

Answering Common Pet Owner Nutrition Questions: Evaluating nutrition information and making recommendations

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Pet owners are exposed to information regarding pet nutrition from a variety of sources. However, the veterinarian continues to be regarded as the primary source of information regarding pet care and nutrition.¹⁻² Our responsibility includes answering pet owners' questions regarding nutrition and providing dietary recommendations for healthy and ill pets based on medical knowledge and familiarity with an array of dietary options. Since pet owners seek pet nutrition information from many sources, we also have an opportunity to educate clients regarding critical evaluation of information from resources such as the internet. Referring clients to websites such as the National Institute of Health Office of Dietary Supplements can help your clients learn how to critique websites and other resources by considering the source of the information (reviewing credentials of the information provider), considering conflicts of interest (funding sources), and looking for scientific evidence rather than testimonials to support claims.³

Owners may seek veterinary advice regarding selection of a commercial pet food. In order to make a recommendation or to provide the client with tools to select an appropriate diet, the veterinarian begins with a nutritional assessment of the pet.⁴ Factors such as species, life stage, neuter status, activity level, body condition score, and concurrent health issues all influence the nutrition plan for that individual. Owner factors including finances (how much can the owner spend on pet food?) and logistics (can the owner readily obtain the food?). Personal philosophy and owner preferences also influence the nutrition plan. With pet and owner factors in mind, the veterinarian can make nutrition recommendations tailored to an individual pet in a specific household.

In addition to specific recommendations, the veterinarian can provide a valuable service by providing pet owners with information regarding nutrient requirements of dogs and cats, feeding behaviors of each species, and information regarding commercial pet foods to help the pet owner make educated, fact-based decisions. Often of what the pet owner will literally have "in hand" is the pet food label. The pet food label is both an advertising piece designed to grab the potential buyer's attention as well as a legal document that is regulated at the FDA and state levels. FDA regulations require product identification, net quantity, manufacturer or distributor name and place of business, and a listing of all ingredients in the product by descending order of weight.⁵ Many states adopt the Association of American Feed Control Officials (AAFCO) Model Bill and Regulations for Pet Food and Specialty Pet Food. These regulations include label requirements for complete and balanced products such as the nutritional adequacy statement, feeding directions, and guaranteed analysis on an as-fed basis. More detail can be obtained on the AAFCO website.⁶ Showing clients the AAFCO nutrition adequacy statement and explaining the difference between a food that has been formulated to meet profile versus one that has undergone feeding trials will help them select an appropriate diet and avoid inadvertently feeding an unbalanced food designed for supplemental feeding.

Pet food ingredients often raise questions or concerns for some pet owners. In a recent survey, 63% of respondents reported that ingredients were the most important factor in choosing a pet food.⁷ The FDA is responsible for ensuring that all ingredients used in pet foods are safe and have appropriate function.⁵ Each ingredient serves a purpose. The claim that pet food has useless ingredients (or fillers) is a misconception.⁸ Ingredient names and definitions can be a source of confusion to pet owners. For example, the biochemical names for many vitamins and minerals found on pet food labels can be intimidating and may lead to owner concern if these terms are not familiar. The term "by-product" may have a negative connotation in the pet owner's mind. Resources such as those listed in the nutrition references for pet owners section explain many of the common ingredient definitions. Unfortunately, neither quality of ingredients nor quality of the complete pet food product can be determined by reading a pet food label. The American Animal Hospital Association Nutritional Assessment Guidelines for Dogs and Cats provides a list of questions to ask a pet food manufacturer about specific quality control measures to ensure consistency and quality of the product.⁴ Remember that

ingredients are the source of nutrients. The goal for either a commercial or home prepared diet is to meet the nutrient requirements of the cat or dog by using ingredients in the correct amounts and proportions such that the final product provides complete and balanced nutrition. There are many factors to consider beyond simply looking at the ingredient list in order to determine if the product is appropriate for a given pet. Production issues such as the cooking process and storage of the product can affect digestibility and palatability. An interested pet owner can contact the manufacturer and ask if feeding trials, digestibility trials, and storage testing are conducted on the product of interest.⁴

Several terms on the pet food label including holistic and human grade have no standard definition, so the buyer should beware. In contrast, there is an AAFCO definition for natural:

