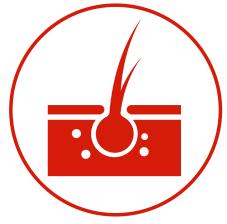


Dermatological Disorders

ATOPY (ATOPIC DERMATITIS)

In dogs, atopic dermatitis, or simply "atopy" is a heritable, inflammatory and pruritic, Ig-E mediated allergic skin disease triggered by environmental allergens. The disease's complex etiology in dogs is likely to also involve a defective skin barrier resulting in increased transepidermal water loss. The role genetics, IgE, or a defective skin barrier plays in the disease in cats is less understood. 2,3



The reported prevalence in pets varies, at least in part, due to different populations studied, methods of diagnosis, and geography (i.e., due to different types and levels of allergens present in the environment). Prevalence was reported at 12.5% of cats presented for dermatological signs to a university specialty clinic versus just over 1% of cats presented for skin conditions in general practice. In dogs prevalence has been estimated at 3–15%.

The age of onset is typically under 3 years in both dogs and cats.^{2,7} Atopy is a chronic disease in which clinical signs appear seasonally or year-round (typically with acute flare-ups), depending on the environmental allergen(s) involved. A clinically significant percentage of atopic dogs and cats also have food allergy or intolerance. Management of atopy in pets utilizes a multimodal approach, including nutrition.

Key Messages

- Atopic pets are frequently pruritic. Erythema and secondary skin infections are common in dogs, and affected cats often have miliary dermatitis or eosinophilic granuloma complex. Pets may have alopecia, excoriations due to scratching, or otitis externa, which can be the only manifestation in some dogs.^{2,7}
- In dogs, dermatological signs due to atopy appear the same as those due to food allergies or intolerances. 8-11 Dogs with both dermatological and gastrointestinal signs are more likely to be food sensitive rather than atopic, while dogs with seasonal signs are more likely to be atopic. 9-10 Feline atopy can appear clinically identical to either food allergies or intolerances or to flea allergy. 2
 - Diagnosis of atopy is one of exclusion. Pets presenting with year-round clinical signs should undergo a diet elimination trial to rule out a food allergy or intolerance.² Adequate protection against fleas and other ectoparasites should be ensured.
 - Pets may be affected with more than one condition.^{5,7,12} Among dogs and cats diagnosed with atopy, nearly 17% of dogs and approximately 13% of cats were diagnosed with concurrent food allergy or intolerance.^{5,12} Partial response to a diet elimination trial may indicate a pet has both food allergy or intolerance and atopy.

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Key Messages (continued)

- Targeted nutrition can be used as part of a multimodal management strategy in pets with atopy:
 - Increased dietary levels of linoleic acid (LA), an 18-carbon omega-6 fatty acid, improved skin and coat quality in healthy dogs. ^{13,14} Since LA supports the skin barrier and may help to lessen transepidermal water loss, its supplementation may be beneficial in pets with atopy. ² In addition, supplementation of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), long chain omega-3 fatty acids, decreased pruritus and/or skin lesions in atopic dogs, ^{15–18} with one study noting a cyclosporine-sparing effect. ¹⁸ A combination of LA, gamma-linolenic acid (an omega-6 fatty acid), EPA, and DHA reduced the need for steroid therapy in dogs with atopy. ¹⁹
 - Supplementation with vitamin D or E reduced CADESI (Canine Atopic and Dermatitis Extent and Severity Index) scores in atopic dogs.²⁰
 - Vitamin D's benefits may be due to its immune-modulating effects.²⁰ Vitamin E may help reduce oxidative stress in the skin of atopic dogs.²¹
 - One study showed that a Lactobacillus probiotic reduced CADESI and pruritus scores in atopic dogs, likely by moderating the immune response.²² Additional research exploring the gut-skin axis and the potential influence of probiotics is needed.
 - In pets shown to have both atopy and food allergy or intolerance, avoiding dietary allergens remains an important component of management. Due to allergen cross-reactivity, signs of atopy/allergy often flare in house dust mite-sensitive dogs that eat pet food contaminated with storage mites. Pet food bags should be kept sealed and stored inside to reduce the possibility of contamination.²³

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