

Heartworm Disease

Heartworms are parasites which are transmitted via the bite of a mosquito. Mosquitos are highly prevalent in Florida, making year-round protection of your pets with a heartworm preventative imperative in this area. Heartworm prevention is recommended for both dogs and cats; even cats who are predominantly or completely indoors. It only takes a single mosquito bite to become infected with heartworms, and treatment options for cats are very limited. It is much easier to prevent the disease than treat it.

Though heartworms can be found inside the heart, more often they actually live in the blood vessels just outside of the heart leading to the lungs. As a result, heartworms cause significant damage to the lungs. In cats, this lung damage occurs even in the very early stages of the disease before the heartworms have matured. If you have a pet that is infected with heartworms, they should be kept calm and quiet. Multiple studies have shown significant lung damage occurred in pets that were active during heartworm treatment and recovery compared to patients with activity restriction. Signs of advanced heartworm infection typically include coughing, labored breathing, and reduced exercise tolerance. Symptoms in cats mimic the symptoms of asthma or bronchitis. Cats will often have an increase in vomiting as well. Cats with heartworm disease are prone to sudden death.

For both dogs and cats, medication can be used to decrease the inflammation in the lungs and an antibiotic can be used to treat bacteria which live inside the heartworms and contribute to the body's inflammatory response. For cats, unfortunately, there is no safe treatment to rapidly kill the heartworms without being deadly to the cat. Cats will often have to be managed for asthma-type symptoms for the rest of their lives. For dogs, a definitive treatment for the worms does exist, though it does carry some risks. Immiticide (melarsomine) is the treatment of choice. Immiticide treatment involves a series of deep muscle injections that take place over 2 months. With this treatment, there is a risk of allergic reaction to the medication as well as a reaction to the worms as they die. Activity restriction is critically important during the treatment to minimize the damage to the lungs.

Occasionally, animals can develop very serious consequences to heartworm infections. If the heartworms cause enough damage to the lungs, this can cause the blood vessels in the lungs to constrict, resulting in a high blood pressure in the lungs (pulmonary hypertension). If pulmonary hypertension develops, this causes strain on the heart and can lead to an enlarged heart and even right sided congestive heart failure (fluid accumulation in the abdomen). An echocardiogram, or ultrasound of the heart, is needed to diagnose this. Medications are available to treat the high pressure in the lungs and symptoms associated with this. Often, when pulmonary hypertension occurs, this is due to permanent damage in the lungs and lifelong medication is needed.

If there are a very large number of heartworms present, they can clog the large artery leading to the lungs and worms can back up into the heart where they obstruct blood flow and prevent the heart

valves from closing properly. This typically results in fluid accumulation in the abdomen, and is referred to as Caval syndrome. Caval syndrome is typically life threatening and rapid intervention is needed. For Caval syndrome, treatment with the Immiticide injection is too risky and an interventional surgical procedure is required to manually remove as many heartworms as possible.