



DERMATOLOGY FOR ANIMALS

1-877-604-8366  
www.dermatologyforanimals.com

## The Skinny on Skin Testing

**What is skin testing?** Skin testing, or intradermal allergy testing (IDAT), is a diagnostic procedure that involves injecting small concentrations of allergens such as pollens, molds, house dust mites, and human and cat dander directly into the skin to stimulate a reaction. The reaction is graded based on a negative (saline) and positive (histamine) control. Based on the results of the test and exposure patterns of the patient, the reactive allergens are included into a desensitization vial, also known as allergens. This product is administered by injections under the skin or given orally (sublingual immunotherapy/SLIT). If giving injections, we start out giving a small quantity of the allergens weekly, working our way up to a larger maintenance dose that is usually given every 2 weeks. Occasionally, based on the pet's needs, we may need to give the injections more frequently. SLIT is given by mouth on a daily basis with a pump system.

**What medications does my pet have to be off of for testing?** Unfortunately there are several drugs that interfere with the reactions of the allergens, giving us poorer test results and likely poorer response results. Therefore, we ask that pets be off the following medications:

Antihistamines 7-14 days

Injectable Steroids 6-8 weeks

Topical Steroids 7-14 days

Apoquel® 2 days

Oral Steroids 4 weeks

Fish oils or fish based dog food 7-14 days

Antibiotics, Antifungals, and Atopica® (cyclosporine) do not interfere with allergy testing.

**What results should I expect from desensitization therapy?** When allergen selection is based on skin testing, we achieve the same or better results as in human medicine. About 75-80% of the dogs and cats we test improve in their symptoms by 50% or more. Throughout the process of desensitization, we may find it necessary to “fine-tune” the process by changing the volume, frequency, or method of administration of the immunotherapy. Occasionally, changes in the content of the allergy vial are also helpful. Additionally, your pet may still need to be on other medications such as antihistamines, steroids, Apoquel, Cytosporin, or cyclosporine to help alleviate symptoms until we start to see improvement from the injections.

**What should I expect the day of the procedure?** You will be asked to drop your pet off in the morning. Because your pet will be sedated, we ask not to feed the morning of the appointment, but providing some water in the morning is fine. To increase the safety even more, an intravenous (IV) catheter may be placed so that we may have quick access to the circulatory system. Although your pet is sedated, your pet is awake during the procedure. A patch will be shaved on your pet's side in order for the test to be performed. Following the test, your pet is given a reversal agent to reverse the effects of the sedation. Following the procedure, you will receive a phone call to inform you that the test is complete and we will discuss a convenient pick up and discharge time (usually early afternoon). Please be aware that the discharge time may take 20-30 minutes as we like to review the results of the test with you, discuss the induction schedule, and demonstrate how to give injections or SLIT.

**What if I don't want to give injections?** Many clients elect not to give injections for various reasons. In this case you have the option of daily sublingual immunotherapy (SLIT). An alternative is having the injections given by us or your regular veterinarian and staff according to the induction schedule. Please notify us if you would like us to administer the injections.

## Treatment Options for Allergies in Pets



**Introduction:** Pets with allergies to pollen, grass, or dust are affected with atopic dermatitis (environmental allergies), or atopy. In humans, environmental allergies cause symptoms such as runny eyes and sneezing, but animals with environmental allergies more commonly show symptoms such as scratching, licking of the feet, and recurrent skin and ear infections. These symptoms may appear only during certain times of the year if the main offending allergens are seasonal pollens, but can occur throughout the year if the allergens persist in the environment year round (such as housedust mites and human dander). Atopic dermatitis typically starts in dogs between the ages of 6 months to 5 years; in cats, atopy can occur at any age. In dogs, there is an increased incidence of allergies in certain breeds such as terriers, cocker spaniels, labradors, golden retrievers, shar-peis, and german shepherds, however, any breed can be affected. The diagnosis of atopy is made by considering the symptoms, seasonality, and response to medications. Additionally, measures must be taken to ensure no other similar itchy skin diseases such as food allergies, skin parasites, or skin infections are present. Once the clinical diagnosis of atopy has been made, treatment options include topical and/or oral medications or allergy testing and immunotherapy to treat the underlying cause of the itching.



**Symptomatic Allergy Treatment:** Allergic animals with mild or strictly seasonal symptoms can often be managed by just using medications to treat their symptoms. Symptomatic medications include topical products such as shampoos, conditioners, and sprays, as well as oral medications such as antihistamines, fatty acids, steroids, Apoquel, Cytosporin, and cyclosporine.

