

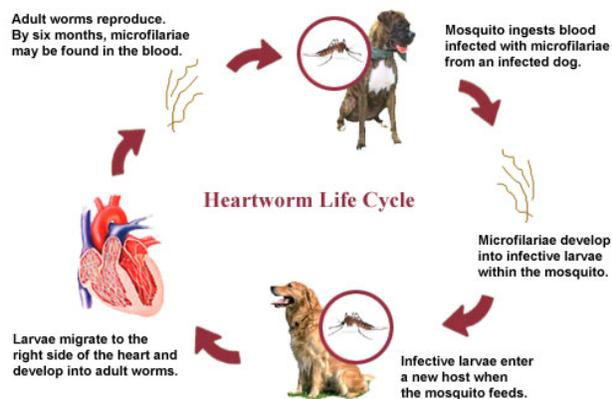
## What Is Heartworm?

A heartworm is a parasitic worm (*Dirofilaria immitis*) that lives in the heart and pulmonary arteries of an infected animal. The worms travel through the bloodstream—harming arteries and vital organs as they go—ultimately completing their journey to the vessels of the lung and the heart chamber about six months after the initial infection. Several hundred worms can live in one dog for five to seven years. Heartworm disease is serious, and can be fatal.



## What Causes Heartworm?

Heartworms are transmitted from animal to animal by mosquitoes. The lifecycle of the heartworm is complex. An animal must carry at least two heartworms (a male and a female) in order for female heartworms to



reproduce. Females produce babies, called "microfilariae," which are shed into an animal's bloodstream but are not capable of directly causing heartworm without first passing through a mosquito. The microfilariae must be taken up by biting mosquitoes, and transform into infective larvae over a two-week period inside the insect. When the mosquito next bites a susceptible animal, the infective larvae enter the

tissues and begin a migration into the blood vessels.

Heartworms enter an animal's bloodstream as tiny, invisible larvae, but can reach lengths of more than twelve inches at maturity.

## What Are the General Symptoms of Heartworm?

Symptoms of heartworm infestation can include labored breathing, coughing, vomiting, weight loss and listlessness, and fatigue after only moderate exercise. However, some dogs exhibit no symptoms at all until late stages of infection.

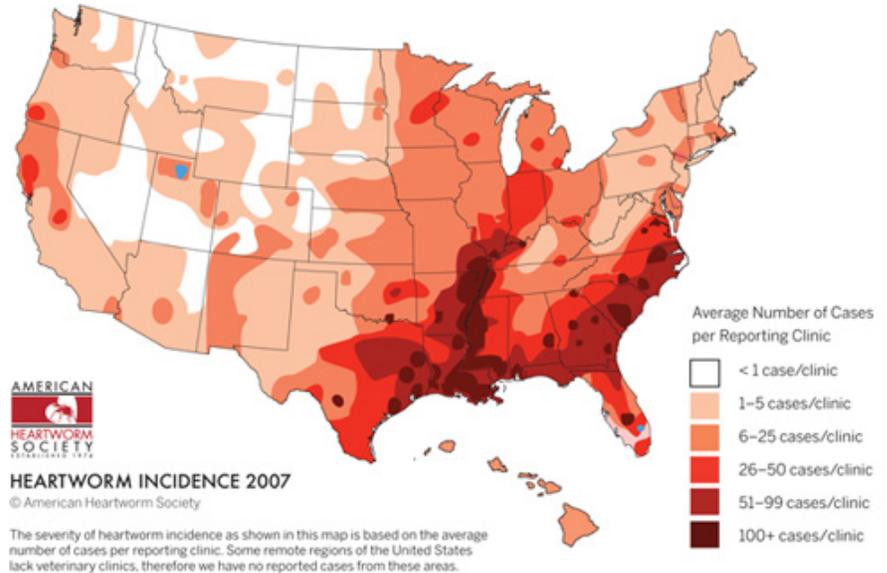
## How Is Heartworm Diagnosed?

Heartworm disease is diagnosed by examination, radiographs or ultrasound, and a veterinarian-administered blood test. All dogs should be routinely screened with a blood test for heartworm either annually in spring, at the

start of mosquito season, or before being placed on a new prescription for a heartworm preventive.

## Which Dogs Are Prone to Heartworm?

Heartworm infestation can happen to any dog (as well as cats and some wild animals), but since mosquitoes are their carriers, dogs who live in hot, humid regions—conditions in which mosquitoes thrive—are at the greatest risk. The disease has been seen in every state except Alaska, but is most common in or on the East Coast, southern United States and Mississippi River Valley.



## How Can Heartworm Be Prevented?



The good news is that heartworm is easy preventable with an inexpensive, chewable pill available with a vet's prescription. The pills—highly palatable to most dogs—are usually administered monthly and manufactured by several companies. The pills can be given to dogs under 6 months of age without a blood test, but older animals must be screened for the disease prior to starting medication. You can opt to give your dog a pill only during mosquito season (spring through first frost), but the most recent recommendation from the American Heartworm Society is to keep giving them all year—not only does this avoid errors, but many of the products also prevent other intestinal parasites. There are also topical products available that you can apply to the skin.

## How Is Heartworm Treated?

After diagnosis, a thorough examination of the infected dog should be conducted to evaluate the best course of treatment and the potential risks

involved. The most common course of treatment is a series of injections of drugs called adulticides into the dogs' muscle. This cure has a high success rate and usually requires hospitalization; in certain circumstances, however, it may be performed on an outpatient basis. However, all treatment protocols require several weeks of exercise restriction after treatment and are not without risk. Disease prevention is a much better and safer option. After treatment, your dog should be placed on a preventative medication to reduce the risk of infection.

<http://www.aspca.org/pet-care/dog-care/heartworm>



**Heartworm**  
**disease is serious!**

*Don't let your dog be one of 250,000 dogs\* infected with this fatal, but 100% preventable condition.*

The advertisement features a photograph of two puppies, one light-colored and one dark-colored, resting together. The text is positioned to the right of the puppies, with the word 'Heartworm' in a large, bold, black font. The word 'disease' is in a smaller, bold, black font, and 'is serious!' is in a smaller, bold, black font. Below this, a line of italicized text reads: 'Don't let your dog be one of 250,000 dogs\* infected with this fatal, but 100% preventable condition.'