



# Canine Allergies

An allergy is a state of over-reactivity or hypersensitivity of the immune system to a particular substance called an allergen. Exposure to the allergen, usually on multiple occasions spanning months to years, sensitizes the immune system, and subsequent exposure to the same or related allergen causes an over-reaction. An animal cannot be allergic to something that their body has not seen before.

In dogs, the most common symptom associated with allergies is itchy skin, either localized (in one area) or generalized (all over the body). In other cases, the allergic symptoms affect the digestive system, resulting in vomiting and diarrhea. Some allergies are thought to be inherited.

A very large number of substances can act as allergens. Most are insect, plant, or animal proteins, but small chemical molecules can also cause allergies. Common allergens include pollens, mold spores, dust mites, shed skin cells (like pet allergies in humans), insect proteins such as flea saliva, and some medications.

## *Flea allergy dermatitis*

Flea saliva is the most common insect allergen in dogs, causing flea allergy dermatitis (FAD). Most dogs experience minor local irritation from flea bites, whereas a dog with FAD can experience severe irritation from a single flea bite. A dog with FAD will bite and scratch themselves and may remove large amounts of hair, especially at the base of the tail. A secondary bacterial infection may develop in the areas of broken skin.

Some important points about FAD:

- ★ Fleas typically do not remain on the dog except for the minutes to hours they feed, which is why dog owners often do not see live fleas on their dogs unless there is a severe flea infestation in their environment.
- ★ FAD can develop at any age. It is important to note that dogs with other forms of allergies, such as environmental allergies (e.g., pollens, molds, dust mites) tend to be highly sensitive to a flea bite and are therefore much more susceptible to FAD than dogs that do not have other allergic conditions.

- ★ Because one flea can be a problem for a dog with FAD, strict flea control is essential. There are a variety of effective products available in the form of collars, topicals, and oral medications. Talk to your veterinarian about which product is best for your dog.
- ★ In cases of severe itching, your veterinarian may prescribe antihistamines or corticosteroids (steroids) to block the acute allergic reaction and give immediate relief. If a secondary bacterial infection is present, an appropriate antibiotic will be prescribed.

## *Atopic Dermatitis*

The main cause of allergies in dogs is known as “atopic dermatitis,” or “atopy.” This occurs when a dog's immune system overreacts to an airborne allergen. The main allergens are tree pollens (cedar, ash, oak, etc.), grass pollens, weed pollens (ragweed), molds, mildew, and house dust mites. Many of these allergies occur seasonally, such as ragweed, cedar, and grass pollens.

Some key points:

- ★ Affected dogs chew, lick, and scratch all over, especially on the feet, face, axillae (armpits), and groin.
  - There may be reddish-brown saliva staining of overly itchy areas.
  - The skin will be red and chronic infection of the ears or skin, secondary to atopy, can lead to dark, thickened elephant-like skin.
- ★ When allergies occur, the skin produces more sebum, which is an oily material that causes a musty odor.
  - Once the itching and scratching are controlled, the odor and seborrhea should clear up.
  - A skin or ear infection may also cause skin odor. Bacteria, fungi, and yeasts are all opportunists that can cause a secondary infection in dogs with underlying atopic dermatitis.
  - The secondary infection may require specific antimicrobial treatment in addition to the allergy treatment.
- ★ Most dogs with atopic dermatitis start showing signs between one and three years of age.
- ★ Because most of these allergens are environmental, this is difficult, and recurrent bouts are likely. Symptoms of atopy can be controlled, but a permanent cure is not usually possible.

There are a few options available to help control your pet's allergy symptoms to help them live a more comfortable life, the first being anti-inflammatory drug therapy. Treatment with anti-inflammatory drugs, such as corticosteroids or antihistamines, will quickly block the allergic reaction in most cases. Dogs are able to take antihistamines such as Zyrtec or Benadryl, but usually they are not as effective in dogs as they are in humans. In the instance of an allergic flare-up, your veterinarian may start your dog on a short course of steroids to get the allergic reaction under control, but dogs cannot stay on steroids long term due to the negative side effects. Once a flare up is under control, your veterinarian may switch to long term allergy medication. Newer alternatives exist to block specific chemical signals associated with itch in dogs. These drugs include daily oral medications, such as Apoquel or Atopica, and long-acting injections, such as Cytopoint. Fatty acid supplementation in the diet can sometimes improve the response to steroids and antihistamines.

Another way to help soothe allergy symptoms is through shampoo therapy. Frequent bathing with a hypoallergenic shampoo can be soothing to itchy, inflamed skin. Bathing also rinses out allergens in and on the coat that can be absorbed through the skin. Bathing is usually a supplemental aid in treatment; another form of therapy is usually needed for complete control of the symptoms.

Allergens can be identified through allergy testing for dogs, just like they can be identified for people. There are dermatologists and allergists for dogs that can help identify allergens through specific testing and then create a treatment plan, specific for your dog. Canine allergy specialists can create a serum that is given in a series of injections that can help desensitize your dog to their allergens. With this treatment, very small amounts of the antigen are administered on a regular basis. This repeated dosing has the objective of reprogramming the immune system. Success rates vary with this treatment. Approximately 50% of treated dogs see significant improvement in their clinical signs, while approximately 25% more will see a decrease in the amount or frequency of corticosteroid usage.

## *Food Allergies*

Your pet's diet also hosts a variety of allergens. A food allergy or hypersensitivity can develop to almost any protein or carbohydrate component of food. It most commonly develops in response to the protein in the food; beef, chicken, lamb, eggs, dairy products, and soy are commonly associated with food allergies in dogs. Food allergies can develop at almost any age. Common clinical signs include itching, digestive disorders, and respiratory distress. A dog may have multiple types of

allergies, such as food allergy and atopy, making the exact diagnosis of a dog's itching challenging.

Treatment requires identifying the offending component(s) of the diet and eliminating them. The most accurate way to test for food allergies is with an elimination diet trial using a veterinary hydrolyzed protein diet. A hydrolyzed protein diet is a specialty pet food that breaks down proteins into small pieces, or amino acids and peptides, through a process called hydrolysis. This process makes the proteins unrecognizable to a pet's immune system. It is recommended that the trial last 8 weeks, as it can take this long for all other food products to be eliminated from the body. It must be emphasized that a food trial will be invalid if the diet is not fed exclusively. All table food, treats, and flavored vitamins must be discontinued during the testing period. There may be problems with certain types of chewable tablets or medications, such as heartworm preventives, due to flavoring components - talk to your veterinarian about any medications or supplements your pet is taking. If there is a positive response and improvement in your dog's clinical signs, your veterinarian will advise you on how to proceed.

There are other options for hypoallergenic diets, such as a novel protein diet. This is a diet that does not contain any products that were present in your dog's previous foods. This usually includes a protein that your dog has not seen before, such as rabbit, kangaroo, crocodile, etc. The idea is if the body has not seen the protein before, it cannot be an allergen. Another option would be a home-prepared novel protein diet that does not contain any ingredients of your dog's previous diet. When home cooking for your dog, it is important that they are receiving all of the micronutrients they need. Ask your veterinarian for the best way to prepare a balanced diet, and utilize websites such as "Balance It," which help you prepare healthy, balanced recipes for your dog.

- ★ The symptoms of allergies can be confused with other disorders or occur concurrently. Therefore, do not attempt to diagnose your dog without veterinary assistance. Be prepared for your pet to receive a full diagnostic evaluation to rule out other causes of itching and skin problems. If an allergy is diagnosed, your whole family must follow your veterinarian's advice very closely to successfully relieve your pet's discomfort.