“A feed or ingredient derived solely from plant, animal or mined sources, either in its unprocessed state or having been subject to physical processing, heat processing, rendering, purification, extraction, hydrolysis, enzymolysis or fermentation, but not having been produced by or subject to a chemically synthetic process and not containing any additives or processing aids that are chemically synthetic except in amounts as might occur unavoidably in good manufacturing practices.”⁹

Owners may seek veterinary advice to properly home cook for a pet. There are many reasons that an owner may wish to prepare the pet’s meal. The motivation may be driven by concerns over the safety or wholesomeness of commercial pet foods, belief that the pet finds commercial diets unpalatable, or a desire to pamper the pet and enhance the bond.¹⁰ Sometimes, there is no commercial diet that meets the desired nutrient profile for a pet with concurrent medical conditions, or the pet will not consume a commercial diet in sufficient quantity to meet nutritional needs. Seeking the owner’s motivations for home cooking is a critical part of the nutrition assessment. Home cooking involves a financial and time commitment on the part of the owner and requires proper monitoring of the pet by the veterinarian. The veterinarian should ensure the recipe the owner is using meets the nutritional needs of the pet. Unfortunately, studies have shown many recipes are nutritionally inadequate.¹¹⁻¹² While complete assessment of a recipe takes time and expertise often using a formulation software program, a quick review in the exam room may reveal obvious deficiencies. The recipe should include a protein source, carbohydrate source, source of essential fatty acids, an appropriate vitamin and mineral supplement. In addition for cats, the recipe must have the specific nutrient supplements such as taurine to meet this species’ unique requirements. Consultation or referral directly to a veterinary nutritionist (www.acvn.org) or via the web-based services offered by board certified veterinary nutritionists (www.balanceit.com or www.petdiets.com) is indicated to both completely evaluate an existing recipe and/or formulate an appropriate recipe and feeding plan for that pet. Owners need to be consulted regarding careful and consistent ingredient selection, recipe preparation (including precise weighing/measuring of ingredients and proper cooking), appropriate storage, and detailed feeding guidelines. Follow-up monitoring of pets on home prepared diets is critical since these recipes have not undergone any feeding trials. Carefully history taking will reveal any omissions or substitutions to the original recipe that may occur with time (“recipe drift”). The pet should have physical examinations with laboratory diagnostics on a regular basis while on a home prepared nutrition plan.

Clients may seek advice regarding unconventional diets such as raw food diets. There are many internet sites and books touting the benefits of raw food diets but published peer-reviewed clinical trials are currently lacking. The same criteria utilized to evaluate a diet for nutritional adequacy applies to unconventional diets. In addition, the pathogenic risk factors of feeding uncooked meat including zoonotic risks should be discussed. Several of the nutrition references for pet owners included in these notes discuss raw food diets including the FDA’s Tips for Preventing Food borne Illness Associated with Pet Food and Pet Treats.

Veterinarians are often asked about dietary supplements. In recent on-line survey, 79% of respondents answered that senior dogs should receive dietary supplements such as joint supplements, fatty acids, antioxidants, or multivitamins.⁷ Since many of these novel ingredients are not legally considered food or drug, they are not subject to the same regulatory oversight. Therefore, it becomes imperative for the pet owner and veterinarian to be cautious and consider both safety and efficacy of these products as well as any contraindications for the

individual patient including drug-supplement interactions. Review the label for inclusion of basic details such as lot number, expiration date, ingredient list, and directions for use.¹³ However, one cannot assume the label information is accurate. The manufacturer may voluntarily participate in the National Animal Supplement Council (www.nasc.cc) or voluntarily submit products for USP verification (www.usp.org/USPVerified/dietarySupplements/). The USP verified dietary supplement mark indicates that the product meets label claims for ingredient amount/potency, is free of specified contaminants, meets recognized dissolution standards, and has been manufacturer according to FDA Good Manufacturing Practices.¹⁴ The pet owners can also check to see if the product has been evaluated by third party testing providers such as ConsumerLab.com.

