



HOME-COOKED MEALS

It is up to the veterinary professional to discuss the pros and cons of home-prepared diets to avoid nutrient deficiencies or excesses for the patient.



MEET THE AUTHOR

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Advising Clients About Home-Prepared and Commercial Fresh Diets

At one time, dogs were not viewed as pets as much they were used as laborers. They worked farms and fields alongside their owners. They hunted, herded livestock, and offered protection to home and property. They bore little resemblance to today's pampered pets.

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Before commercial diets became available, dogs mainly ate family leftovers and table scraps, which varied greatly by culture and region. Their diet was certainly not what would now be considered “balanced.” As dogs became emotionally important, their owners began to give more consideration to what they were being fed.¹ Interest turned to the development of more nutritionally balanced diets, and eventually, commercial dog food entered the market.

From very humble beginnings, commercial pet food has evolved into a multibillion-dollar industry. While most pet owners continue to prefer the convenience, reliability, and consistency of commercial diets, many are beginning to investigate alternative diets. Many people are pursuing a healthier approach to their own food, rejecting highly processed foods in favor of fresh whole foods. Some, wanting to provide what they believe to be the best nutrition for their pets, are then electing to offer meals that more closely resemble their own dinners. Home cooking or purchasing commercial fresh-prepared meals may be seen as a more wholesome alternative to extruded kibble or vacuum-packed canned food.

However, this assumption is not necessarily true. The nutritional value of a pet food is based on many factors, including the quality of the ingredients and the nutritional adequacy of the recipe.

WHY PEOPLE SEEK ALTERNATIVE DIETS

Owners turn away from commercial diets for many reasons. One is the negative press that often surrounds commercial pet food. For example, the pet food recall of 2007 to 2008 was prompted by the Food and Drug Administration (FDA) reporting the presence of a contaminant, identified as melamine, in vegetable proteins imported from China that were used in the production of pet food. More than 150 brands of dog and cat food were eventually recalled after reports of illness and death in pet dogs and cats.² More recently, incidents of dilated cardiomyopathy in dogs may be linked to certain grain-free, boutique, and exotic ingredient foods.³ Many pet owners are frightened by these incidents.

For those who have lost confidence in pet food manufacturers, purchasing ingredients and preparing meals in their own kitchen afford them a sense of control over their pet’s diet. They know exactly what

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their pet is eating, how it was handled, and how it was prepared.

Personal ideologies like religious beliefs or ethics may also drive some to pursue a different way of feeding their pets. For instance, someone following a vegan or vegetarian diet may want their pet to eat a similar diet.

HOME-PREPARED DIETS

While home-prepared diets for pets may be more common in some countries, and many animals are successfully managed on them, commercial pet foods are still the top choice of consumers in the United States.⁴ Owners who want to feed a home-prepared diet should be encouraged to consult with a board-certified veterinary nutritionist or a veterinarian with advanced training in nutrition to obtain a complete and balanced recipe created specifically for their pet’s needs (**BOX 1**).

Cooked Diets

The overall nutritional adequacy of a home-cooked diet depends on the quality of the ingredients selected and how strictly the recipe is followed. When ingredients are left out or substituted, the recipe’s nutrient profile is altered. This often results in dangerous nutrient deficiencies or excesses.⁵ Often, owners are unaware of the importance of adhering to the original recipe. Owners should be cautioned that eliminating or substituting ingredients will result in the recipe being nutritionally inadequate. This can be especially important for animals with the most stringent dietary requirements, such as cats and young, growing animals.

Homemade pet food recipes are easily found online or in books and magazines. These formulations have not necessarily been analyzed for nutritional adequacy. A 2013 study published in *JAVMA* analyzed 200 dog food recipes for nutritional adequacy. This study



included recipes from 34 sources, including non-veterinarians as well as veterinarians. Few of the recipes that were evaluated provided all essential nutrients in concentrations meeting or exceeding the National Research Council and Association of American Feed Control Officials (AAFCO) nutrient profiles for canine maintenance diets.⁶ A later study evaluated 114 home-cooked diets for cats. Problems with nutritional adequacy were identified in all 114 diets.⁷

BOX 1

Useful Resources for Client Education

Home-Prepared Diets/Nutrition Consults

- American College of Veterinary Nutrition: acvn.org
- Balance-It: balanceit.com
- Ohio State University School of Veterinary Medicine: vet.osu.edu/vmc/companion/our-services/nutrition-support-service/nutrition-consult-request
- University of Tennessee College of Veterinary Medicine: vetmed.tennessee.edu/vmc/smallanimalhospital/small-animal-nutrition/nutrition-services

Raw Food Diets

- U.S. Food and Drug Administration (FDA) guidance document on safe handling of raw foods: fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/GuidanceforIndustry/UCM052662.pdf
- Cummings School of Veterinary Medicine at Tufts University fact sheet: vet.tufts.edu/wp-content/uploads/raw_meat_diets_memo.pdf
- American Veterinary Medical Association's policy on raw diets: avma.org/resources-tools/avma-policies/raw-or-undercooked-animal-source-protein-cat-and-dog-diets

