

# Heartworm Infections in Cats? It's a Very Different Disease

Now that kitties have been added as candidates for year-round heartworm preventives by many conventional veterinarians and heartworm medication manufacturers, it's time to expose what feline heartworm infections look like. Insist on this test before starting any preventive treatment.

**Analysis by Dr. Karen Shaw Becker**

## STORY AT-A-GLANCE

- Heartworm infections in cats are uncommon, but when they occur, they present very differently than in dogs
- A heartworm infection is much more likely to affect your cat's lungs and respiratory tract than her heart, which is why the condition is sometimes called heartworm associated respiratory disease (HARD) in kitties
- Both diagnosis and treatment of feline heartworm disease are more complicated than in dogs
- If you live in a mosquito-endemic area and are concerned your cat is at risk for heartworm disease, there are things you can do to reduce your kitty's exposure risk

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It hasn't escaped my notice that the usual suspects, e.g., the American Heartworm Society, heartworm drug manufacturers and many conventional veterinarians, have escalated their push to put not only dogs, but also cats on **year-round heartworm preventives**, regardless of where they live or their individual risk of exposure.

Needless to say, I absolutely do not agree that every pet, everywhere, should be given a chemical insecticide once a month, year in and year out. No drug is entirely harmless, and heartworm preventives have the potential for short- and long-term side effects that can damage your pet's health. In addition, many pet parents don't realize these preventives don't actually prevent anything. They poison heartworm larvae at the microfilaria stage of development, causing them to die inside the body.

And in addition to concerns about the toxicity of these insecticides, there's also evidence that heartworms are becoming resistant to them.

## Heartworm Infection in Cats vs. Dogs

Heartworm infection is a very different disease in cats than it is in dogs. Dogs are natural hosts for heartworm, whereas kitties are not. In dogs, the disease is caused by the physical size of the worms and their ability to obstruct blood flow to the heart. In cats, the disease is caused by an inflammatory reaction to the presence of the worms.

Since felines are not natural hosts for heartworms, very few larvae make it to adulthood in a cat's body. In dogs, invading worms know exactly how to find their way to the pulmonary arteries. These same worms get lost inside a cat's body. Most larvae that do make it to the pulmonary arteries of a cat are wiped out by a massive immune response.

An average **canine heartworm** infection involves between 25 and 50 worms, each of which can reach an adult length of 14 inches inside the heart. Infected cats usually have less than 6 adult heartworms ranging in size from 5 to 8 inches. Adult heartworms live on average about 5 years inside a dog, but only 2 to 3 years in a cat due to the strong immune system reaction. Unfortunately, because the heart and blood vessels of cats are so small, even a few worms can cause serious infections in kitties.

## Symptoms of Heartworm Infection in Cats

Symptoms of heartworm infection in cats are also very different from those in dogs. In cats, symptoms are the result of an immune system response and lung disease rather than heart-related issues, which is why it's sometimes referred to as heartworm associated respiratory disease (HARD) when it occurs in kitties.

Common signs of heartworm disease in cats are coughing, difficulty breathing, and vomiting. In severe cases there can be a wide range of additional symptoms, including anorexia, diarrhea, weight loss, lethargy, blindness, rapid heart rate, fainting, convulsions, and even sudden death.

In cats there are two stages at which a heartworm infection can cause symptoms. The first stage occurs between 70 and 90 days after infection as immature worms migrate to the lungs and pulmonary arteries. These smaller worms cause inflammation and disrupt circulation. The lungs can become severely inflamed, causing breathing problems.

The second stage occurs when the worms die. The cat's immune system mounts a massive response to the dead worms in the lungs. There is widespread inflammation that can reach beyond the lungs and circulatory system to the gastrointestinal (GI) tract, kidneys and nervous system.

## Diagnosis of Feline Heartworm Infections

Another difference between feline and canine heartworm infections is how they are diagnosed. A dog's blood is tested for proteins that are only found in adult female heartworms, because only mature worms present a problem for dogs. However, cats can get sick from the presence of young and dead heartworms in addition to the adults.

