

## **ESSENTIAL SKILLS FOR THE PATIENT NUTRITIONAL ADVOCATE**

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### **INTRODUCTION**

Clients often have questions about the food they are feeding their pet or which food would be best for their pet. As patient nutritional advocates, veterinary technicians are ideally suited to take a nutritional history, educate clients and make nutritional recommendations. To be an effective nutritional advocate, this individual needs to understand the agencies and organizations that regulate pet food, pet food label requirements, how to perform basic nutritional calculations, and common nutritional myths. Possessing excellent client communication skills is also essential in order to effectively educate clients on the importance of nutrition to the overall health of their pets.

### **PET FOOD AGENCIES AND ORGANIZATIONS**

Having a basic knowledge of the agencies and organizations that regulate pet foods and pet food labels is the first step to understanding how to read pet food labels.

The Association of American Feed Control Officials (AAFCO) is a private organization but not a regulatory body. All members of the AAFCO are state or federal government officials. Pet food companies, pet food trade organizations (the Pet Food Institute, for example), and professional organizations (such as the American College of Veterinary Nutrition) cannot be members but may serve in an advisory capacity to AAFCO committees and investigations. The AAFCO develops model laws and regulations that are often adopted by states. Member government agencies often request assistance from AAFCO when revising existing or developing new regulations and laws. AAFCO also publishes ingredient definitions, official terms, pet food labeling information, and standards for pet food testing. AAFCO established the current standards for dog and cat food nutrient profiles, including the minimum standards for reproduction profiles for both dogs and cats, as well as for growth and adult maintenance. The organization also sets maximum levels for some nutrients in dog and cat foods. Testing protocols for evaluating metabolizable energy and feeding trial guidelines are also published by AAFCO. Many, but not all, states follow model bills and regulations for pet foods established by AAFCO.

Another organization, the Center of Veterinary Medicine (CVM), a division of the Food and Drug Administration (FDA), regulates pet food in cooperation with individual states. The FDA is responsible for regulating health claims made on pet food labels and product literature, ensuring food safety, approving food additives, as well as develops the specifics of some label requirements. Feed control officials in each state inspect manufacturing facilities and enforce these regulations. Pet food labels are legal documents and governed by the laws of the country where the product will be sold in. All pet foods must meet the FDA's requirements and the requirements of the state where they are sold.

In addition, the United States Department of Agriculture (USDA) inspects and regulates animal research facilities and may make unannounced inspections of these facilities. The USDA inspects ingredients used in pet foods to ensure proper handling and is responsible to ensure

pet foods are labeled in a manner that makes it clear the food is intended for animals and not human consumption.

The National Research Council (NRC) is a non-profit, non-government organization that evaluates research conducted by other groups and individuals. The NRC published “Nutrient Requirements of Domestic Animals” in 2006, that, in the United States, has been replaced with the AAFCO guidelines. However, these guidelines are still in use in some other countries.

The Pet Food Institute (PFI) is a national trade organization whose members include pet food manufacturers and pet food-related suppliers. They represent the pet food industry, at the state and federal levels, before regulatory and legislative bodies.

## **PET FOOD LABELS**

All pet food labels are required to have two main sections, each having legally required components: 1.) the principal display panel and 2.) the information panel. The FDA definition of the principal display panel is “the part of the label that is most likely to be displayed, presented, shown, or examined under customary conditions of display for retail sale”. The information panel is defined by the FDA as “that part of the label immediately contiguous and to the right of the principal display panel”.

The principal display panel must contain the product name, the species the food is designed for, and the net weight of the food contained in the package. There are specific requirements governing how products are named. For example, if the name of a food is “Chicken for cats,” the food must contain 95% chicken, excluding water for processing, and the chicken must make up at least 70% of the product by weight. “Chicken dinner,” “chicken platter,” and “chicken entrée” must be 25% chicken, excluding water for processing, and at least 10% total weight. “With chicken” must be at least 3% chicken, excluding water. “Chicken flavor” must have chicken in the ingredient list and is generally less than 3% chicken. Canned foods may not be greater than 78% moisture. However, foods with “in gravy” or “in sauce” in their name are allowed to have a moisture content of 78% or more.

