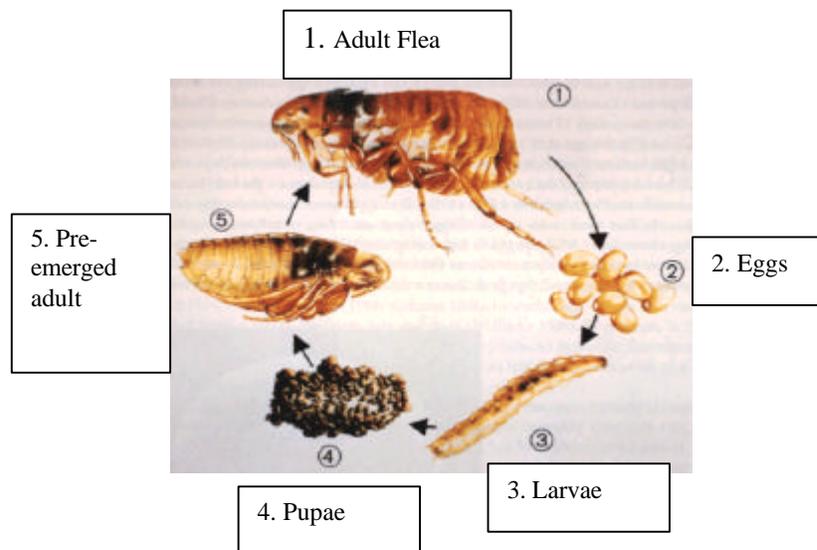

Fleas and Flea Control

Introduction

The most common cause of itching in dogs and cats is the flea. Pets which are allergic to flea saliva may be intensely pruritic (itch) with rare exposure, while non-allergic pets may be heavily infested and show little or no discomfort. Flea control is especially important when pets have a flea allergy (chews and biting the rump area, tail and back legs).

Life Cycle of Flea



The life cycle is influenced by temperature and humidity of the environment with humidity being the more important environmental factor. Ingestion of a blood meal is also important for the immature flea to reach sexual maturity. The adult flea spends most of its life on the host. The female deposits its eggs for several weeks, where they fall off the host and into the environment. Larvae are produced from eggs after about 1 week and tend to hide in cooler, shaded areas such as crevices or under rugs. There are several larval stages which then emerge and produce the pupae. The pupae stage lasts several weeks and is the *most difficult stage* of the flea to kill. The emergent flea rapidly locates the host where it usually spends the majority of its life.

Effective flea control treatment incorporates treatment of the **animal and its environment**. Therefore, the interior of the house, the yard and associated exercise areas are important to concentrate on with flea control products.

The main therapy for fleas is FLEA ERADICATION!!

You must control fleas on the animal and in the environment. It is also important that all animals in the household be incorporated in a flea eradication program. This is especially important in households with dogs and cats. The flea allergic patient is also important in the particular program that is recommended. A professional exterminator is recommended as initial treatment in any house with an animal that is *flea allergic*.

Products

Products for use in flea control include: powders, sprays, shampoos, topical liquids applications and oral tablets or suspensions. Differences between products consist of their **individual activity against a particular life stage** of the flea (adulticides – kill the adult flea; insect growth inhibitors and regulators – prevent maturation of larvae and egg stages), and whether or not there is some residual or repellent activity on the animal or in the environment.

Pyrethrins

These compounds are effective against adult fleas and are contained in topical sprays and shampoos. They are rapidly inactivated by UV light and have little residual activity. They have a low toxicity and are safe for use in cats. They are often mixed with piperonyl butoxide and have a quick knock down effect. Piperonyl butoxide is toxic for cats in high concentration (> 1.5%) and may induce salivation and muscular excitation.

Permethrins

These compounds are synthetic pyrethrins and are effective against adult fleas and are contained in sprays, shampoos and topical applications. One of the most popular pyrethroids is *permethrin* which is stable on exposure to UV light, and acts as a repellent at a concentration of 2% with residual activity of one week. **Permethrin concentrations of 2% or greater are toxic to cats.** Clinical signs of toxicity in cats will depend on the type of pyrethroid that has been used and can go from ear flicking, paw shaking to excessive salivation, depression, muscle tremors, vomiting and seizures and possible death. **These compounds should not be used on dogs which have intimate contact with cats.**

Fipronil (Frontline®)

This product kills adult fleas rapidly and is beneficial for use in the flea allergic patient and comes as a topical application. This compound is not inactivated by UV light or water. Residual activity is claimed to be up to 3 months however clinically, it seems that 3 – 4 weeks is a more appropriate residual activity period. It is not affected by mild shampoos. It is not a repellent and is safe for cats, puppies and kittens > 6 – 8 weeks of age. This product is also effective against ticks.

This product kills the adult flea rapidly and is advertised as a once monthly product and is a topical application. This product does appear to be more likely inactivated by water and excessive humidity. This product is not useful for animals that require frequent bathing. This product is not effective against ticks.

Fipronil + Methoprene (Frontline Plus®)

The addition of methoprene to this product acts to inhibit the development of the larvae and egg stages of the flea. This product is also effective against ticks.

Imidacloprid (Advantage®)

This product kills the adult flea rapidly and is advertised as a once monthly product and is a topical application. This product does appear to be more likely inactivated by water and excessive humidity. This product is not useful for animals that require frequent bathing. This product is not effective against ticks.

Imidacloprid & Permethrin (K9 Advantage[®])

This product incorporates permethrin and is used on **DOGS ONLY!! Toxic to cats.** This product kills ticks and mosquitoes and is an effective repellent for ticks and mosquitoes and comes as a topical application.

Selamectin (Revolution[®])

This product is effective against certain external and internal parasites which include fleas, ticks, sarcoptic mange, ear mites, heartworms and certain intestinal worms (roundworms and hookworms). This product is

Nitenpyram (Capstar[®])

This product is used in an oral table form and rapidly kills the adult flea. It is safe for puppies and kittens and is administered orally and begins to kill the adult flea within 30 minutes. There is no residual activity.

Lufeneron (Program[®])

This product is administered as an oral tablet or suspension, once monthly, to dogs and cats to prevent the development of the larvae stages of the flea.

Shampoos and topical sprays are useful products and often contain a repellent and have quick killing activity. Alcohol is contained in most products and has some adult killing affect upon the flea. Alcohol can be irritating to some animals. Powders are not highly useful and if used should be applied 2 – 3 times weekly.

Products for the Environment

Inside the Home: Best is to use a professional exterminator. If not, then use an adulticidal product and an insect growth inhibitor. You will need to repeat these treatments as topical environmental products will not kill all stages during one application and new adult fleas will emerge. Vacuuming regularly and removing the vacuum bags will also reduce number of immature forms of the fleas. It is best to remember that certain types of flea products can only be used on dogs, some products are toxic to cats and other pets, therefore you should speak with your veterinarian about which type of product is best to use in your particular situation. Sodium polyborate (Powder) can be applied in a house with carpets. This product must be started before the flea season and be applied regularly during the flea season.

Outside the Home: Most products contain an adulticide and insect growth inhibitor but there are some topical nematodes products that will also kill immature stages of the flea. Remember you should trim bushes, tress and rake away debris and keep the grass trimmed short. In situations where there is a flea allergic pet in the household a professional exterminator is the best choice to assist with flea control.