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Environmental Allergy and Food Allergy

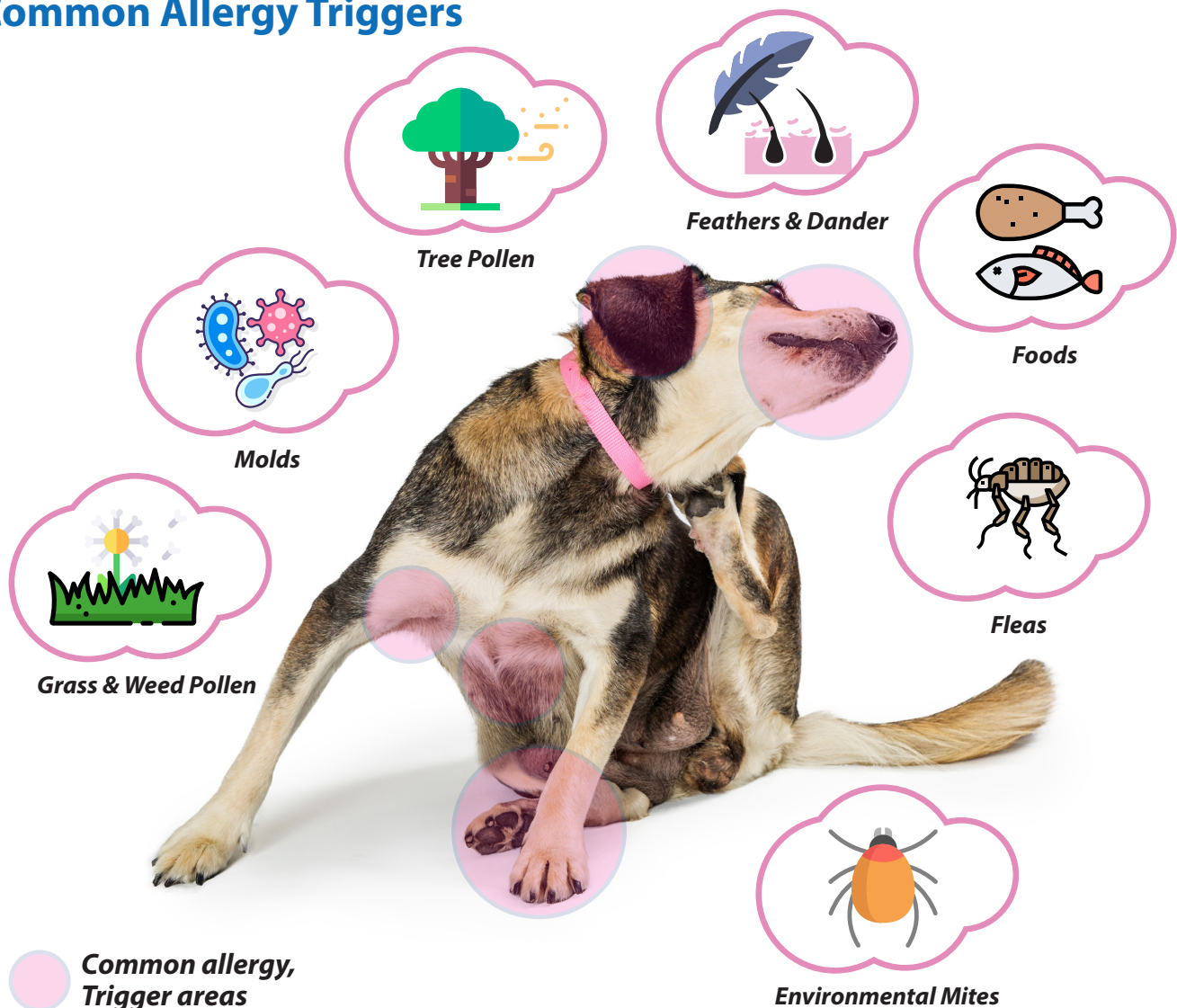
ALLERGIES IN THE DOG AND THE CAT

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Common Allergy Triggers



ALLERGIES

There are 3 major types of allergy that can affect your dog or cat:

- **Environmental allergy** (atopic dermatitis): allergy to indoor or outdoor environmental substances such as pollen, dust mites, molds, feathers and hair. This is the most common allergy in most parts of Canada.
- **Food allergy** (cutaneous adverse food reaction): allergy to ingredients in food, including occasionally ingested ingredients. It is much less common than environmental allergy.
- **Flea allergy** (flea bite hypersensitivity): fleas are a common cause of allergy around the world, though they are rare problem in places with harsh winters like Quebec and the Prairie provinces.

In this document, we will discuss environmental allergy and food allergy, as their clinical signs are often identical.

What is an allergy and what are allergens?



Allergy is an abnormal reaction of the body to the presence of a substance, usually a protein, which is normally harmless. This substance is called an "allergen".

Allergens are quite varied in nature. House dust mites, grass, tree or weed pollens, environmental molds (fungi), feathers, and food proteins are all harmless substances capable of causing allergic reactions in allergic pets. Interestingly, environmental allergens are primarily absorbed through the skin in pets, rather than by inhalation, although both forms of allergen exposure may contribute to symptoms in the allergic pet.

The significant overlap in symptoms associated with various allergies and their secondary infections lead to making allergy a complicated condition. Additionally, an individual animal is rarely allergic to one thing.

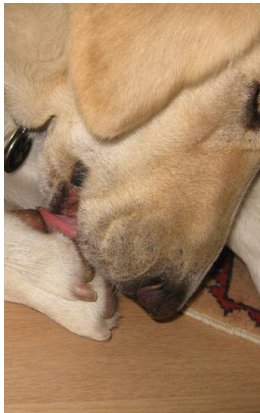


An allergen is a substance that can induce, or trigger, an allergic reaction in an allergic pet. The allergic pet over-reacts to an allergen present in its environment or food, whereas non-allergic pets do not react to these substances.

Allergic pets are usually sensitive to multiple allergens! One individual may be allergic to a variety of pollens, another may be allergic to pollens and house dust mites, while another may be allergic to house dust mites and a dietary ingredient. Various combinations are possible. All such combinations of potential allergens leads to the common allergy symptom of itchiness (pruritus) in dogs and cats!

Fortunately, it is not always necessary to identify all the allergens involved or to treat all the allergy complications at the same time. It is sometimes enough to eliminate the major causes of itchiness so that the patient improves, and becomes comfortable.

Clinical signs



The main symptom of environmental and food allergy is itchiness which can mainly result in scratching, licking, biting, rubbing, over-grooming, and head shaking. The allergic dog is typically itchy at the paws, belly, neck, ears and face. Subsequently, due to self-inflicted trauma, there may be hair loss, redness, and crusts.

Most allergies (particularly environmental allergy) begin in young adults. However, they can begin at any age. There are sometimes additional clues in the patient history that help the veterinarian to differentiate between environmental allergy or food allergy:

- Environmental allergy (atopic dermatitis) is a familial disease and the presence of similar symptoms in parents can be an important clue. There is a long list of breeds that are predisposed to developing environmental allergy, but this disease may affect an individual from any breed.
- An environmental allergy may also be associated with eye and/or respiratory problems.



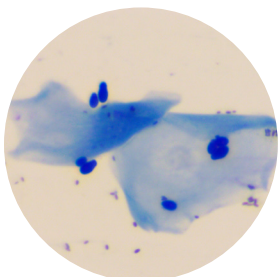
Some itchy cats may not scratch but instead groom themselves excessively, leading to hair loss. The allergic cat may have crusty dermatitis, or red, oozing, raised plaques on skin. Scratching, head shaking, paw biting may also be noted.