The principal display panel may also, and normally does, include the manufacturer’s name and the brand name. A product vignette (picture/likeness) may also appear on the label. If a vignette is included, it must not misrepresent the product. Nutritional claims, such as “complete and balanced,” may appear on the principal display panel. All such claims are regulated and are discussed in the nutritional adequacy statement section below. Bursts and flags highlighting improvements, new products, or ingredient changes are allowed. However, the length of time this information is allowed to appear on the label is limited.

The information panel must include the ingredient statement. Ingredients must be listed in descending order by weight, and only standard AAFCO terms may be used.

A guaranteed analysis must also be included on the information panel, listing the minimum percentages of crude protein and crude fat and the maximum percentages of crude fiber and moisture. Other nutrients are not required to be listed unless they are highlighted on the label. Nutrients not listed in the AAFCO Nutrient Profile must indicate “not recognized as an essential nutrient by the AAFCO Dog or Cat Food Nutrient Profiles.” Ash content is not required, but a maximum ash guarantee is allowed. Cat food labels may state “low magnesium” if the maximum level is included and if the food contains less than 0.12% on a dry matter basis and less than 25 mg per 100 kcal metabolizable energy.

A nutritional adequacy statement must also be listed on all pet food labels except for treats and supplements. Claims such as “complete and balanced” must be substantiated by one of the three methods that the AAFCO allows to substantiate such claims: 1.) the formulation method, 2.) the feeding trial method, and 3.) the family method.

Pet foods using the formula method to substantiate the claim that a food is complete and balanced must formulate the food to meet AAFCO Food Nutrient Profiles, for dogs or cats, using standard nutrient information about the ingredients the food contains or by having the product analyzed. This method does not ensure the availability of nutrients in the food or that the food is palatable. However, it is the easiest, least time-consuming, and least expensive method. Foods using this method of validation must state it is “formulated to meet the nutritional levels established by the AAFCO Dog or Cat Food Nutrient Profile for (the life stage it was tested for)” on the product label.

The feeding trial method requires pet food companies to conduct feeding trials using minimum standards established by AAFCO. All animals included in a study are examined by a veterinarian at the start of the study and again when the feeding trial is completed. Participants are also required to have minimum baseline lab work performed and body weights recorded weekly. This method may be used to validate that the food meets the requirements for growth, gestation and lactation, adult maintenance, and/or all life stages. The health of the dam at the end of the study and the size and health of the litter are taken into consideration with the gestation and lactation trials. Growth feeding trials must be conducted for a minimum of 10 weeks. The “all life stages” claim may be used when the offspring of a gestation and lactation feeding trial also completes a growth feeding trial. Feeding trials for adult maintenance claims must be conducted for at least 26 weeks. The majority of nutritional deficiencies, if any, are detected using this method of validation. However, nutrient excesses might not be evident during this timeframe. “Animal feeding tests using AAFCO procedures substantiate that (name of food) provides complete and balanced nutrition for (the life stage it was tested for)” is listed on the label of foods that have passed feeding trials. The feeding trial method is much more expensive and time-consuming to conduct. However, it is generally considered the preferred method to substantiate nutritional adequacy claims.

The less common method of substantiating a food claim is the family method. Foods using this method must be in the same product line and be the same processing type (dry, canned, etc.) as a food tested using the feeding trial method. When analyzed, crude protein, calcium, phosphorus, zinc, lysine, and thiamin (as well as taurine and potassium for cat foods) must meet the levels of the food validated by feeding trials or the minimums established in the AAFCO Dog or Cat Food Nutrient Profiles for all nutrients. Products using this method must list “provides complete and balanced nutrition for (life stage) and is comparable in nutritional adequacy to a product which has been substantiated using AAFCO feeding test” on the label.

Treats and supplements are not required to include a nutritional adequacy statement on their label. Foods that do not meet AAFCO standards must be labeled: “This product is intended for intermittent or supplemental feeding only.” Veterinary therapeutic diets should be labeled: “use only as directed by your veterinarian.” These products must also list an AAFCO life stage nutritional adequacy statement or “this product is intended for intermittent or supplemental feeding only” on the label.

