

ALL YOU WANT TO KNOW ABOUT FLEAS!

The flea species most commonly found in homes, the cat flea or *Ctenocephalides felis*, occurs on both cats and dogs and also bites people. This section will explain how to identify flea bites, adult fleas, and flea larvae, pupae and eggs. Bites usually occur along the ankles and lower portions of legs from fleas in carpet. You'll notice a flea bite before the flea. Flea bites vary in appearance from tiny red dots to raised red bumps similar to mosquito or spider bites. They are usually accompanied by an itchy halo of redness that may last for several hours. Children are usually more sensitive to flea bites than adults.

A board-certified dermatologist should be able to help you identify a bite on human skin.

Adults

Fleas are only about 1/16"-1/8" long and are difficult, though not impossible, to be seen by the naked eye.

Fleas are wingless. To travel from host to host, they leap incredible distances by using their long hind legs. (Michael Peter Balzary got his nickname based on his jumpy nature.) Fleas can leap as far as 7 inches vertically and 13 inches horizontally – quite a distance for such a small insect. “[An equivalent hop for a human would be 250 feet vertically and 450 feet horizontally!](#)” Their backward pointing spines on their body help them stick to hair on a host and make them hard to remove by scratching or shaking. The row of spines on their head is called a genal comb. Their laterally flattened body (like a bluegill) enables them to meander through fur, hair or feathers with ease. Other descriptive features include:

- 3 pairs of legs
- Dark, reddish-brown in color
- Short antennae with 3 segments
- Hard-bodied (hard to crush)

Eggs

- Smooth
- Oval-shaped
- White in color

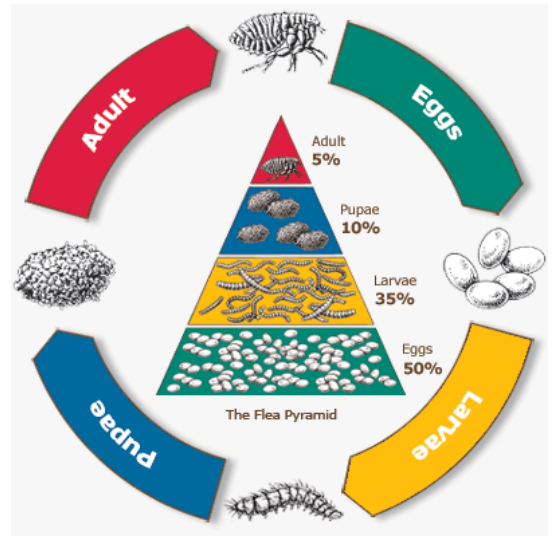
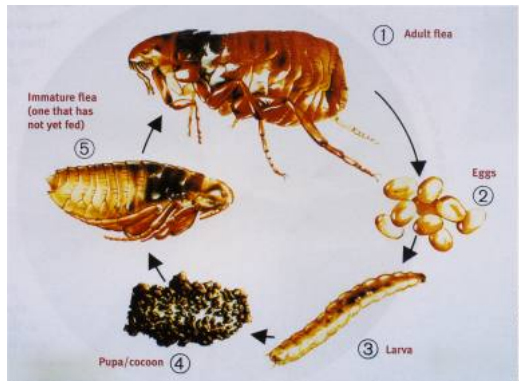
Larvae

- About 1/4" long
- Body is white- or straw-colored when freshly molted; reddish-brown when feeding
- Head is brown
- Legless, maggot-like
- Roll up into a ball when disturbed
- Long hairs on each of the 13 body segments

Pupae

- Silky cocoon
- Sticky and covered with debris particles
- Nearly impossible to kill unless smashed

Fleas' life cycle: A flea life cycle (from egg to larva to pupa to adult) takes from 2 weeks to 8 months. The length varies depending on temperature, humidity food and species with the optimum temperature being 70°F to 85°F and the optimum



humidity is 70%. **95% of a flea infestation population is in the immature stages, while only 5% of the population are adults.** The breakdown of the immature population consists of 50% eggs, 35% larvae, and 10% pupae.

The process:

Stage 1 – Egg:

1. The female, after a blood meal, lays about 15-20 eggs per day – that’s up to 600 in a lifetime – usually on the host.
2. Eggs do not stick to the host, so they drop out anywhere – on carpets, rugs, upholstered furniture, etc.
3. The eggs hatch in 2 days to 2 weeks into larvae – in floor cracks, crevices, along baseboards, in beds, etc.

