

Nutrient Deficiencies During Weight Loss in Dogs

Martha G. Cline, DVM, DACVN

*Red Bank Veterinary Hospital
Tinton Falls, New Jersey*

In the Literature

Gaylord L, Remillard R, Saker K. Risk of nutritional deficiencies for dogs on a weight loss plan. *J Small Anim Pract.* 2018;59(11):695-703.

FROM THE PAGE ...

In this study, a survey investigating nutrition recommendations for weight loss in dogs was distributed to general practice veterinarians. Of the 178 responses, reducing the patient's caloric intake (eg, reducing amount fed, reducing/eliminating treats, changing to lower calorie adult maintenance diet) was recommended approximately 55% to 80% of the time. Although more common for patients with a BCS of 6-7/9 as compared with those with a BCS of 8-9/9, this recommendation was still made more than 50% of the time for all overweight or obese patients. Clinicians were more likely to recommend a therapeutic weight loss diet for patients with a BCS of 8-9/9.

To evaluate if nutrient adequacy was met in patients under caloric restriction, feeding guidelines from the labels of each diet used were analyzed for a hypothetical 44.1-lb (20-kg) dog with an ideal body weight of 33.1 lb (15 kg). The nutrients consumed per day for this hypothetical dog were calculated for each level of restriction and compared with recommended allowances. The authors found that nutrient deficiencies increased in number with progressive levels of caloric restriction of up to 60% of calculated maintenance energy requirements for current and ideal body weight. Nutrient deficiencies were more common in dogs fed over-the-counter (OTC) adult maintenance diets as compared with those fed OTC weight management diets. Although all the diets investigated met the Association of American Feed Control Officials recommendations for canine adult maintenance, diets sold OTC are typically not formulated to avoid nutrient deficiency during caloric restriction resulting in weight loss.

The diets investigated had low levels of many essential nutrients; choline was most commonly identified. The biologic functions of choline, a vitamin-like substance, include

neurotransmission, hepatic lipid storage and transport, coagulation, and cell signaling. In a previous study, plasma choline concentrations decreased in obese dogs fed a therapeutic weight loss diet, but clinical signs associated with deficiency were not observed.¹

Limitations of this study included its theoretical nature and lack of available research investigating the nutrient requirements of dogs undergoing weight loss. The authors highlighted the need for future studies investigating the nutritional status and health consequences of potential nutrient deficiencies in dogs undergoing weight loss.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** When making dietary recommendations, clinicians should be mindful that caloric restriction to achieve weight loss with an OTC adult maintenance or OTC weight management diet may result in nutrient deficiencies.
- 2** Clinicians should perform calculations to estimate a patient's current caloric intake before initiating weight loss and making weight loss recommendations.
- 3** Referral to or consultation with a board-certified veterinary nutritionist should be considered to address potential nutrient deficiencies for patients requiring significant caloric restriction to achieve weight loss.

Reference

1. Linder DE, Freeman LM, Holden SL, Biourge V, German AJ. Status of selected nutrients in obese dogs undergoing caloric restriction. *BMC Vet Res.* 2013;9:219.