



### **What Is Heartworm Disease?**

Canine heartworm disease is a potentially deadly infection, caused by worms (*Dirofilaria immitis*) that may grow to be 14-inch-long adults. These worms live in the right side of the heart and arteries of the lungs. Dogs of any age and breed are susceptible to infection. Heartworm infection can cause potentially serious damage to these arteries, eventually leading to heart failure, and in severe cases, damage other organs such as the liver and kidneys. In extreme cases, a dog can be infected with several hundred heartworms. Cats are also susceptible to the disease.

Coinciding with mosquito season, heartworm disease is spread by mosquitoes that become infected with microfilariae (immature larval form of heartworms) while taking a blood meal from an infected dog. The microfilariae mature into the infective larval stage within the mosquito. When the mosquito then bites another dog, cat, or susceptible animal, it then passes the larvae into the animal's blood stream through the bite wound, resulting in heartworm infection. It then takes a little over six months for the infective larvae to mature into adult worms that can live for five to seven years in the dog.



### **What Are the Signs of Heartworm Disease?**

For both dogs and cats, clinical signs of heartworm disease may not be recognized in the early stages, as heartworms tend to accumulate gradually over a period of months and sometimes years and after repeated mosquito bites.

In dogs, recently infected animals may exhibit no signs of the disease, while heavily infected animals may eventually show clinical signs, including mild, persistent cough, reluctance to move or exercise, tiredness after only moderate exercise, reduced appetite, and weight loss.

Cats may exhibit clinical signs that are very non-specific, mimicking many other feline diseases. Chronic clinical signs include vomiting, gagging, difficulty breathing or rapid breathing, lethargy and weight loss.



### **How Do You Detect Heartworm Disease?**

Detection of heartworm infection in apparently healthy animals is usually made with blood tests for microfilariae or a heartworm substance called an "antigen," although neither test is consistently positive until about seven months after infection has occurred.

Heartworm infection may also be detected through x-ray and/or ultrasound images of the heart and lungs, although these tests are usually used in animals that are known to be infected.

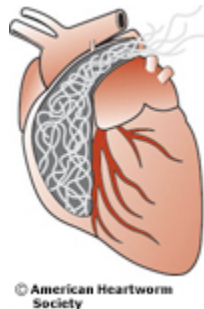
### **How Can I Prevent Heartworm Disease?**

Because heartworm disease is completely preventable, the American Heartworm Society (AHS) recommends that pet owners take steps now to talk to their veterinarian about how to best protect their pets from this dangerous disease. According to the AHS, heartworm prevention is safe, easy and inexpensive compared to treating a dog or cat after worms have matured into adults. While treatment for heartworm disease is possible, it is a complicated and expensive process, taking weeks for infected animals to recover.

There are a variety of options for the prevention of heartworm infection for dogs, including daily and monthly tablets and chewables, or monthly topicals. For cats there are monthly tablets or a topical solution. All of these methods are extremely effective and when administered properly on a timely schedule, ***heartworm infection can be completely prevented.***

### **What Is the Treatment for Heartworm Disease?**

In dogs, most cases of heartworm disease can be successfully treated with a drug called an adulticide that is injected into the muscle. A series of injections are given to dogs who have received a thorough examination to assess the risk of the treatment. Hospitalization is usually recommended during treatment, but treatment can also be performed on an outpatient basis. During the duration of the recovery period lasting one to two months, it is recommended that exercise for the pet be limited to leash walking, decreasing the risk of partial or complete blockage of blood flow through the lungs by dead worms.



Dogs in heart failure and those with caval syndrome (a form of liver failure) require special attention. Re-infection is prevented by administering a heartworm preventative. Some preventatives also eliminate the microfilariae if they are present.

Currently, there are no products in the United States approved for the treatment of heartworm infection in cats. Cats have proven to be more resistant hosts to heartworm than dogs, and often appear to be able to rid themselves of infection spontaneously. In severe cases of the disease, veterinarians will treat an infected cat with supportive therapy measures.

This is intended as a short summary. Please refer to the canine and feline section information or glossary on the American Heartworm Society's homepage for more detailed information (<http://www.heartwormsociety.org/heart.htm>).