Stage 2 – Larva:

1. Takes a week to several months to develop.
2. Are blind and avoid light.
3. Larvae sustain themselves by eating digested blood from adult flea feces, dead skin, hair, feathers, and organic debris that is found in carpet, rugs, fabric on furniture, and your pet’s bedding material. They are less likely to survive on tile floors, wood floors, or other smooth and impermeable surfaces.

Stage 3 – Pupa:

1. Takes about 5-14 days to develop into adult fleas.
2. Silken cocoon is woven by larva.
3. Pet hair, carpet fibers, dust, and other debris sticks to cocoon.
4. Adults emerge once movement from a potential host is noticed.

As long as they’re cocooned, fully-developed adult fleas can survive without food for several months. Otherwise, newly emerged adult fleas can only live about 1 week without a blood feast. What helps them emerge from the cocoon stage is vibration (such as walking across the floor after the house was empty while you were on vacation), carbon dioxide (such as from a cat or dog exhaling), physical pressure, or heat.

Stage 4 – Adult:

Adult fleas may live from 2 months to 1 year without feeding, but newly emerged adult fleas only live about 1 week if a blood meal is not obtained. **LOOK FOR EVIDENCE OF ADULT FLEAS PRIMARILY OVER THE TAILHEAD AREA OF YOUR CAT OR DOG WITH THE PRESENCE OF FLEA DIRT. THESE WILL BE SMALL BLACK SPECKS OF FLEA POOP THAT MIGHT HAVE A SLIGHT COMMA SHAPE TO THEM.** To confirm whether it is flea dirt or not, place it on a white or light-colored surface and add a drop or two of water. Within 20- 30 seconds it will start leaching a red color since flea dirt is actually your pet’s digested blood after it passes through the flea.

Keep in mind that adults do not necessarily emerge all at once. If you treat an infestation, be prepared for a second hatching within about 10-21 days. **THAT IS WHY IT IS VERY IMPORTANT TO TREAT THE ENVIRONMENT TWICE (AT A MINIMUM). FOLLOW THE FIRST TREATMENT WITH A SECOND ONE A MONTH LATER!**

Treating the house is paramount to complete flea treatment. If you treat only the dog or/and cat, and don’t treat the house, getting rid of all the fleas will be like trying to pay off a large credit card bill by just paying the minimum each month. It will take a long time!

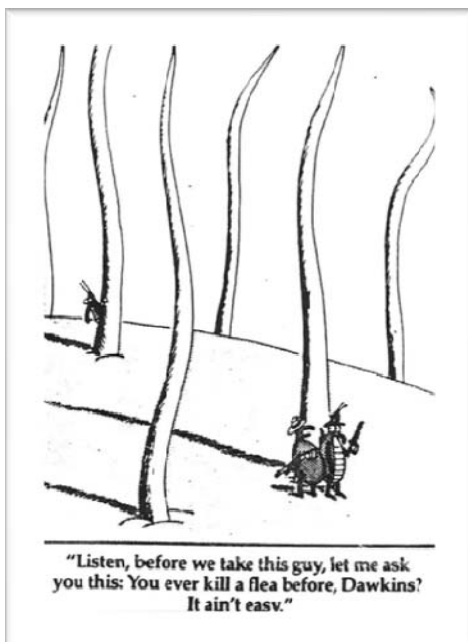
HINTS FOR TREATING THE HOUSE AND THE OUTSIDE ENVIRONMENT:

- ✦ Cut up a flea collar and put it in the dust collection chamber of your vacuum cleaner. The warmed up air will activate the collar and kill and stage of the flea life cycle that was sucked into the chamber. It will also work on dust mites. Do tie off and throw the vacuum clean bag contents away frequently.
- ✦ Be sure to thoroughly vacuum the whole house and not miss under and behind furniture where pets may go.
- ✦ Wash any bedding material that your pet sleeps on to get rid of the pre-adult fleas that exist there.
- ✦ If you use foggers to treat the house, be sure to pre-treat areas that foggers will penetrate very well: under sofas and chairs. Place sofa and chair cushions on edge so that it gets under these areas. Do not be skimpy in the number of foggers you use, and at the same do not overdo it and create an explosive situation.
- ✦ In using house and carpet sprays, do not over saturate an area. A light and even spray treatment of the floor and furniture surfaces are more appropriate. We have a good one: MYCODEX ENVIRONMENTAL SPRAY.
- ✦ If you hire a professional exterminator, be sure they know you have a flea problem and that they don't just spray along the baseboards. Have them return in 1 month to repeat treatment.
- ✦ In treating the outside environment, focus on areas of the yard that are shaded most of the day, and where you see your cat or dog spending a lot of time. Bright sunlight tends to desiccate or dry out the pre-adult fleas.
- ✦ Go to your lawn and garden center and seek professional advice as to what product(s) they recommend.
- ✦ ALWAYS REPEAT ALL TREATMENTS AT LEAST ONCE MORE A MONTH LATER!!

