

Don't Forget the Diet: Incorporating Diet Into Daily Dermatology Case Management

Creating Collaborative Care Through Nutrition Conversations



A PANEL DISCUSSION

Many dermatological cases can be diet responsive. These cases range from pets with dry, flaky skin and a dull, thinning coat who are consuming an unbalanced diet to severely malnourished pets that require significant nutritional intervention. Dr. Diane Delmain, DABVP (Feline Practice), and Board Certified Veterinary Nutritionist® Dr. Jackie Parr review the nutrients important to skin and coat health and how to determine whether a diet is providing what the pet needs in this panel discussion moderated by feline internal medicine specialist Dr. Andy Sparkes.¹

NUTRIENTS FOR SKIN AND COAT HEALTH



Andrew Sparkes, BVetMed, PhD,
Dipl. ECVIM, MANZCVS, MRCVS
(Chair/Moderator)

Dr. Andy Sparkes: What nutrients are important to skin and coat health?

Dr. Diane Delmain: As the largest organ in the body, the skin requires an incredible amount of protein and energy. The skin forms from the base up. This process of epithelial differentiation takes 22 days and results in the stratum corneum, which can be thought of as bricks and mortar. The bricks are the epithelial cells. The mortar is the lipid bilayer. This is where the skin needs essential fatty acids.



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Diane Delmain, DVM, DABVP
(Feline Practice)

Dr. Sparkes: What are essential fatty acids?

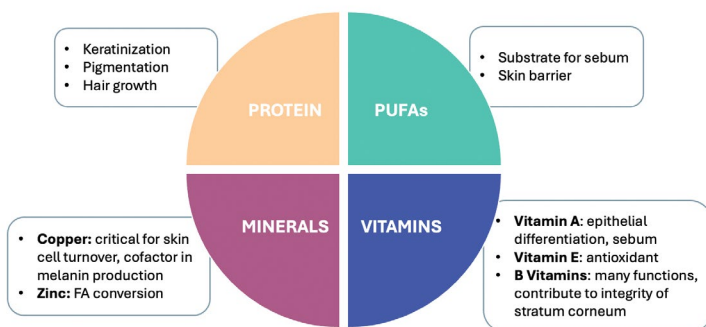
Dr. Jackie Parr: Essential fatty acids include omega-6 (n-6) and omega-3 (n-3) fatty acids. Dogs and cats cannot make these endogenously and must consume them in their diet. The omega-6 and omega-3 fatty acids share an enzyme pathway. The primary dietary omega-6 and omega-3 fatty acids are linoleic acid and alpha-linolenic acid, respectively.

The omega-6 fatty acids from the diet are incorporated into cell membranes. If there is cell damage and release of that fatty acid, the particular cytokines that are produced tend to be more inflammatory. The omega-3 series are often touted as less inflammatory. However, the balance of these two pathways is important because there are times and places where we need inflammation (e.g., fever, infection, or injury) to help healing and there are times and places where we would like to reduce inflammation.

We need to consider what animals do with these fatty acids once they have ingested them in their diet. In dogs, the delta-6-desaturase enzyme has a little activity, meaning that if dogs ingest corn or flaxseed oil, there is some, but limited, conversion with this enzyme to make longer chain polyunsaturated fatty acids such as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Unfortunately cats also lack sufficient amounts of the enzyme. They are unable to convert linoleic acid into the longer chain fatty acids. Likewise, they are not able to convert alpha-linolenic acid into EPA or DHA.

