Historically, heartworm disease has been overlooked in cats, yet it has proved to be serious and potentially fatal. Because there is no approved treatment for heartworm infection in cats as there is in dogs, prevention of infection is the best protection. Other differences between feline and canine heartworm disease make it important for cat breeders and owners to be aware of the risk of the disease and how to prevent it.

Alice Lee, DVM, the Novartis clinical resident in veterinary parasitology at Cornell University, attributes the prior lack of awareness about feline heartworm disease to the fact that mature heartworm infection can be difficult to diagnose in cats. “Until recently, it was not known that heartworms cause disease in cats even before they’re fully grown,” she says. “This lack of awareness translated into low rates of heartworm preventive use in cats.”

Dr. Lee cites other factors that may contribute to a lack of the use of heartworm preventives by cat owners. “Some people think that if their cats don’t go outside, they won’t be bitten by mosquitoes and they won’t get infected. In reality, infected mosquitoes can enter homes, so both outdoor and indoor cats are at risk,” she says. “Cats also are not brought to the veterinary clinic as often as dogs, thus there are fewer opportunities for the veterinarian to educate cat owners about the risk of heartworm.”

In recent years, feline heartworm disease has been diagnosed more frequently, says Patricia A. Payne, DVM, PhD, a veterinary parasitologist and member of the board of directors of the American Heartworm Society. “With increased testing for heartworms in cats by veterinarians, new ‘hot spots’ for the disease are being found in previously nonendemic places such as southern Michigan and northern California,” she says. “Heightened awareness of the disease in cats and improved diagnostic methods play a role as well.”

Every year, heartworm disease spreads to new regions of the country, with the disease now having been diagnosed in all 50 states. Environmental changes can trigger spread. This occurred following Hurricane Katrina when 250,000 pets, many infected with heartworms, were adopted and shipped throughout the country. Urban sprawl creates “heat islands” as buildings and parking lots retain heat during the day and as water drainage is altered, thus fostering a microenvironment that supports the development of heartworm larvae and thereby lengthening the transmission season. Mosquitoes blown great distances by the wind also contribute to the spread of disease to previously uninfected areas.

Heartworm disease can occur in cats anywhere dogs are infected, though the prevalence of infection in cats is from 5 to 20 percent of the level in unprotected dogs in the same geographical location. The prevalence rate in cats is believed to be underrepresented due to diagnostic limitations related to cats exhibiting...
From the time the mosquito bites and infects the cat to the development of heartworms, two phases of an infection are particularly dangerous. They occur when:

- Immature heartworms reach the pulmonary system three to four months post-infection, causing inflammation in the lungs, a condition known as heartworm-associated respiratory disease (HARD).

   - Adult heartworm(s) die, plugging the blood vessels in the lungs, resulting in respiratory distress and death. In cats, adult heartworms are more likely to be found in atypical locations such as the brain, causing neurological problems.

   - A definitive diagnosis of feline heartworms is based on blood antigen and antibody tests and in some cases cardiac ultrasonography. The antibody test detects whether an infection has occurred as early as two months post-infection, and the antigen test picks up the presence of adult worms. Positive tests should be followed up with cardiac diagnostic imaging tests to help visualize the worms.

Feline heartworm disease can be subtle or dramatic. Coughing, asthma-like attacks, periodic fainting or seizures, or suffer from abdominal fluid accumulation.

Recognizing Heartworms in Cats

Signs of heartworm disease in cats can be subtle or dramatic.

Cats diagnosed with heartworms are treated using medications, such as prednisone, a steroid, to manage the clinical signs. In rare cases, surgery can be performed to remove worms though this procedure is expensive and can be risky. Guided by ultrasound, a surgeon makes an incision in the neck to pull a worm(s) out of the pulmonary artery and/or heart.

Heartworm prevention is the best way to prevent an infection. “Cats should be tested before starting on a heartworm preventive,” advises Dr. Payne. “Because there is no approved treatment for heartworm infection in cats, prevention is critical. The American Heartworm Society recommends testing cats every 12 months for heartworms and giving heartworm preventive 12 months a year.”

Topical and oral heartworm preventives have been available commercially in the U.S. since the 1990s, though they have not been used widely by cat owners. Gradually, their use is increasing, thanks to greater awareness about heartworm disease. Monthly preventives, such as the oral preventives Heartgard® and Interceptor® and topical preventives Revolution® and Advantage Multi®, require a veterinary prescription. Some preventives also are effective against parasites, such as roundworms, hookworms, fleas, and ear mites.

Due to the difficulty diagnosing heartworms in cats, Dr. Payne advises breeders to have a necropsy performed when there is an unexplained death in the cattery. “A necropsy can alert you to a problem such as heartworms, which potentially could devastate your breeding stock,” she says. “Still, the most important thing is to practice using preventives and testing annually. It is well worth the effort.”

Comparing Feline & Canine Heartworm Disease

Cats are more resistant to heartworms (Dirofilaria immitis) than dogs. It is estimated that cats are infected at a rate of 5 to 20 percent of the rate in dogs.

Cats with mature heartworm infection rarely show microfilariae (baby worms) circulating in their bloodstream compared to 70 to 80 percent of dogs that do.

Heartworms can live two to four years in cats, compared to five to seven years in dogs.

Although heartworms do not grow as long in cats as in dogs, they migrate into other body tissues, such as the nervous system, blood vessels and body cavities, at a much higher proportion than in dogs.

Heartworm disease is harder to detect in cats than in dogs, usually requiring a combination of blood antigen and antibody tests and cardiac ultrasonography.

Clinical signs of heartworm infection are not always observed in cats but usually are recognizable in dogs. In cats, heartworm-associated respiratory disease is often misdiagnosed as asthma or allergic bronchitis.
Breeder Perk: Kitten Starter Kits

Do you have a new litter of kittens? Take time to order Kitten Starter Kits from Purina Pro Club. Starter Kits contain important information for new owners on caring for kittens with space provided for adding breed information and veterinary records. Kits also come with a coupon for kitten food from Purina Pro Plan or Purina Kitten Chow so you can redeem it and send samples home with new kitten owners.

Purina Pro Plan Introduces Shredded Blend for Cats

Purina Pro Plan recently launched SAVOR Shredded Blend adult cat foods. Combining a crunchy kibble and tender, meaty piece, Purina Pro Plan SAVOR Shredded Blend Chicken & Rice Formula and Salmon & Rice Formula are receiving rave reviews from cat owners. Made with 40 percent protein and real chicken or real salmon as the first ingredient, these cat foods also have a prebiotic fiber to help promote digestive health and omega fatty acids for healthy skin and coat.

Looking to Reprint?

Purina Club Update articles may be reprinted provided the article is used in its entirety and in a positive manner. To request permission to reprint an article, please contact the editor at: editor@purina.nestle.com. Reprints should include the following attribution: Used with permission from the Purina Club Update newsletter, Nestlé Purina PetCare Company.

Want to Reach the Editor?

Have comments about the Cat Update? Send them to: Barbara Fawyer, Editor, Nestlé Purina PetCare, 2T Checkerboard Square, St. Louis, MO 63164 or via email at editor@purina.nestle.com.