Feeding guidelines must be included on all dog and cat food labels, except veterinary therapeutic diets. These guidelines must be listed in common terms (for example, a x pound cat, x cups of the diet). These are only guidelines that are generally based on standard maintenance energy requirement (MER) equations with a safety margin. Actual amounts to feed should be

calculated using one of several established methods and adjusted based on the pet's body condition. However, it is important to note that pets that consume less than 80% of the recommended amount for their ideal weight may be consuming inadequate nutrients. These pets should be transitioned to a less calorie-dense food.

Until recently, the calorie content of dog and cat foods was not required to be listed on the label unless a claim of "light" or "less calorie" was listed on the label. In 2014, the AAFCO guidelines were revised, requiring calorie content included on all *new* pet food product labels. Effective January 2017, the caloric content is required on *all* pet food labels.

The manufacturer, distributor, or importer name and address must also be included on the label. The company's phone number and website are not required to be listed on the label but may be included. A company that manufactures and distributes dog and cat food may state "manufactured by" on the label. Some companies have their foods manufactured by another company and these foods must state "manufactured for," "imported by," or "distributed for" on the label. Foods not made in the United States must state "product of" on the label.

Universal Product Code (UPC), batch numbers, date of manufacture, and best used-by date may also be included on the information panel.

## BASIC NUTRITIONAL CALCULATIONS

### CALCULATING CALORIE REQUIREMENTS

How do you know if a patient is eating enough? There are many formulas for calculating patient energy needs for growth, weight loss, weight gain, extremely active individuals, and resting energy requirements (RER). Start by calculating the patient's resting energy requirement using the calculation  $RER = 70 \times (\text{body weight in kg})^{3/4}$

The formula  $RER = 30 \times (\text{body weight in kg}) + 70$  may also be used for patients weighing more than 2kg and less than 45kg. However, this formula should not be used for patients smaller or larger than these guidelines or for critical patients.

Once you have determined the patient's RER, the next step is to calculate the patient's Daily Energy Requirement (DER). DER is calculated by multiplying RER by a coefficient based on the patient's life stage and body condition. A list of coefficients for common life stages to determine DER is listed below.

<b>Canine</b>	<b>Feline</b>
<b>Growth DER</b>	<b>Growth DER</b>
Up to 4 months = 3 x RER	Growing kittens = 2.5 x RER
Over 4 months = 2 x RER	
<b>Maintenance DER</b>	<b>Maintenance DER</b>
Average neutered adult = 1.6 x RER	Normal neutered adult = 1.2 x RER
Intact adult = 1.8 x RER	Intact adult = 1.4 x RER
Obese prone = 1.4 x RER	Obese prone = 1.0 x RER
Weight loss = 1.0 x RER	Weight loss = 0.8 x RER

<b>Work DER</b>		
Light work = 2 x RER		
Heavy work = 4-8 x RER		

It is important to remember all caloric calculations are estimates of the patient's energy needs; actual caloric intake may vary from one individual to another. These calculations, however, are an excellent starting point for every nutritional recommendation.

Next, determine the caloric concentration of the food your patient is fed. The number of calories in any food (and some treats) can be easily found on the product label, the company website, and in the company product guide. Once you know the number of calories in a can or cup of the selected food, simply divide that number into the patient's DER.

This amount may be divided by the number of feedings the patient will receive. Remember to be specific in your instructions to your client; include the name of the food you are recommending, including the brand, the amount to be fed per day and per feeding, how many feedings per day, how many treats, and when the plan may change.

For many healthy pets being fed a good quality diet manufactured by a reputable company, this may be all the calculations that are required. But, being a patient nutrition advocate, there may be other calculations you may want to do.

*Dry matter basis vs. "as fed"* – For ingredients listed on the label on an "as fed" basis: basically, this means that the moisture content is included. In order to compare the nutrients in one food to another, especially when comparing a canned food to a dry food, you must convert each nutrient from "as fed" to "dry matter basis" (DMB). One method to calculate this is to subtract the percentage of moisture listed in the guaranteed analysis section on the label from 100% and then divide the percentage of the nutrient by this number.

Step 1 – subtract the moisture content of the food from 100%.

Step 2 – divide the nutrient content by the DMB.

Another simpler, yet perhaps not quite as accurate, method is to multiply the percentages of nutrients listed in the guaranteed analysis by 1.1 for dry foods and by 4 for canned foods.

Both of these calculations provide the estimated amount of the nutrients on a dry matter basis. If the actual amount is required, it may be obtained from the pet food manufacturer.

