



*Protecting and enhancing the lives of lost,  
unwanted and homeless animals.*

## Fleas

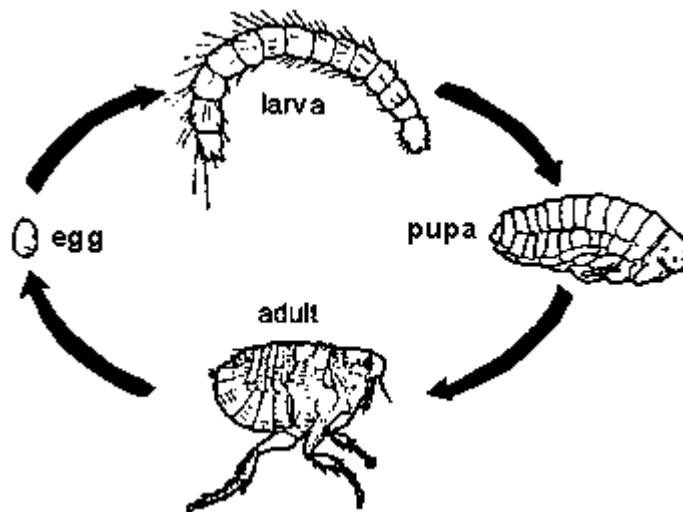
### General Information

Although there are many many different species of fleas, the species we are concerned about is *Ctenocephalides felis* (the cat flea). Fleas are not only a nuisance, but they can cause allergic dermatitis, anemia, infectious anemia (a blood parasite), cat scratch fever, and tapeworms. A heavy infestation of fleas can be lethal, particularly for young animals and elderly cats.

Fleas are tiny insects that can be seen with the naked eye. The adults are usually 1-4 mm long with a flat body that is light to dark brown. Adult fleas have a characteristic jumping movement.

### The flea lifecycle

The flea has four life stages: egg, larvae, pupae, adult



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## EGG

At any given time, about one third of a flea population is made up of eggs sitting in the environment. A female fleas can lay up to 40 eggs a day. The eggs are laid on the host but they fall off into the environment. Eggs incubate best a high humidity and at room temperatures.

## LARVAE

At any give time 57% of the flea population are in the larvae stage. Larvae are like little caterpillars that hatch from the egg and are crawling around in the environment. The larvae feed on the flea dirt that has been produced by adult fleas and fallen off the host. (flea dirt is composed of dried blood from the host). If there are tapeworm eggs in the environment this is the time at which they are ingested by the flea. Flea larvae will molt several times before they are ready to spin a cocoon and pupate. The time between hatching and pupating can be as short as 9 days.

## PUPAE

Only 8% of the fleas make it to this stage but once they are cocooned they are invincible. Inside the cocoon the pupa turns into an adult flea. Fleas can lie dormant in this stage for a very long time, up to a year. The flea stays inside of its cocoon until it detects a nearby host. It can detect vibrations, carbon dioxide gradients, sounds and light patterns.

## ADULT FLEA

Sensing a host nearby, the flea will then emerge from the cocoon and seek out the host. Once the adult flea finds it host it will bite the host, taking a meal of blood. The female flea will begin to produce eggs 24-48 hours after her first meal. She will then lay eggs continually until she dies. The average lifespan of an adult flea is 4-6 weeks. On average, it takes 3 weeks for an adult flea to develop from the hatching of the egg. Only 5% of the flea population is comprised of adults living on the host.

## **Recognition of Fleas**

Because only 5% of the flea population are adults and because dogs and cats often groom off the adults fleas, it is less likely that the presence of fleas will be recognized through the direct observation of adult fleas on the animal.

Signs:

- observation of scratching or biting at coat or other signs of discomfort
- examining the pet with a strong light for evidence of fleas, flea bites, etc. Pay particular attention to the area around the tail, and the belly.

