

## Allergy in Dogs

One of the most common conditions affecting dogs is allergy. In the allergic state, the dog's immune system "overreacts" to foreign substances (allergens or antigens). The most common sign is itching of the skin, either localized (one area) or generalized (all over the dog). Another manifestation involves the respiratory system and may result in coughing, sneezing, and/or wheezing. Sometimes, there may be an associated nasal or ocular (eye) discharge. The third manifestation involves the digestive system, resulting in vomiting or diarrhea.

### Types of Allergies

There are five known types of allergies in the dog: contact, flea, food, bacterial, and inhalant. Each of these has some common expressions in dogs, and each has some unique features.

#### Contact Allergy

Contact allergy is the least common of the five types of allergy. Examples of contact allergy include reactions to flea collars or to types of bedding, such as wool. If the dog is allergic to such substances, there will be skin irritation and itching at the points of contact. Removal of the contact irritant solves the problem. However, identifying the allergen can be difficult.

#### Flea Allergy

Flea allergy is common in dogs. A normal dog experiences only minor irritation in response to flea bites, often without any itching. However the flea allergic dog has a severe, itch-producing reaction when the flea's saliva is deposited in the skin. The dog may severely scratch or chew itself, leading to the removal of large amounts of hair. There will often be open sores or scabs on the skin, allowing a secondary bacterial infection to begin. The area most commonly involved is over the tail.

The most important treatment for flea allergy is to get the dog away from all fleas. Therefore, strict flea control is the backbone of successful treatment. When strict flea control is not possible, or while it is being implemented, corticosteroids can be used to block the allergic reaction and give relief. This is often a necessary part of dealing with flea allergies. If a secondary bacterial infection occurs, appropriate antibiotics must be used.

#### Bacterial Allergy

*Staphylococcus (Staph)* is a bacterium found on normal dog skin. If the skin is normal and the dog's immune system is normal, *Staph* causes no problems to its host. However, some dogs develop an allergy to this bacterium. When this happens, the dog develops areas of hair. They are often round and 1/2 to 2 inches in diameter. These same lesions develop in true *Staph* infection; they are easily treated with certain antibiotics, but the *Staph*-allergic dog has recurrent "*Staph* infections." The lesions will usually clear with appropriate antibiotics but return as soon as antibiotics are discontinued. After a while, some dogs become resistant to antibiotic treatment, and referral to a specialist is needed.

#### Inhalant Allergy

The most common type of allergy is the inhalant type, or atopy. Dogs may be allergic to all of the same inhaled allergens that affect humans. Many of these allergies occur seasonally, such as ragweed, cedar, and grass pollens. However, others are with us all the time, such as molds, mildew, and house dust mites. When humans inhale these allergens, we express the allergy as a respiratory problem. The dog's reaction, however, usually produces severe, generalized itching.

Most dogs that have inhalant allergy react to several allergens. If the number is small and they are the seasonal type, itching may last for just a few weeks at a time during one or two periods of the year. If the number of allergens is large or they are present year-round, the dog may itch constantly.

Treatment depends largely on the length of the dog's allergy season. It involves three approaches:

1. Anti-inflammatory. Anti-inflammatory therapy will dramatically block the allergic reaction in most cases. Steroids may be given orally or by injection. Antihistamines can be of value in treating the allergic dog when they are combined with steroids. In some dogs, antihistamines can significantly decrease the amount of steroid needed to provide relief. Fatty acid supplementation can also be implemented. When the three of them are combined, most allergic dogs are significantly improved. This is a non-specific approach, which does not treat the allergy, only the complications of the allergic state (itching).

2. Shampoo therapy. Frequent bathing with a hypoallergenic shampoo helps many dogs considerably. Frequent bathing is thought to reduce the amount of antigen exposure through this route. In addition to removing surface antigen, bathing alone will provide some temporary relief from itching and may allow the use of a lower dose of steroids.

3. Hyposensitization. The third major form of allergy treatment is Hyposensitization with specific antigen injections (or "allergy shots"). Once the specific sources of allergy are identified, very small amounts of the antigen are injected weekly. The purpose of this therapy is to reprogram the body's immune system. It is hoped that as time passes, the immune system will become less reactive to the problem-causing allergens. This approach is not successful with food allergy.

Although Hyposensitization is the ideal way to treat inhalant allergy, it does have some drawbacks and may not be the best choice in certain circumstances and for reasons of cost, age of patient, and success rate (only about 50% do excellent)

### **Food Allergy**

Dogs are not likely to be born with food allergies. More commonly, they develop allergies to food products they have eaten for a long time. Food allergy may produce any of the clinical signs previously discussed. Testing is done with a special hypoallergenic diet. Because it takes at least 8 weeks for all other food products to get out of the system, the dog must eat the special diet exclusively for 8-12 weeks (or more). If positive response occurs, you will be instructed on how to proceed. *If the diet is not fed exclusively, it will not be a meaningful test.* We cannot overemphasize this. If any types of table food, treats or vitamins are given, these must be discontinued during the testing period. There may be problems with certain types of chewable heartworm preventative, as well. Your veterinarian will discuss this with you.

Because dogs that are being tested for inhalant allergy generally itch year round, a food allergy dietary test can be performed while the inhalant test and antigen preparation is occurring.