HINTS AND PRODUCTS FOR TREATING YOUR CAT OR DOG:

- ✦ Flea collars do not work very well since most of the fleas spend their time on the back quarter of your pet. Best place for them is to cut them up and place them in your vacuum cleaner bag or container.
- ✦ Flea shampoos are NOT long lasting! Once you rinse the shampoo off, there is no residual killing action.
- ✦ Flea dips and powders may be too toxic for your pet and for those who handle them. Be careful to read and follow all label directions is you use them.
- ✦ DO NOT combine multiple flea treatment products in trying to get rid of all the fleas on your pets. ***Be sure to check with us on those products that are safe to use together.***
- ✦ If you use Over the Counter (OTC) flea products, be sure to read and follow ALL label directions. Many products indicate they are not to be used on cats. There can be fatal consequences if mistakes are made in this area.
- ✦ In using any of the number of topical 'spot-on' products, be sure to follow the 2-day rule: No bathing for 2 days before or after the application of the product. These products work by 'creeping along the sebaceous or oily glands in the skin'. If you bathe your pet, you will get rid of this oily layer and it will not spread as effectively.
- ✦ If using a flea birth control product such as Program or Sentinel, or Comfortis (which kills adult fleas for a month), be sure to follow label directions and give them with a small meal for better absorption.

FLEA HUMOR



FLEA KILLING PRODUCTS FOR YOUR PETS

(THOSE IN RED ARE AVAILABLE AT TSAC)

TABLE 1	Flea Killing Ingredient	Flea Sterilizing or Additional Ingredients	For Dogs or Cats	Youngest Age or Size Approved For Use	Waterproof or Water Resistant & HOW OFTEN GIVEN/APPLIED
Comfortis	<u>spinosad</u>	none	dog	14 weeks; at least 5 lbs	Waterproof Given orally once a month
Vectra 3D	dinotefuran & permethrin	pyriproxyfen (flea sterilizer)	dog	7 weeks; at least 2.5 lbs	Waterproof; Applied monthly
Vectra for Cats	dinotefuran	pyriproxyfen (flea sterilizer)	cat	8 weeks	water resistant; Applied monthly
Promeris	metaflumizone	amitraz (for additional parasites)	dog	8 weeks	Waterproof; Monthly application recommended
Promeris Feline	metaflumizone	none	cat	8 weeks	Waterproof; Monthly application recommended
Revolution	selamectin	none	dog or cat Best for cats	6 weeks puppies 8 weeks kittens	Waterproof; Monthly application recommended
Advantage	imidacloprid	none	dog or cat	7 weeks puppies 8 weeks kittens	water resistant; Monthly application recommended
K9Advantix	imidacloprid & permethrin	none	dog	7 weeks	water resistant; Monthly application recommended
Advantage Multi also called Advocate	imidacloprid	moxidectin (for additional parasites)	dog or cat	7 weeks puppies 9 weeks kittens	water resistant; Monthly application recommended
Frontline	fipronil	none	dog or cat	8 weeks	Waterproof; Monthly application
Frontline Plus	fipronil	methoprene (flea sterilizer)	dog or cat	8 weeks	Waterproof; Monthly application recommended
Program	none	<u>lufenuron</u> (flea sterilizer)	dog or cat	4 weeks	Waterproof; Monthly oral with meal; For cat injection, every 6 months
Sentinel	none	<u>lufenuron</u> (flea sterilizer) & milbemycin (for additional parasites)	dog	4 weeks; at least 2 lbs	Waterproof; Orally given monthly with meal
Capstar	nitenpyram	none	dog or cat	4 weeks; at least 2 lbs	Waterproof; As needed-given orally or daily (no lasting activity)

