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## **Atopy**

*Allergic inhalant dermatitis, atopic dermatitis*

### **Affected Animals:**

Dogs, cats, humans. In canines, females are affected more commonly than males. Geographical location can influence the animals affected. Dog breeds predisposed to atopy include beagles, Boston terriers, Cairn terriers, Chinese shar-peis, dalmatians, English bulldogs, English setters, golden retrievers, Lhasa apsos, miniature schnauzers, Scottish terriers, West Highland white terriers, and wirehaired fox terriers. There are no documented predilections in cats.

### **Overview:**

Like humans, dogs and cats can be allergic to pollens, spores, and other allergens that appear in the environment seasonally, as well as substances found within the house such as dust and animal dander. While people tend to respond to these various allergens by sneezing and developing watery eyes, animals react by getting very irritated, itchy skin. This leads to constant scratching and chewing which can cause trauma to the skin and extreme discomfort. Generally, symptoms worsen with age and can be controlled, but not eliminated.

### **Clinical Signs:**

Pruritus is the most common symptom. Secondary skin lesions due to the resulting self-trauma will have a pattern of distribution within interdigital spaces and on the muzzle or face, carpal and tarsal areas, axilla, groin, periocular, and pinnae. Symptoms are initially seasonal and usually worsen with age. Recurrent pyoderma and otitis externa are commonly noted. Skin lesions can include erythema, alopecia, scales and crusts, fur stained with saliva, hyperpigmentation, and lichenification. These symptoms usually respond well to corticosteroids. Cats may vary widely in their symptoms, which can include eosinophilic granuloma complex, miliary dermatitis, symmetrical alopecia, facial pruritus, and behavior changes. Any animal with pruritus should be evaluated for the possibility of atopy.

### **Symptoms:**

Common symptoms include an often intense itching, which results in the animal's constant scratching and biting of the irritated skin. Secondary skin abnormalities will result from the trauma caused by scratching the itch. These include redness, hair loss, crusts and scaling, ear problems, fur that is stained brown from saliva, and skin infections. Cats may vary widely in their symptoms, which can include facial itchiness, hair loss in equal patterns, raised and open sores, and bumps with bloody scabs.

### **Description:**

Clinically known as atopy, inhalant allergy is a hypersensitivity to environmental allergens manifested through irritation of the skin and ears. Atopy occurs in 10 to 15 percent of the dog population and tends first to occur when the canine is between one to two years old. Feline atopy can occur at any age. It is not uncommon for animals to have atopy in conjunction with other allergies such as food hypersensitivity and flea allergy dermatitis.

Treatment involves the avoidance of the allergens, medications, and sometimes immunotherapy, or allergy shots. Atopy is a lifelong disease that can not be cured. Thus, atopic animals will need to receive treatment for the rest of their lives, and treatment plans may be only somewhat effective.

**Diagnosis:**

The veterinarian will ask the owner about the animal's history of symptoms. During the physical examination, the presence of itching and skin lesions will be assessed. Before concluding a diagnosis of inhalant allergy, the veterinarian will need to rule out other skin diseases including food hypersensitivity, flea allergy dermatitis, sarcoptic mange, contact dermatitis, and yeast infection of the skin. Diagnostic procedures can include bloodwork and urinalysis, and skin scrapings, and fungal cultures. Intradermal skin testing is believed to be the most accurate of the allergy tests; this procedure should be performed by an experienced veterinarian or by a veterinary dermatologist. There are also blood tests which, while they are unreliable for felines, may provide information about inhalant allergies for canines.

**Prognosis:**

Inhalant allergy is a life-long disease that tends to worsen with age. Therefore, treatment is required for the duration of the animal's life. Owners may elect euthanasia for animals with severe allergic skin disease and disappointing responses to therapy.

**Transmission or Cause:**

The most common allergens include airborne pollens such as grasses, trees, weeds, and fungal spores. Indoor allergens include natural fibers such as wool and household dust mites. In addition, some animals are allergic to the dander from other animals in the same dwelling.

**Treatment:**

Treatment involves the avoidance of identified allergens when possible. Essential fatty acid supplements, given at higher doses, can help control the symptoms. Medications can include antihistamines, corticosteroids, and immunotherapy, or allergy shots. Owners should be aware that long-term use of corticosteroids can result in complications including iatrogenic Cushing's disease, or excessive levels of glucocorticoids in the body, diabetes mellitus, and worsening bacterial or fungal skin infections. Allergy shots are formulated specifically for individual animals and are administered by an injection under the skin. Improvement of symptoms can take three to six months in the canine and up to one year in the feline. Immunotherapy is successful in reducing itching in 60 to 70 percent of dogs and 73 percent of cats. In addition, shampoos and topical products may be beneficial.

**Prevention:**

Prevention includes avoiding known allergens by maintaining a dust-free house, closing windows, and keeping the animal indoors during high pollen season. It is also important to minimize complicating factors such as fleas, a dirty haircoat, and skin or ear infections.

