



## **Flea Allergy Dermatitis**

Flea Allergy Dermatitis (FAD) or flea bite hypersensitivity is the most common dermatologic disease of domestic dogs in the U.S. It is most prevalent in spring and summer, however in warm climates it can persist throughout the year. Understanding the flea and its life cycle is of utmost importance to combat this common and often frustrating disease.

The flea that causes the majority of the problems in the dog is cat flea, *Ctenophalides felis*. The flea passes through 4 stages in its life cycle. At any given time, about 57% of the fleas are eggs, 34% are larva, 8% are pupa and only 1% are present as adults. This life cycle can be completed in as little as 12 days or can take as long as 350 days. Under most household conditions the flea life cycle is completed in 3-6 weeks. Flea larva emerge from the egg after hatching and move away from light (negatively phototactic) and toward the ground (positively geotactic). Therefore, indoors the larva avoid direct sunlight and move under furniture, appliances, and into carpet fibers. Outdoors, they move into shaded areas, under bushes, trees and leaves. The mature larva produces a sticky cocoon in which to pupate. Environmental debris may adhere to the cocoon which helps it go undetected and provides excellent protection against most insecticides. In an ideal environment and protection, this stage can persist upwards of 300 days. Once emerged from the cocoon, the flea finds a host and begins feeding within seconds. The flea feeds by piercing the skin of the host and extracts a blood meal. During this process, saliva is introduced from the flea, starting the cascade of events that eventually leads to scratching, biting, chewing and licking.

As previously stated, flea allergy is a common problem affecting many dogs in the U.S. In dogs with flea allergy dermatitis, hypersensitivity reactions develop from the saliva while the flea obtains a blood meal. This reaction can be immediate (15 minutes) or delayed (48-72hrs). Clinical signs associated with this disease are variable and depend on frequency of flea exposure, duration of the disease process and the presence of secondary or other current skin diseases. Typically, the pruritis (itchiness) is intense and may manifest over the entire body. Classic clinical signs are scratching, chewing and licking on the lower back, top of tail and back and inner thighs. Affected dogs are likely to be restless and uncomfortable. Common secondary signs may include hair loss, redness, crusts, scabs and scales. As the condition progresses and becomes chronic, bacterial and yeast infections commonly occur.

The goals of treating flea allergy dermatitis are the elimination of fleas on the animal, elimination of flea infestation in the environment and the prevention of re-infestations. The elimination of fleas on the animal is the first step and is necessary to help reduce the discomfort of the pet. There are numerous products available that provide excellent elimination of flea infestations on both dogs and cats, killing adult fleas within 24-48 hrs and continue this killing for approximately 30 days. The second step is to eliminate adult fleas in the environment. This is best accomplished by combining flea

control on the animal, therefore killing fleas before they can reproduce, and repeated application of insecticides and insect growth regulators to the premises. During this premise treatment, effort should be directed at area where flea eggs and larva accumulate, such as carpets, cracks, grooves in hardwood floors, baseboards, rugs, beneath furniture and within closets. With severe infestations, numerous treatments may be necessary due to continued emergence of adult fleas from hidden cocoons.

Despite all the effort, the total elimination of fleas may not be achieved rapidly enough to control signs of flea allergy dermatitis. Supportive medical therapy is initiated to help control the itching and secondary skin infections. Systemic steroids, given orally or by injection, are often used to help control the inflammation. Antihistamines are a safer alternative to the steroids and can be given for longer periods of time, without many of the common side effects and/or complications that may occur with prolonged use of steroids. Repeated scratching and itching often results in secondary skin infections that may require the administration of antibiotics to help relieve the discomfort. Other treatments that are often used to help combat this problem may include the administration of omega 3 and omega 6 fatty acids, medicated baths, and hyposensitization (controversial).

Flea Allergy Dermatitis is a common problem in both dogs and cats. The single most effective therapy is elimination of fleas from your pet. This however is very difficult to accomplish due to the environmental conditions in the south, allowing the rapid life cycle of fleas. As with any skin condition, consult with your veterinarian about possible cause of the disease. After a diagnosis of flea allergy is made, a specific treatment plan can be initiated based on your pets specific needs.