

# TAKING ON TOUGH QUESTIONS



AMERICAN  
HEARTWORM  
SOCIETY™  
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FAQs ABOUT HEARTWORM DIAGNOSIS, PREVENTION AND MANAGEMENT

**Q** Dear AHS:  
A 16-year-old cat tested positive for heartworm antigen on his annual bloodwork. I know melarsomine is contraindicated, but can I safely give him a heartworm preventive? Any other recommendations? – Dr. S.



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## THE SHORT ANSWER

Because most cats with adult heartworms don't have circulating microfilaria, heartworm-positive cats can and should be given heartworm preventives. Additional medications can also be considered.

**A** Heartworm preventives are generally safe to administer to cats with adult heartworm infection. The major concern with giving preventives to heartworm-positive patients is that macrocyclic lactones kill microfilaria, which can lead to a hypersensitivity reaction. Since cats typically have a low adult worm burden and their immune systems almost always destroy microfilaria, they usually do not have circulating microfilaria and this risk is likely low.

Because melarsomine is contraindicated in cats, treatment usually relies on the following approach:

- 1. If the cat is not already on a heartworm preventive, start it.** The approved macrocyclic lactones cannot be expected to kill adult heartworms; however, they will prevent new infections from developing. Be sure to select a preventive (tablets, chews, or topical formulations given monthly or every-2 months) that fits the owner's and the cat's lifestyle. Preventives containing ivermectin and moxidectin are slowly adulticidal in dogs and this is likely also true for cats.
- 2. Consider doxycycline.** The rationale is that by killing Wolbachia bacteria with doxycycline, you weaken heartworms at all life stages and possibly make them less antigenic to the host. Because doxycycline administration in cats is associated with esophageal injury, nausea, vomiting and inappetence, a liquid formulation or crushing the tablets in food is recommended, along with a lower dosage than that used in dogs (e.g., 5 mg/kg BID or 10mg/kg SID for 4 weeks).
- 3. Consider steroid therapy.** If the cat is demonstrating signs such as cough, the cat should be treated for presumed heartworm associated respiratory disease

(HARD). HARD essentially is treated like feline asthma, using oral ± inhaled steroids. It should be noted that low-dose steroids are beneficial for asthmatic-like clinical signs but will not prevent the ARDS-like reaction that can occur with the death of an adult worm in the cat. Cats that present in acute, severe respiratory distress will require higher dosages of injectable steroids and oxygen therapy for stabilization. Some clinicians send owners home with an emergency dose of injectable dexamethasone to administer to the cat if needed. The antileukotriene montelukast at 2 mg total dose PO SID can also be considered as cytokines have been identified in lung tissues of cats with heartworms.

- 4. Remove the worms.** A final treatment option is removal of right atrial/ventricular worms. An echocardiogram allows the clinician to confirm the presence of intracardiac worms. With the aid of fluoroscopy or transthoracic echocardiography, worms within the right atrium or right ventricle can be retrieved using a small Amplatz gooseneck snare introduced through a jugular venotomy. Risks with this procedure include hemorrhage from the venotomy site, tearing/breaking the worms and anaphylaxis (which can be fatal), and damage to the tricuspid valve.

If the cat has no clinical signs, radiographs and echocardiography are still useful for a baseline comparison if cardio-respiratory signs develop. It should be noted that sudden death is possible in cats infected with adult heartworms and that it is typically associated with worm death. The treatments above may help reduce this risk.