“How much to feed” a pet is as critical as “what to feed.” Studies have reported 25-40% of adult dogs are cats are overweight or obese.¹⁵ Obesity is risk factor for several conditions including diabetes mellitus, osteoarthritis, and reduced longevity.¹⁶⁻¹⁷ Owners are not always aware that their pet is overweight and benefit from a veterinary professional discussing body condition scoring and optimal body condition during the patient’s nutritional assessment. The wide range in individual energy requirements makes providing specific daily caloric recommendations challenging. Obtaining a complete diet history to include all food sources (meals, treats including edible chew treats, table foods, supplements, foods used to hide medications) enables the veterinarian to estimate a pet’s current daily caloric intake and also reveals if the pet is on an appropriate nutrition plan (as a general rule of thumb, treats should not exceed 10% of total daily caloric intake). When a detailed diet history is not possible, standard energy calculations can provide starting point. Periodically weighing the pet and adjusting feeding amounts accordingly will enable the clinician and owner to determine the pet’s daily caloric needs. Consider the desired caloric density of the diet based on whether the individual needs to gain, lose or maintain current weight. Less caloric dense diets are desirable when owners wish to feed more volume whereas more caloric dense diets may be appropriate for animals that only eat a small quantity of food but need to gain weight. The clear goal for every pet should be to feed the amount of food that individual patient needs to achieve and maintain an optimal body condition.

Lastly, pet food safety questions may arise and concerns over pet food recalls may prompt some owners to prepare food for their pets without proper guidance and supervision. The veterinarian can educate owners about the regulation of commercial pet foods and the recent food safety laws which apply to pet foods as well as foods for human consumption. The FDA Amendments Act of 2007 (FDAAA) gives the FDA increased responsibility and authority over food safety.¹⁸ In January 2011, the Food Safety Modernization Act (FSMA) was signed into law.¹⁹ This provides the FDA with more enforcement authority and a focus on both prevention by utilizing risk-based food safety standards and on response by allowing the FDA to utilize mandatory recall authority if needed. The practitioner plays a critical role in pet food safety by identifying and diagnosing food related illness. A complete history including a detailed diet history may suggest a food related illness. Clinical signs correlating with feeding a new bag of food or multiple pets with similar clinical signs consuming the same diet may raise the index of suspicion. Exploring all differential diagnoses, ruling-out non-food related causes, collecting appropriate food and/or biological samples to confirm a diagnosis, and maintaining detailed medical records are required. As soon as a food related issue is suspected, the veterinarian should notify the pet food manufacturer and either the appropriate FDA district office consumer complaint coordinator or utilize the Safety Reporting Portal (see Guidelines for Veterinarians Regarding Pet Food Recalls). The veterinarian can also be a value resource during a pet food recall. Several websites keep the busy clinician up-to-date on recalls. An FDA widget can be downloaded to a clinic website to automatically alert clients and the clinical staff when pet product recalls are announced.²⁰

In conclusion, clients are exposed to a plethora of information and misinformation regarding pet nutrition. The veterinarian and veterinary team are a trusted and reliable of source of information. The role of the veterinary health care team includes nutritional assessment and recommendations for the pet and client education. There are many resources available to help pet owners provide proper nutrition for their pets.

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- ³National Institute of Health Office of Dietary Supplements. How to Evaluate Health Information on the Internet: Questions and Answers. Accessed November 2011 at: [http://ods.od.nih.gov/Health Information/How To Evaluate Health Information on the Internet Questions and Answers.aspx](http://ods.od.nih.gov/Health%20Information/How%20To%20Evaluate%20Health%20Information%20on%20the%20Internet%20Questions%20and%20Answers.aspx)
- ⁴Baldwin K, Bartges J, Buffington T, et al. AAHA nutritional assessment guidelines for dogs and cats. *J Am Anim Hosp Assoc* 2010;42:285-296.
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- ⁶Association of American Feed Control Officials. The Business of Pet Food. Labeling & Labeling Requirements. Accessed November 2011 at: <http://www.petfood.aafco.org/LabelingLabelRequirements.aspx#labeling>
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- ¹⁵Laflamme DP. Understanding and managing obesity in dogs and cats. *Vet Clin North Am Small Anim Pract* 2006;36(6):1283-1295.
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- ¹⁸FDA Food and Drug Administration. Food and Drug Administration Amendments Act (FDAAA) of 2007. Accessed November 2011 at: <http://www.fda.gov/RegulatoryInformation/Legislation/FederalFoodDrugandCosmeticActFDCAAct/SignificantAmendmentstotheFDCAAct/FoodandDrugAdministrationAmendmentsActof2007/default.htm>.
- ¹⁹FDA Food and Drug Administration. Background on the FDA Food Safety Modernization Act (FSMA). Accessed November 2011 at: <http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm239907.htm>.
- ²⁰FDA Food and Drug Administration. Pet Health and Safety Widget. Accessed November 2011 at: <http://www.fda.gov/AnimalVeterinary/ResourcesforYou/ucm192894.htm>.

