



ChastainTM
VETERINARY MEDICAL GROUP

Chastain Veterinary Medical Group Pet Health Fact Sheet

Overview of Allergies in Dogs and Cats

Introduction

Allergies are abnormal reactions in which an animal's immune systems over reacts to everyday environmental substances. These substances, called allergens or antigens, cause allergic reactions upon exposure by inhalation, ingestion, or skin contact. There are many kinds of allergens such as tree, grass or weed pollens, molds, house dust, house dust mites, animal dander, human dander, feathers, fleas, certain bacteria, various chemicals and even ordinary foods.

Cause

The root cause of allergies is unknown, although there is clearly a heritable, genetic basis to the problem. What ever the cause, it is known that for some reason, allergic individuals become sensitized to allergens by producing allergen-specific antibodies against ordinary environmental substances such as pollens and dust. These antibodies attach themselves to Mast Cells in the skin and elsewhere in the body. Subsequent exposure of the allergic individual to the offending antigens, by inhalation, ingestion, or skin contact, leads to cross-linking of the Mast Cell surface antibodies by the offending antigens. Surface antibody cross-linking causes Mast Cells to release histamine, enzymes, and many other biologically active chemicals. These chemicals interact with each other and body tissues to produce the symptoms we recognize as allergies.

Symptoms

Allergic pets manifest symptoms in one of several ways:

- Itchiness and Scratching. The most common manifestation of allergies among dogs and cats is excessive scratching. This excessive scratching can be localized – affecting just the feet, for example – or it may be generalized.
- Respiratory problems. Less commonly, affected pets may show some combination of coughing, sneezing, reverse sneezing and wheezing. Red, itchy ears, runny nose, red eyes, and watery eyes can also be seen. Stomach upset.
- Rarely, allergic pets may experience vomiting or diarrhea.

Diagnosis

The diagnosis of pet allergies depends on the type of allergy present. There are five known types of allergies in the dog and cat. Each of these requires specific diagnostic methods and is briefly discussed below.

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- **Inhalant allergies.** This is the most common form of pet allergies. It is also referred to as allergic dermatitis or atopy. Affected pets typically lick, scratch and chew to excess at the face, paws, arm pits, and groin. In the early stages at least, the excessive scratching usually follows a seasonal pattern and responds well to cortisone type medications.

Inhalant allergies can be diagnosed by a veterinarian by noting the persistence of compatible clinical symptoms, after ruling out other diseases which can cause similar symptoms. If the allergy symptoms are mild and the pet responds well to treatment for inhalant allergies, no further tests may be needed. If the problem is more severe and does not respond well to simple measures, then allergy testing should be considered.

The ideal method of testing for inhalant allergies or atopy is Intradermal Skin Testing. This procedure is also the most accurate method of identifying offending allergens for possible avoidance or inclusion in an allergy desensitization treatment program. Serum allergy testing is an easier option, but the costs are not much different and we prefer the superior accuracy of Intradermal Skin Testing.

Many veterinarians and veterinary allergy specialists have achieved good Intradermal Skin Test results by taking advantage of allergen cross reactivity and testing for reactions to as few as 25-35 allergens. At the Chastain Veterinary Medical Group we test for reactions to 52 of the most common allergens in this area. This procedure takes longer, but for us, we feel it provides a clearer picture of the pet's true allergy status.