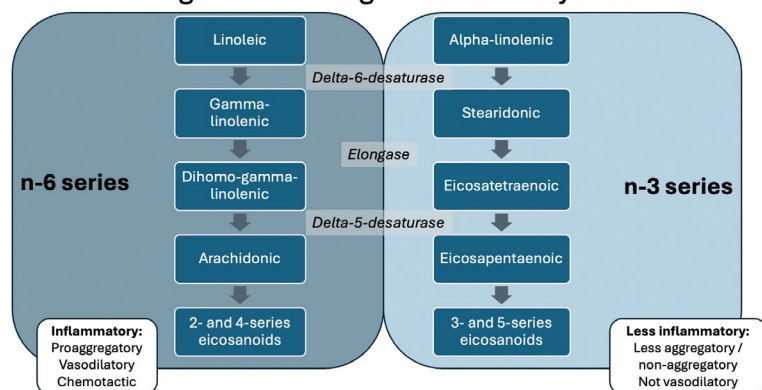
Nutrients and the Skin



The ceramides, which support the skin's water permeability barrier in the stratum corneum, contain linoleic acid or other free fatty acids. If this layer is disrupted, it opens the skin to the environment and creates issues. The polyunsaturated fatty acids (PUFAs) are in the skin barrier and sebum. They are important for skin and for the body.

Vitamin A is essential in formation of the skin as are vitamin E and B vitamins. However, it is important to avoid excesses.

Omega-6 and Omega-3 Series Fatty Acids



If we want to have those longer chain fatty acids within the body, to have those beneficial cytokine effects, we need to feed them directly because dogs and cats cannot produce enough on their own. We would typically supply EPA and DHA to reduce inflammation and benefit the skin and coat through cold water fish oil or marine-based algae.

Puppies have additional requirements for fatty acids during the growth phase. As obligate carnivores, cats have unique fatty acid requirements. They have a stricter list of requirements, requiring arachidonic acid at both growth and adult stages. One of the best sources of arachidonic acid is animal fats.

To summarize, both pathways are essential to dogs and cats—required as part of their diet. Without the omega-6 linoleic acid, the skin and coat will become very dry and dull. We can also supply additional fatty acids, such as EPA and DHA, to support skin and coat health.

An essential fatty acid deficiency does not happen quickly. It occurs when feeding an unbalanced homemade diet for many months or over a year. It takes time, especially in an adult animal, for these nutritional deficiencies to be clinically apparent.



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Jackie Parr, BScH, DVM, MSc, DACVIM (Nutrition)

Dr. Sparkes: How long before clinical signs are apparent when there are excesses in the diet?

Dr. Parr: It depends on the dose and the length of time in determining how quickly it builds up.

Dr. Sparkes: Are cats more susceptible to toxicities?

Dr. Parr: We can see both vitamin A and D toxicosis in cats, but dogs actually have a very narrow range. Dogs tend to get many supplements, and so that makes it a really important part of our conversation.

Pet owners want to help their pet’s skin and coat by adding extra protein, oils, and vitamins on top of the diet. However, we must ensure that the pet is getting 90% of its calories daily from a complete and balanced diet. A complete and balanced diet will contain these nutrients in the correct proportions.

Dr. Delmain: With my background in feline practice, I agree that feeding a diet that incorporates what a cat needs is so much easier than trying to supplement a diet.

For skin health, protein must be good quality, bioavailable. Increased omega-3 and omega-6 help skin heal. We need zinc and vitamins.

Dr. Sparkes: If a pet presents with essential fatty acid deficiencies, how do you start the diet discussion?

Dr. Delmain: I ask the pet owner permission, especially with an unbalanced diet, which may be a sensitive subject, to discuss the diet: Are you ready and willing to talk about your pet’s diet? If the owner is not, we move on to a different topic and return to it in the future.

THE SEVERE CASE WITH COMORBIDITIES

Dr. Sparkes: How would you approach a severe dermatological case with comorbidities, for example, a severely malnourished stray dog that presents with dry, flaky skin, a dull coat, pyoderma, edema, and alopecia? How do you prioritize management?

Dr. Delmain: Our first step is what I call the sprint. We need to feed the dog but avoid complications of refeeding syndrome, which is potentially fatal. It occurs after a period of prolonged starvation, where the body burns through all of its energy sources—glycogen, glucose, fat, and protein—and ends up in a ketotic state. Muscle and fat mass, potassium, phosphorus, and magnesium are depleted. The bowels and the microbiome have become poorly adapted to nutrient absorption.

If we are not careful when we restart feeding, insulin release can further deplete electrolytes. So we need to start with a diet that is much like the body has adapted to using—feeding low carbohydrate, high fat, and adequate electrolytes.

Feeding is begun at 20 to 30% of resting energy requirements (RER) for current weight and slowly increased over 4–10 days to meet RER. We look at progress and recalculate RER when necessary.

