



DANADA VETERINARY HOSPITAL, P.C.

Allergies in Dogs

Allergies are one of the most common conditions affecting dogs. In the allergic state, the dog's immune system overreacts to foreign substances (allergens or antigens) to which it is exposed. These overreactions are manifested in three ways. The most common is itching of the skin (scratching, rubbing, licking, scooting). This can be either localized (one area) or generalized (all over the dog). Another manifestation involves the respiratory system and may result in coughing, sneezing, wheezing, and/or nasal or ocular (eye) discharge. The third manifestation, most common with food allergy, results in vomiting, weight loss, or diarrhea.

What Causes Allergies?

There are many possible underlying causes for allergic reactions. These include flea bites, foods, contact allergies, mites, and yeast. In most cases, the cause cannot be figured out easily, and the condition is referred to as atopy. Atopy is usually caused by reactions to pollen, mold, or other environmental factors, and is commonly referred to as an environmental allergy.

Dogs can have more than one type of allergy, and the effects of these allergies are cumulative. In other words, the itching that comes from a flea allergy will be worsened by a pollen allergy in the same patient.

How are allergies diagnosed?

Some allergies such as those caused by fleas or contact allergens (bedding, flea products, exposure to chemicals, etc.) can be identified on examination alone. Yeast and bacterial overgrowth can be determined by microscopic examination of skin samples. Mite allergies can be diagnosed by scraping the skin or via response to a treatment trial.

Some dogs present with allergy-like symptoms that are in fact not caused by allergies at all. Hypothyroidism (low thyroid function), autoimmune diseases, ringworm, and rarely even some tumors can mimic allergies. These conditions may need to be ruled out by your veterinarian prior to diagnosis of atopy.

Only after all other causes are ruled out, can atopy be diagnosed. However, a presumptive diagnosis can be made in some cases if the signs consistently follow a seasonal pattern.

How are allergies treated?

If any of the above causes can be identified and removed, usually the allergy resolves. However, in the case of atopic allergies, there is no cure. Instead, therapy is geared at controlling the allergic response.

Details of therapy for atopic allergies are provided below.

Atopic (Environmental/Seasonal) Allergy Management

Humans inhale allergens and express the allergy as a respiratory problem ("hay fever.") The dog's reaction, however, stems mostly from absorption of allergens through the skin. Just as a brick house with cracked mortar absorbs damage from the elements, a dog with damaged skin will absorb more allergens. As allergens are absorbed, the immune system over-reacts to them, and the resulting itchiness worsens the allergy. This cycle continues until the allergens disappear (i.e., seasons change) or treatment is initiated. Some atopic allergens such as house dust mites and molds may be present all year long, so some atopic dogs may have year-round allergies.

Treatment depends on the length of the dog's allergy season and the severity of their symptoms. It is important to know that atopic allergies cannot be cured and therefore must be managed both short-term and long-term. The goals of allergy treatment are to maintain a healthy skin barrier, manage flare-ups, and limit the over-reaction of the immune system. In addition, management of secondary skin/ear infections is of vital importance.

Maintaining the Skin Barrier

As mentioned above, the more damaged the skin becomes, the more susceptible it is to allergens. Thus, treatments that strengthen the skin barrier and limit allergen exposure help to reduce allergic flare-ups as much as possible. Frequent bathing cleanses the fur and skin of potential allergens. It is impossible to bathe a dog with allergies too often, if the baths are with moisturizing shampoo and lukewarm water. Furthermore, supplementation with post-bath conditioners and essential fatty acids (fish oil) help to keep the skin healthy and strong. Additionally, simple solutions such as wiping down a dog's feet, face, and belly daily with baby wipes can reduce allergen exposure.

Managing Flare-Ups

Despite your best efforts, allergens will occasionally overwhelm the immune system resulting in a flare-up of itching. It is important to know that the earlier you intervene, the easier (and safer) the flares are to manage. At first sign of allergic flare, topical sprays and antihistamines may be effective at controlling minor or very focal itchiness. These medications are typically very safe and are used in conjunction with maintenance therapies listed above. However, they are rarely beneficial for the whole body or severe itching.

When flares worsen to a point of severe or whole-body itching, stronger anti-inflammatories (steroids) have traditionally been employed to limit the severity of the allergies. These medications are safe for short-term use and provide the most reliable form of itch relief (often within hours of starting them). Steroids help to block the immune response that causes the itchiness. While the response to steroids is usually very favorable, even short-term use will typically result in increased water consumption, urination, appetite, and panting. Long-term use of steroids can lead to more adverse side effects, such as muscle loss, diabetes, and liver changes. Fortunately, recent advancements in allergy medications have

led to the development of many alternative options such as Atopica, Apoquel, and Cytopoint, which can provide itch relief like steroids in much safer ways. (See “Specific Treatment Options”)

Limiting the Immune-Response to Allergens

In some cases, it is necessary to try to “reprogram” the immune system to not react as strongly to allergens. This process is called hyposensitization. Hyposensitization requires testing a dog to see what allergens he or she reacts to. This process is done by either injecting small amounts of allergens under the skin and measuring the resulting skin reaction, or via serum (blood) screening. Once allergens are identified, patient-specific antigen injections (or "allergy shots") are formulated. These shots are injected under the skin weekly in the hope that as time passes, the immune system will become less reactive to the allergens. If hyposensitization appears to help, injection frequency may be decreased, but usually shots are necessary for the rest of a patient’s life. Most dogs will respond within 4-12 months of initiating shots. A small percentage of dogs do not respond at all to hyposensitization therapy. Those that do respond will typically still require some form of allergy management in conjunction with the injections but will see a much better response to such therapies.