- **Flea allergies.** This is a common form of allergies among dogs and cats. Affected pets typically scratch at the rump or tail head area (dogs), or the head and neck area (cats), leading to hair loss, scabs and open sores. Flea allergies can be diagnosed by a veterinarian by noting the presence of fleas or "flea dirt" in the coat, along with persistence of compatible clinical symptoms after ruling out other diseases which can cause similar symptoms. The diagnosis can be confirmed by Intradermal Skin Testing, serum allergy testing, or by observing the disappearance of symptoms once flea exposure is eliminated.
- **Food allergies.** This is an uncommon form of allergies among dogs and cats. Typical offending food constituents are proteins from chicken, milk, eggs, corn, wheat, soy, and most especially, beef. Food allergic pets usually experience a non-seasonal excessive scratching that responds poorly to cortisone type medications. Food allergies can be diagnosed by your veterinarian by noting the persistence of compatible clinical symptoms after ruling out other diseases which can cause similar symptoms. Confirmation of the diagnosis requires demonstrating that symptoms resolve when the offending foods are removed from the diet and reappear when the offending foods are re-introduced.
- **Bacterial Allergies.** Bacterial allergies appear to be a unique disorder of dogs. Cats appear to be unaffected. Bacterial allergies are an abnormal response to the presence of normal skin bacteria of the genus Staphylococcus. Staph-allergic dogs develop areas of hair loss and skin crusting that look much like ringworm. Classically, the skin lesions resolve when treated with antibiotics, only to recur when the antibiotics are discontinued. This should be an important clue to the veterinarian that there is more going on than just a simple skin infection. Bacterial allergies can be diagnosed by a veterinarian on the basis of patient history and the recurrent symptoms, after ruling out other diseases which can cause similar findings. The diagnosis should ideally be confirmed by

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Intradermal Skin Testing.

- **Contact allergies.** Contact allergy is the least common of the five types of allergy. Contact allergies generally produce localized skin reactions – redness, swelling, itching, and hair loss. Examples of contact allergy include skin reactions to flea collars, plastic pet food bowls, pet sweaters, or wool bedding. Contact allergies can be diagnosed by your veterinarian by noting the persistence of compatible clinical symptoms after ruling out other diseases which can cause similar symptoms. Confirmation of the diagnosis requires demonstrating that symptoms resolve once the contact irritant is removed, and re-appear when the pet is re-exposed to the offending material.

Treatment

The protocols for treatment of Allergies in dogs and cats vary somewhat with the type of allergy present. These are discussed below.

Inhalant allergies: Treatment of inhalant allergies depends largely on how much the condition is bothering the pet and the pet owner. Treatment options for inhalant allergic pets include the following:

- **Avoidance / Environmental Control** – If the offending allergens are known, then avoidance is the best method of treatment, if feasible. Even if the pet is being desensitized with allergy shots (see below), it still makes sense to avoid the offending allergens altogether, if possible. For example, indoor mold allergies can be reduced by using a dehumidifier or placing activated charcoal on top of the exposed dirt in potted house plants. Dusts and pollens are best controlled by using an air cleaner with a HEPA filter. Air conditioning can also reduce circulating amounts of airborne allergens because windows are then kept closed.
- **Topical Therapy** - This may involve nothing more than cool water baths with or without colloidal oatmeal shampoos or other medicated shampoos. This is easy, inexpensive and can be repeated frequently, but it is labor intensive and provides only temporary relief.
- **Dietary Supplementation** - Omega-3 and Omega-6 Fatty Acids are natural anti-inflammatory agents. Diets and dietary supplements that contain both omega-3 and omega-6 fatty acids have been shown to help reduce allergy symptoms. Examples of omega fatty acid supplements include Derm Caps™, and EFA-Z Plus™.
- **Diet Change** - Certain therapeutic pet foods, such as Eukanuba's Response™ KO/Canine Dry Formula and Response™ FP/Canine Dry Formula are specifically formulated to soothe allergies and contain both Omega-3 and Omega-6 fatty acids. These food, alone or in combination with addition fatty acid supplementation from Derm Caps or EFA-Z Plus, have brought significant relief to many pets.
- **Antihistamines** - Antihistamines prescribed by a veterinarian are relatively safe and effective in dogs and cats. Studies indicate that ten to thirty percent of dog owners see favorable results with antihistamines alone. They appear to be even more effective in cats. The major drawback to antihistamines, as with people, is sedation. Antihistamines commonly used in dogs and cats include: chlorpheniramine, diphenhydramine, hydroxyzine, and clemastine.
- **Corticosteroids** - These compounds reduce itching by reducing inflammation. Unfortunately, they also affect every organ in the body. They are perhaps best used when the allergy season is short; the amount of drug required is small, or as a last resort to relieve a pet in extreme discomfort. Side

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effects can include increased thirst and appetite, increased need to urinate and behavioral changes. Long term use has been associated, in some cases, with diabetes, pancreatitis, decreased resistance to infection and increased susceptibility to seizures. Corticosteroids can be recognized by the suffix "-one", such as cortisone, dexamethasone, prednisone, etc.

