

Heartworm Lifecycle



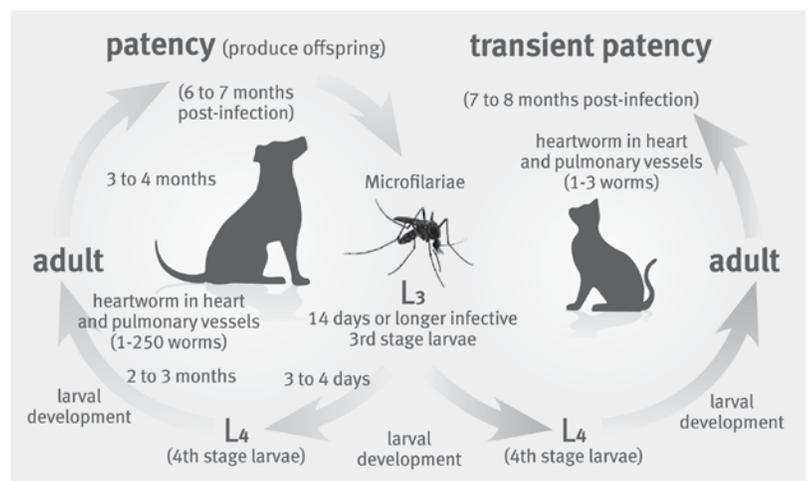
What is heartworm disease?

- Heartworm disease is caused by long slender worms that can reach up to 12 inches in length and can infect dogs, cats and ferrets, as well as wild animals. These worms can live for up to two to three years inside the cat and between five to seven years in the dog.
- These parasites are transmitted from one animal to another by infected mosquitoes.
- The worms live in the right side of the heart and large blood vessels of infected pets and are capable of causing significant damage before the pets show any sign of disease.
- Heartworm disease is detected by blood tests and may not show up positive for up to seven months after infection by the mosquito. Diagnosis can be more difficult in the cat due to differences in how the parasites affect cats.
- Fortunately, this is a disease that is entirely preventable through the use of heartworm preventive medications.
- Yearly testing is recommended by your veterinarian to ensure your pet is heartworm free.

Heartworm lifecycle overview:

- The lifecycle starts when a female mosquito takes a blood meal from an infected host. The mosquito ingests immature heartworms which then, over the course of about two weeks, molt to the infective larvae (L3) stage and travel to the mosquito's mouth parts.
- The mosquito then feeds on a susceptible host, such as a dog or cat, where it deposits the infective larvae. The L3 larvae enter the host through the hole made by the mosquito bite.
- The larvae then molt to the next larval stage (L4) underneath the skin of the new host. The L4 larvae migrate through the body, eventually ending up in the blood vessels.
- As the larvae migrate through the tissues (over 50 to 70 days), they molt into juvenile adults.
- The juvenile adults eventually move into the blood vessels of the lungs where they mature into sexually active adults.
- The adult heartworms then breed and release immature heartworms into the blood stream about six to nine months after infection by the mosquito.

Heartworm disease has been diagnosed in all 50 states. Increased travel of potentially infected pets and environmental changes throughout the country has increased the risk of exposure to heartworm disease for all pets, nationwide.



Adapted with permission from the American Heartworm Society, www.heartwormsociety.org.

For additional information, please contact your Banfield medical team.



Mosquitoes:

- It only takes one infected mosquito to transmit heartworm disease.
- There are over 70 species of mosquitoes that can transmit heartworm disease.
- Heartworm disease can be transmitted any time that mosquitoes are feeding.
- Both indoor and outdoor pets are at risk for heartworm disease. Some mosquitoes prefer indoor environments.
- Many buildings can alter natural drainage and provide more areas for mosquitoes to live.
- Buildings, urban areas, and some other areas can form microclimates where mosquitoes can thrive even in normal “off seasons.”
- Only certain species of mosquitoes transmit it.

Heartworm preventive medications:

- Are available as veterinary prescription medications supplied as monthly oral or topical products for dogs and cats and a six month injectable product for dogs only. The canine injectable can only be administered by a licensed veterinarian.
- Most heartworm preventives are designed to be effective against the L3 larval stage of the heartworm. Once the larvae have reached the late L4 stage or juvenile adult stage they are no longer susceptible to many heartworm preventives. This can occur in as few as 52 days post infection by the mosquito.
- Heartworm preventives are among the safest medications used in veterinary medicine. They have been proven safe to use in all breeds including ivermectin sensitive collies.
- Heartworm prevention is almost 100 percent effective when used properly.
- Due to the potential for microclimates, it is important to utilize heartworm preventives year round.

Heartworm adulticide treatment:

- Currently there is no product available to treat heartworm disease in cats.
- The treatment for heartworm disease in dogs can be prolonged, expensive and painful.
- Treatment to rid the dog of adult heartworms is usually administered over several months to kill adult and immature worms and requires strict patient confinement/exercise restriction to reduce the possibility of complications.
- Supportive therapy is given to decrease inflammation, aid breathing and decrease the risk of complications.
- Patients that survive the disease are not immune to re-infection with heartworms and still require lifelong protection through the use of a heartworm preventive.
- Treatment outcome can vary depending on the damage caused by heartworm disease.
- If disease has caused damage to the heart, pets may need continued supportive medication and therapeutic diets throughout their lifetime.

For additional information, please contact your Banfield veterinarian.

