

### 1) What is heartworm disease?

Heartworm disease is caused by infection with *Dirofilaria immitis*, a worm that invades the blood vessels and right atrium of the heart.

### 2) How is it transmitted?

Heartworm disease is transmitted by infected mosquitoes. A mosquito will become infected after taking a blood meal from a dog that has heartworm. The larval stage (L1) will develop to an infective stage (L3) 10-14 days later in the mosquito. When the mosquito bites, it will transmit the larva to a new dog. The larva will develop into adult worms (6 months) and take residence within the heart and pulmonary artery.

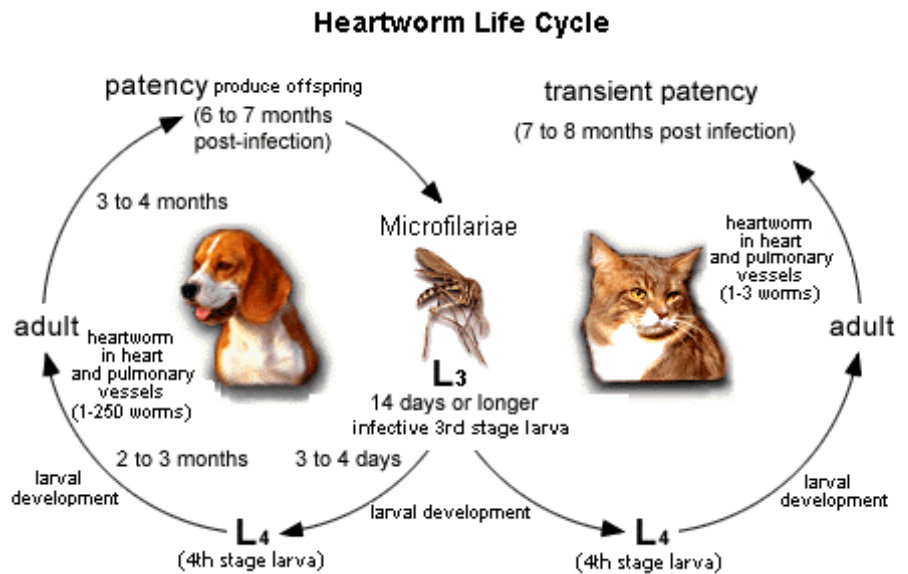


Figure 1

### 3) What are the signs of infection?

Dogs commonly do not show signs of infection until late in the stages of disease. At this time, dogs will show exercise intolerance, weakness, fainting/collapse, coughing, increased respiratory rates and weight loss.

Heartworm infection in cats is rare. Often the worms do not survive to adulthood or will die on their own but damage to the heart and respiratory system can occur. Infected cats will occasionally show signs of respiratory disease: coughing, exercise intolerance, asthma like symptoms, but they can present in acute collapse.

### 4) How do I know if my dog/cat has heartworm?

A blood test conducted in hospital can screen for the presence of adult heartworms in your pet.



Figure 2  
 Microfilaria in blood sample

### 5) How do I prevent heartworm infection in my pet?

Heartworm disease can be prevented by administering a medication (either oral or topical) that is labeled for prevention of heartworm. These medications all work by killing microfilaria within the bloodstream prior to them developing into adult worms.

### 6) Do I have to test my dog for heartworm if I loyally give the preventative medication?

It is advised that all dogs be tested for heartworm prior to receiving preventative medication. This is to ensure the preventative protocol is effective and to catch infections as soon as possible.

The American  
Heartworm  
Society advises  
**annual**  
**testing**  
of dogs for  
heartworm

- *Heartworm treatment involves a rigorous treatment period that is costly and risky for the dog. There is no approved treatment for heartworm in cats. Treatment for dogs involves administration of an adulticide Immiticide to kill adult worms, antihistamines, antibiotics and preventative medication to kill the microfilaria (baby heartworms).*
- *Giving a preventative medication to a dog with heartworm can be life threatening. If a large number of microfilaria are present, the rapid death (caused by the preventative medication) can cause anaphylactic reactions in the dog and potentially death. To prevent this from happening, your veterinarian will ensure that your dog tests negative prior to you giving any medications.*

For more information please visit the American Heartworm Society Webpage  
<https://www.heartwormsociety.org/>

Information for this handout taken from the American Heartworm Society Website accessed June 11, 2015

**Figures:**

1. <https://www.idexx.com/small-animal-health/products-and-services/snap-heartworm-rt-test.html>
2. <http://www.greatlakesbcrescue.org/healthtraining/heartworm.html>