General Information

- U.S. Department of Agriculture Nutrient Database's full nutrient profiles on thousands of human foods: fdc.nal.usda.gov
- FDA's food safety issues and recalls: fda.gov/animal-veterinary/safety-health/recalls-withdrawals
- Pet Nutrition Alliance: petnutritionalliance.org
- World Small Animal Veterinary Association Nutrition Guidelines: wsava.org/global-guidelines/global-nutrition-guidelines

Raw Diets

In the world of racing greyhounds and sled dogs, feeding raw meat diets has been commonplace. For clients who are aware of this, it should be noted that these animals are not being fed strictly raw meat. Vitamin and mineral supplements or a balanced kibble are added to the diet.

Promoters of raw feeding for companion animals cite ancestry as a reason, claiming that since dogs and cats evolved eating raw foods, the most nutritionally sound diet is one containing raw meat. Proponents of raw meat diets (also referred to as biologically appropriate raw food) proclaim health benefits of feeding raw, such as cleaner teeth and healthy gums, improved musculature, and better digestion. Some devotees insist that feeding a raw diet will prevent certain diseases or improve symptoms of disease. While these claims have not been proven objectively, advocates of raw diets continue to endorse them. The American Veterinary Medical Association and the FDA both discourage feeding raw diets to pets (**BOX 1**).

Several major concerns surround raw food diets. First is the question of nutritional adequacy. Many of these diets pose a risk of nutritional excesses or deficiencies, either of which may result in substantial harm or even death to the pet if the diet is fed on a long-term basis. Second, a risk of bacterial contamination exists, for both the pet and the owner. This is especially concerning for very old or very young members of the household or those with compromised immune systems.⁸ Third, some raw diets include bones. Intestinal obstruction, gastrointestinal perforation, gastroenteritis, and fractured teeth are all potential complications for dogs that eat bones.

Clients who still wish to feed a raw diet to their pet can be directed to the FDA website on the handling of raw foods or the Cummings School of Veterinary Medicine at Tufts University's raw diet fact sheet (**BOX 1**).

COMMERCIALY PREPARED DIETS

Commercially prepared fresh diets are another ever-expanding market. Fresh-prepared meals are now widely available in kitchens, pantries, whole food groceries, and upscale pet boutiques. Some manufacturers offer the convenience of customized meals delivered right to the owner's door. These meals may be cooked, partially cooked and dehydrated, freeze-dried, or frozen. The attraction of these diets is



the promise of minimal processing, human-grade ingredients, and absence of byproducts and preservatives.

When considering a commercial fresh-prepared diet, the manufacturer should be held to the same standards as any other pet food manufacturer. The FDA requires every pet food label to include the following:

- Brand and product name
- Name of the species for which the product is intended
- Quantity statement (weight or volume of product)
- Guaranteed analysis
- Ingredient statement
- Nutritional adequacy statement (life stage the food is intended for)
- Feeding directions
- Name and address of the manufacturer or distributor

There should also be a toll-free number on the package to ensure accessibility to the consumer. Answers to questions such as quality control measures, level of product testing, or company standards for purchasing raw ingredients should be readily supplied.

The manner in which a company addresses customer concerns says a lot about the quality of that company.⁹ For example, a representative should be able to tell a consumer if the company runs AAFCO feeding trials on its diets. They should be able to confirm whether the company has its own manufacturing plant or if it commissions outside feed mills or manufacturing plants. The representative should be able to tell the consumer if they have a board-certified veterinary nutritionist on staff who formulates the diets.

HOW TO TALK TO CLIENTS

Begin the Conversation

Some clients are highly motivated to feed an alternative diet. Understanding this motivation is crucial when entering into a discussion.

Clearing up misinformation may be all that is needed to alleviate fears about commercial pet food. For example, the presence of the word *byproduct* on the label may indicate an inferior product to some consumers. Take the time to explain what “byproduct” actually means and what is included on the list of acceptable byproducts. Dispel the myth that hooves, feces, and roadkill are all legally used as “meat byproducts” in pet

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food.¹⁰ Explain that whole grains are not just “fillers” but provide valuable nutrients. Providing facts and dispelling misinformation may help the client make an informed decision about their pet’s diet.

If the client’s personal diet is a factor, it is important to advise them of the nutritional requirements of the species that they have chosen to bring into their home. Vegan and vegetarian diets, for example, may be appropriate for some species, but could have catastrophic results if fed to others. Cats, for example, have more stringent dietary requirements than dogs, including higher dietary protein and taurine requirements. Feeding a vegan diet to a cat is not advised. It is difficult to meet the requirements set by the AAFCO feline nutrient profile even when using synthetic supplements.