The means the test used for dogs doesn't always pick up the infection in cats. There might be too few adults or only adult males, so the blood test doesn't pick up the telltale presence of proteins.

Dogs are also tested for microfilaria to confirm a heartworm diagnosis. Microfilariae are the offspring of adult heartworms born inside a dog's body. This test is useless for cats for a few different reasons: there are too few adult worms to produce offspring, or all the adults are the same sex (this is common in feline heartworm infections), or the immune system kills off the microfilariae very quickly. So, there's nothing to be gained by doing microfilaria tests on cats.

Tests for the presence of heartworm antibodies are only partially helpful in cats. A positive test can mean a number of things. There could be a mature infection. There could be an immature worm present. Or there could be a past infection that is being cleared.

A positive antibody test on a feline should be followed up with x-rays or an ultrasound of the heart to look for any signs of heart disease, or with a (positive) antigen test to make sure a heartworm infection is truly present. Low heartworm counts (less than 3 worms), all male worm infections, or immature infections can result in false-negative test results.

When evaluating the results of an ELISA or heartworm antigen test on a cat, a negative test result doesn't rule out infection. But a positive test result is a very strong indicator of an active heartworm infection. Several studies, which include echocardiographic studies, experimental, and necropsy studies, suggest that less than 40 percent of cats with adult worms are actually antigen positive. So, as you can see, this disease isn't as cut and dry in cats as it is in dogs.

## Treatment Options

Treatment of heartworm disease in cats is challenging. If a kitty doesn't seem sick, the American Heartworm Society recommends trying to wait out the 2 to 3-year lifespan of the heartworms. If there is concern about underlying disease potential in the heart, periodic monitoring with x-rays is a good idea.

Sometimes **steroids** are prescribed to control symptoms of inflammation and immune system overreaction in cats, however, because of their potential for serious, long-term side effects, these drugs should be given only when absolutely necessary.

The drugs given to dogs with active heartworm infections are extremely toxic and dangerous for cats, so they are used only as a last resort. About a third of cats given these drugs experience life-threatening complications as the worms begin to suddenly die off. In addition, a month of cage rest is necessary to help control circulation problems. I don't recommend using them at all. I do recommend partnering with an integrative or functional medicine veterinarian who can offer ozone and IV vitamin C therapy, in conjunction with natural herbal protocols which have fewer side effects.

## Prevention Tips

While cats can get heartworm disease, they are significantly more resistant to it than dogs. Estimates are that kitties are infected at between 5% and 15% of the rate of dog infections in the same geographic area.<sup>1</sup>

If you live in an area of the U.S. where mosquitoes are common, your first and best line of defense is to keep your cat indoors during pest season. Ensure all the windows and doors you keep open during warm weather have screens that are in good condition. Eliminate standing water around the outside of your home. If you have an outdoor enclosure for your kitty, it should be equipped with screens that serve as a barrier against pests.

Focus on keeping your cat's immune function robust by feeding a species-appropriate, nutritionally balanced, fresh food diet that helps bolster natural defenses. Unprocessed meats are rich in B vitamins (and a less allergenic option than offering brewer's yeast). Herbs like cat's claw, which are naturally anti-parasitic, can also help bolster defenses during mosquito season.

Instead of using chemical insecticides, try using natural preventives like heartworm nosodes. Cats who go outside during the day can be misted with cat nip hydrosols, which naturally repel all bugs. If you have a strictly outdoor cat in a high-risk area and your vet strongly recommends a chemical preventive, use it at the lowest effective dosage.

Give the treatment at six-week intervals rather than every four weeks, for the minimum number of months required during mosquito season. Follow up all conventional heartworm preventives with natural liver detox agents like milk thistle and SAMe for a week after treatment, in consultation with your veterinarian.

## Sources and References

[PetMD](#)

<sup>1</sup> [American Heartworm Society](#).

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