

## What Dog Owners need to Know about Heartworms

When visiting the veterinary clinic with our dogs, we are often asked the question ‘*is your dog on heartworm prevention?*’ Why is there this emphasis on heartworm prevention for our dogs? Why does the veterinarian ask this question every year and should we as dog owners be concerned about these parasites?

The simple answer is ‘**yes**, dog owners should be aware of the heartworm risk to their dogs’ health, the ease of heartworm prevention and the effective testing and treatment methods available’. This page explains why this is so. In short, **heartworm infestation will kill** our dogs if it’s not treated or prevented.

### Heartworm Prevalence

In the Erath County area of Texas, **approximately 75%** of mosquitoes carry L1 to L3 heartworm microfilaria. So, **3 of 4** mosquitoes our dogs are exposed to can infect them with the heartworm microfilaria that will lead to a fatal infestation.

### What Heartworms Do to the Dog

Since they reside in the pulmonary arteries and lungs, this is where the heartworms do the most damage to our dogs. Mature heartworms produce toxins that initiate pulmonary and vascular inflammation, and initiate pulmonary hypertension, vascular degradation and fibrosis. Loose heartworms, or pieces of worms, can enter the downstream blood vessels and produce thromboembolisms. They also damage the lining of or obstruct the cardiac and pulmonary vessels. As they multiply and grow, heartworms can migrate into lung tissue adjacent to the pulmonary artery or to the blood vessels directly supplying the heart compromising the heart’s ability to function. Heavy heartworm burdens can occlude the pulmonary vessels or even the right ventricle of the heart. In sum, **nothing good comes from our dogs being infected with heartworms**.

### Heartworm Testing

Today, testing for heartworm infestation is **simple** and highly **accurate**. The patient donates a small amount of blood, usually 2 to 4 drops. One drop is used in a laboratory test for the heartworm antigen produced by mature female worms. If the test is negative, the dog can be started on **heartworm preventative (HWP)**. If the lab test is positive, the remaining blood is examined under a microscope to confirm the presence of microfilaria. If the positive is confirmed, the dog should start heartworm treatment before starting HWP.

### Heartworm Prevention

Heartworm prevention today also is **safe, simple** and **effective**. Two drugs are approved by the FDA for heartworm prevention in dogs, milbemycin and ivermectin. Both these medications are very effective in killing the heartworm microfilaria in the dog (the L3, L4 and L5 in the life cycle) before they mature and take up residence in the pulmonary artery. Typically, the FDA approved HWP are given our dogs simply: one dose of the appropriate sized heartworm preventative (HWP) is given orally each month. Many heartworm preventatives today are flavored treats that are fed to the dog once a month. Most dogs accept them readily, and owners have little problem administering the monthly medication to them. There also is available a slow release HWP that is injected under the skin and is designed to slowly release

protective medication for 6 months. Pharmaceutical companies offer oral HWP combined with other medications to expand the usefulness of that once monthly dose. Today, one can get HWP's that also prevent fleas and ticks or kill intestinal worms. Regularly using HWP is the most efficient, economical and humane way to prevent heartworm infestation of our dogs. These are some of the HWP and combinations we carry at GCVH:

Brand	Heartworm	Fleas	Hookworm	Roundworm	Whipworm	Tapeworm
Trifexis	x	x	x	x	x	
Heartgard	x		x	x		
Iverhart Max	x		x	x		x
Sentinel Spectrum	x	x	x	x	x	x
Advantage Multi	x	x	x	x	x	
ProHeart -6mo injection-	x					

### Heartworm Treatments

In the event our dogs test positive for heartworm infestation during our veterinary visit, what can we do to treat them? Is treatment safe? Is treatment effective? There are safe and effective treatments for heartworm infestations in dogs. The most effective treatments followed today use injections of melarsomine, an arsenic derivative, which is the only FDA approved heartworm treatment in dogs. However, treatment in itself does not reverse the damage already done to the lungs and heart by heartworms, can be painful and stressful to the patient, and requires a long period of confinement and controlled exertion of the dog by the owner. The better alternative is to prevent heartworms from infesting the dog by giving HWP – hence the veterinarian's questions at our visits.

### Conclusion

Remember, **nothing good comes from our dogs being infested with heartworms.** Test your dogs for heartworm infestations. Give them the HWP from an early age for their entire lives. For less than one monthly car payment you can protect your dog from heartworms all year. In the unfortunate event they do test positive for heartworms, use one of the fast kill methods. Give us a call with any questions you have about heartworm diagnosis, preventatives or treatment.

References:

Ettlinger J and Feldman E, *Textbook of Veterinary Internal Medicine* (7<sup>th</sup> Ed. 2010)

American Heartworm Society [www.heartwormsociety.org](http://www.heartwormsociety.org)