Recently, oral (sublingual) allergen therapy has been introduced. Much like allergen injections, these drops are dosed on a regular basis to help reprogram the immune system’s response to allergens. The advantages of these drops include the lack of needles involved in dosing, and the ability to incorporate mold allergens that are not stable in allergy injections. The main drawback is that these medications need to be dosed twice daily for life.

Treating Secondary Infections

Allergies lead to itching, but itching leads to infection. If a dog has any rashes, crusts, or abrasions on the skin or ears from itching, these are usually the work of bacteria or yeast overgrowth. As the skin gets damaged from licking, biting, and scratching, the immune system of the skin and ears becomes overwhelmed. The bacteria and yeast that are usually controlled by the immune system take advantage of the situation and overgrow in the damaged areas. The resulting infections worsen the allergic response, and the cycle continues. Proper antibiotics or antifungal therapy is essential to help eliminate these infections and control the allergic response. Failure to manage both the allergy and secondary infections simultaneously is one of the most common reasons for allergic treatment failures.

Specific Treatment Options

Antihistamines – Commonly used medications for the relief of mild itching such as hives, insect bites, or mild seasonal allergies. Also useful for sinus drainage. Most human antihistamines including Benadryl, Zyrtec, and Claritin can be safely used in animals. Atarax, Clemastine, and Chlorpheniramine are also commonly used in veterinary patients. It is vitally important to avoid the decongestant forms of these medicines (e.g., Benadryl D, Zyrtec D) as they are known toxins in animals.

Fish Oil – Fish Oil Supplements contain basic omega 3 fatty acids known as EPA and DHA. These fatty acids help to lower inflammation. They also keep moisture in the surface of the skin and create a

tight seal between skin cells to prevent allergies from penetrating the body.

Steroids – A group of medications that have excellent anti-inflammatory, anti-itch, and pain reducing properties. They work by blanketing the immune system and preventing various aspects of the allergic response. Steroids are available as oral meds (Prednisone, prednisolone, dexamethasone), injectables (Dex SP, Depo-Medrol, and Triamcinolone), and topicals (Betagen, Hydrocortisone, Genesis Spray). Steroids cause some levels of increased thirst and urination, panting, and increased appetite when used at allergy doses. Side effects such as muscle loss, diabetes, and liver changes typically occur because of long-term use. Regular blood monitoring is recommended with any chronic steroid use.

Temaril-P – This medication is a hybrid of an antihistamine-like drug with a very low dose of steroid built in. The combination helps to spare patients of many of the common steroid side effects, while providing excellent itch relief. The dose is tapered every 4 days until the lowest effective dose is determined. Increased thirst, urination, appetite, and panting can occur, but are more tolerable than with other steroids.

Atopica – Also known as Cyclosporine, Atopica is an oral medicine that preferentially blocks specific cells that are responsible for triggering allergic reactions within the body. It spares the greater majority of the immune system resulting in far fewer side effects than steroids. The most common side effect is gastrointestinal upset which can occur in 20-30% of patients.

Apoquel and Cytopoint– When allergies are present in the body, a specific chemical signal is produced. If this signal binds to cells known as neuronal itch cells, the sensation of itchiness is activated in the brain. Apoquel and Cytopoint help to combat itching at the level of these neuronal itch cells.

Cytopoint is an injectable that is administered under the skin. It is a dog-specific antibody that roams the blood stream. Cytopoint binds up the signals produced by allergens before they can attach to, and activate, the neuronal itch cells. It can prevent itching for 4-8 weeks and is safe enough for all dogs regardless of age, health, or other medications being given.

Apoquel is a pill that blocks the itch signal from being released even if the neuronal itch cells get activated. It too spares other aspects of the immune system resulting in only mild stomach upset in less than 5% of patients who take it. Apoquel can be used in most dogs over the age of 1 year. It should not be combined with steroids or other immune modulators such as Atopica.

Prognosis

There are no perfect treatments for allergies. Even the best managed pets can have flares or can fail to respond to treatment. While some animals will get amazing results from a single treatment option, successful treatment is defined as anything that lessens itch by at least 50%. Statistics show that most pets will require more than one therapy for ideal results.

The most successfully managed allergy patients are the ones that are managed pro-actively rather than reactively. If you notice your pet starting to itch, start treating them right away. If they develop sores or

lesions, they now have two problems (itch and infection), and management will be more complicated and prone to failure.

While waiting too long to start treatment complicates successful allergy management, stopping treatment too soon is another common pitfall. Infection should be treated until all visible lesions are resolved. However, the medications used to control itch (steroids, Apoquel, Cytopoint, etc.), are statistically much more likely to prevent relapses if they are continued for a minimum of two months after a flare.