

TAKING ON TOUGH QUESTIONS



AMERICAN
HEARTWORM
SOCIETY™
EST. 1974

FAQs ABOUT HEARTWORM DIAGNOSIS, PREVENTION AND MANAGEMENT

Q Dear AHS: The AHS guidelines recommend annual heartworm antigen and microfilaria testing for dogs. As a feline practitioner, my focus is testing for cats. Given the difference between heartworm disease in dogs and cats, what do you recommend? – Dr. C.

THE SHORT ANSWER

Cats don't need annual heartworm antigen screening when they're prescribed heartworm preventives, but both antibody and antigen testing can provide valuable information.



**LINDSAY STARKEY,
DVM, PHD, DACVP-
PARASITOLOGY**
Associate Professor
Auburn University
College of Veterinary
Medicine

Dear Dr. C.,

Heartworm testing strategies are very different for cats than dogs. Here's why:

• **Heartworm numbers tend to be much lower in cats than dogs.** Because of the indoor lifestyle of many cats and the fact that some mosquitoes preferentially feed on dogs and other species, cats usually have a lower inoculum of heartworms. In addition, the immunological system of the cat reacts strongly to the presence heartworm larvae, so fewer heartworms are likely to survive to become antigen-producing adults.



• **Antigen and microfilaria tests are not reliable screening tools in cats.** While there definitely is a role for antigen tests in cats, annual heartworm antigen screening is not recommended—nor is antigen testing needed prior to starting a cat on a heartworm preventive. Antigen tests accurately detect the presence of adult female worms, but do not detect immature worms or male-only infections. Meanwhile, cats seldom test positive for microfilaria. There typically are few—if any—adult worms, so mating

can't occur. And if it does, the immune system can eliminate microfilaria

• **Heartworm antibody tests in cats can provide important information.** A positive antibody test performed at a reference laboratory can't tell you if a cat has an active infection, but it can tell you the cat has been bitten by a heartworm-positive mosquito and mounted an immune response to the heartworm larvae in its system. A positive antibody test in a cat without clinical signs tells us (1) because the cat's environment and lifestyle have allowed it to become infected in the past, the cat needs to be on heartworm prevention; and (2) the owner should be instructed to seek veterinary care if clinical signs of heartworm infection—such as respiratory distress and vomiting—are noted.

If the cat is antibody-positive for heartworm and is already exhibiting clinical signs consistent with heartworm, further investigation, including antigen testing and an echocardiogram, is warranted to confirm the diagnosis.

• **Pretreating blood samples prior to antigen testing will dissociate immune complexes.** Pretreating samples with heat or a chemical before conducting the antigen test can enhance the accuracy of the test result. Antibodies produced by the cat's immune system can mask the small amount of antigen that's present in the blood; therefore, anything we can do to help make the antigen more detectable is worthwhile.

The bottom line: while heartworm testing in cats can be confusing, it can yield important information for the veterinarian and the client. Meanwhile, keeping all cats on year-round heartworm prevention throughout their lives can essentially eliminate the need for heartworm testing.