*Calculating estimated carbohydrate content* – The number of carbohydrates a pet food contains may not be included in the guaranteed analysis; however, it is easily estimated. Start by converting the protein, fat, fiber, and ash contents to the dry matter basis (as explained above). Add these percentages together and subtract the total from 100%. This is the estimated carbohydrate content of the food.

## **WEIGHT MANAGEMENT**

According to the Association for Pet Obesity Prevention (Jan 2016), roughly 53 percent of dogs and 58 percent of cats in the U.S. are overweight or obese. It's time for a change; the veterinary healthcare team needs a new game plan and a new approach. We can't wait until our patients are overweight or even just a little bit heavy, by then, it's too late! Perhaps more important than weight loss for overweight and obese pets is working with clients to promote the ideal weight for

dogs and cats before they become too heavy! Begin at the first visit to the veterinary hospital educating clients on how to perform body condition and muscle condition scoring. Using handouts containing pictures of ideal and overweight dogs and cats is a very useful tool for client education. Many people today are accustomed to seeing overweight dogs and cats, however, they often mistakenly confuse pets at their ideal weight as too thin. Having pictures showing examples of ideal weight and condition will help clients to better understand how to distinguish when their pet is beginning to become too heavy. Take pictures of each patient in their ideal body condition and use this to illustrate the goal they are trying to achieve. At each subsequent puppy, kitten, and wellness visit, start with taking a nutritional history and documenting all changes and the patient's current weight. Ask the client to perform a body condition score and a muscle condition score on their own pet. If your assessment differs from the clients, explain how you arrived at your score.

Consider starting a healthy weight educational campaign at your hospital. Invite new puppy and kitten owners to attend a "tips for keeping your puppy or kitten healthy" get-together. Explain the health benefits of keeping their pet at a healthy weight, the risks of obesity, the importance of exercise, etc. Teach owners how to perform a body condition score on their pet and have them practice scoring on each other's pets. Discuss healthy treat options, types of human foods to avoid, and the potential dangers of feeding foods designed for human consumption. Provide handouts containing the information and links to your hospital website's "Healthy Weight" page.

Support groups for clients with overweight pets, similar to groups people join when trying to lose weight, are also a good way to help facilitate weight loss for overweight pets. Clients can share tips and weight loss techniques that have worked for their pets with others who might not be having as much success. Each pet can be weighed at each group meeting, goals set, and progress documented. A nutritional history and making a nutritional recommendation focusing on weight loss before a new member joins the group is recommended. Give clients forms to document everything their pet eats, including the amount consumed, from one meeting to the next. Having clients record exactly what and how much their pet consumes each day gives a more accurate account of the amount of calories consumed during the time period. Provide a nutritional recommendation and revise it if necessary, for each pet at each meeting. Incentives for meeting weight loss goals, such as discounts on pet food or reduced calorie treats, can be offered; however, educating clients on the lifelong health benefits of pets in ideal body weight and condition is often the best motivation of all.

## **CLIENT COMMUNICATION**

Veterinary technicians receive information from clients when taking a history, interpret that information and make recommendations based in part on how that information is interpreted. When we make a nutritional recommendation, our goal is to influence the client by providing information to follow our recommendation. Improving our communication skills will improve compliance which will improve our patient's health and quality of life and perhaps even increase the patient's lifespan.

## **NUTRITIONAL HISTORY**

While you're taking a patient's history, start by asking the client open-ended questions regarding the pet's current diet. Open-ended questions are those that require more than one word or yes or no answer. They require more of an explanation or narrative to answer. For example, asking, "Does Lady like chicken flavored canned food?" only requires a yes or no answer. Asking the

open-ended question, “What flavor of canned food does Lady like?” will provide you with more information on what Lady likes and possibly what she does not like.

Start by asking broad, open-ended questions such as: “Tell me about Lady’s typical day.” “When was the last time you changed Lady’s diet?” “Why did you make the change?” “Tell me about any recent changes in Lady’s appetite.” “How many people, including children, reside in the household?” “Who is primarily responsible for feeding Lady?” “Who else feeds Lady?” “What treats does Lady get?” “What other pets live in the same house as Lady?” “What nutritional supplements do you give, Lady?” “What medications does Lady get?” “How do you administer the medications?” “Does Lady have any difficulty chewing or swallowing?”

