

How Does Heartworm Affect Your Dog?

Heartworm is a parasitic roundworm (*Dirofilaria immitis*) that is spread from host to host through the bites of mosquitoes. Canine heartworms or more precisely, canine heartworm disease is a potentially fatal infestation of worms that travel throughout the body until maturity, at which time they take up residence in the dog's heart. They live in the right ventricle of the heart or in the major pulmonary arteries, surviving on nutrients which they 'steal' from the dog's bloodstream. On rare occasions, migrating heartworm larvae get 'lost' and end up in unusual sites such as the eye, brain or an artery in the leg, resulting in some unusual symptoms such as blindness, seizures and lameness. Heartworm disease is actually caused by the body's immunologic reaction to the presence of the adult and offspring worms but many dogs will show little or no sign of infection even after the heartworms have matured. Heartworms go through several life stages before they become adults infesting the heart of the host animal. Between 75 and 120 days after infection the immature worms enter the bloodstream and are carried through the heart to lodge in the arteries of the lungs. Infestation is extremely serious for the host; infected dogs that go untreated can die and even treated dogs must go through a long period of uncomfortable treatment (sometimes requiring surgery in advanced cases to remove the worms from the right ventricle). Adult heartworms can reach up to 12 inches in length and remain in the dog's heart for approximately 5 to 7 years. They bear live young, known as microfilariae, producing thousands of them every day. The first sign of heartworm infestation may not manifest for a year after the initial infection, and even then one of the earliest symptoms of the disease in dogs, the soft cough, that normally appears and increases with exercise, may be dismissed as unimportant by the dog's owner. The disease may cause a combination of medical problems in the same dog including dysfunction of the lungs, heart, liver and kidneys. Radiographs (X-rays) can detect the presence of adult heartworms in the heart and lungs and can also provide a good estimate of the amount of lung damage caused by the presence of the heartworms. Heartworms can live in animals other than canines, mainly cats and ferrets, but often have a shorter life span, vary in size, or end up in odd locations due to aberrant migration. The life span of heartworms is considerably shorter in the case of cats for example, at only two to three years but most infections in cats do not have circulating microfilariae. Heartworm disease has become a serious health problem for dogs throughout the United States. According to the Heartworm Society, the highest infection rates occur in dogs (not maintained on heartworm preventive) within 150 miles of the Atlantic and Gulf coasts and along the Mississippi River and its major tributaries but have been reported in every state in America, including Alaska, and is also found in Canada as well as throughout most temperate regions of the world. Preventing canine heartworm disease can be as simple as feeding your dog a cookie once a month. Prevention may be accomplished by either use of pre-packaged ivermectin tablets or by compounded liquid ivermectin. Many veterinarians recommend and many owners use, a year-round heartworm prevention program to guard against the occasional mosquito flying about in areas with mild winters. If the dog is parasite free, a prophylactic medication can be used to prevent heartworm infection. Sometimes, to jog the concern of clients, veterinary clinics may display a preserved heart infected with heartworm in a jar and hang posters about heartworm life cycles in examining rooms, but seeing is not necessarily always believing; although clients can view the infested heart loaded with long, spaghetti-like worms every time they visit, many gamble that their dogs will never be bitten by an infected mosquito. Heartworm testing is only performed on adult dogs as puppies do not require testing due to the fact that it takes six months after exposure for the heartworms to reach maturity and be detectable on a test. Heartworm positive dogs should also be tested for the presence of microfilariae, usually using a filter test. As we mentioned earlier in the article, heartworm infestation is dangerous as untreated dogs die and treated dogs go through weeks of discomfort while the worms are killed and expelled from their bodies. The disease is very preventable though but is potentially difficult and dangerous to treat. Surgical removal of the adult heartworms is possible and may be required in advanced cases with heart involvement. Heartworm infected dogs showing no signs or mild signs of the disease have a high success rate with treatment. The first published evidence of heartworm disease in dogs was in *The Western Journal of Medicine and Surgery* in 1847 and feline variety was first described in the 1920s.

About the Author

Heartworm disease can be a harrowing experience for both pet and owner alike. Make sure you are not caught short financially if the worst should happen, by purchasing pet insurance. Visit <http://petinsurance-info.com> for advice and information about pet insurance.

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