PRODUCT	ACTIVE INGREDIENTS	SPECIES / MIN. AGE	DOSAGE / ADMINISTRATION	EFFECTS	COMMENTS
Program / Sentinel	Lufenuron	Dogs 4 weeks Cats 8 weeks	Oral monthly; Cat injectable q 6 mos	Prevents Egg Hatching	By Prescription Only (Sentinel prescription; Program OTC); Oral forms must be given with food
Frontline Plus	Fipronil s-Methoprene	Dogs 8 weeks Cats 8 weeks	Monthly Spot-On	Kills fleas within 48 hrs; Prevents Egg Hatching; Kills ticks	EPA-registered pesticide
Advantage	Imidacloprid	Dogs 7 weeks Cats 8 weeks	Monthly spot-On; can be used weekly	Kills fleas within 12 hours	EPA-registered pesticide Rapid action; shampoo wash-off*
Advantage Multi	Imidacloprid Moxidectin	Dogs 7 weeks Cats 9 weeks Don't use dog product on cats	Monthly Spot-On	Kills fleas within 12 hours; Prevents heartworms, intestinal worms, Kills ear mites; Kills scabies mites; may kill Demodex	FDA Prescription Drug; heartworms, intestinal worms, ear mites; scabicide; may have Demodex efficacy; Imidacloprid shampoo wash-off*
KS Advantix	Imidacloprid Permethrin	Dogs 7 weeks	Monthly Spot-On	Kills fleas within 12 hours; Kills & repels ticks; repels mosquitoes	Caution with cat indirect exposure; Imidacloprid shampoo wash-off*
Revolution	Selamectin	Dogs 8 weeks Cats 8 weeks	Monthly Spot-On	Kills fleas within 48 hours; Rapidly stops egg production; Prevents heartworms; Kills ear mites, scabies (and other related mites), Kills Demodex ticks; Prevents roundworms and hookworms in cats	FDA prescription drug; Slow to maximum kill for adult fleas, but cessation of feeding and egg production is rapid
Promeris DOGS	Metaflumizone Amibraz	Dogs 8 weeks	Monthly Spot-On	Kills Fleas within 48 hours; Kills Ticks; Kills scabies mites	Large vol (8.8 ml lg dog size); may have Demodex efficacy; slow to maximum kill; Shampoo resistant*
Promeris CATS	Metaflumizone Amibraz	Cats 8 weeks	Monthly Spot-On	Kills fleas within 48 hours	Leaves residue on coat; some object to odor; lg vol (3-1.5 ml); safe in pregnancy; slow to max. kill
Comfortis	Spirosect Amibraz	Dogs 14 weeks	Monthly Chewable Tablet	Kills fleas within 2 hours	FDA prescription drug; Not approved for cats, rapid onset, quick kill ; vomiting?; epilepsy caution
Capstar	Nitenpyram	Dogs 4 weeks 2+ lbs Cats 4 weeks 2+ lbs	One Tablet pm or daily - EOD	Kills fleas within 2 hours	FDA OTC Drug; rapid onset, quick kill, no residual
Vectra 3D	Dinotefuran Permethrin Pyriproflfen	Dogs 7 weeks	Monthly Spot-On	Dinotefuran - kills fleas within 8 hrs; Permethrin - kills fleas, repels & kills ticks, repels & kills mosquitoes Pyriproflfen - prevents egg hatch	Very rapid onset of action; cool applicator; large vol (up to 8 ml in giant breed dogs); not tested against resistant flea strains; dinotefuran shampoo wash-off*
Vectra for Cats & Kittens	Dinotefuran Pyriproflfen	Cats 8 weeks 9+ lbs	Monthly Spot-On	Dinotefuran - kills fleas Pyriproflfen - prevents egg hatch	Very rapid onset of action; cool applicator; 0.8 ml for cats < 9 lbs; 1.2 ml for cats 9+ lbs; not tested against resistant flea strains; dinotefuran shampoo wash-off*

* Note that all of the topical flea products are subject to wash-off when using anti-seborrheic shampoos, or when frequent bathing or swimming are a part of your pet's routine.

FLEA PRODUCTS AVAILABLE FOR CATS AND DOGS

Available at TSAC are Capstar, Sentinel, Revolution, Frontline Topspot Plus, and Comfortis