



Always Helpful Veterinary Services

Education for both ends of the lead!

The Importance of the Snap Test

Snap 4DX Test can detect these four infections in one blood sample in less than 15 minutes.

Lyme disease

Lyme disease is contracted when an infected tick, most often a **deer tick**, adult or nymph, bites your dog. The disease can cause lameness, fever, loss of appetite, swollen joints, kidney failure, heart disease, neurologic signs, or just "not himself/herself," (what we call **ADR** or "ain't doin' right.") If left untreated, Lyme disease can damage joints and, in rare cases, cause fatal kidney disease.

Anaplasmosis

Anaplasmosis is also carried by **ticks**. Infection can cause lethargy, high fever, loss of appetite, vomiting or diarrhea, and swollen joints. Untreated anaplasmosis can cause chronic joint pain and sometimes neurological signs.

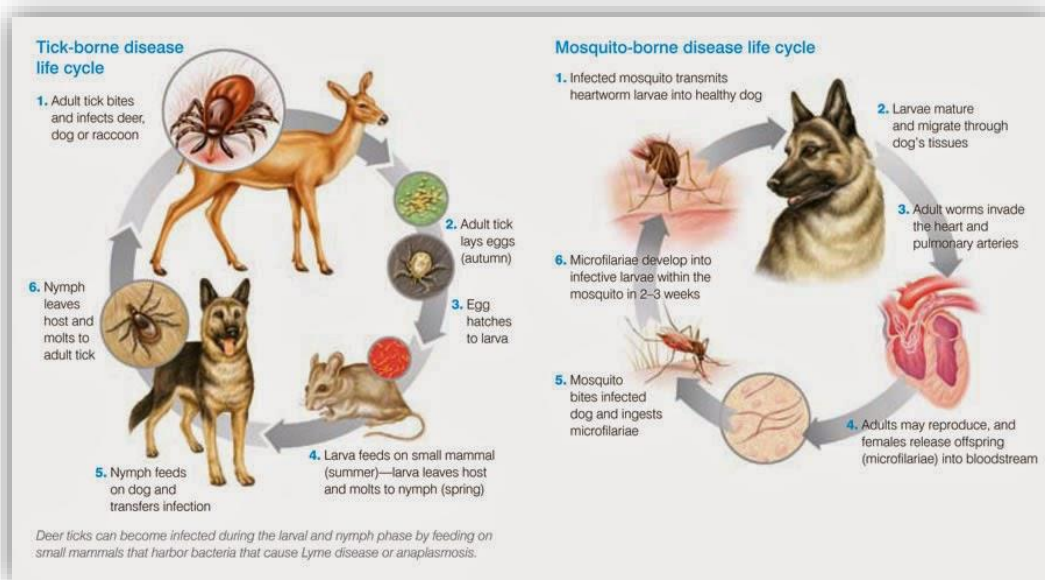
Ehrlichiosis

Ehrlichiosis is more often carried by the **brown dog tick** and can result in loss of appetite, depression, fever, painful joints, bloody nose and pale gums. Permanent blindness, autoimmune diseases, bleeding disorders and death can occur if the disease is untreated.

All of the **tick-borne diseases** in the acute stages can be treated with antibiotics. All though chronic stages may require an integrative approach utilizing homeopathic herbs, acupuncture and other modalities.

Heartworm

Mosquitoes transfer heartworm larvae from an infected host to your dog. Larvae develop into worms that live in the heart and its vessels. There are no signs at first, but as the disease progresses it can cause mild, persistent cough, exercise intolerance, reduced appetite and weight loss, and eventually heart failure, lung disease and sometimes sudden death. Heartworm infection can be prevented after an annual negative test, by monthly preventatives during mosquito season. Depending on the preventatives used and the dog's environment, dosing may be required less frequently. **Some breeds of dogs may have a sensitivity to some preventatives**, and should be tested for the **MDR1 gene** before being given certain drugs. All animals must be tested negative no more than 2-3 weeks prior to starting preventatives.



Judith M. Shoemaker, DVM

305 Nottingham Road, Nottingham, PA 19362 Phone: 717-529-0526 www.judithshoemaker.com



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Heartworm Disease

Heartworm Disease is a potentially **life-threatening** parasitic infection. Found worldwide, it infects wild and domestic dogs, sea lions, ferrets, and cats. In rare cases it can infect other animals and humans.



