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It's not just a Mosquito Bite: Heartworm Disease

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breathing, coughing or even sudden collapse and death. Diagnosis is relatively easy with a quick and inexpensive blood test, and often a set of chest radiographs.

Treatment is possible for most animals affected by heartworms. The prognosis depends on the severity of illness. Dogs are treated with an injection that kills the adult worms. The disintegration of the worm inside the dog's arteries results in an inflammatory response, so this is often treated as well with an anti-inflammatory medication. The microfilaria are treated during this time with heartworm prevention (see below).

Cats can be more difficult to treat, since they tend to have a significant reaction to the worms being destroyed internally. Thus, the parasites are often not treated specifically -they will die on their own eventually. However, most cats infected with heartworm disease will benefit from an anti-inflammatory medication and other supportive care.

Prevention and regular blood testing (in dogs) are truly the key components for this disease. The American Heartworm Society recommends that all dogs be tested annually, even if they are on regular monthly prevention. If the blood test reveals heartworm infection in a non-symptomatic dog, the prognosis with treatment is excellent for full recovery, compared to a dog who is already affected by the disease. Monthly preventive medication is approved by the FDA for both cats and dogs; this will kill the microfilaria at the infective stage, shortly after being transmitted by the mosquito. This is a great example of how "an ounce of prevention is worth a pound of cure."

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Heartworm disease is a roundworm infection of the arteries of the lungs and heart of dogs and cats. It is transmitted by certain mosquito species and has been reported in all 50 states in the nation, and is a major problem in the eastern and southern states. According to the American Heartworm Society, the 2007 incidence in the Bay Area was "mild," averaging 5-25 cases per veterinary hospital, although just north of San Francisco the incidence was as high as 50 cases per hospital. Heartworm disease in dogs was first described in the USA in the mid-1800s; and was noted in cats in the 1920s.

Mosquitoes transmit microscopic larvae (called microfilaria) into the tissue of a bite wound in the pet. It takes six months for the infective larvae to develop into an adult worm, and during this time the larvae moves into the circulatory system of the animal, finally entering the large vessels of the lungs and heart. The adult worms may live up to 7 years in a dog, and 3 years in a cat. The female worms produce new larvae that need to enter a mosquito in order to mature into the next infective stage.

Virtually all dogs infected with microfilaria, and more than 67% of cats, will develop disease. This is not an infection that they can clear with their own immune system. Dogs can show variable severity of symptoms: from mild exercise intolerance or persistent cough to reduced appetite, weight loss and difficulty breathing. Cats can exhibit non-specific symptoms, including vomiting, lethargy and weight loss. Cats who are severely affected will demonstrate difficulty