**Topical therapy:** Shampoos, conditioners, and sprays used for allergies usually contain

ingredients that help reduce itching such as oatmeal, topical anesthetics, antihistamines, or steroids. Allergic dogs benefit from frequent bathing not only because of the anti-itch ingredients, but because bathing helps to reduce environmental allergens that are accumulated on the skin and coat. Due to animal's skin pH differences compared to humans, topical products designed specifically for pets should be used. Weekly bathing and daily rinses or wipe-downs with a wet washcloth are usually recommended. It is important that the shampoos be gentle (avoid tar and benzoyl peroxide products unless the dog is very greasy) so that the skin and coat do not become dry. Note that topical products that contain steroids (such as hydrocortisone, betamethasone, and triamcinolone) should be used carefully. An excessive use of topical steroids can predispose a pet to skin infections and can cause the skin to become excessively thin or create blackheads.

**Antihistamines:** Oral antihistamines (such as benadryl, cetirizine, clemastine, chlorpheniramine, and hydroxyzine) are helpful to reduce itching in 30-40% of allergic pets and help prevent flares. They are not as potent as other treatments, but also do not have unwanted side effects. No antihistamine is better or more potent than another. Just as in humans, multiple antihistamines often must be tried to find the best one for each individual pet. They also need to be consistently given two to three times daily for benefit, and the dose requirements for pets are usually higher than for people so it is important to ask your veterinarian about the right dose for your pet. In some pets, side effects can occur such as sleepiness or excitability. When buying over the counter antihistamines, it is very important to select products which only contain the active ingredient needed and do not contain pain killers or decongestants. Antihistamines may not be appropriate if pets have certain medical conditions such as seizures, glaucoma, hypertension, or urinary retention.



**Fatty acids:** Omega 3 and 6 essential fatty acids are derived from sources such as fish oil, flaxseed oil, and vegetable oils. They have mild anti-inflammatory effects on the skin, as well as improving skin dryness. They need to be given for 1-3 months before a beneficial effect is seen. An oral combination of omega 3 and omega 6 fatty acids appears to be ideal for treatment of allergic dermatitis in dogs. There are multiple combination products manufactured for pets, available in capsule, powder, liquid, or chewable tablet form. Fatty acids also work synergistically with antihistamines to help reduce skin inflammation and itching. They may not be appropriate for use in pets with other medical disorders such as high cholesterol or clotting problems.

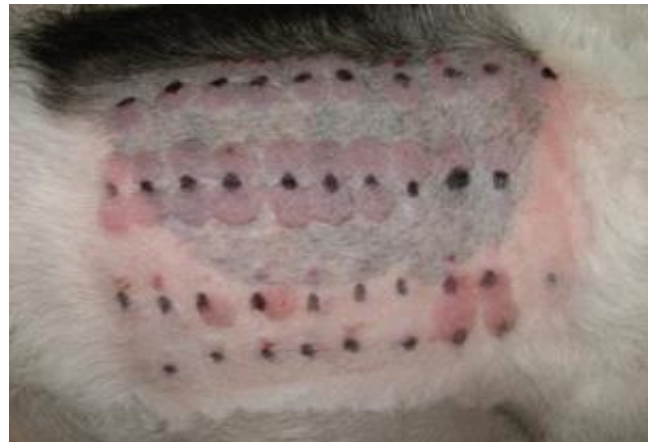
**Steroids:** Injectable or oral steroids such as cortisone or prednisone have many pros and cons in the treatment of allergies in pets. They are inexpensive and work quickly and effectively to reduce itching and inflammation, and for short term use they are relatively safe. However, steroids have numerous side effects such as increased thirst, urination, hunger, and weight gain. With prolonged use at high doses, steroids may cause liver enlargement and increased liver enzymes, can cause high blood pressure and kidney disease, weakened muscles and ligaments, infections of the skin and bladder, and thinning of the skin and hair loss. Animals that are treated with long-term steroids should have physical examinations, bloodwork, and urine testing regularly to monitor side effects. Additionally, other options to treat their allergies and to reduce their dependence on steroids should be used if possible.

**Cyclosporine:** Cyclosporine (brand name Atopica) is an oral medication which can be used as a non-steroidal way to reduce allergic skin inflammation and itching. It is helpful in approximately 80% of allergic dogs to control itch, but is more expensive than steroids. Cyclosporine is given by mouth daily for 4-6 weeks, then the frequency of administration is slowly decreased to the lowest possible amount needed for comfort. Some animals need it daily, and in some the dose can be reduced to every 2-3 days. Cyclosporine has fewer side effects than steroids, but because it is still an immunosuppressive drug (it is used in human medicine to prevent organ transplant rejection), regular physical examinations with bloodwork and urine testing should be performed in pets on cyclosporine long term. Potential side effects include vomiting and diarrhea, and more rarely skin or internal infections and benign growths on the skin or gums.



