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Heartworm Adulticide Shortage



The American Heartworm Society has been made aware of a **product shortage of the only available heartworm adulticide product, IMMITICIDE®**. The AHS created this document on appropriate management guidelines for practitioners to address this shortage should it become protracted and result in unavailability of the adulticide product.

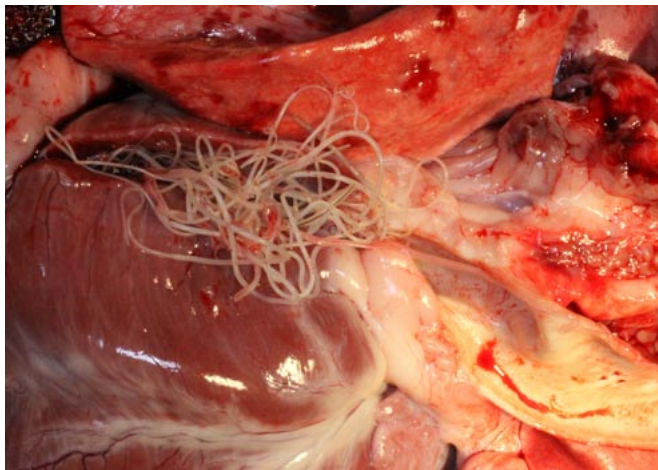


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Background/Goals

In the face of limited supplies of the heartworm adulticide product, IMMITICIDE, it is important to understand that no other approved products for killing adult heartworms exist. Therefore, the American Heartworm Society, working with experts in the field, developed a management plan for dogs with adult heartworm infection if the adulticide product is not available.

Heartworm-positive dogs should be managed to achieve three primary goals: 1) Reduce potential pathology from the infection, 2) Prevent further heartworm infection of that dog, and 3) Limit the potential of that dog to infect mosquitoes.

These goals can be achieved by adhering strictly to the following key heartworm disease management ideologies:

1. *Limit the activity level of the dog to reduce pathology.*^{1,2}
2. *Safely place the nonprotected dog on heartworm prevention.*³⁻⁷
3. *Administer doxycycline to reduce pathology and infective potential of heartworms.*⁸

Management Plan for the Heartworm-Positive Dog

1. If a dog tests positive for heartworms on an antigen test, a microfilariae test should be performed.
2. If the dog is **positive for microfilariae**, the dog should be pretreated with corticosteroids with or

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without antihistamines⁹ and then administered a dose of heartworm preventive (macrocytic lactone) to affect the microfilariae.¹⁰ While all heartworm preventives affect microfilariae, the speed and intensity of microfilarial-kill of each formulation varies.³⁻⁷ Therefore, treated dogs should be kept under clinical observation for at least 8 hours following the initial dose of heartworm preventive to ensure appropriate medical management can be provided should a shock reaction occur.

Background explanation:

- *Anti-inflammatory pretreatment:* Dexamethasone at 0.25 mg/kg intravenously and diphenhydramine at 2 mg/kg intramuscularly, **or** 1 mg/kg of prednisolone orally 1 hour before and 6 hours after administration of the first dose of preventive.⁹
- The death of large numbers of microfilariae can result in shock-type reactions in some dogs. For this reason professional observation is highly recommended.
- It is important to realize this single dose will most likely not kill all of the microfilariae present in the dog.
 - Killing every single microfilaria is not the goal; reducing the number is the goal.
 - Microfilariae will continue to be produced by the remaining adult heartworms, so even if they appear to be “gone” initially, it is possible for small numbers of microfilariae to reappear.

3. If the dog is *negative for microfilariae*, a heartworm preventive should be administered.

Background explanation:

- **If the positive dog is already on prevention, continue regular monthly dosing.**
- **Additionally, follow steps 4 through 8.**

4. Dogs should receive doxycycline at 10 mg/kg twice daily (bid) for 4 weeks. This dosing should be repeated quarterly (1 month of every 3) until adulticide is available. (Dose may be reduced to 5 mg/kg bid if the dog cannot tolerate the higher dose.)

Background explanation:

- **Doxycycline will affect the viability of any subsequently produced microfilariae.**
- **Microfilariae will still be able to infect mosquitoes, but the microfilariae will be less capable of infecting another dog.**
- **The doxycycline protocol would be 1 month on, 2 months off, 1 month on, 2 months off, etc.**

5. Dogs should be maintained on monthly heartworm preventive.

Background explanation:

- **The goal is NOT to attempt to kill the adult worm infection.**
- **The goal IS to limit further infection of the dog, until the adulticide product is again available.**

6. Restrict activity of the dog! Limit all exercise!

Background explanation:

- **Multiple studies have shown that the severity of heartworm disease is directly correlated to the activity level of the dog.**
- **As physical activity increases, pathology associated with heartworms increases!!**

7. Any dogs that are symptomatic for heartworm infection should be treated palliatively to relieve signs of cardiovascular compromise.

8. When adulticide product is again available:

- **The dog should be retested to revalidate the presence of an adult heartworm infection.**
- **If positive, the dog should be appropriately treated for adult heartworms.**

**IMMITICIDE is a registered trademark of Merial Limited, Duluth, GA.*

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