Nutrition References for Pet Owners

National Research Council publications

Your Dog's Nutritional Needs:

<http://dels-old.nas.edu/banr/dogs.html>

Your Cat's Nutritional Needs:

<http://dels-old.nas.edu/banr/cats.html>

-Very good science-based guide for pet owners written by a panel of veterinary nutrition experts

Petdiets.com

<http://www.petdiets.com>

-Excellent website written by a board certified veterinary nutritionist for pet owners

-Browse the entire site to learn more about general pet nutrition and pet foods (Nutrition Library, FAQ, and Myths are all very useful)

-Nutrition consultation including homemade diet formulations by veterinary nutritionist, Dr. Rebecca Remillard, is available via this site.

-Well referenced article on raw diets (cost \$9):

<http://www.petdiets.com/library/article.asp?id=109&subid=18&catid=9&num=19>

WebMD

<http://pets.webmd.com/default.htm>

-Diet & Nutrition sections under the healthy dog and healthy cat category

-Various topics including dog food basics, reading a pet food label, home cooking, treats, vitamins and supplements

Veterinary Partners.com- Pet Nutrition Corner

<http://www.veterinarypartner.com/Content.plx?P=SRC&S=1&SourceID=30>

-Written by a veterinarian for pet owners

-Several short articles mostly on pet foods (ingredients, reading a pet food label, etc.)

Association for Pet Obesity Prevention

<http://www.petobesityprevention.com>

-Group of veterinary healthcare professionals provide useful information regarding assessing your pet's body weight, caloric needs, and weight loss tools (caution-caloric content information may not be up-to-date)

American Animal Hospital Association Nutritional Assessment Guidelines for Dogs and Cats

<http://www.aahanet.org/resources/NutritionalGuidelines.aspx>

-2010 Guideline publication for veterinarians with a good list of questions to ask pet food companies when assessing a pet food (page 291 of the pdf document).

FDA Pet Food Site

<http://www.fda.gov/AnimalVeterinary/Products/AnimalFoodFeeds/PetFood/default.htm>

-Information on FDA regulation of pet food

-Links to information of food safety issues, recalls, pet food labels, selecting nutritious foods

-Review this FDA link for recall information:

<http://www.fda.gov/Safety/Recalls/ucm2005683.htm>

-Also review this FDA link for information on safe handling and raw foods:

<http://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm048030.htm>

AAFCO (Association of American Feed Control Officials)

<http://www.petfood.aafco.org/>

-Resource for frequently asked questions about regulatory requirements that apply to pet food (includes discussion on ingredients, safe food handling, pet food labeling, etc.)

Foodsafety.gov

<http://www.foodsafety.gov/keep/types/petfood/>

-Federal Food Safety information site has a section on pet foods (safe food handling, a recall & alerts widget for human and pet foods, and links additional FDA sites related to pets and food)

The American Veterinary Medical Association Pet Food Safety Information

<http://www.avma.org/petfoodsafety/recalls/default.asp>

-Information of pet food and animal feeds derived from the FDA and/or manufacturers
-Includes searchable lists of recalls and alerts

American Academy of Veterinary Nutrition

<http://www.aavn.org>

-Provides a list of institutions with board certified nutritionists who provide nutrition consultation services under the “nutrition resources link” on the home page
-Veterinarians & veterinary technicians can join (\$50/year)- access to member only information and active list serve

American College of Veterinary Nutrition

www.acvn.org

-Specialty college website includes information on residency training, nutrition services & sites for referral for homemade diets (under nutrition resources)
-FAQ section addresses many pet owner questions (How to choose the best diet, how much to feed, natural/human grade terminology, raw foods, safety of foods, supplements, home prepared diets)

Pet Food Institute

<http://www.petfoodinstitute.org/Index.cfm?Page=Consumers>

-Pet food manufacturers’ organization
-Information on ingredient definitions, how pet food is made, labeling regulations, etc.