- Immunotherapy or “Allergy Shots” – The ideal method of treatment for inhalant allergies or atopy is desensitization of the patient with multiple antigen injections. These are often called "allergy shots".

Allergy shots are generally safe, effective, and many people have had great success with them – either personally or in their pets. The allergen mix in the allergy shots is customized for each pet, based on the results of allergy testing; usually intradermal skin testing. Once the specific allergens have been identified, very small amounts of the offending antigen are injected into the pet every 20-40 days or so in the Allergy Shots.

The purpose of this therapy is to reprogram the pet's immune system. It is hoped that as time passes, the immune system will become less reactive to the problem-causing allergens.

If Allergy Shots appear to help the pet, injections will need to continue for several years at a minimum. For most pets, a realistic goal is for the itching to be significantly reduced in severity; in a few lucky pets, the itching may completely resolve.

The biggest drawbacks to immunotherapy are that allergy testing is expensive (several hundred dollars), allergy shots are very slow to work (months), and administering the Allergy Shots is somewhat labor intensive. Still, the success rate of immunotherapy based on allergy testing is said to be about 60 – 80% - which is better than any other form of allergy treatment.

Flea allergies: The most effective way to control flea allergies is to separate the pet from the fleas. Therefore, strict flea control is essential. This has been made ever so much easier in the last few years, thanks to the advent of modern flea control products such as Frontline Top Spot™, Revolution™, Advantage™, Advantix™, and Capstar™.

When strict flea control is not possible or practical, corticosteroids can be administered, by injection or by pill, to block the allergic reaction and give a pet some relief. This is often a necessary part of dealing with flea allergies. As with any effective and useful medication, there are side effects to corticosteroid use. Fortunately, dogs and especially cats are more resistant to the side-effects of steroids than humans; so much of what you may have heard about the side-effects of corticosteroids in people does not necessarily apply to dogs and cats.

Food allergies. Treatment for food allergies involves avoidance of the offending food ingredient(s). This is often more difficult than it sounds. Generally, affected pets will need to be switched to a pet food containing so-called novel proteins to which their immune system has not been exposed before. We have seen good results after food allergic pets have been switched to one of three special therapeutic foods: Purina HA™, Eukanuba Response™ KO/Canine Dry Formula, or Eukanuba Response™ FP/Canine Dry Formula.

Bacterial Allergies. Treatment of Staph allergy involves antibiotics to control the immediate problem and establishment of a desensitization program, using killed Staph bacteria, for long-term relief.

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Contact allergies. The treatment of Contact Allergies is simple: just eliminate exposure of the pet to the offending substance(s). This can be accomplished as follows -

- Get rid of irritating plastic food bowls, collars, or bedding.
- Bathe the pet with hypoallergenic shampoos to remove antigen from the skin.
- Create mechanical barriers against further exposure, if possible. For example, socks, T-shirts, or fencing to restrict access to the irritating environment might all prove helpful.
- Corticosteroids are sometimes needed to help control symptoms.

Prevention

The only really effective long term solution to allergies is to remove the offending substances from the pet's environment - or remove the pet from any possible exposure to those environmental irritants. Sometimes this is easy to do, as in the case of contact allergies, food allergies or flea allergies. Most of the time, however, avoidance is not a realistic alternative. Therefore, once a pet becomes symptomatic, some form of treatment will usually need to be initiated and continued for the rest of the pet's life.

Remember, allergies are rarely cured. The goal is comfort and control. An allergic pet that is comfortably excessively itchy is a success.

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