**Apoquel®:** Apoquel (Oclacitinib) is an exciting, new, unique drug for treating itching associated with allergic dermatitis, especially atopy (environmental allergies). This novel non-steroidal drug is unique in that it targets a specific pathway involved in itching and inflammation. It has a rapid onset of action, with improvement generally seen within 1-2 days (improvement may take longer if concurrent infections are present and being treated). As it targets a pathway involved in itching, rather than affecting multiple areas of the immune system as steroids and Atopica® can, it is thought to be a safer drug than these alternatives. Additionally, it does not have the adverse effects that we can see with steroids. It is generally prescribed twice daily for a maximum of 14 days with a chronic maintenance dose of once daily if needed. It can be used for acute flares for short periods of time or long term as a maintenance therapy for non-seasonal environmental allergies. As this drug does still affect the immune system and does require a healthy liver to metabolize it, regular examinations as well as routine bloodwork and urine monitoring are recommended. This drug is contraindicated if there is a history of cancer or demodicosis (mange mites).

**Allergy Testing and Desensitization:** Allergy testing is performed in environmentally allergic pets not to make a diagnosis of allergies, but to indicate which allergens are to be included in desensitization therapy. Remember, the diagnosis of atopy is made by symptoms, response to medications, and eliminating the possibility of other itchy skin diseases such as food allergies or skin parasites/infections. Allergy testing and



desensitization (immunotherapy) are appropriate in animals with allergic symptoms that last longer than 2-3 months per year, in pets in which the symptomatic treatment for allergies is not helpful, or pets who require medications longer than 2-3 months out of a year. Allergy testing can be performed with a blood test (which is more convenient and can be performed by most primary care veterinarians, but may be less accurate than skin testing), or by intradermal/skin testing (performed by veterinary dermatologists) it requires light sedation and shaving a patch, and is considered the “gold standard” of allergy testing. Immunotherapy injections are given every 1-2 weeks or sublingual drops are given by mouth daily and are helpful in 70-75% of allergic pets to reduce symptoms and the need for medications. Allergy immunotherapy is usually a lifelong treatment and the degree of response to therapy varies with each individual animal. Some pets only need immunotherapy, some still need low doses of symptomatic medications such as antihistamines, and some still need other medications but at lower doses, less often, or only during certain seasons. Allergy immunotherapy addresses the cause of a pet’s itchy skin by changing/calming down the hyperactive immune response to the environmental allergens, but require time (2-18 months) for effect, so symptomatic medications are continued while immunotherapy has time to take effect.

**Cytopoint:** Cytopoint is a new, innovative option for treating itching associated with atopic dermatitis (environmental allergies) in dogs. This novel therapy is a canine monoclonal antibody that specifically targets a molecule within the body called interleukin-31 (IL-31), a key protein responsible for signaling to the brain that the skin is itchy. By neutralizing IL-31, Cytopoint blocks an important step in the itch pathway. Cytopoint is available as an injectable liquid that is administered subcutaneously (beneath the skin) as frequently as once per month, though in some dogs it may prevent itching for even longer periods of time and can be administered less frequently. Like Apoquel, Cytopoint has a rapid onset of action, with improvement generally seen within 1-2 days. Since Cytopoint only targets IL-31 and does not affect other interleukins or other parts of the immune system, it is believed to be safer than steroids, Atopica, and Apoquel. No serious side effects have been associated with the use of Cytopoint. However, it is possible that it could cause an allergic reaction or anaphylaxis similar to what is seen in dogs with vaccine reactions. Consequently, it is recommended that dogs be monitored for a few hours after receiving a Cytopoint injection. Some dogs may experience lethargy for 1-2 days after receiving a Cytopoint injection. As this drug is so new, regular examinations and routine bloodwork and urine monitoring are recommended to evaluate for other possible side effects.

**Summary:** Although allergies in pets are not “curable”, they are very treatable and controllable in most pets. Every animal is an individual and often different medications need to be tried or combinations of medications may need to be used for maximum comfort. When the motivated pet owner, primary care veterinarian, and in difficult cases, a veterinary dermatologist work together, our allergic pets can live long, comfortable lives.



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## Food Allergies in Dogs and Cats

### Overview

Dogs and cats, like humans, can develop hypersensitivities to specific food ingredients. A food allergy can develop to an ingredient(s) that has recently been introduced in the form of a new diet or treat or, more often, to something they have been exposed to for a significant period of time. Food allergies can occur at any age (very young to very old) and at any time of the year. It can be one of the most itchy diseases, or one of the least itchy diseases only causing recurrent skin or ear infections.

