**Presentation:** NO signs in most HW-infected dogs. COUGHING is most common complaint (when clinical signs exist).

Also - Exercise intolerance, weight loss, syncope, death  
- Ascites - manifestation of right-sided heart failure  
- Dyspnea - manifestation of pulm. hypertension (PTE)

**Classic case:** INCIDENTAL finding at routine work up  
-or-  
Coughing, exercise intolerant, outdoor dog

**Differential Dx:** Congestive heart failure (CHF) or PTE due to causes other than HW  
Coughing - *Bordetella*, Left CHF, primary bronchointerstitial disease

**Test of choice:** HW antigen test - detects adult female worms  
Filter or modified Knott's for microfilariae  
For dogs with moderate to severe HW infection, do echocardiography  
Assess for pulmonary hypertension, caval syndrome

**Rx of choice:** 1.) Melarsomine, 3 dose adulticide protocol  
- 2.5 mg/kg IM today  
- Two more doses, 24 hours apart, given 1-3 months later

2.) EXERCISE RESTRICTION extremely important, 4-6 weeks after each dose

3.) Consider prednisone or NSAIDs to reduce melarsomine injection site inflammation

**Pre-adulticide treatment 1-3 months**

**Doxycycline**, 10mg/kg BID 4 weeks- Why?  
- Kills endo-symbiotic *Wolbachia* bacteria living inside HW larvae  
- Decreases lung pathology associated w/ dead worms during adulticide Rx

**Monthly HW preventive**- most clinicians start asymptomatic dogs at time of Dx - Why?  

- “Susceptibility Window”  
  - Melarsomine adulticide does not kill HW larvae < 4 months old  
  - HW-infected dog likely to have larvae < 4 months old in blood  
  - If larvae < 4 months survive adulticide Rx, can re-infect dog  
  - So use monthly HW preventive to kill youngest larvae

- Ivermectin, selamectin (Revolution®), moxidectin = “Slow microfilaricides”  
  - Fewer adverse rxns, because microfilariae die off slowly
• Milbemycin (Interceptor®) = “fast microfilaricide” **Take precautions**
  - 10% have adverse rxns because larvae die off fast
  - Can see shock, depression, hypothermia, vomiting
  - Pre-treat with dexamethasone and diphenhydramine
  - Hospitalize and observe 8 hours after giving milbemycin

**Prognosis:** Good in mild to moderate HW infections
Fair-Guarded in severe cases.
Poor to Grave even with treatment in dogs with caval syndrome, PTE or CHF

**Prevention:** Monthly macrolides-Ivermectin, selamectin, moxidectin, milbemycin
**WIDE window of efficacy** - up to two-month “reachback effect”
Eliminates developing larvae that have been in dog as long as 2 months

**Pearls:** **Caval syndrome** - see in some heavily-infected dogs
  - Adults obstruct tricuspid valve (RAV), posterior vena cava
  - **ACUTE ONSET**-severe lethargy, dyspnea, pallor, weakness
  - + Jugular pulses, systolic murmur (R) of tricuspid regurgitation
  - + Hemoglobinemia, hemoglobinuria
  - Rx by surgical extraction or dog likely to die w/in 2 days

Images courtesy, Terri Defrancesco DVM, DACVIM (radiograph), Dr. Joel Mills, DVM (microfilaria)

**My Notes:**