

# Food Allergies in Dogs & Cats - Know the Important Facts!

One of the most in vogue terms currently in veterinary medicine is food allergies. Dogs and cats certainly do develop food allergies. We'll talk about how in a few moments. In my own clinical experience working with board-certified veterinary dermatologists for more than a decade, many pets are incorrectly and/or inaccurately diagnosed with food allergies. So, I wanted to take some time this week to share some information about food allergies to shed light on this important topic so pet parents know the truth!



## Food allergies - What are they?

The true medical definition of a *food allergies* is an adverse reaction to a food component (called an antigen) triggered by a patient's immune system. Pet parents used the term "food allergies" to describe a clinical syndrome of skin inflammation and gastrointestinal signs (i.e.: vomiting, diarrhea, loss of appetite, weight loss) triggered by food. Realistically, the most accurate term for the common clinical scenario this is *adverse food reaction*. An adverse food reaction

is simply an abnormal clinical response to a food component. This term is preferred because a reaction by the immune system has not been confirmed. For this blog, I will use the terms food allergies and adverse reaction interchangeably to describe a clinical syndrome of skin inflammation and gastrointestinal signs caused by a food component.

## **Food allergies - What causes them?**

Remember true food allergies involve a reaction by a patient's immune system. Identifying what triggers the immune system can be challenging. A patient's genetic history likely plays a role in the development of food allergies. Certain dog and cat breeds appear to be predisposed to them:

- Labrador Retriever
- Cocker spaniel
- Soft-coated Wheaton terrier
- Dalmation
- West Highland White terrier
- Bichon Frise
- Collie
- Chinese Shar Pei
- Lhasa Apso
- Golden retriever
- German shepherd
- Hungarian vizsla
- Cairn terrier
- Irish & English setter
- Burmese
- Siamese



Food allergies may develop at any age, although many are less than two years of age. Males and females are affected equally. Diet unquestionably influences the type of food allergy a patient develops. Why? Dog and cats cannot develop an allergy to a food component to which they have not been exposed. Animals can be exposed to these components in a variety of ways, including non-oral routes. The chief offending food items in dogs and cats are beef, milk, lamb, wheat, corn, chicken egg, soy, chicken, tuna, and salmon.

## **Food allergies - What do they look like?**

The clinical signs of adverse food reactions manifest in a variety of ways, and predominantly affect the skin and gastrointestinal tract

- **Skin:** The most common clinical signs are skin-related. Itchiness (called pruritus) is a major issue, and the most commonly affected areas in dogs are the ears, feet, groin (called the inguinal region), armpits (called the axillary region), face, neck, front limbs, and peri-anal region. Many dogs have secondary bacterial skin infections. Similarly, cats also develop pruritus, and the neck and head are frequently affected. Cats may also develop other skin lesions, including hair loss, hives (called urticarial),

and enlarged peripheral lymph nodes.

- Gastrointestinal Tract: Approximately one third of patients develops non-specific signs like vomiting, abnormal feces, increased frequency of defecation, straining to defecate, anal gland abnormalities, increased flatulence, and bad breath (called halitosis)

Other body regions, including the nervous system, muscles & bones, and respiratory tract may be affected by food allergies.

## **Food allergies - How are they diagnosed?**

The diagnosis of food allergies is based on three components:

- Patient's history
- Appropriate clinical signs
- Confirmation through a dietary elimination trial and challenge

If there is one point I would like you to remember from this blog, here it is:

***There is no diagnostic blood test for food allergies.***

Why do I make such a big deal about this point? I see pet parents waste money on food allergy blood tests almost every day! Some companies offer blood tests for food allergies. These tests - called radioallergisorbent test/RAST or enzyme-linked immunosorbent assay/ELISA - measure proteins made by the immune system called antibodies (specifically immunoglobulin E or IgE). The advantage of these tests is obvious, and some family veterinarians routinely recommend them. Yet, availability doesn't equate to accuracy! The correlation of the results with confirmed food allergies is lacking.

Previous veterinary studies have previously documented positive predictive values (PPV) of 40% and negative predictive values (NPV) of 60.9%. What do these two statistics mean? The PPV means only 40% of patients with a positive test results have food allergies. Conversely, the NPV means ~61% with a negative result don't have food allergies. This low PPV indicates many of the positive results from these tests are false positives! The mediocre NPV tells us there is a high possibility of a false-negative result, and thus pets with food allergies will not be detected with a blood test.

*Please don't waste your money on a blood test for food allergies!*

The current consensus of the clear majority of board-certified veterinary dermatologists is a dietary trial followed by dietary challenge is the most effective method of diagnosing food allergies in dogs and cats.

