

Heartworm Prevention

Take This Message to Heart:

Prevention Can Keep Your Pet Safe From Heartworms

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 sometimes in the right side of the heart. Although heartworms begin as microscopic forms called *larvae*, the adults can grow to a length of 10 to 12 inches.

In dogs, heartworms can cause a variety of medical problems, including lung, heart, liver, and kidney damage. Any of these problems, alone or in combination, can lead to death. Treatment to kill the worms is available, but it is more expensive than prevention and not without risk for the pet.

In cats, there is no real treatment for heartworm disease other than supportive care (e.g., antibiotics, steroids). In some cases, surgery may be performed to remove the worms, but this procedure is also expensive and not without risk.

Despite the fact that heartworm disease is virtually 100% preventable, many dogs and cats are still diagnosed with this disease each year. The American Heartworm Society estimates that 1 million dogs in the United States are infected with heartworms every year, and this number is rising. Reasons often given for



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this rise include environmental changes that favor the spread of the mosquitoes that transmit heartworm infection and today's increasingly mobile lifestyles. When we travel, we bring our pets—and their heartworm infections—with us.

Who's at Risk?

Dogs and cats of any age or breed can be infected, and heartworm disease has been found in all 50 states. Pets become infected with heartworms (known scientifically as *Dirofilaria immitis*) when they are bitten by an infected mosquito. Dogs are particularly vulnerable to heartworm infection. In areas where infected mosquitoes are most common, like the Gulf Coast, almost 100% of unprotected dogs are infected with heartworms.

While cats are less likely to have adult worms, they can still be infected with larvae, which can cause lung disease. And just because a cat is kept indoors doesn't mean it will be safe from heartworms. Multiple studies have shown that

Heartworms and Humans

You cannot get heartworms from your dog, but people can be bitten by infected mosquitoes. Fortunately, people are not natural hosts for heartworms, and most of the larvae die before they can do any damage to us.

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indoor cats are infected at a similar rate as cats that go outside because mosquitoes can get into the house.

How Can I Tell If My Pet Has Heartworms?

Signs of heartworm infection are often difficult to detect until a substantial number of adult worms have accumulated in the blood vessels. Dogs can be infected with one or two to hundreds of worms. Heavily infected dogs may have a mild, persistent cough, seem reluctant to move, and get very tired after even mild exercise. They may also be less interested in food and lose weight. Heartworm disease is usually recognized more quickly in active dogs because of the effects on their exercise level.

In cats, fewer worms grow to be adults, and the adult worms do not grow to be as big. However, because cats are generally smaller than dogs and have smaller blood vessels, the presence of even just a few immature worms can cause lung damage. The signs of heartworm infection 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.

Detection

In dogs, heartworms are detected with annual blood tests that screen for a protein substance produced by adult female heartworms or for the presence of heartworm larvae. These tests typically don't detect heartworm infections until approximately 7 months after a dog has been infected.

In cats, heartworm disease can be more difficult to diagnose because fewer adult female worms are present and the heartworm larvae die more quickly, so the laboratory tests are not as reliable.

Sometimes, adult worms can be seen on ultrasound images or on radiographs (x-rays) of the heart and lungs. These tests are generally reserved for pets in which an infection is suspected or is already known to exist.

A Word About *Wolbachia*

Heartworms have a "parasite" of their own: It's a tiny bacteria from the genus *Wolbachia*. Veterinarians sometimes pretreat heartworm infections by administering antibiotics that kill these bacteria. Killing the bacteria weakens the heartworm and gets rid of substances produced by the bacteria. These substances may play a part in heartworm disease. This approach has been shown to reduce the complications associated with heartworm treatments.

Heartworm Treatment

For cats, there is no real treatment that can safely kill the adult worms or undo the damage from HARD. Cats with heartworm disease should be monitored with regular tests and given supportive care as needed.

Affected dogs can be treated with a series of three injections of a medication that kills adult heartworms. This process takes several weeks, and the effect the worms have as they die can be dangerous—even fatal—for the dog. (If the worms are allowed to die naturally, the effect can be the same.) Hospitalization is sometimes recommended for this treatment because cage rest is important to successful recovery.

Heartworm disease can be risky and expensive to treat, so it's best to prevent it in the first place.

Preventing Heartworm Disease

Safe, easy-to-administer, and effective medications that prevent heartworm disease (heartworm preventives) are easily available. The American Heartworm Society (www.heartwormsociety.org) recommends year-round treatment with these products to keep pets free from the dangers of heartworm infection. Monthly oral or topical ("spot on") medications are available to prevent heartworm disease in cats and dogs. For dogs, an injectable medication that must be given once every 6 months is also available. Ask your veterinarian which medication is best for you and your pet.