Fleas and Ticks

Fleas and ticks are sneaky little bugs. They invite themselves onto your pet and thus, into your home. They can cause harm to your pet and possibly transmit diseases to you. Understanding fleas and ticks, how they affect your pet's health, and what to do about them, will help you address a current flea or tick problem and prevent a future one.

Fleas

Fleas are a very common world-wide problem. The common flea, *Ctenochphalides cati,* is found in close to 100% of the flea infestations on dogs, cat, rabbits, and the rest of our pet population. They can jump onto your pet, or you, from infested environments such as homes, yards, wooded areas and parks. Adult fleas live on the pet. They do not jump from pet to pet or pet to human. Once a host has been found, they generally stay.

Life Stages

There are 4 life stages for fleas: egg, larval, pupal and adult.

Egg stage: The average life span of this stage is 10 days. After the adult female flea feeds, she can lay up to 50 eggs. The eggs then fall off of your pet onto the carpet, floor, sofa, bed…any place where your pet plays or sleeps. The animal acts like a salt shaker, shaking flea eggs all over the house.
Larval stage: The average life span of this stage is 12 days. After hatching, the larvae find a dark place in your home and feed on flea feces. They grow, molt twice and spin cocoons where they grow into pupae.
Pupal stage: The average life span of the pupal stage is 4-5 months. Pupae spend 8-9 days in their cocoon growing to adulthood, then wait for signals that it is time to emerge. Some signals are temperature, humidity and movement. This is the life stage of the flea that no product can kill. The pupae are very hardy and can survive for some time before emerging to feed.
Adult stage: The average life span of a flea is 50 days. Newly hatched adult fleas can detect a host from inside their cocoons at which point they leave the cocoon, hop onto a host, find a mate and start the cycle again.

Diseases caused by fleas

Scratching is just the beginning. Excessive scratching may be the first sign of fleas. But it may also indicate a larger health issue. Fleas can cause a wide range of diseases that deprive your pet of energy, cause sores and affect the overall health of your pet.

"Hot Spots": These are areas of irritation from constantly licking and scratching.

Flea Allergy Dermatitis (FAD): In some pets, the flea saliva can cause an allergic reaction that sets the animal off, causing excessive biting or scratching around the tail, groin, backside, neck or back, possibly producing scabs or bumps.

Anemia: A flea infestation may be so severe that it causes anemia in young animals as well as older, debilitated pets. Signs of anemia are pale gums, weakness and lethargy.

Tapeworms: Tapeworms absorb nutrients from food intended for your pet. The pet passes "rice-like" segments containing tapeworm eggs. These segments can be found in the feces and around the rectum. Pets get tapeworms by swallowing a flea.

Mycoplasma Haemofelis (formerly known as *Hemobortenella felis*): This is a parasite that attaches to the red blood cell. This parasite causes destruction of the cell which leads to anemia and often life-threatening disease.

Cat Scratch Fever/Cat Scratch Disease: This is a bacterial disease caused by *Bartonella henselae.* The disease is usually contracted through the bite or scratch of a cat or kitten that carries the bacteria. Fleas are implicated in carrying this organism from infected to non-infected individuals.

Plague: This is an infectious disease caused by *Yersinia pestis.* Primarily carried by rodents, this disease is spread to humans via fleas. Infection in a human occurs when a person is bitten by a flea that has been infected by biting a rodent that itself has been infected by the bite of a flea carrying the disease.

More information on fleas:

[url=http://www.healthypet.com/library_view.aspx?ID=28&sid=3]Pet Care Library – Fleas [/url]

Ticks

Ticks are parasitic arthropods that feed on the blood of their hosts. They are attracted to warmth and motion. Ticks tend to hide out in tall grass or plants in wooded areas waiting for prospective hosts. Ticks climb onto their host and attach their mouthparts into the skin, beginning the blood meal. Once locked in place, they will not detach until their meals are complete. They may continue to feed for several hours or days, depending on the type of tick. Ticks often attach themselves in crevices and/or areas with little to no hair – typically in and around the ears, the areas where the insides of the legs meet the body, between the toes, and within skin folds.

The most common ticks that infest us and/or our pets in our part of southern Indiana are the American Dog Tick (field tick), the Brown Dog Tick, and the Black Legged Tick (one of the species called the deer tick). There are minor differences in each of their life cycles but, in general, the cycle consists of four stages.

Life Stages

There are 4 life stages for ticks; egg, larval, nymphal and adult. Each stage beyond the egg stage must take a blood meal to mature and continue to grow.

Egg stage: Female ticks lay 100 to 6,000 eggs at a time (depending on species) in secluded areas of dense vegetation. Eggs hatch in about 2 weeks.
Larval stage: After hatching, larvae search for their first blood meal. This could be on you or your pet. They latch on, feed on blood and then drop back into the environment.
Nymphal stage: After feeding on their first blood meal, larvae molt into a nymph and search for another host. Nymphs are difficult to detect, increasing the chance of disease transmission.
Adult stage: Nymphs feed then molt into adults. Adult females feeding on a host can grow up to 100 times their original weight. The female will then fall off and lay eggs–beginning the cycle again. The life span of a tick can be several months to years.

Diseases caused by ticks

Ticks can transmit diseases that actually threaten your pet's life. Many of these diseases can be passed to humans as well.

Lyme Disease: Lyme disease is a bacterial infection affecting both dogs and people. It causes lameness, fever, loss of appetite, fatigue and enlarged lymph nodes.

Babesiosis: This disease is caused by the protozoan species *Babesia*. It gets into the red blood cells causing anemia in the host. Other symptoms are fever and loss of appetite. This is a serious disease potentially resulting in coma and death.

Ehrlichiosis: Ehrlichiosis is caused by an organism called *Ehrlichia*. This disease causes fever, depression, lameness and loss of appetite.

Rocky Mountain Spotted Fever: The disease is caused by *Rickettsia rickettsii*. The most common symptoms are fever, rash, loss of appetite, lameness and depression.

Tick Paralysis: Female *Dermacentor* species of ticks secrete a toxin that affects the nervous system of mammals. This causes flaccid (weak, no muscle tone) paralysis. In some animals, only the rear legs are affected, though it can spread to the front legs and even affect breathing.

More information on ticks

[url=http://extension.entm.purdue.edu/publications/E-243.pdf]The biology and medical importance of ticks in Indiana, Purdue University [/url]

[url=http://bsu.edu/physiology-health/entomology_lab/brochure/]Ticks and disease in Indiana, Ball State University [/url]

[url=http://www.ent.iastate.edu/imagegal/ticks/]Tick Images [/url]