- The symptoms of environmental allergy can be seasonal (for example, grass & weed pollen causing summer allergic symptoms) although year-round problems are also commonly associated with environmental allergy.
- Food allergy can be accompanied by digestive symptoms (for example diarrhea, excessive gas, and frequent bowel movements).
- A sudden allergic flare after eating a specific food is suggestive of food allergy.

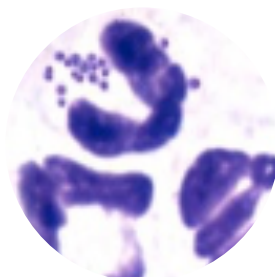
Despite some suggestive signs that help differentiate food and environmental allergy, it is very difficult to distinguish these two diseases in most allergic pets. Moreover, both environmental and food allergy may affect a proportion of allergic patients, thus diagnosing one condition will not rule out the other.

Secondary infections in the allergic patient

Skin allergies almost always result in a disturbance of the fragile balance that characterizes healthy skin. Affected skin and ears are more susceptible to infection by microorganisms that are naturally present on the skin in low numbers.



Microscopic examination:
Malassezia (yeast)



Microscopic examination:
bacteria and
inflammatory cells

On an allergic pet, these organisms can proliferate and give rise to secondary infections. These infections are caused by bacteria (usually *Staphylococcus* spp.), a yeast (fungus) called *Malassezia*, or both. Secondary infections of the skin and/or ears can greatly aggravate allergic symptoms and add to the pet's discomfort and suffering. Infection identification and control are essential when treating an allergic patient.

How to approach allergies in pets



If your veterinarian suspects that your pet is suffering from an allergy, a stepwise plan is usually suggested.

itching (fleas and other ectoparasites) should be excluded. This can involve a trial treatment even if parasites are not seen on your pet, as they can be very hard to find. Another step will be to recognize and treat secondary infections, often based on microscopic examination (cytology) of material collected from the skin or ears. If an infection is present, topical and/or oral antimicrobial treatment will be prescribed.

If your veterinarian suspects that your pet is suffering from an allergy, a stepwise plan is usually suggested.

In many pets, the initial stage involves investigating the major causes of itching that can closely mimic allergies. Parasitic

The next stage is usually work up for food allergy, if the pet's signs are present year-round. The only way to diagnose or rule out a food allergy is with an 8-week "elimination diet trial" followed by a diet re-exposure challenge. It is important to complete the elimination diet trial under the supervision of a veterinarian for best results. Every patient is an individual, and it can take some time to find a diet that works best for your pet. Switching between various pet store diets is unlikely to work. Unfortunately, the available tests that utilize blood, hair, or saliva to diagnose food allergies are highly inaccurate and have been disproven by many studies.

Pets that do not improve within the 8-week elimination diet trial very likely suffer from environmental allergy. Identification of the culprit environmental allergens for your pet can be undertaken using intradermal or blood allergy testing. Allergy testing is not used to confirm or rule out environmental allergies, as that diagnosis is obtained by ruling out other possibilities, not by relying on test results. The results obtained from allergy testing are used to formulate an immunotherapy vaccine to desensitize your pet to the allergens causing the symptoms, making the environmental allergy easier to manage long-term.

Conclusion

- Although food and environmental allergy have similar clinical signs, their diagnosis and management plans are quite different. A specific dietary change (elimination diet) helps control food allergy in affected pets, while also helping with ruling out a food allergy in pets affected with other conditions such as environmental allergy. Allergy testing and allergy immunotherapy are used to help manage environmental allergy after your pet's veterinarian has ruled out other possibilities.
- There are many treatment combinations available for the management of allergies. An individualized treatment plan is needed for every patient, thus it may sometimes take time to find one that is best for your pet. Successful management of allergies involves close follow-up with your veterinarian.

While both environmental allergy and food allergy are lifelong diseases that are not curable, both can be effectively managed with appropriate treatment in order to help your pet live comfortably and with a very good quality of life.