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Dr. Delmain

Dr. Parr: The key is a slow and steady process. Communication is critical so these animals are not accidentally overfed.

Dr. Sparkes: Is this a syndrome that we have overlooked in the past?

Dr. Parr: It is much rarer in dogs and cats than humans.

In dogs and cats, I think rescues and shelters have been educated and understand the slow introduction of food. I think we see it when a good Samaritan finds a stray and stops in the drive-through on the way to us.

Dr. Delmain: Other components of our sprint phase of treatment include performing skin cytology and treating parasites and pyoderma. We lean towards topical treatment for pyoderma, but with a deep pyoderma we may need injectable or oral antibiotics. Even in an animal who is immune suppressed, we may give a short course of prednisone at an anti-inflammatory dose to help reduce severe inflammation and pain in the skin, to help close that barrier to stop fluid loss.

We control any pain, may give a probiotic to support the intestinal microbiome, and use an antiseborrheic and antimicrobial shampoo. We also should think about the stray dog's socialization because ultimately we do not just want a well-fed pet, we want a pet that is a valued part of the family.

After the sprint phase, the marathon phase involves addressing our long-term goals of regaining a healthy body and muscle condition and helping skin recovery—restoration of the skin barrier and healthy coat. Preparing the client that this will take time is important. We use a communication tool called ask, tell, ask. We ask the pet owner whether they have ever rescued a dog like this or fed a dog like this. If not, we need to ensure they understand the time and commitment necessary.

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The skin needs an enormous amount of protein. In extreme starvation, the hair stops growing because of this protein requirement. Hairs that are formed are brittle and abnormal. As the dog starts eating and recovering, all of those hairs fall out and have to regrow. The nutrient needs overall increase as the skin heals.

Another important consideration is how to feed a malnourished dog like this. We are not feeding much. However, we need to create positive associations with the family, and food is the best way to do it.

Dr. Sparkes: What are the most important points to make with owners in these cases?

Dr. Parr: My experience has been the most difficult thing is restricting the food. Owners want the pet to regain weight very quickly. So we must stress the importance of a slow, steady increase in food. Also setting that expectation that this will be a long process.

NUTRITIONAL ASSESSMENT AND OBTAINING A DIET HISTORY

Dr. Sparkes: How do you evaluate a pet's diet?

Dr. Parr: I objectively determine how suitable a pet's current diet is by performing a nutritional assessment, which is an iterative process—it should be done every time we see the patient.

The World Small Animal Veterinary Association has a nutrition toolkit available,² which contains a screening nutritional assessment checklist. Part of the form (regarding pet's activity level, owner's perception of pet's weight, whether pet is an inside or outside pet or both, pet's diet, and supplements administered) is completed by the pet owner. We indicate the pet's weight, body condition score, and muscle condition score on the form then review a list of risk factors.

“I objectively determine how suitable a pet's current diet is by performing a nutritional assessment, which is an iterative process.”

Dr. Parr

There are nutritional screening risk factors, some of which, for example, low or high activity level or being a senior, if present indicate an extended nutritional screening *may* be performed and some of which, for example, presence of vomiting/diarrhea or feeding of unconventional diet (e.g., homemade or raw diet), if present indicate an extended screening *should* be performed. Physical exam risk factors include abnormal body condition score or dry, flaky skin and dull coat.

This is an objective evaluation of the patient, and it gives valuable information to the client. The more risk factors we identify, the more we need to focus on a new customized diet plan for that individual patient. A homemade diet is often unbalanced.

Dr. Sparkes: How do you assess a homemade diet?

Dr. Parr: There are a few simple items you can look for to determine whether a diet is meeting the pet's needs.

The first is that we can find an animal-based protein source in the diet to supply all essential amino acids. The second would be that there is an appropriate fat source, and in particular a source of linoleic acid for both cats and dogs. For cats, in addition to the animal protein source, there should be a source of animal fat to supply arachidonic acid.

The diet must provide essential vitamins and minerals and a dog- or cat-specific multivitamin source given dogs and cats have different nutritional requirements than people.

