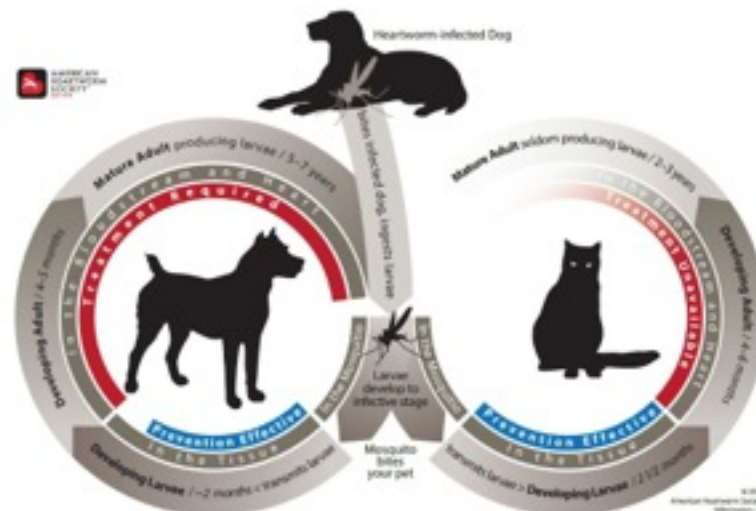


What is heartworm disease?

Heartworm disease is a serious and potentially fatal disease in pets in the United States and many other parts of the world. It is caused by foot-long worms (heartworms) that live in the heart, lungs and associated blood vessels of affected pets, causing severe lung disease, heart failure and damage to other organs in the body. Heartworm disease affects dogs, cats and ferrets, but heartworms also live in other mammal species, including wolves, coyotes, foxes, sea lions and—in rare instances—humans. Because wild species such as foxes and coyotes live in proximity to many urban areas, they are considered important carriers of the disease. The dog is a natural host for heartworms, which means that heartworms that live inside the dog mature into adults, mate and produce offspring. If untreated, their numbers can increase, and dogs have been known to harbor several hundred worms in their bodies.

How is heartworm disease transmitted from one pet to another?



The mosquito plays an essential role in the heartworm life cycle. Adult female heartworms living in an infected dog, fox, coyote, or wolf produce microscopic baby worms called microfilaria that circulate in the bloodstream. When a mosquito bites and takes a blood meal from an infected animal, it picks up these baby worms, which develop and mature into “infective stage” larvae. Then, when the infected mosquito bites another dog, cat, or susceptible wild animal, the infective larvae are deposited onto the surface of the animal's skin and enter the new host through the mosquito's bite wound. Once inside a new host, it takes approximately 6 months for the larvae to mature into adult heartworms. Once mature, heartworms can live for 5 to 7 years in dogs and up to 2 or 3 years in cats. Because of the longevity of these worms, each mosquito season can lead to an increasing number of worms in an infected pet.

What are the signs of heartworm disease in dogs?

In the early stages of the disease, many dogs show few symptoms or no symptoms at all. The longer the infection persists, the more likely symptoms will develop. Active dogs, dogs heavily infected with heartworms, or those with other health problems often show pronounced clinical signs. Signs of heartworm disease may include a mild persistent cough, reluctance to exercise, fatigue after moderate activity, decreased appetite, and

weight loss. As heartworm disease progresses, pets may develop heart failure and the appearance of a swollen belly due to excess fluid in the abdomen. Dogs with large numbers of heartworms can develop a sudden blockages of blood flow within the heart leading to a life-threatening form of cardiovascular collapse.

What happens if my dog tests positive for heartworms?

No one wants to hear that their dog has heartworm, but the good news is that most infected dogs can be successfully treated. The goal is to first stabilize your dog if he is showing signs of disease, then kill all adult and immature worms while keeping the side effects of treatment to a minimum.

Here's what you should expect if your dog tests positive:

- **Confirm the diagnosis.** Once a dog tests positive on an antigen test, the diagnosis should be confirmed with an additional—and different—test. Because the treatment regimen for heartworm is both expensive and complex, your veterinarian will want to be absolutely sure that treatment is necessary.
- **Restrict exercise.** This requirement might be difficult to adhere to, especially if your dog is accustomed to being active. But your dog's normal physical activities must be restricted as soon as the diagnosis is confirmed, because physical exertion increases the rate at which the heartworms cause damage in the heart and lungs. The more severe the symptoms, the less activity your dog should have.
- **Stabilize your dog's disease.** Before actual heartworm treatment can begin, your dog's condition may need to be stabilized with appropriate therapy. In severe cases of heartworm disease, or when a dog has another serious condition, the process can take several months.
- **Administer treatment.** Once your veterinarian has determined your dog is stable and ready for heartworm treatment, he or she will recommend a treatment protocol involving several steps. The American Heartworm Society has guidelines for developing this plan of attack. Dogs with no signs or mild signs of heartworm disease, such as cough or exercise intolerance, have a high success rate with treatment. More severe disease can also be successfully treated, but the possibility of complications is greater. The severity of heartworm disease does not always correlate with the severity of symptoms, and dogs with many worms may have few or no symptoms early in the course of the disease.
- **Test (and prevent) for success.** Approximately 6 months after treatment is completed, your veterinarian will perform a heartworm test to confirm that all heartworms have been eliminated. To avoid the possibility of your dog contracting heartworm disease again, you will want to administer heartworm prevention year-round for the rest of his life.
- **If you choose not to pursue treatment** it is highly recommended that your pet remain on heartworm prevention. Although there is a risk that the initial dose can cause complications as the microfilaria die, this will keep further heartworms from infecting your pet and, over a few years, can help clear the

heartworm infection. Keep in mind, however, the heartworms will remain in your pet's heart for this 'slow kill' period and continue to do irreversible damage.

Visit the American Heartworm Society for more information and please schedule a follow up appointment for a full service veterinarian.