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- combing with a fine metal comb that traps fleas and flea dirt; and moistening combings on a white paper towel (flea dirt will turn a red-brown color).
- White paper test: place a piece of white paper beneath the animal and then rub its fur. If black specks appear on the paper and they turn red when dampened then they are flea dirt.
- Evidence of tapeworm segments from the animal (*see the IDP for tapeworms for more information*)

## **Prevention of fleas**

All animals are examined by a veterinarian for evidence of fleas prior to being brought into the shelter. Animals with evidence of fleas are treated in the clinic before being transported to the shelter. Animals who have been found to show evidence of fleas must be kept apart from other animals in the shelter for the first 48 hours that they are in the shelter. Cats that have had fleas must remain caged alone for 48 hours and must not share bedding, litter etc with other cats for the time period. Dogs must be kenneled alone and avoid contact with the other dogs for the first 48 hours. They must not share bedding with the other animals.

## **General Policy**

Fleas are considered to be a treatable infection.

## **Initial Response**

### Animal Placement

Ideally any animals with fleas will be treated prior to arriving at the shelter and thus we will avoid fleas coming into the shelter. Animals that have had fleas must be kept separate and not come into contact with, nor share bedding, toys etc with other animals for their first 48 hours in the shelter.

### Treatment

The world of flea treatment is very confusing. Many products that are available from pet supply stores contain toxic pesticides that are harmful to both humans and pets. WAG utilizes products available only from the veterinarian. Those products currently used most commonly are:
















Advantage®- This product contains a chemical called Imidocloprid. It kills adult fleas and flea larvae. This is a topical product that comes in a tube. The product is applied to the skin between the shoulder blades. It then spread over the body in the body oils and collects in the hair follicles. It is released slowly from the hair follicles over time (about 1 month). The fleas do not need to bite the host before they will die; larvae and adult fleas that come into contact with imidocloprid will be killed. There is no need to treat the

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environment when the animal has been treated with Advantage. Advantage is available for cats and dogs and can be used on puppies and kittens over 8 weeks. Advantage kills all of the fleas on an animal within 24 hours.

Revolution®-The product contains a chemical called Selamectin, which kills adult fleas and prevents the eggs from hatching. Like Advantage, Revolution is a once a month treatment that is applied from a tube onto the skin between the shoulder blades.

Revolution® is absorbed into the system from the skin. It then redistributes throughout the body including to the skin where it protects from fleas. It can take 42 hours for Revolution to kill all of the fleas. Revolution® also treats for other parasites such as ear mites, heartworm, and roundworms (cats only):

		
Adult fleas		
Flea eggs		
Heartworm		
Ear mites		
Sarcoptic mites		
Hookworm <sup>1</sup>		
Roundworm <sup>2</sup>		
American dog tick		

<sup>1</sup>*Ancylostoma tubaeforme*

<sup>2</sup>*Toxocara cati*

Capstar®-This product contains a chemical called Nitenpyram. Capstar is an oral medication that is used to rapidly kill adult fleas that are on the animal. It begins killing the fleas after 20 minutes but lasts only a few hours. This product is not a long-term treatment solution, but it is ideal for situations in which we need to rapidly kill the fleas on an animal before bringing that animal into the shelter (to avoid a flea infestation in the shelter).

Seek the advice of the veterinarian before applying any of these products. They are most often used directly by the veterinary staff on a new animal prior to them being transported to the shelter.

### Cleaning

Follow the regular cleaning protocols for the shelter including the regular washing of bedding, scrubbing of floors, and vacuuming. All bedding used by new animals should be washed in dilute bleach prior to being used by other animals.

Be sure to wash any bedding that is donated or that is surrendered with animal in dilute bleach prior to use by shelter animals. Bedding can harbour eggs, larvae and pupae.

### Public Safety

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Fleas do not pose a large danger to humans. Fleas may bite humans if they are desperate for a meal, but humans are not their preferred host. It is possible for humans to acquire a tapeworm if they ingest a flea. Though very rare, fleas can transmit diseases such as bubonic plague. Fleas bites cause itchiness and irritation. They could also cause an allergic reaction and dermatitis.

Anyone handling an animal that has been freshly treated with Advantage or Revolution should wear gloves. Staff, volunteers and visitors should wash their hands thoroughly after handling animals treated with these products as they may cause skin and eye irritation.

### **Monitoring and Recovery**

Products such as Advantage are very effective. In certain cases second doses may be recommended by the veterinarian. Monitor animals for signs of fleas.