### Symptoms

The most common symptom of a food allergy is itching, which can be manifested as scratching, chewing, licking, rubbing, or pulling the hair out. In many cases of food allergies, in addition to itching, there are often recurrent skin and/or ear infections. In fact, sometimes the only apparent symptom of a food allergy can be recurrent infections. In about 15-20% of dogs and cats with a food allergy, there is often a gastrointestinal component involving the symptoms. These animals may experience recurrent vomiting and/or diarrhea, increased flatulence, or increased bowel movements.

### Causes

The three most common food allergens are beef, chicken, and dairy. Other possible food allergens include rice, wheat, corn, egg, lamb, soy, and fish (and other seafood ingredients in cats). Because many of these ingredients are present in most commercial pet foods, treats, and in the “people” food we give our pets, simply switching from one over the counter diet to another may not necessarily determine if your pet has a food allergy.

### Diagnosis

Although there are blood tests available to test for food allergies, these tests are most often inaccurate (most animals often test positive, even if they do not have a food allergy) and often the results do not correlate with what the dog or cat may be reacting to. The best way to definitively diagnose your pet with a food allergy is to feed a diet that excludes all of the most common food allergens for a period of time. Your veterinarian may choose a novel protein diet (a protein source your dog or cat has not eaten before and, therefore, should not react to), or a hydrolyzed diet (often a chicken or soy-based diet where the proteins are broken down to a smaller size that should not cause a reaction). If improvement is noted in symptoms during this period, the next step is a food challenge whereby the previous diet and treats are reintroduced for 1-2 weeks, monitoring for any signs of flare up of previous symptoms (itching, ear/skin infections). If no flare of symptoms is seen, your pet does not have a food allergy and can return to its previous diet and treats. Should a flare of symptoms occur, then your pet can be confidently diagnosed with a food allergy. Following confirmation of a food allergy, your veterinarian will discuss further options to select a proper diet for your pet. No diet is truly “hypoallergenic.” Remember, it is the absence of an offending ingredient in the diet that makes it “hypoallergenic” for your pet.

## Food Trial Options

Your vet will select a diet that they feel is the more appropriate one to confirm or rule out a food allergy in your pet. If a novel protein diet is selected, the two most common proteins recommended are rabbit or kangaroo. Other diets are occasionally recommended, however, because of possible cross reactivity of beef with venison or lamb, and chicken with duck, these have become less appealing diets to diagnose food allergies. A hydrolyzed diet where the proteins are broken down is occasionally recommended, however, a small percentage of dogs and cats will still react to these diets if they are allergic to that protein source. Lastly, home-cooked diet trials are the “gold standard”. Again, an ideal protein source and carbohydrate source will be selected by your veterinarian. Often the commercial and home-cooked diets are lower in calories, so you may find that you need to increase the amount fed to your pet during the diet trial. It can take two or more food trials to definitively rule in/out a food allergy. Often if a hydrolyzed diet is performed with no improvement but a food allergy is suspected, then a novel protein diet is recommended as a second diet trial.

The purpose of the elimination diet trial is to determine if your pet has a food allergy, and if so, attempt to determine which ingredient(s) are the offenders.

### Duration

The elimination diet trial is performed for a period of 6-12 weeks. During this period, it is **imperative** that your pet not receive any other food ingredients, including “people food” and flavored pet medications that are not recommended by your veterinarian. Even a small amount of the offending ingredient can cause a flare of symptoms. There are treat options that are recommended further in the handout that are considered acceptable.

### The Challenge

Confirmation of a food allergy is achieved based on not only improvement or complete cessation of symptoms while on the food trial, but recurrence of some of all symptoms with the challenge. Following the elimination diet trial, you will be asked to perform a broad-based challenge by reintroducing the original diet and all treats your dog or cat had been on prior to the diet trial. If flare of symptoms occurs within 1 week, then a food allergy has been confirmed. To resolve the flare, please switch back to the diet trial food for 1-2 weeks until resolution of symptoms. At this time, there are 3 options: 1) maintain your pet on the elimination diet trial food for the remainder of your pet’s life; 2) your veterinarian can recommend another over-the-counter limited ingredient diet that hopefully will not cause flare (repeat the challenge process for 1 week to ensure no flare); or 3) proceed with the individual ingredient challenge outlined further in this handout to specifically identify what your pet is allergic to. With option 3, once the offending ingredient(s) have been identified, avoiding that ingredient(s) in the food and treats you feed your pet should prevent any flare. Please do not hesitate to notify us of your pet’s food allergens as we may be able to recommend diet and treat options that do not contain the offending ingredients. Cats are often not open to performing an individual ingredient challenge, especially with carbohydrate sources. If an individual ingredient challenge is not possible, you can maintain your pet on the diet selected for the trial, or introduce a recommended limited ingredient diet that does not cause a flare in symptoms.