## **Food allergies - What is a dietary trial?**

The best way to diagnose food allergies is via a dietary elimination trial over an 8-12-week period. A home-cooked diet is preferred, and should incorporate a single novel protein source (one to which the pet has not been exposed) and a carbohydrate. The selection of a single protein and carbohydrate source should ultimately be based on the dietary history of the animal. Palatable potential novel proteins are:

- Bison
- Elk
- Rabbit
- Squid
- White fish
- Kangaroo
- Camel
- Ostrich

Ancient grains (i.e.: kamut, farro, millet, oatmeal, quinoa) and carbohydrates like rutabaga, butternut squash, parsnips, peas, and sweet potato are increasingly popular in commercially prepared diets. Cats are obligate carnivores, and must be fed diets with fewer carbohydrates compared to dogs. Consultation with a board-certified veterinary nutrition specialist can be invaluable for developing an appropriate home-cooked diet for a pet needing an dietary elimination trial



Properly completing an appropriate food trial is a major task for pet parents. The 2-3-month duration of the trial can be a daunting task for some families, and unfortunately many abandon the home-cooked dietary elimination trial. If such a trial is not feasible or possible, then use of a commercial diet with limited ingredients is a viable alternative. The use of a limited-ingredient commercial food with a novel protein source is a conservative way of evaluating food allergies but has some drawbacks because of multiple ingredients and additives present.

Pet parents often want to feed treats to their pets during the elimination diet. Using the same or similar ingredients as the main diet provides an option that does not compromise the trial. The most difficult part of the dietary elimination trial is the absolute avoidance of any other food. During a dietary elimination trial, no supplements, other pet foods, table treats, and/or chewable Heartworm preventatives are allowed. Potential pitfalls include multiple dog/cat households where access to another food occurs, as well as table foods fed by children.

## **Food allergies - What is a dietary challenge?**

The goal of a dietary elimination trial is to document improvement - at least 50-75% - in a patient's clinical signs. However, clinical improvement does not confirm food allergies.

*A subsequent dietary challenge is the only means of confirming adverse food reactions following clinical improvement during a dietary elimination trial.*

A challenge typically involves refeeding the single most common diet fed prior to the dietary elimination trial. Understandably, some pet parents are reluctant to institute a dietary challenge for a pet whose clinical condition has dramatically improved during a dietary elimination trial. Nevertheless, it is important to complete the dietary provocation and monitor for recurrence of the skin, gastrointestinal, neurologic, behavioral, musculoskeletal, and/or respiratory signs. Relapses typically occur within 1-2 days. Should a relapse occur, a pet should be given the food fed during the dietary elimination trial before adding another test food.

## **Food allergies - How are they treated?**

Patients who respond positively a dietary elimination trial and have confirmed food allergies determined via a dietary challenge should logically be fed their trial diet long term. For some families, this isn't possible, and thus they have two options: continue to feed the limited antigen diet or perform additional ingredient challenge.

With the latter, ingredient provocation is like the challenge described earlier. Individual ingredients are used, and each is added to the dietary elimination diet for seven days. Board-certified veterinary dermatologists recommend using the most common pet food ingredients:

- Dogs: beef, chicken, cow's milk, chicken eggs, wheat, soy, corn
- Cats: chicken, fish, beef dairy products





Pets are observed for return of clinical signs after each new ingredient is added. If any ingredient causes a relapse, animals are returned to the elimination trial diet until the clinical signs resolve and another ingredient challenge can be conducted. Families should know animals may become allergic a new ingredient in the future. As such, a second elimination trial and challenge may be necessary and recommended.

## **Food allergies - What else do I need to know?**

Many other disease processes can mimic the clinical signs seen in patients with adverse food reactions. Therefore, it is very important to ensure a veterinarian performs a properly thorough diagnostic investigation for these other possibilities that include:

- Fungal infections
- Fungal infections
- Ectoparasites (i.e.: fleas)
- Secondary bacterial infections

Collaborating with a board-certified veterinary dermatologist can instrumental in this regard.



## **The take-away message about food allergies...**

Food allergies do occur in dogs and cats, and it is vital they are diagnosed and treated accurately and properly. Diagnosis requires performing a dietary elimination trial followed by a dietary challenge. There is no blood test to diagnose food allergies in pets. Adverse food reactions are not curable, and pets do not “outgrow” them, and thus lifelong therapy is necessary. Partnering with a board-certified veterinary dermatologist is extremely helpful for returning an affected pet to a high quality fo life.

To find a board-certified veterinary dermatologist, please visit the American College of Veterinary Dermatology.

To find a board-certified veterinary nutrition specialist, please visit the American College of Veterinary Nutrition.

Wishing you wet-nosed kisses,

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