



## About the Authors



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# DECIPHERING FACT FROM FICTION

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## All About Allergies

**Q:** Your dog has been itchy lately — licking at her paws and rubbing her belly on the floor. Or maybe she's been having some mild diarrhea which resolves when you change her diet. In either case, you're probably thinking that it's a food allergy, right?

Actually, for your itchy dog, it's more likely that she has an environmental allergy to pollens, molds, or dust mites. Food allergies are uncommon in dogs and cats, and skin problems (itching, redness, recurrent infections) are much more likely to be the result of environmental allergies (termed atopic dermatitis) or flea allergies. Common environmental allergens include pollens, dust mites, and molds. One clue that your dog has environmental allergies is that the skin problems that can result from atopic dermatitis are more likely to be seasonal, while food allergy usually occurs year-round (although animals don't always follow these patterns).

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**Unfortunately, there is no easy way to diagnose a food allergy. Blood- and saliva-based allergy tests, while readily available and often performed, are not reliable methods to diagnose food allergy in dogs or cats.**

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The blood and saliva tests tend to overestimate food allergens, and results often do not correspond with ingredients to which the pet actually reacts. These inaccurate tests can lead to the avoidance of more ingredients than necessary, complicating diet choice. The only sure way to test for a food allergy is to do a strict diet elimination trial.

If your itchy dog doesn't respond to straightforward treatments, you might consider seeing a veterinary dermatologist, a veterinarian who has specialized training in the diagnosis and treatment of diseases of the skin, hair, ears, and nails ([www.acvd.org](http://www.acvd.org)).

**FACT** Food allergies are a very uncommon cause of itchiness in dogs and cats — many other causes are much more likely. Working with your veterinarian, and possibly a veterinary dermatologist, is necessary to determine the cause of your pet's skin problems and the best way to treat them.



**Q: And what about the dog with diarrhea that improves with a change in diet?**

Food allergy is not the most common cause of these symptoms, either. More likely, he's responding to differences in fat, fiber, or digestibility of the food, rather than to specific ingredients.

**Adverse Food Reactions:** what is commonly referred to by pet owners as a "food allergy" is more appropriately termed an "adverse food reaction." This term includes any undesirable health issues related to food. Adverse food reactions in dogs and cats can generally be divided into two categories: food allergy and food intolerance.

- Food allergy involves an immune system response to specific proteins in the food. Animals with food allergy can have gastrointestinal signs (vomiting, diarrhea), skin problems (itching, redness, secondary infections, or ear infections), or both. Compared to other causes of gastrointestinal and skin problems, food allergies are uncommon.
- Food intolerance does not involve the immune system (e.g., lactose intolerance, which can occasionally occur in dogs and cats but is common in humans; fat intolerance, in which a dog will develop diarrhea when fed a food or treats that are high in fat). Food intolerances are relatively common and can contribute to vomiting, diarrhea, or other gastrointestinal symptoms and, less commonly, skin issues.

When a dog or cat's gastrointestinal symptoms improve when the food is changed, it is important to keep in mind that things other than just the ingredients also were changed — the digestibility, fiber, fat, protein, carbohydrate, and amounts of other nutrients may have also changed and these changes can all affect digestion and absorption.

**FACT** Food intolerances are more common than true food allergies, but their similar symptoms can make intolerance and allergy hard to distinguish from each other.



**Q: How are food allergies diagnosed if blood tests are not reliable?**

Whether testing for a food allergy causing gastrointestinal or skin symptoms, the only way that a food allergy or intolerance can be reliably diagnosed is via a strict diet elimination trial for 3-10 weeks (depending on the pet's symptoms) and then a re-challenge with the original diet. The choice of which diet to use for an elimination trial is very important. While you've probably seen foods made with lamb, duck, venison, or even more exotic meat ingredients, these ingredients are not inherently less allergenic than other ingredients.

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**The key is to find ingredients that a dog or cat suspected of having food allergy has never eaten before.**

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Therefore, even the most exotic ingredient cannot be used for a diet trial if the pet has eaten it before.

Finding novel ingredients for an individual pet requires a very thorough diet history including all the diets, treats, and table foods that the pet has eaten in the past. **Many people concentrate only on the meat ingredient, but, because the carbohydrate ingredients of the pet foods also contain protein (which is the allergenic part of the ingredient), it is important to also select carbohydrate ingredients that the pet has not been previously exposed to.** Therefore, novel ingredient diets used for diet trials should contain one protein and one carbohydrate source to which the animal has not previously been exposed (plus the vitamins and minerals needed to make the diet complete and balanced).

In situations where a pet has already been exposed to many different ingredients or if a thorough diet history is not available, hydrolyzed diets can be used. These are commercial diets made from proteins which have been chemically or enzymatically digested (termed "hydrolyzed") to reduce them to a small size that is less likely to trigger an allergy.

Once an appropriate diet is selected, it must be fed as the sole diet with no added table food, treats, flavored medications, dental chews, rawhides, flavored toys, or toothpaste for up to 10 weeks. If the animal gets dramatically better during the trial, an adverse food reaction is likely, but it also is possible that they would have improved even without the special diet. Therefore, to confirm the presence of an adverse food reaction, the animal's original diet should be fed again and if he or she develops the original problem, then an adverse food reaction is present. However, this still doesn't prove a food allergy; to do that, one must determine if the problem is with individual ingredients, such as chicken or beef, or with other properties of the diet, such as fat or digestibility. As you can see, this strict and prolonged regimen can be difficult, if not impossible, for some households, particularly those with multiple pets or small children. This difficulty may explain why many people prefer easy-to-use blood or saliva allergy tests, despite their unreliability.

