Vets on tapp™

Heartworm
(Dirofilaria immitis)

What is Heartworm?

Heartworm is a parasite that is spread by mosquitoes

The infected mosquito transmits immature parasites, called microfilaria, when it feeds on your pet

The microfilaria travel through the bloodstream and take approx. 6 months to mature into adult heartworms

6 months

Adult heartworms sit within your pet's heart, lungs and major blood vessels

If the worm burden is high enough it can cause severe damage to the heart and/or lungs as well as other organs and can even be fatal

Signs of heartworm include:

- Weight loss
- Decreased appetite
- Lethargy and fatigue
- Exercise intolerance
- Coughing
- Panting

Congestive heart failure:
Usually noted as a swollen belly due to fluid accumulation around the organs

Caval syndrome:
End stage heartworm disease causing difficulty breathing, pale gums, dark coloured urine, carries a poor prognosis

Diagnosis:

- **Microfilaria Test:** a small drop of blood is examined under the microscope to detect immature heartworms (microfilaria)
- **SNAP Test:** this test detects a protein (antigen) produced by an adult female heartworm and is usually done within the clinic
- A blood sample may also be sent to the laboratory for confirmation

Treatment:

The **American Heartworm Society™** has created a three-dose (Melarsomine) protocol that is based on science and improves safety and efficacy.

It lasts for **365 days** and if the steps are carefully followed has up to a **98% cure rate.**

Most cases can be successfully treated, however severe cases carry risk of long term complications which can negatively impact your pet's health and quality of life, even if the parasites are completely eliminated.

AMERICAN HEARTWORM SOCIETY

Day	Treatment
Day 0	In a dog diagnosed and verified as heartworm positive • Begin treatment of all verified heartworm positive dogs ASAP • If no MF are detected, confirm with second dog test from a different manufacturer • Apply an EPA-registered canine topical product labeled to repel and kill mosquitoes • Begin exercise restriction—the more pronounced the signs, the stricter the exercise restriction If the dog is symptomatic: • Stabilize with appropriate therapy and nursing care • Prednisone prescribed at 0.5 mg/kg BID first week, 0.5 mg/kg SID second week, 0.5 mg/kg every other day (EOD) for the third and fourth weeks
Day 1	• Administer appropriate heartworm preventive ○ If MF are detected, pretreat with antihistamine and glucocorticosteroids, if not already on prednisone, to reduce risk of anaphylaxis ○ Observe for at least 8 hours for signs of reaction
Days 1–28	• Administer doxycycline 10 mg/kg BID for 4 weeks ○ Reduces pathology associated with dead heartworms ○ Disrupts heartworm transmission
Day 30	• Administer appropriate heartworm preventive • Apply an EPA-registered canine topical product to repel and kill mosquitoes
Days 31–60	A one-month wait period following doxycycline before administering melarsomine is currently recommended as it is hypothesized to allow time for the Wolbachia surface proteins and other metabolites to dissipate before killing the adult worms. It also allows more time for the worms to wither as they become unfitly after the Wolbachia endosymbionts are eliminated
Day 61	• Administer appropriate heartworm preventive • Administer first melarsomine injection, 2.5 mg/kg intramuscularly (IM) • Prescribe prednisone 0.5 mg/kg BID first week, 0.5 mg/kg SID second week, 0.5 mg/kg EOD for the third and fourth weeks • Decrease activity level even further; cage restriction; on leash when using yard
Day 90	• Administer appropriate heartworm preventive • Administer second melarsomine injection, 2.5 mg/kg IM • Prescribe prednisone, 0.5 mg/kg BID first week, 0.5 mg/kg SID second week, 0.5 mg/kg EOD for the third and fourth weeks
Day 91	• Administer third melarsomine injection, 2.5 mg/kg IM • Continue exercise restriction for 6 to 8 weeks following last melarsomine injections
Day 120	• Test for presence of MF ○ If positive treat with a microfilaricide and retest in 4 weeks • Continue a year-round heartworm prevention program based on risk assessment described in prevention section
Day 365	• Antigen test 9 months after last melarsomine injection; screen for MF ○ If any positive, retreat with doxycycline followed by two doses of melarsomine 24 hours apart

Log your pet's heartworm prevention with Pets on tapp™ and share with your veterinarian

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Prevention of Heartworm:

Options Available

Oral
- Usually taken as a chewable tablet that can be given as a treat
- Given on a **monthly basis**

Example: Nexgard Spectra®, Heartgard®, TriHeart®

Topical
- This is usually applied to the skin (not fur) between the shoulder blades
- Given on a **monthly basis**

Example: REVOLUTION®, Advantage Multi®, Broadline™ (cats), BRAVECTO® PLUS for cats (given every 2 months)

Injectable
- A slow-release formulation injected under the skin offering 6 or 12 months protection depending on which product is used
- This offers great convenience for owners and ensures compliance
- Given to fully grown dogs **every 6 - 12 months**

Example: Proheart® 6, Proheart® 12

Remember to **ask your veterinarian** about which product is most suitable for your pet's age, weight, location and lifestyle needs

Did you know?
Infected mosquitoes can come into the home so both **outdoor** and **indoor** pets (including **cats**) can be affected

Heartworm prevention *starting* age

8 weeks
- Start heartworm prevention **no later than 8 weeks of age** (earlier if the product label allows)

8 weeks - 7 months
- Start heart worm prevention
- Test for heartworm 6 months later
- if negative

> 7 months
- Test for heartworm **before** starting prevention
- if negative
- Start heartworm prevention
- Test for heartworm 6 months later
- if negative

Continue Heartworm prevention *ALL year-round* and *life-long*

Test for heartworm every year
even if on prevention, especially in areas where there is a high incidence of heartworm

What to do if you have missed 1 or more doses of heartworm prevention?

Test for heartworm → (if negative) Resume heartworm prevention → Re-test 6 months later → (if negative) Test every year

If **positive** start the **Americam Heartworm Society™** protocol with guidance from your veterinarian

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