How Pets Get Heartworms

Heartworm Disease is caused by a worm, *Dirofilaria immitis*, and spread by mosquitoes. When a mosquito feeds on an infected animal, usually a dog, it ingests **microscopic larvae circulating in the blood**. These microfilaria mature in the mosquito for about two weeks, and only if the temperature is above about 57 degrees F. When the mosquito bites a susceptible animal, the infectious larvae are transferred into the wound. They migrate through the animal's body, maturing into adult worms over a period of months. The adult worms migrate to the heart and major blood vessels where they reproduce to create new microfilaria. The time from infection to appearance of new microfilaria is about six months.

Dogs are highly susceptible to heartworm infection, while it is somewhat less common in other domestic animals such as **cats** and ferrets. In the United States, heartworms are found in all 50 states but are most common along the Atlantic and Gulf coasts and near the Mississippi River. An increase in the number of heartworm infected animals occurred after **Hurricane Katrina**, as many positive dogs and cats were rehomed all over the

country.

What the Disease Does

The severity of the disease is related to the number of adult worms present. Adult worms cause inflammation of heart valves and lungs, due to blockage of blood vessels. The disease can progress to **heart failure, liver failure**, and rupture of major blood vessels. Dogs with heartworms do not always show signs, especially in the early stages of the disease, or if only a few adult heartworms are present. When signs do occur, they include coughing, tiring easily during exercise, difficulty breathing, fluid in the abdomen, fainting, and death.



Signs of Heartworm Disease in Cats can be subtle or very dramatic. Signs may include coughing, asthma-like attacks, periodic vomiting, lack of appetite, or weight loss. Occasionally the **cat** may have difficulty walking, experience fainting or seizures, develop a heart murmur, irregular heart rhythm or suffer from fluid accumulation in the abdomen.

How Heartworm Disease is Diagnosed

Adult heartworms can be detected with a **simple blood test**. Pets that test positive should undergo additional testing to determine the stage of the disease. Recommended procedures include a blood screen for microfilaria and chest x-rays. Prior to initiating treatment, dogs should have a complete blood panel. EKGs, echocardiograms; and angiograms may also be recommended.

Treatment for Heartworm Disease

Healthy dogs are less apt to develop severe disease and may be resistant. **Dogs** are treated with drugs that are able to kill the adult heartworms, but are also **potentially fatal for the dog**. Therefore, treatment is performed in the hospital where the dog can be carefully monitored and treated for toxicity if necessary. Treatment may need to be repeated more than once, and **can be quite costly**. Dogs that initially test positive for microfilaria undergo a second stage of treatment. Treatment for microfilaria is not as dangerous and is usually given on an outpatient basis, three to six weeks after

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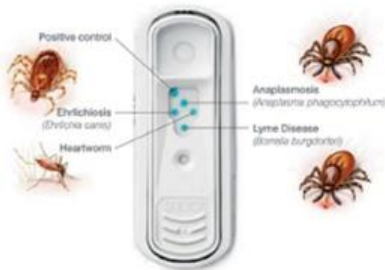
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treatment for adult worms. Successful treatment is confirmed by testing again for adult worms and for microfilaria. There is **no available drug treatment for cats, only prevention**, and almost as many cats may be infected as dogs!

Preventing Heartworm Disease

Fortunately, effective preventive medications are available to protect dogs and cats. Puppies can be started as early as 4-6 weeks of age and kittens at 8 weeks.



Annual retesting for heartworm is recommended.

Preventive medication is given seasonally in some parts of the U.S., but year-round in temperate regions. If a dose is missed, it's best to give it as soon as possible and check with your veterinarian about the need for a heartworm test.

Heartworm Prevention Products for dogs

Heartgard and Heartgard Plus – Heartgard Plus kills any immature heartworms introduced to your dog in the last 30-45 days. Heartgard Plus treats and controls roundworms and hookworms

Interceptor--Interceptor (milbemycin oxime) is used to prevent heartworm disease, control adult hookworm infection, and remove and control adult roundworms and whipworms.

There are several other preventatives available, however, some have a higher risk profile and we prefer the two above.

The Heartgard preventative for cats is specific! Dog preventative CANNOT BE USED!

Please contact Always Helpful Veterinary Services and Dr. Shoemaker for professional recommendations.