**FACT** Strict diet elimination trials of up to 10 weeks with an appropriate diet for the individual pet are required to diagnose a food allergy.

**Q:** Can I use a diet from the pet store for a food trial?

Many pet owners would prefer to use an over-the-counter novel ingredient diet rather than a veterinary therapeutic novel ingredient or hydrolyzed diet for a diet trial due to expense, convenience, or the preference of one manufacturer over another. Unfortunately, most over-the-counter diets contain more than just one protein and one carbohydrate, even if they are labeled as being for pets with allergies. Diets can also be contaminated with proteins that do not appear in their ingredient list, potentially due to being made on the same equipment as other foods. One small study reported protein contamination in over-the-counter foods marketed for dogs with allergies.<sup>1</sup> Additionally, hydrolyzed diets are not available over the counter. Due to these limitations, over-the-counter diets may be useful for management once a food allergy is diagnosed, but they should not be used for the diet trial to diagnose whether a food allergy is present in the first place.

**FACT** To diagnose a food allergy, a veterinary therapeutic diet that is either novel for the individual pet or hydrolyzed is recommended.

**Q:** Can my pet be allergic to ALL commercial foods?

Among the small number of dogs and cats with food allergy, it is even more rare (only about 4% of the dogs with food allergies) for a dog or cat to be allergic to an ingredient in a commercial pet food but not be allergic to the same ingredient in a home-cooked diet. If trials with multiple commercial diets fail to relieve clinical signs, yet a food allergy or intolerance is still strongly suspected, a home-cooked diet can be considered. It is very important that this diet be formulated by a board-certified veterinary nutritionist ([www.acvn.org](http://www.acvn.org)) or PhD animal nutritionist if it is to be used for longer than 1–2 months or in a growing animal as nearly all home-cooked diet recipes found online or in books are deficient in essential nutrients.<sup>2</sup>

**FACT** Only a very small portion of dogs and cats with food allergies require long-term use of home-cooked diets to control their symptoms. In most, once food allergy is diagnosed, a high-quality commercial food can be identified that controls the pet's symptoms.

**Q:** Are grain-free diets a good way to avoid or treat food allergies?

Although allergies to any ingredients containing protein (such as meats, grains, and vegetables) are possible, grains are actually less common causes of allergies than animal products, despite the opposite being widely reported on the internet. Because grains are a less common cause of allergies, grain-free diets are unlikely to benefit animals with suspected food allergies.

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**In dogs, the most commonly reported food allergies are to beef, dairy, wheat, chicken, and egg, while in cats, beef, dairy, and fish have been the most commonly reported.<sup>3</sup>**

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All of these ingredients have been very popular ingredients in commercial diets over the past three decades, and animals tend to be allergic to proteins that have been in their diet for months to years. It is likely that the most common pet food allergens will shift in the future as pet food ingredients have changed in response to market demand in the past few years.

**FACT** Despite information on the internet and the recent popularity of “grain-free” diets, there is no scientific or nutritional rationale for feeding “grain free” diets for allergies — this trend is the result of effective marketing and consumer preference!



## Q: Is diet rotation a good way to prevent allergies?

A common misconception is that rotating between several different diets will prevent food allergies from occurring. It is true that in the small number of pets with food allergies, allergies do tend to develop over time and the most common ingredients in pet food tend to be the most common food allergens. However, there is no evidence to support the practice of feeding different diets in rotation to prevent allergies. In fact, this strategy can backfire if a food allergy is suspected and the pet has been fed a large number of diets with a large variety of different ingredients. In this case, it can be extremely difficult to find an appropriate novel diet to use for a diet trial for this pet.

**FACT** While rotating diets is a feeding philosophy that some consumers prefer, it has not been shown to reduce the risk of developing allergies and can make diagnosing and treating allergies more difficult.

## Q: I'm on a gluten-free diet. Should I avoid gluten in my dog's diet as well?

Gluten is the protein portion of some plants (barley, rye, and wheat). Some people have medical conditions (e.g. celiac disease) which cause them to be very sensitive to gluten, and, therefore, they cannot eat it without developing health problems. Thankfully, this condition to date has only been reported in one small, related family of Irish Setters and never in cats. There is no scientific evidence to support feeding a gluten-free diet to other dogs or cats.

**FACT** Pet foods labelled as gluten-free are a popular trend at the moment, but there are no known benefits of avoiding gluten in the vast majority of dogs and cats.



## TAKE-HOME POINTS

- 1 Food allergies are uncommon in dogs and cats. Environmental allergies (contributing to skin problems) and other diet properties contributing to gastrointestinal problems (such as fiber, fat, and digestibility) are much more common than food allergies in pets.
- 2 Blood and salivary allergy tests are not reliable for diagnosing food allergies or intolerances in dogs or cats.
- 3 Meats and other animal proteins, rather than grains or other carbohydrates, are usually the most common causes of food allergies in dogs and cats. However, pets can be allergic to both proteins and carbohydrate ingredients.
- 4 Diet rotation is a feeding philosophy that some consumers prefer, but it has not been shown to be beneficial in preventing food allergies and can complicate their diagnosis and treatment.



## REFERENCES

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