

## FLEA CONTROL- YOU HAVE A JOB CUT OUT FOR YOU

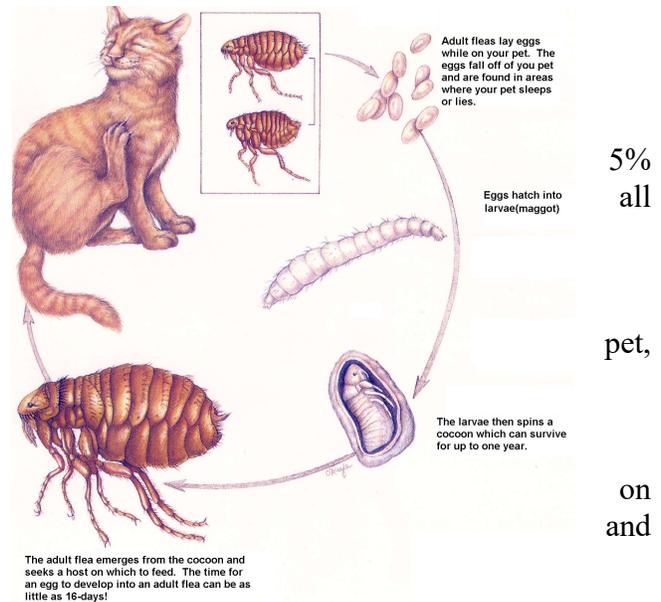
### *What should I do to kill the fleas on my pet?*

This is a simple question with a rather complex answer. Successful flea control has two aspects. Fleas must be controlled on your pet, and fleas must be controlled in your pet's environment.

To appreciate the complex issue of flea control, you must understand something about the flea's life cycle.

### *Fleas seem to be rather simple creatures. How complicated can their life cycle be?*

Although you are only able to see the adult flea, there are actually four stages of the life cycle. The adult flea constitutes only about 5% of the entire flea population if you consider all stages of the life cycle. Flea eggs are pearly white and about 1/32" (1/2 mm) in length. They are too small to see without magnification. Fleas lay their eggs on the pet, but the eggs do not stick to the hair. Instead, they fall off into the environment. The eggs make up 50% of the flea population. They hatch into larvae in 1 to 10 days, depending on temperature and humidity. High humidity and high temperature favor rapid hatching.



Flea larvae are slender and about 1/8-1/4" (2-5 mm) in length. They feed on organic debris found in their environment and on adult flea feces. They live for 5 to 11 days before becoming a pupa.

Following complete development, the mature larvae produce a silk-like cocoon in which the next step of development, the pupa, resides. The cocoon is sticky, so it quickly becomes coated with debris from the environment. This serves to camouflage it. In warm, humid conditions, pupae become adult fleas in 5-10 days. However, the adults do not emerge from the cocoon unless stimulated by physical pressure, carbon dioxide, or heat. These pre-emerged adult fleas can survive up to 140 days within the cocoon. During this time, they are resistant to insecticides applied to their environment. Because of this, adult fleas may continue to emerge into the environment for up to three weeks following insecticide application.

When the adult flea emerges from its cocoon, it immediately seeks a host because it must have a blood meal within a few days to survive. It is attracted to people and pets by body heat, movement, and exhaled carbon dioxide. It seeks light, which means that it migrates to the surface of the carpet so that it can encounter a passing host. Following the first blood meal, female fleas begin egg production within 36 to 48 hours. Egg production can continue for as long as 100 days, which means that a single flea can produce thousands of eggs.

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This entire life cycle (adult flea ⇒ egg ⇒ larva ⇒ pupa ⇒ adult) can be completed in 16 days with the proper temperature and humidity conditions. This adds to the problem of flea control.

### ***What can these fleas do to my pet?***

If untreated, the female flea will continue to take blood for several weeks. During that time, she will consume about 15 times her body weight in blood. This can lead to anemia. In young or debilitated animals, the anemia may be severe enough to cause death.

