

The Ongoing Flea Battle

Wellness Pages for 2009 (updated), by Jennifer Ng, DVM

Fleas are a common problem faced by pet owners. Some dogs are particularly sensitive to the effects of flea bites, which can lead to a generalized skin condition called flea allergy dermatitis (FAD). FAD can be seen in any breed of dog, including greyhounds. It is one of the more common skin conditions seen in retired racers coming from the track.

Flea Life Cycle

To effectively get a flea problem under control or just to prevent an infestation, it helps to start with a basic understanding of the flea life cycle and behavior. Most adult fleas will bite and start producing "flea dirt" within minutes of first getting onto a host dog. Flea dirt, which shows up as black specks in the dog's hair, is actually flea feces, digested blood, which serves as a food source for immature flea larvae. After biting and feeding on the blood of its host, female fleas will start laying eggs in 24-48 hours.

These eggs drop off of the dog into the environment, concentrating in areas where the dog sleeps and rests. The eggs hatch into tiny, worm-like larvae, which then encase themselves in cocoons to develop into mature fleas. Adult fleas can remain dormant in this pupal stage for weeks to months. They respond to heat, carbon dioxide, and vibrations given off by potential host dogs (or other animals). These stimuli cause the adult flea to emerge from the cocoon and go to the host, starting the whole cycle again.

When considering all the different stages of the flea life cycle, the adult fleas seen on the dog are only a very small fraction of the total flea population. Over 90% of that flea population is found in the environment in the form of eggs, larvae, and pupae.

Secondary Medical Concerns

In addition to causing local irritation through bites and movement on the dog's skin, fleas can also cause more serious medical problems. Especially in very young or debilitated pets, a large number of fleas can take enough blood to cause life-threatening anemia. In severe cases, some animals require blood transfusions to recover even after the fleas are removed.

A more common secondary condition is flea allergy dermatitis. While not life threatening, FAD is an intensely itchy skin condition, which is very uncomfortable to the dog or cat and can lead to serious skin infections. Dogs with FAD are actually allergic to flea saliva, so it may only take one or two fleas to trigger the reaction.

The typical signs of FAD in dogs include itching, redness, hair loss, and scabs or sores around the base of the tail, lower back, and thighs. Because it can take so few fleas to cause this response in a sensitive dog, the fleas may never be seen and a tentative diagnosis is made based on this classic distribution. In some cases, it can be difficult to confirm and some owners may find it difficult to believe that fleas are the underlying problem. Even after the fleas have been eliminated, some dogs may require medication to stop the allergic reaction, so a vet visit may be necessary.

Flea Control

Elimination of a flea infestation often requires treating the home and property as well as all the pets in the household. Environmental treatment includes cleaning and vacuuming areas where the pet spends a lot of time and using pet-safe insecticides in the house and yard; sometimes a professional exterminator may be the best choice.

For control and prevention of fleas on the dog, a number of products are now available. Less than a couple decades ago, the only products available were permethrin-based products in the form of shampoos, dips, powders, sprays, and collars; these had limited results against fleas and were temporary at best. In the mid-1990s, newer and much more effective compounds became available, and just in the past couple years, several even newer products have been introduced. Most of these products are marketed primarily through veterinarians, and some can only be purchased from your vet or with a prescription.

Topical Flea Products

Most pet owners are now familiar with the topical flea products such as Frontline® (fipronil) and Advantage® (imidacloprid). In general, most of these topical "spot-on" products work by spreading through the dog's natural skin oils and follicles and are applied monthly to provide long-term protection against fleas (and for some products, other parasites). Since the introduction of Frontline and Advantage in the mid-90s, many over-the-counter imitation spot-on products came on the market; most of these are permethrin-based and not much more effective than the old flea powders and sprays.

Below are the current veterinary-marketed flea products and what they cover in dogs:

- Frontline®/Certifect™ (Merial) – fleas, ticks
- Advantage®/Advantage® II (Bayer) – fleas
- K9 Advantix®/K9 Advantix® II (Bayer) – fleas, ticks, mosquitos
- Advantage Multi® (Bayer) – fleas, heartworms, intestinal worms, ear mites, scabies mites
- Revolution® (Pfizer) – fleas, heartworms, ear mites, scabies mites, American dog ticks
- Vectra 3D™ (Summit VetPharm) – fleas, ticks, mosquitos

Oral Flea Products

There are also several oral flea products available. The first one to be introduced was Program® (lufenuron, Novartis), which is also found in Sentinel® (Novartis) in conjunction with its heartworm preventative ingredient. Program is essentially a flea "birth control" preventing eggs from hatching, but it does not kill adult fleas.

Oral products which do kill adult fleas include Capstar® (Novartis) and Comfortis™ (Elanco). Both products start to kill fleas within 30 minutes and will kill all the fleas on the dog within a few hours. Capstar is a short acting pill, lasting only one day, while Comfortis is a chewable tablet which works all month. The newly introduced Trifexis™ (Elanco) is Comfortis combined with a heartworm preventative.

While individual dogs may have reactions to certain products, greyhounds as a breed have not been found to be sensitive to any of the above products.

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