



**O A K B A Y A N I M A L H O S P I T A L**

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## **FELINE FLEA CONTROL**

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

This is a simple question with a rather complex answer. Successful flea control has two aspects. Fleas must be controlled on your cat, and fleas must be controlled in your cat's environment. Since cats and dogs share the same fleas, the presence of a dog in your cat's environment makes flea control much more difficult.

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 take into account all four 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 cat, but the eggs do not stick to the cat's hair. Instead, they fall off into the cat's 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 temperature favor rapid hatching.

Flea larvae are slender and about 1/8 - 1/4" (2 to 5 mm) in length. They feed on organic debris found in their environment and on adult flea feces, which is essential for successful development. They avoid direct sunlight and actively move deep into carpet fibers or under organic debris (grass, branches, leaves, or soil.) They live for 5 to 11 days before becoming a pupae.

Moisture is essential for their survival; flea larvae are killed by drying. Therefore, it is unlikely that they survive outdoors in shade-free areas. Outdoor larval development occurs only where the ground is shaded and moist and where flea-infested pets spend a significant amount of time. This allows flea feces to be deposited in the environment. In an indoor environment, larvae survive best in the protected environment of carpet or in cracks between hardwood floors. They also thrive in humid climates.

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.

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 3 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.

This entire life cycle (adult flea ⇒ egg ⇒ larvae ⇒ pupa ⇒ adult) can be completed in 14-21 days with the proper temperature and humidity conditions. This adds to the problem of flea control.

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

If untreated, the female flea will continue to take blood for several weeks. During that time, she will consume about 15 times her bodyweight in blood. Although the male fleas do not take as much blood, they, too, contribute to significant blood loss. This can lead to the cat having an insufficient number of red blood cells, which is known as anemia. In young or debilitated cats, the anemia may be severe enough to cause death.

Contrary to popular belief, most cats have rather limited itching due to flea bites. However, many cats become allergic to the saliva in the flea's mouth. When these cats are bitten, intense itching occurs, causing the cat to scratch and chew on its skin.

### ***What can I do to rid my cat of fleas?***

Successful flea control must rid the cat of fleas and it must rid the cat's environment of fleas. In fact, environmental control is probably more important than what is done to the cat. If your cat remains indoors and you do not have other pets that come in from the outside, environmental control is relatively easy. However, the cat 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.

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

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

However, there are some newer, more effective sprays that can be a valuable part of the overall treatment plan. They kill adult fleas rapidly and are safe enough to use daily, if necessary. Flea sprays containing insect growth regulators are helpful in managing the overall problem because they help to break the flea life cycle. Some of the newer sprays with growth regulators are not recommended for daily use; once weekly application is recommended. Always read the label when first using any new product on a cat.

There are currently some other types of products available that have residual effects (i.e., that last for several days). These are flea collars and flea dips. Flea dip is poured over your cat after it has been bathed. The dip is not rinsed off; rather, it is allowed to dry on the skin and hair. This results in residual flea control for 4-5 days, but not for several weeks as some people think. Flea collars are on the cat and working 24 hours per day. However, they are not very effective in climates that are especially conducive to flea reproduction. Also, some cats develop irritated skin in response to the collars; obviously, these cats cannot wear collars.

The latest products in the war on fleas are used once each month. Program™ is a tablet that sterilizes the eggs laid by the fleas. In effect, it kills the next generation of fleas; however, it does not kill the adult fleas on your cat. Advantage™ and Frontline Top Spot™ are monthly products that are applied to your cat's skin. They are purchased in small vials that contain one dose. They kill adult fleas, usually before the flea has the opportunity to bite your cat.

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

Environmental flea control usually must be directed at your house and your yard.

Even though fleas may be in your house, most people never see them. Fleas greatly prefer cats and dogs to people; they only infest humans when there has not been a cat or dog 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 house fogger or a long-lasting spray. These foggers and sprays are very effective for adult fleas, but they will not kill adults that are still in their cocoon. You should purchase a fogger or 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 that you use has a 30-day residual. This keeps you from having to spray every week. In climates with extended warm temperatures and high humidity, it will often be necessary to treat monthly during the warm months of the year. You should use a 30-day residual product each time. Your veterinarian is able to help you choose the most effective product for your situation.

With some of the new residual topical treatment (the spray and the liquid applied to the cat's neck), environmental control may become much less a concern. In some cases, treating the cat with these new products will effectively control the environmental problem. Talk to us about your specific situation for the best potential outcome.

***I have heard of a treatment for the house that is guaranteed for 1 year. Is that for real?***

There is at least one company that will treat your carpet with a flea-killing powder. The powder is non-toxic to people. It is worked deeply into the carpet to prevent it from being removed by vacuuming. This treatment has proven very successful, even in the face of heavy flea infestations. However, the treatment does not address fleas in your yard. The same chemical, a form of boric acid, is also available for application by the home owner. However, the self application kits do not offer the year guarantee.

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

When a cat is heavily infested with fleas, it is easy to find them. If the numbers are small, it is best to quickly turn your cat 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 digested blood left behind by the fleas. Flea dirt is actually fecal matter from the flea. 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. If you are in doubt of its identification, put the suspected material on a light colored table top or counter top. Add one or two drops of water, and wait about 30 seconds. If it is flea dirt, the water will turn reddish brown as the blood residue goes into solution. Another trick 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 cat's bedding or where the cat 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 cat 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 cats, dogs, and even people. Although it may appear that a cat 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.