### ***What can I do to get rid of fleas?***

Successful flea control must rid the pet(s) of fleas and it must rid the pet's environment of fleas. In fact, environmental control is probably more important than what is done to the pet. If your dog remains indoors and you do not have other pets that come in from the outside, environmental control is relatively easy. However, the dog that goes outdoors or stays outdoors presents a significant challenge. It may be impossible to completely rid the environment of fleas under these conditions, though flea control should still be attempted. When the dog is free roaming or other dogs are allowed access to the dog's yard; the task of flea control becomes even more difficult.

### ***What can I do to my dog?***

Many insecticides that are applied to the dog have limited effectiveness against fleas because they are only effective for a few hours after application. Also, most of these products are effective only against adult fleas. Flea powders, sprays, and shampoos will kill the fleas present on your dog at the time of application. However, most of these products have little or no residual effects, so the fleas that return to your dog from his environment are not affected. Thus, your dog may be covered with fleas within a day after having a flea bath or being sprayed or powdered.

Newer products such as Frontline, Comfortis & Nexgard provide long lasting flea control for up to 1-month per application/dose. Even longer acting product are available but should be used cautiously as an allergic reaction to any product can occur and may not resolve until the product is removed or wears off.

### ***What can I do to my dog's environment?***

Even though fleas may be in your house, most people never see them. Fleas greatly prefer dogs and cats to people; they only infest humans when there has not been a dog or cat in the house for several days. (There are exceptions to this.) A professional exterminator may be called to treat your house or you may use a long-lasting spray. These sprays are very effective for adult fleas, but they will not kill adults that are still in their cocoon. You should purchase a spray that kills the adult fleas and inhibits development of the eggs and larvae. In climates with extended warm temperatures and high humidity, it may be necessary to treat two or three times with a 30-day residual product before all stages of the fleas are removed from the house. The second treatment is most effective if it is done two weeks after the first.

Yard control may also be done by a professional exterminator or with various insecticides you may use yourself. Be sure that any insecticide used has a 30-day residual. This keeps you from having to spray every week. In climates with extended warm temperatures and high humidity, it

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will often be necessary to treat monthly during the warm months of the year. You should use a 30-day residual product each time. Some of the newest products which contain the growth regulator fenoxycarb are labeled for use only once or twice a year. Your veterinarian is able to help you choose the most effective product for your situation.

### ***I have not seen fleas on my dog. Does that mean that none are present?***

When a dog is heavily infested with fleas, it is easy to find them. If the numbers are small, it is best to quickly turn your dog over and look on its belly. If you do not find them there, look on the back just in front of the tail. Be sure to part the hair and look at the level of the skin. When the numbers are very small, look for "flea dirt." Flea dirt is fecal matter from the flea that contains digested blood. Finding flea dirt is a sure indication that fleas are present or have been present recently.

Flea dirt looks like pepper. It varies from tiny black dots to tubular structures about 1/32" (1/2 mm) long. One method is to put some of the material on a white paper towel and then wet the paper towel with water. A red stain will become apparent if you gently wipe the material across the surface of the paper towel.

Many people find tiny drops of blood in a dog's bedding or where the dog sleeps. This is usually flea dirt that was moistened, then dried. It leaves a reddish stain on the bedding material and is another sign that fleas are present.

### ***I just got my dog home from boarding and it has fleas. Doesn't that mean that it got them at the boarding facility?***

Not necessarily. If you recall, pre-emerged adult fleas can survive up to 140 days within the cocoon. This is significant when your pets are gone from home for extended periods of time. During the time that the house is quiet and empty, pre-emerged adults remain in their cocoon. Even if the house was treated with an insecticide, their cocoon protects them. When people and pets return to the house, adults emerge from their cocoons and immediately begin to seek a blood meal. They jump on dogs, cats, and even people. Although it may appear that a dog just returned from boarding brought fleas to your home, it is also very possible that a sudden emergence of adult fleas may account for the fleas present.