’s weight gain and feel guilt about not meeting goals/targets. Creating a system that they can continue working within and making them feel supported is of the utmost importance.

1. Use a treat jar to hold all of the food and treats for the entire day. Measure it out with a level measuring cup and make sure that treats make up less than 10 per cent of the entire caloric value. Once the jar is empty, the animal is out of food; no extra treats or table scraps should be given. This is a great tip for households where multiple owners feed their pets.
2. Make sure the entire household is on the same page about your animal’s health and willing to participate.
3. Use water to soak the kibble and increase water consumption. You can also add extra water dishes around the house, especially for our feline patients.
4. Use treat puzzles, play games, or perform training or home exercises with the pet’s food as a reward.