Beginning a conversation about nutrition can start with updating the diet history at every hospital visit. If the subject is not broached, the owner may forget or may not think it’s important to mention that their pet’s diet has changed since the last visit. The nutritional adequacy of the diet and the wellbeing of the pet are always the primary concerns.

Ask to See the Recipe

With myriad books and internet sites available on the subject, pet owners have easy access to recipes for home-prepared diets. These resources are not regulated, and they do not all contain accurate information. Posing a few questions to the owner may be enough to identify the possibility of a problem with what is being fed. Ask the client to provide a copy of the diet formulation. Was the recipe obtained from a reputable source, such as a diplomate of the American College of Veterinary Nutrition? Was the diet formulated by someone with advanced training in veterinary nutrition?



To ensure that there are no diet-related adverse effects, owners of pets eating a home-prepared diet should be contacted for follow-up 2 or 3 times a year.



Recipes should include very clear instructions on ingredient preparation. For example, should chicken be roasted, pan fried, baked, or boiled? Should it be prepared with or without skin? Many recipes instruct owners to “add a vitamin and mineral supplement.” Supplements vary greatly in quality and nutrient content, so a recipe should always include a specific brand and dosage recommendation. Some resources do not mention that their recipe requires supplementation to ensure nutritional adequacy. A supplement is always recommended, since the vitamin and mineral content of the finished product will vary depending on the part of the animal or type of plant used in its production.

Help Them Decide

It is fair to say that most veterinary nutritionists believe that feeding a complete and balanced commercial diet from an established, reputable pet food manufacturer is usually ideal. What are some ways to determine if a company is reputable? A reputable company has established sources for their raw ingredients. They have good quality control practices, including testing ingredients before and after the manufacturing process. Among other things, they make evidence-based claims instead of marketing their product by making unfavorable comparisons to other products.

However, there are some cases when it may be impossible to feed a commercial diet. There may be no existing therapeutic diet that addresses a particular pet's multiple conditions. Sometimes an ideal diet does exist, but it is not acceptable to the pet. In these cases, it is necessary to consult with a person qualified to formulate an appropriate home-prepared diet.

Proceed With Caution

While home-prepared diets have been used successfully

as long-term diets, there are important considerations. For one thing, these diets have not undergone animal feeding trials. A laboratory analysis of the diet probably does not exist. It is therefore impossible to determine if the formulation is adequate for long-term feeding. This is especially critical for clients who want to feed a home-prepared diet to puppies or kittens. Nutrient deficiencies or excesses can be especially harmful for growing animals. To ensure that there are no diet-related adverse effects, owners of pets eating a home-prepared diet should be contacted for follow-up 2 or 3 times a year. Growing animals or those with increased nutrient demands may need to be seen more frequently.

CONCLUSION

Updating the pet's diet history should be a part of every veterinary visit. Keeping the lines of communication open is extremely important when a client is considering feeding a home-prepared diet, whether raw or cooked, to their pets. Feeding these alternative diets requires a big commitment from the owner. It is up to the veterinary professional to discuss the pros and cons of these diets so that the client can make an informed decision before proceeding. **TVN**

References

1. Pet Food Institute. History of pet food. petfoodinstitute.org/pet-food-matters/nutrition-2/history-of-pet-food. Accessed January 2021.
2. U.S. Food and Drug Administration. Melamine pet food recall of 2007. [fda.gov/animal-veterinary/recalls-withdrawals/melamine-pet-food-recall-2007](https://www.fda.gov/animal-veterinary/recalls-withdrawals/melamine-pet-food-recall-2007). Accessed January 2021.
3. Freeman LM, Stern JA, Fries R, et al. Diet associated dilated cardiomyopathy in dogs: what do we know? *JAVMA* 2018;253(11):1390-1394.
4. Oliveira MCC, Brunetto MA, da Silva FL, et al. Evaluation of the owner's perception in the use of homemade diets for the nutritional management of dogs. *J Nutr Sci* 2014;3:e23.
5. Michel KM. Unconventional diets for dogs and cats. *Vet Clin North Am Small Anim Pract* 2006;36(6):1269-1281.
6. Stockman J, Fascetti AJ, Kass PH, Larsen JA. Evaluation of recipes of home-prepared maintenance diets for dogs. *JAVMA* 2013;242(11):1500-1504.
7. Wilson SA, Villaverde C, Fascetti AJ, Larsen JA. Evaluation of the nutritional adequacy of recipes for home-prepared maintenance diets for cats. *JAVMA* 2019;254(10):1172-1179.
8. Freeman LM, Michel KE. Evaluation of raw food diets for dogs. *JAVMA* 2010;218(5):705-709.
9. Case LP, Carey DP, Hirakawa DA. Evaluation of commercial pet foods. In: *Canine and Feline Nutrition: A Resource for Companion Animal Professionals*. St. Louis, MO: Mosby-Year Book; 1995:193-200.
10. Association of American Feed Control Officials. Byproducts. talkspetfood.aaafco.org/byproducts. Accessed January 2021.