

Canine Heartworm Treatment



What is heartworm disease?

Heartworm disease is caused by long slender worms that can reach up to 12 inches in length and can infect dogs, cats and ferrets. Heartworms have also been found in sea lions, wolves, coyotes, foxes and humans. These parasites are transmitted from one pet to another by mosquitoes. The adult worms live in the right side of the heart and large blood vessels of infected pets and are capable of causing substantial damage to the heart and lungs before the pets show any signs of disease. Microfilaria (microscopic immature forms) are produced by adult worms and circulate in the blood. We know now that pets with heartworm disease also have a co-infection with a bacterial organism called *Wolbachia*.

Please refer to the canine heartworm disease sheet for more details.

What is the treatment for heartworm disease?

Banfield hospitals follow the recommendations of the American Heartworm Society (<https://www.heartwormsociety.org/>). There are five main steps involved in treatment.

- Step 1: Your veterinarian will recommend a monthly heartworm preventive medication to begin to kill immature worms and prevent new infections from developing. This medication should be continued for the life of your pet, unless otherwise directed. A critical part of therapy is very strict exercise restriction (no running, jumping or overexcitement) throughout the entire treatment period. A small cage or crate may be necessary and your pet should only go outside on a leash. Continue this restriction until otherwise directed by your veterinarian. An antibiotic will also be prescribed to treat the concurrent *Wolbachia* bacterial infection. This antibiotic therapy has been shown to be an important part of the treatment for heartworm disease.

- Step 2: This will be the first therapy aimed at killing adult heartworms (termed adulticide therapy) performed approximately two months after diagnosis. This is an injectable medication and due to possible side effects, your pet may stay in the hospital for the day for close monitoring. An additional anti-inflammatory medication may be prescribed.

- Step 3: The next adulticide therapy will be administered, consisting of two injections given 24 hours apart. This is done one month after the first adulticide injection. Close monitoring will be necessary for these treatments. As described above, very strict exercise restriction is extremely important throughout all phases of therapy.

- Step 4: Roughly one month after the final adulticide therapy, your pet will be closely examined by your veterinarian to determine health status following treatment. A blood test will be performed to test for microfilaria (immature worms in the blood). If positive, further therapy may be prescribed. Continue to restrict your pet's exercise unless otherwise directed.

- Step 5: Another blood test will be performed (roughly nine months after the first positive test) to look for adult heartworms and determine the effectiveness of adulticide treatment. Follow your veterinarian's recommendations for exercise restriction.

What are the risks associated with treatment?

It is important to realize that the treatment for heartworm disease is neither simple nor risk free. By the time heartworms are detected, it is possible that significant damage to the heart, vessels and lungs may have occurred. Some of this damage may be permanent. The primary treatment complication is the development of severe pulmonary thromboembolism (PTE). PTE results from the obstruction of blood flow through pulmonary arteries due to the presence of dead heartworms.

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If adulticide heartworm treatment is effective, some degree of PTE will occur. When dead worms are numerous, widespread obstruction of arteries can occur. Any exercise after the injections can greatly increase the blood flow to the lungs, which increases the risk of PTE. This is why strict exercise restriction is so vital to treatment success. Clinical signs most commonly observed after treatment include fever, cough with a possible expectoration of blood, lethargy and difficulty breathing. If you see any of these, or similar signs, please contact your veterinarian or an emergency clinic right away. In some instances sudden death can occur. The current treatment protocol outlined by the American Heartworm Society is considered to be the most effective and safest available.

Are there any side effects to the medications?

The injection may cause some localized pain, swelling and tenderness at the site of injection.

Most of these signs resolve within a week, but rarely severe injection reactions can occur.

Contact your Banfield medical team immediately or take your pet to the nearest emergency hospital if you are concerned about a reaction to the injection.

What if the adulticide therapy is not available?

Unfortunately, the medication available for adulticide therapy has sometimes not been available (“off the market”). In these situations, adulticide treatment is attempted by adjusting the dosages and timings of the other medication listed in the protocol described earlier. While this is not ideal, it does provide another treatment option. Surgical removal of the adult heartworms can be attempted but is reserved for the most severe cases (caval syndrome) and is associated with a poor to grave prognosis.

Keep in mind that Banfield Optimum Wellness Plans® (OWPs) include yearly heartworm testing for dogs, and OWP options can be added to include heartworm preventive as well.



For additional information, please contact your Banfield medical team or visit Banfield.com.