While not essential, fiber and carbohydrates are beneficial, supporting the microbiome, fecal texture, and proper bowel movements.

Dr. Sparkes: What challenges do veterinarians face in obtaining diet histories from pet owners?

Dr. Parr: Veterinarians may find they lack the time, or as they ask what diet or food is fed, they are not getting full histories.

Research has shown what-prefaced questions tend to act more like a closed-ended question, meaning we obtain very little information. Asking the typical question what diet or food are you feeding yields only the brand or the subtype, such as large breed dog or dental diet. It does not give us the wealth of information we need to fully gauge the diet when completing a nutritional assessment.

Researchers showed that an open-ended inquiry provided more information on the nutritional history. That question is, “Tell me everything that your pet eats during the day starting first thing in the morning through to the end of the day, or up until the pet goes to bed.”

Using “tell me” opens up the discussion. By giving the client a chronological order, we can obtain much more information in a much quicker fashion. We also tend to get information on treats and information about the pet’s lifestyle, because the chronological order helps us to learn a little bit more about day-to-day life.

Utilizing open-ended questions will improve the nutritional histories that you are getting and make the exam room process more efficient.

Also tremendously helpful for gathering a nutritional history is utilizing a nutritional history form. Utilize a form that already exists of which there are many available online.³ See what you like about it. Then if your clinic needs to make changes, you can do it in an informed way after you have gained experience using a form.

To obtain the most complete information it is best practice to have your team provide the form in advance of any scheduled appointments so that the owner can complete it at home and have all of the food and treats in front of them. That yields more complete information than requesting the pet owner fill this out in the waiting room.

“Utilizing open-ended questions will improve the nutritional histories that you are getting.”
Dr. Parr

Dr. Sparkes: Are there any top take-home messages from this discussion that you want to leave people with?

Dr. Parr: Use the nutritional assessment checklist. It is a convenient, objective way to determine how an animal is doing on their current diet. It incorporates items you are already collecting as part of your appointment.

Use nutritional histories. Use existing resources, see how they work, and then make changes if needed. And utilize open-ended inquiries.

Dr. Delmain: Focus on complete and balanced diets and open communication with owners considering socialization and behavior when feeding.

CHAIR/MODERATOR

Andrew Sparkes, BVetMed, PhD, Dipl. ECVIM, MANZCVS, MRCVS is an independent consultant. Previously, he served as Veterinary Director of International Cat Care and the International Society of Feline Medicine (ISFM). Dr. Sparkes has published widely and is the founding and current co-editor of the *Journal of Feline Medicine and Surgery*.

PANELISTS

Diane Delmain, DVM, DABVP (Feline Practice) is currently an Associate Professor in the Auburn College of Veterinary Medicine Community Practice. She initiated a cat elective course at Auburn and teaches feline topics in other courses. Her certifications include Cat Friendly Veterinary Professional, Fear Free, and Institute for Healthcare Communications.

Jackie Parr, BSCh, DVM, MSc, DACVIM (Nutrition) completed an MS in Biochemical and Molecular Nutrition at Tufts University. Dr. Parr is currently the Nestlé Purina Petcare Clinical Assistant Professor of Nutrition and leads the Clinical Nutrition Service in the Department of Small Animal Medicine and Surgery at University of Georgia’s College of Veterinary Medicine.

FOOTNOTES

¹ Adapted from the live broadcast of Don’t Forget the Diet: Incorporating Diet into Daily Dermatology Case Management, a Purina Institute Creating Collaborative Care Through Nutrition Conversations webinar, available on demand at [Purina Institute Webinar Series 2025](#).

² Find it here: <https://wsava.org/global-guidelines/global-nutrition-guidelines>. Find resources from the Purina Institute at <https://www.purinainstitute.com/centresquare/nutritional-and-clinical-assessment-tools/nutrition-related-risk-factors>.

³ See [Diet-history-screening-evaluation.pdf](#) from the Purina Institute.

For more information and a wealth of pet nutrition resources, visit **PurinaInstitute.com** and sign up for scientific communications. By signing up, you’ll receive updates on discoveries in nutritional science, free resources to support you in your nutrition conversations with clients, invitations to events, newsletters, and much more from the Purina Institute.
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