

## **ALLERGIES & ATOPY IN DOGS**

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Veterinarians who limit their practice to dogs and cats see a lot of skin problems. There are numerous conditions that cause problems with a dog or cat's skin, but the most common, by far, is allergies.

### ***Symptoms of allergies***

Dogs with allergies may show the following symptoms:

- Chewing on feet
- Rubbing the face on the carpet
- Scratching the body
- Recurrent ear infections
- Hair loss
- Mutilated skin

A dog that is allergic to something will show it through skin problems and itching, i.e., pruritus. It may seem logical that if a dog is allergic to something he inhales (atopy), like certain pollen grains, he will have a runny nose; if he is allergic to something he eats (food allergy), such as beef, he may vomit; or if allergic to an insect bite (urticaria or hives), he may develop a swelling at the site of the bite. In reality, the dog will seldom have these signs. Instead, he will have a mild to severe itching sensation over his body and maybe a chronic ear infection.

In addition, allergic dogs will often chew on their feet until they are irritated and red (the feet are the only place dogs have sweat glands and these become inflamed with allergies). They may rub their faces on the carpet or couch, or scratch their sides and belly. Because the wax-producing glands of the ear overproduce as a response to the allergy, they get ear infections. Bacteria and yeast often "over grow" in the excessive wax and debris.

The skin lesions seen in an allergic dog are usually the result of him mutilating his skin through chewing and scratching. Sometimes there is hair loss that can be patchy or inconsistent over the body leaving a mottled appearance. The skin itself may be dry and crusty, reddened or oily depending on the dog. It is very common to get secondary bacterial infections of the skin due to these self-inflicted lesions. Such infections may be treated with antibiotics.

### ***Allergens***

When a dog is allergic to something, his body is reacting to certain molecules called 'allergens'. These allergens may come from:

- Trees
- Grass
- Weed pollen
- Fabrics such as wool or nylon
- Rubber or plastic materials
- Foods and food additives such as individual meats, grains or colorings
- Milk products

- House dust and dust mites
- Flea bites

### ***The body's response to an allergen***

The reason that all these allergens cause itchy skin is that, simplistically, when allergens are inhaled, ingested, or come in contact with the dog's body, they cause the immune system to produce a protein referred to as IgE. This protein then fixes itself to cells called 'tissue mast cells' that are located in the skin. When IgE attaches to these mast cells, it causes the release of various irritating chemicals such as histamine. In dogs, these chemical reactions and cell types occur in appreciable amounts only within the skin.

### ***Genetic factors and time influence allergies***

Remember that pets must be exposed to the allergen for some time before the allergy develops. Exceptions may occur such as an allergy to insect bites which may develop after only a few exposures. The pet's body must learn to react to the allergen. It is a learned phenomenon of the immune system that is genetically programmed and passed from generation to generation in several breeds. Allergies are especially common in certain terriers such as Scottish, West Highland White, Cairn, and Wired Hair Fox; Lhasa Apsos; and larger breeds such as the English and Irish Setter, Retrievers, and the Dalmatian. Allergies are especially common in the Pug, Miniature Schnauzer, and English Bulldog.

In pets, allergies usually start to develop between one and three years of age. They may start as late as age 6 or 8, but over 80% start earlier. To make matters worse, as the animal ages, it usually develops allergies to additional things and the response to any one allergen becomes more severe.

### ***Diagnosing allergies***

Confronted with scratching pet and frustrated owner, it is too easy for a veterinarian to miss a diagnosis or at least fail to make the owner fully understand the problem. Sometimes veterinarians take the easy way out and "shotgun" the pet with several different medications hoping at least one will hit the target and make the signs go away. If the pet stops scratching, the hair starts to grow back and the owner can sleep nights...all may look well but the allergy is not necessarily cured.

Most allergies are the inhalant type and are seasonal (at least at first). The dog may be allergic to a certain tree pollen that is only present in the environment for three weeks out of the year. This case is easy to handle. No matter what you treat the animal with, she will start getting better in four weeks. In cases in which the allergy is mild but the irritated skin has become infected with bacteria, a broad-spectrum antibiotic will eliminate the infecting organism and the skin may return to near normal appearance even though the treatment has in no way been directed toward the allergy.

A definitive diagnosis of an allergy and determination of exactly what the animal is allergic to can only come in one of three ways. They are:

- Allergy testing (intradermal or blood testing)
- Eliminating things individually from the animal's environment until the culprit is isolated.
- Response therapy

The latter is not as exact, but usually shows the quickest improvement for the pet and is easiest on the owner's pocketbook. An excellent example of this would be a dog that is allergic only to tree pollen. Every year, in the same month, the dog starts chewing his feet, scratching his sides, and rubbing his face

on furniture. The veterinarian chooses either a tablet and/or single injection that will suppress the allergy for the 3-4 weeks necessary. In two days, the animal is back to normal and only has to wait until the following year when he or she will be returned with the same problem. The veterinarian will glance at the file and probably repeat the same treatment. The veterinarian is now two for two, and in the owner's eyes, has reached the level of genius.

Unfortunately, things just do not always go that well. A more common scenario in a dog, for instance, would be that the dog is now five years of age. When he was 18 months old he started scratching and has not stopped since. There are large areas of his skin that are 2 to 3 times their normal thickness, it is cracked open and bleeds intermittently and is completely void of hair. The ear canals are painful, infected, and swollen to the point of limiting the dog's ability to hear. The dog is uncomfortable, rarely able to sleep through a night, waking frequently to scratch or chew on himself. He may even have intermittent fevers from reoccurring bacterial skin infections. He still enjoys being a dog, however, chasing squirrels, eating treats, and looking forward to the bus bringing their children home. The owner and dog have now been in every veterinary clinic within a 100 mile radius and that circle will probably soon grow larger. And to make matters worse, the dog is getting worse.

This is an isolated but not rare case and we wanted to tell you about it here so you could appreciate the true difficulty of the diagnosis and treatment of canine allergies. It is extremely important that we find out what allergen(s) the dog is reacting to in order to really help such a dog.

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