

Heartworm Disease in Cats

- Heartworm disease attacks the lungs, heart, and related blood vessels. It is serious and potentially fatal.
- Heartworms are transmitted through the bite of an infected mosquito.
- There is no approved treatment for heartworm disease in cats.
- Illness is easily and effectively avoided by giving preventive medications.

What Is Heartworm Disease?

Heartworm disease is a serious and potentially fatal condition that affects dogs, cats, and up to 30 other species of animals. It is caused by parasitic worms (heartworms) living in the major blood vessels of the lungs and, occasionally, in the heart. These worms are transmitted (as microscopic larvae) through the bite of an infected mosquito. The scientific name for the heartworm parasite is *Dirofilaria immitis*.

Despite the fact that heartworm disease is virtually 100% preventable, many cats are diagnosed with it each year. Although cats are considered resistant to heartworms and sometimes can fight off an infection on their own, heartworm disease can still be a serious health problem for cats, resulting in significant illness and even death. Keeping a cat indoors does not prevent infection. Multiple studies have shown that more than 25% of heartworm-infected cats live indoors.

The American Heartworm Society (AHS) estimates that one million dogs in the United States have heartworm disease today, and this number may be rising. Wherever dogs are infected, studies have shown that cats are likely to be infected, too.

Signs of Heartworm Disease

Cats usually have fewer heartworms than dogs, and the worms may not grow as big. However, because cats are generally smaller than dogs and have smaller blood vessels, the presence of even a few worms can cause lung damage. Some cats with heartworm

disease never show any signs. When present, the signs of heartworm infection in cats can be confused with signs of many other diseases, including feline asthma. Affected cats may vomit, cough, and have difficulty breathing. This condition is called *heartworm-associated respiratory disease (HARD)*. Sometimes, the only sign of infection is sudden death.

Diagnosis

Heartworms are spread through the bite of a mosquito, and dogs serve as the source of infection for other dogs and for cats. When a mosquito bites an infected dog, it withdraws blood that contains immature heartworms (called *microfilariae* [pronounced *micro-fill-air-ee-ay*]). These microfilariae mature inside the mosquito to become infective larvae. When the mosquito eventually bites another dog or a cat, the larvae enter the new host. In dogs, these larvae often mature to become adult heartworms, which produce more microfilariae and continue the heartworm's life cycle.

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The life cycle of heartworms in cats is slightly different from the life cycle in dogs. For example, many heartworms die during development in a cat, so they don't live long enough to produce microfilariae. Additionally, the immune system of some cats can eliminate the heartworm infection before the worms reach adulthood. For these reasons, heartworm testing in cats is more complicated than the process in dogs. Many types of tests conducted on different occasions may be necessary. Negative test results do not necessarily rule out heartworm infection, and positive results (depending on the test) do not always confirm infection.

Common Conditions

Many veterinarians use heartworm antigen and/or antibody tests to begin the screening process for heartworm disease in cats. Each of these tests has strengths and limitations, and neither test will, by itself, identify heartworm disease in all infected cats:

- **Antibody testing:** “Antibodies” are specific proteins that the body produces in response to invasion by a foreign organism. Heartworm antibody tests detect antibodies produced by a cat in response to the presence of developing heartworms (heartworm larvae). A positive result on an antibody test could indicate an early infection or a previous infection (that the cat’s immune system already eliminated), but not necessarily a current one. In fact, many antibody-positive cats do not have adult heartworms. Additionally, some cats with heartworms don’t produce antibodies the whole time they are infected, so a cat that has a mature (adult) infection may actually test negative on an antibody test.
- **Antigen testing:** “Antigens” are proteins that the body can recognize as belonging to a foreign organism. By identifying certain antigens that are found in adult female heartworms, researchers have developed tests that can detect these antigens to tell if a cat is infected with adult heartworms. Many veterinarians use a rapid-result test called a “SNAP” test to begin diagnosing heartworm disease in cats. The SNAP test is very accurate, can be performed in your veterinarian’s office using a very small amount of blood, and takes only a few minutes to complete. There is even a combination SNAP test that can detect heartworm disease as well as feline leukemia (FeLV)

and feline immunodeficiency virus (FIV) at the same time. The feline heartworm antigen test only identifies the antigen associated with adult female heartworms. Therefore, it will not detect an infection when only larvae are present or when only adult male heartworms are present. If your veterinarian obtains a questionable result on the SNAP test, additional testing may be recommended.

Some veterinarians use an outside laboratory to perform feline heartworm antibody and/or antigen testing. In these cases, results are generally available within a few days.

Diagnosis of feline heartworm disease may involve other types of diagnostic tests besides blood work. Sometimes, evidence of heartworms can be seen on ultrasound images or radiographs (“x-rays”) of the heart and lungs. Unfortunately, these tests can also be inconclusive.

Treatment

In cats, there is no real treatment for heartworm disease itself. Your veterinarian will determine how to monitor your pet and manage the signs of disease. In some cases, surgical removal of the worms may be recommended. However, this surgery is costly and has some risks.

Prevention

Safe, easy-to-give, effective medications are available to prevent heartworm disease. These monthly oral or topical (“spot on”) medications are inexpensive compared to the dangers of the disease for your cat. Ask your veterinarian which method and schedule of heartworm prevention are best for you and your pet.