The goal of taking a nutritional history is to learn, in detail, what the patient is ingesting on a regular basis and what they eat occasionally. Obtaining a complete nutritional history requires good listening skills! We naturally know how to hear, but listening is a learned skill. Like any skill, we need to develop and practice listening before we can become good at it. Listening requires a commitment to understanding how the other person feels. It also requires that you put aside your beliefs, self-interests, and prejudices. When listening, don’t be judgmental or find fault with what the client feeds their pet. Obtain the full nutritional history before making comments or recommendations. Listen to the client’s reasons for feeding a particular diet and any concerns that they might mention with other diet options. Use attentive body language. Proper body language promotes openness, encourages dialogue, and helps to establish a positive relationship. Maintain good eye contact and lean slightly forward. Avoid using a disapproving or negative tone or facial expressions. Ask clarifying questions being careful not to interrupt the client. Choose your words carefully to avoid appearing to disapprove or to be judgmental of the client’s feeding choices.

## **NUTRITIONAL RECOMMENDATION**

Remember to make a nutritional recommendation for every patient every time they present to your hospital. Consider the patient’s age, weight, body condition, muscle condition scores, life stage, lifestyle, and any health issues. Recommend the diet you believe is the best for that particular patient, but remember it is also important to consider the owner’s perception of what is the best diet for their pet. Making a nutritional recommendation does not always mean making changes to the patient’s feeding plan. If the patient is in good weight, good body condition score, is healthy, and eating a complete and balanced diet, your recommendation maybe not to make any changes! But be sure to document in the patient record the specifics of your recommendation, even if it is that no changes will be made. The nutritional recommendation should include the brand, variety, and specific formula of the food you are recommending, and the amount to feed, the frequency of feedings, and when to make any changes to the feeding plan.

When a change is recommended, not all clients will be willing to make a change to what you believe is the best possible diet option for their pet. When you have done your best to educate your client, but they insist on feeding a different type of diet, consider if there is a way to improve the patient’s diet. If they are feeding a diet that does not contain highly digestible ingredients, perhaps you can help them find one that does. If corn-free or grain-free diets are all the client will consider, research the available options and recommend the one you believe is best suited for your patient. Provide a referral to a veterinary nutritionist for the client that wants to prepare a home cooked diet or a raw diet. Remember that the goal of a nutritional recommendation is to provide the patient with the best possible diet. How you communicate a

nutritional recommendation can also be a factor in how willing the client might be to accept your recommendation.

## **CLIENT EDUCATION**

What if the diet a client is feeding is not complete and balanced? Or, what if you do not agree with the type of diet a client has chosen to feed? How can you explain your concerns and educate a client that their perceptions are incorrect? Below are some strategies that you can use:

- Listen to the client's reasons for feeding the diet in question and their concerns with other diet options.
- Ask open-ended questions to ensure you understand their viewpoint. Be careful not to sound or appear judgmental.
- Avoid making disapproving comments, using a negative tone of voice, facial expressions, and body language. If you are perceived as judgmental, condescending, being closed-minded, or unwilling to listen and consider their point of view or beliefs, clients are likely to become defensive or simply unwilling to listen to your advice.
- Gently point out any misconceptions or false information, offering references to the correct information.
- Some owners turn to alternative diets out of concern that their pet will not eat more conventional diet options. These owners may express concerns about their pet not eating as well as the cause for not wanting to change diets.
- Some owners will not be interested in hearing your advice. Others may listen; perhaps discuss or debate the issue with you but may not be willing to make any change to their feeding practices. Be respectful, and do not take it personally. Making a nutritional recommendation does not ensure that the owner will follow your recommendation.
- As with any medical advice, document the patient's nutritional history and your nutritional recommendation in the patient record.

## **CONCLUSION**

Veterinary technicians are ideally suited to take a nutritional history, educate clients and make nutritional recommendations. Understanding how people with different personality types and communication styles receive information and learning to tailor your messages in a manner that will appeal to all types is an effective communication skill. Possessing excellent client communication skills is essential to effectively educate clients on the importance of nutrition to the overall health of their pets.

Be a nutritional advocate for your patients!

References available upon request.