## **Frequently Asked Questions**

### **Are there any other forms of food I can feed my pet during the elimination diet trial?**

It is imperative that the trial remains strict and that the only food and treats your pet receives are those recommended in this handout or by your veterinarian. Even one bite of food that is not part of the diet trial may invalidate the entire trial. Remember, no rawhides, table scraps (cheese, peanut butter), dog biscuits, cat treats, fish oil, glucosamine, Greenies, etc. are allowed during this period.

### **What if my pet is not wanting to eat the recommended diet?**

Please call us! There are alternatives for a good diet trial, and we are here to help you select one that your pet will eat. Occasionally, adding in some canned food of the same diet will entice your pet to eat. Some pets are more open to eating the food following a slow transition from their current diet to the recommended diet. This is done by adding an increasing amount of the new diet and a decreasing amount of their original diet over a period of 3-5 days. Most of the prescription diets are able to be returned for a refund if your pet will not eat it.

### **Where else can I buy the prescription diets?**

We are happy to discuss several options for food elimination diets. Several general practice veterinarians may offer the same diet we are recommending, and we are happy to provide a written prescription. Another convenient option is our online store; [dermatologyforanimals.com](http://dermatologyforanimals.com) or the diet manufacturer's website. Both options will ship the food directly to your house.

### **How can I give my pet medications during the diet trial?**

Giving pets medications can be tricky. Hiding the medication in food has often made this a more tolerable job. However, during the trial most foods you hide the pills in are no longer acceptable. You can try hiding the medication in the canned version of your diet trial food. Another option is to place the medication as far back in your pet's mouth as you can, close the mouth, and massage the throat until your pet swallows. Another trick is to squirt some water from a syringe (no needle) into the mouth after you have inserted the pill, causing your pet to swallow.

### **What are some medications that my pet cannot be on during the diet trial?**

Most medications are fine, however, flavored medications should be avoided as the ingredients used to flavor the medication may be one that is triggering the allergy. Commonly flavored medications include heartworm and/or flea and tick prevention (Heartgard, Interceptor), Rimadyl, Deramaxx, various antibiotics (Baytril), several vitamins, and other health supplements. Please alert us if you think your pet may be receiving a flavored medication. Most medications come in a non-flavored form and we can work with your primary veterinarian to select an appropriate alternative.

### **What if my pet is on a flavored heartworm preventative?**

If you are treating your pet during the diet trial for parasite prevention with Revolution or Ivermectin then your pet is also covered for heartworms. You will not need to repeat the treatment for 4 weeks after the last dose of either product. Alternatively, you can administer other heartworm preventatives at the beginning of the diet trial and again at the end (if not exceeding 8 weeks) with no concern for contraction of heartworms. If your pet's diet trial is exceeding 8 weeks, please alert us to discuss alternative options for prevention.

## Individual Ingredient Challenge

The individual ingredient challenge will be recommended to be performed following confirmation of a food allergy (improvement with the elimination diet trial followed by recurrence of symptoms with a broad-based challenge). This process may take a few months, but it is rewarding in that you can specifically identify the offending allergen(s), allowing you to select over-the-counter diets and treats that your pet can safely eat without flare of symptoms.

To perform the challenge, one ingredient from the list is added in a small quantity to the elimination diet food daily for 1 week, watching for flare in symptoms. This individual ingredient is now considered an allergen. This ingredient should not be fed in any form for the remainder of your pet's life. For example, if you add a small amount of beef daily to the elimination diet food and find recurrence of symptoms, your pet is allergic to beef and all beef products should be avoided, including rawhide. If flare occurs with an individual ingredient, stop feeding the ingredient and feed only the elimination diet food until resolution of the flare, usually 1-2 weeks. Once you have identified all possible allergens, you need to ensure whichever food and treats you select to feed is absent of these ingredients by reviewing the ingredient list on the back of the bag/box. Please call us if you want help in selecting a diet.

<b>Ingredient</b>	<b>Results</b>
Beef (boiled hamburger)	_____
Chicken (boiled skinless)	_____
Fish (cod, halibut)	_____
Dairy (cheese)	_____
Egg (hard-boiled)	_____
Rice	_____
Wheat (bread)	_____
Corn	_____
Soy (tofu)	_____
Other _____	_____
Other _____	_____