BalanceIT

www.balanceit.com

-Allows owners to obtain nutritionally balanced home prepared recipes for healthy adult dogs and cats (nominal fee for recipes).

National Institute of Health Office of Dietary Supplements

http://dietary-supplements.info.nih.gov/Health_Information/Health_Information.aspx

-NIH site geared to human dietary supplements but much of the information is applicable to pets (pet owners should **always** consult with their veterinarian before giving a dietary supplement to a pet since some supplements that are safe for humans can be toxic to dogs or cats)
-Great article on evaluating health information on the internet, how to spot fraud, etc.
-Look up specific supplements to see what scientific evidence exists to support use in humans

Consumer Lab

<https://www.consumerlab.com>

-Independent testing of human and some veterinary supplements

Guidelines for Veterinarians Regarding Pet Food Recalls

How to get information about pet food recalls:

- 1) Contact the manufacturer directly via company website or phone
- 2) AVMA Pet Food safety website: <http://www.avma.org/petfoodsafety/recalls/default.asp>
- 3) Veterinary Information Network: www.vin.com
- 4) FDA Recall
<http://www.fda.gov/Safety/Recalls/default.htm>

- Includes all recalls (pet food, human foods, drugs, medical devices, etc)
- Individuals can sign up for e-mail alerts when a recall occurs

Resource for sharing pet relates recalls:

FDA Pet Health and Safety Widget (load it on your hospital homepage):

<http://www.fda.gov/AnimalVeterinary/ResourcesforYou/ucm192894.htm>

Who should be notified if a doctor suspects a food associated illness (related or unrelated to a current recall)?

- 1) The manufacturer and
- 2) FDA Consumer Complaint Coordinator:
<http://www.fda.gov/Safety/ReportaProblem/ConsumerComplaintCoordinators/default.htm> **Also consider:**
- 3) FDA Safety reporting portal:
<https://www.safetyreporting.hhs.gov/fpsr/WorkflowLoginIO.aspx?metinstance=64852E4F1AC4A3816B7A04C105FA0901E437AE0E&IncompatibleBrowser=true>
-This site is also linked to the AVMA's Pet Food safety website

What does the manufacturer/FDA need (from JAVMA.2006;228(11) Timely Topics in Nutrition)?

Suggested checklist for dealing with suspected contaminated food.

- Retain food samples for analysis.
 - Retain 4 cans or 1 kg of dry food, when possible.
 - Freeze when possible or store at room temperature in airtight bags.
- Document product name, type of product and manufacturing information.
 - Retain all packaging.
 - Identify date codes or production lot numbers.
 - Retain purchase receipts.
- Document product consumption.
 - Dates product or products were fed.
 - Consumption and palatability history.
 - Time of onset of clinical signs.
 - Detailed dietary history (ie, all products fed and feeding methods).
- Contact the manufacturer.
- Contact the FDA Consumer Complaints Coordinator for your state.
 - A list of telephone numbers for each state is available at www.fda.gov/opacom/backgrounders/complain.html.
- Document communication with the FDA, manufacturer, and clients.
 - Record date, time, and contact person.
 - Maintain a unique identification number for each patient.
- Submit samples to a diagnostic laboratory, the FDA, or the manufacturer for analysis.
- Submit all deceased animals for necropsy or collect appropriate samples.
 - Store tissue samples in formalin as well as in a freezer.
 - Consult with personnel at diagnostic laboratory for required quantity of tissues, tissue preparation, storage conditions, and submission of samples.
- Maintain detailed medical records of affected animals.
 - Clearly record clinical course, diagnostic tests, treatments, and outcome.
 - When possible, retain serum and tissue samples for further testing.
- Notify clients of potential exposure to contaminated foods or product recalls.
 - Recommend that clients discontinue feeding potentially contaminated food.
 - Suggest that clients always save original food packaging.
- Examine all pets with known or suspected exposure to contaminated foods.
 - Submit appropriate samples for diagnostic testing.
 - Initiate prophylactic or therapeutic treatment as indicated.
- Obtain written client authorization prior to release of medical information.