

## **HARD: A New Definition**

Researchers and veterinarians have discovered that signs such as heavy or fast breathing, which are often diagnosed as feline asthma or allergic bronchitis, may actually be caused by the presence of heartworms in either larval or adult stages. The term “HARD,” for Heartworm Associated Respiratory Disease, is the new acronym for this clinical presentation.

The pathogenesis of feline heartworm disease starts with the larvae, which penetrate into peripheral veins. The larvae are then swept in venous blood flow to and through the heart to the caudal pulmonary arteries. These arteries then almost immediately become enlarged and inflamed. After three or four months the immature worms, which are now over two inches long, usually die and cause a severe inflammatory respiratory response, which leads to significant pathology.

- H = Heartworm
- A = Associated
- R = Respiratory
- D = Disease

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