### A SPECIAL REPORT

## American Heartworm Society Recommendations for Heartworm Testing, Prevention, and Treatment During the



### INTRODUCTION

eartworm management is a cornerstone of pet health care. However, the urgent need to reduce the risk of virus transmission during the current COVID-19 pandemic has rendered the delivery of routine veterinary care problematic. Veterinarians have been asked to minimize non-emergency visits to their clinics and to deploy telemedicine where appropriate. While telemedicine is a viable alternative in many situations, it does not allow for routine heartworm testing and administration of certain medications.

Because the need to protect the public's health—and the health of veterinary professionals—during the current crisis means temporarily delaying routine visits and disease screening for patients, many veterinarians are faced with questions about annual heartworm testing and refills on heartworm preventive prescriptions, as well as interruptions and/or delays to adulticide treatment for diagnosed heartworm infections. To address these questions, and to help veterinarians continue to provide the best possible care for their patients as the U.S. confronts the current pandemic, the American Heartworm Society (AHS) has drafted the following recommendations.

# HEARTWORM TESTING AND PREVENTION

- Annual testing for heartworms is a preferred practice in veterinary medicine and is recommended by the FDA, the AHS and other veterinary organizations. In practices where offering routine care is not possible, the AHS recommends the following:
  - Scenario A: Assuming that (a) there is a valid Veterinarian-Client-Patient Relationship (VCPR) in place, and (b) the pet has been receiving appropriate heartworm preventive doses since the most recent test, the veterinarian can delay the annual heartworm test for up to 6 months and prescribe up to 6 months of heartworm preventive medication to ensure the patient's prevention regime can continue uninterrupted.
  - Scenario B: If the veterinarian documents a lapse of 3 to 6 months in heartworm preventive administration, heartworm testing is strongly recommended to ensure that a potential heartworm diagnosis—and subsequent treatment—is not delayed. The decision of whether or not to refill preventive prescriptions on a short-term basis in such cases should be made at the discretion of the veterinarian. In these situations, recommending mosquito mitigation, in addition to a heartworm preventive, can minimize the risk of a microfilaremic dog becoming a source of infection to other animals.
    - In scenarios A and B, it is recommended that an appointment be made for a heartworm test within 6 months and a reminder generated.
  - **Scenario C:** If the lapse in heartworm prevention is 6+ months, refilling the preventive prescription is not recom-

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mended until the dog is tested. Once again, recommending mosquito mitigation can help minimize the risk of a microfilaremic dog becoming a source of infection to other animals.

HEARTWORM TREATMENT

The AHS Adulticide Treatment Protocol recommends a 30-day interval between completion of the doxycycline doses and the first melarsomine injection. In addition, a 30-day interval is recommended between the first melarsomine injection and the second and third injections, which are given 24 hours apart. Maintaining a macrocyclic lactone as prevention throughout the adulticide treatment period and beyond is essential as well. If the clinic environment necessitates that a delay occurs in any stage of treatment, practitioners may question (1) how to resume the treatment protocol; and (2) whether the protocol itself should be re-started. The following recommendations address these potential questions.

- Scenario A: A dog diagnosed and confirmed to have heartworms has been started on heartworm preventive and prescribed doxycycline; however, administration of the first melarsomine injection must be delayed. The question is, how long can the practitioner wait before administering melarsomine without having to repeat doxycycline?
  - If doxycycline was administered at 10 mg/kg BID for 4 weeks, and consistent heartworm prevention administered throughout the elapsed time frame, there is no need to repeat doxycycline until one year has passed.
  - If doxycycline was given at 5 mg/kg BID for 4 weeks, this course of treatment should be repeated once 6 months has elapsed. Meanwhile, the dog also should be maintained on an appropriate heartworm preventive program without interruption.
- Scenario B: A dog has been pre-treated with a monthly heartworm preventive and doxycycline and received the first melarsomine injection, but the second and third melarsomine injections are delayed. The question is, how long can the practitioner wait before administering the second and third injections?
  - In such cases, practitioners can delay the second and third injections for up to 6 months. However, the second and third injections MUST be given within a 24-hour period

when the adulticide treatment is resumed. Again, the dog should be maintained on a preventive without interruption.

### **CONCLUSION**

The intent of these recommendations is to provide clarity and support to veterinarians who are working to provide the best-possible care and treatment of patients during the COVID-19 pandemic. Understanding that the clinic environment is dynamic and that the protection of public health may dictate further adjustments, the American Heartworm Society will revisit these recommendations within the next three months or earlier if conditions necessitate it. In the meantime, veterinary professionals are encouraged to contact the Society with additional questions by emailing info@heartwormsociety.org.

#### References

- Nelson CT, McCall JW, Jones S, et al. Current Canine Guidelines for the Prevention, Diagnosis and Management of Heartworm Infections in Dogs. Available from: (https://d3ft8sckhnqim2.cloudfront.net/images/pdf/2020\_AHS\_Canine\_Guidelines.pdf?1580934824) (accessed 20.03.27).
- FDA. Keep the Worms Out of Your Pet's Heart! The Facts about Heartworm Disease. 2020. Available from: https://www.fda.gov/animal-veterinary/animal-health-literacy/keep-worms-out-your-pets-heart-facts-about-heartworm-disease (accessed 20.3.27)
- Jiang S, Tsikolia M, Benner U, Bloomquist J. Mosquitocidal activity and mode of action of the isoxazoline fluralaner. *Int J Environ Res Public Health*. 2017;14:154. doi: 10.3390/ijerph14020154.
- Keister DM, Dzimianski MT, McTier TL, et al. Dose selection and confirmation of RM 340, a new filaricide for the treatment of dogs with immature and mature *Dirofilaria immitis*. In *Proceedings of the Heartworm Symposium '92*, Austin, TX. American Heartworm Society, 1992, pp 225-229.
- McCall JW, Kramer L, Genchi C, et al. Effects of doxycycline on heartworm embryogenesis, transmission, circulating microfilaria, and adult worms in microfilaremic dogs. *Vet Parasitol.* 2014a; 206(1-2):5-13.
- McCall JW, Varloud M, Hodgkins E, et al. Shifting the paradigm in Dirofilaria immitis prevention: blocking transmission from mosquitoes to dogs using repellents/insecticides and macrocyclic lactone prevention as part of a multimodal approach. Parasit Vectors. 2017b;10(Suppl 2):525.
- Nelson CT, Myrick ES, Nelson TA. Clinical benefits of incorporating doxycycline into a canine heartworm treatment protocol. *Parasit Vectors*. 2017;10(Suppl 2):515.
- Savadelis MD, Day KM, Bradner JL, et al. Efficacy and side effects of doxycycline versus minocycline in the three dose melarsomine canine adulticidal heartworm treatment protocol. *Parasit Vectors*. 2018;11;671.