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## FYI: HEARTWORM DISEASE

### Overview

Heartworm disease is a serious, life-threatening condition caused by the parasite *Dirofilaria immitis*. The adult heartworm is a thread-like, white worm approximately 6–14 inches in length found in the heart and lungs.

### Transmission

When adult male and female worms are present, mating occurs, and the female releases large amounts of microscopic larvae or “microfilariae” into the bloodstream.

The circulating larvae can live for several years in the dog’s bloodstream. Larvae can be ingested by a mosquito when it bites an infected dog.

After the larvae have gone through a period of development, they are injected in to a new dog when the mosquito bites. These small, microscopic larvae migrate under the skin and eventually enter the blood stream. About six months after the mosquito bite, the larvae enter the heart. The final maturation and mating of the heartworm occur in the pulmonary arteries. The adult worms live in the pulmonary arteries and right side of the heart, where they can survive for several years.

### Symptoms

Clinical symptoms of heartworm disease develop very slowly and may not be noticeable for several years after the initial infection. Most of the symptoms are due to problems associated with increased workload for the heart. A lack of energy and exercise intolerance are early symptoms. Chronic coughing and difficulty breathing are also both common symptoms. As the disease progresses, most dogs develop congestive heart failure.

### Diagnosis

The most common test for heartworm identifies the presence of antibodies in the blood. Another test can be used to identify the microfilariae in a blood sample. These tests are relatively inexpensive and can be performed in any veterinary clinic.

### Treatment

Treatment for heartworm disease involves a series of injections of medications to kill the adult heartworms and the circulating microfilariae. Throughout the treatment, which can last up to

three months, the animal's activity must be strictly monitored to avoid complications resulting from dying worms creating blockages in the lungs.

In recent years, newer therapies have made treatment for heartworm disease much safer for the patient. However, the treatment is costly and can still have many risks for the animal.

### **Prevention**

A veterinarian should test all dogs for heartworm before they are started on a regular preventative medication. It is also recommended that dogs be re-tested every year to be sure that there has not been a break in protection.

A number of excellent products are available to prevent heartworm infection. The most common types are oral products, such as Heartgard and Interceptor that are administered monthly. There are also several new products available including ProHeart, an injectable medication that provides protection for six months at a time, and Revolution, a topical product that provides protection against fleas and intestinal parasites in addition to heartworm prevention.

Heartworm is more prevalent in certain areas, including the San Lorenzo Valley and Watsonville areas. However, it is present throughout Santa Cruz County, and all dogs in our area should be protected. Due to our mild climate and disease prevalence, most veterinarians recommend year-round heartworm prevention.

### **Cats and Heartworm**

In the past, heartworm disease was believed to be primarily a problem for dogs alone. However, recent research has found that heartworm disease can be a significant health concern for cats as well and preventative medications are now available for cats. Discuss your cat's lifestyle with your veterinarian to determine if heartworm prevention is recommended for your cat.