Heartworm – is Rover really at risk?

by Dr. Cynthia Harcourt

The thought of worms wriggling around in an animal's heart is enough to make anyone take immediate preventative steps, especially if the prevention is presented as guaranteed, safe, and responsible. But what are the real risks of contracting heartworm, and how do they compare to the risk of side effects from chemical heartworm preventatives? Is there a holistic flip side to conventional prevention and treatment?

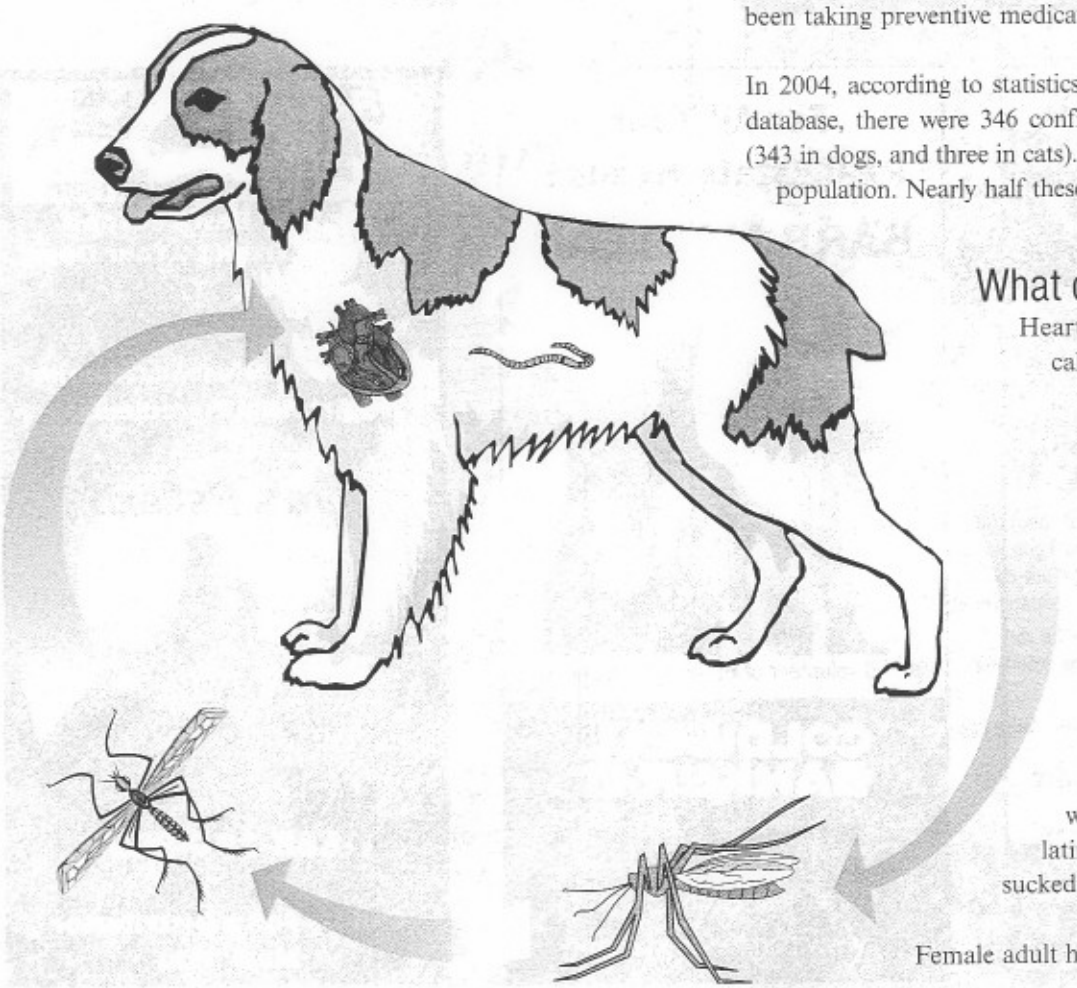
Distribution and statistics

Heartworm primarily affects adult dogs between about three and eight years of age. They are often larger dogs that live in rural areas and spend all or most of their time outdoors, including at night. Cats are also affected, but to a lesser degree.

Heartworm was once found only in tropical or semi-tropical regions. It then became prevalent in the southern United States, the Atlantic and Gulf coasts, and through the Ohio and Mississippi River basins. It has since spread to Canada, with southwestern Ontario being one of the main areas affected. Other pockets include southern Quebec, southern Manitoba, and the Okanagan Valley of B.C.

In a 2002 survey conducted by Dr. Owen Slocombe of the Ontario Veterinary College, 354 cases of heartworm were reported in Canada, most of which occurred in southwestern Ontario. Although most of the animals weren't on preventatives, 28 had been taking preventive medication the previous year.

In 2004, according to statistics compiled by Merial, a Canadian database, there were 346 confirmed heartworm cases nationally (343 in dogs, and three in cats). This amounts to 0.11% of the total population. Nearly half these cases (162) were in Ontario.



What causes heartworm?

Heartworm is caused by a parasite called *Dirofilaria immitis,* which first develops inside a mosquito. As many as 30 species of mosquito may transmit heartworm. When an infected mosquito bites a dog, it deposits the heartworm larvae under his skin. The larvae migrate through the blood to the host's heart, where they mature into reproducing adult heartworms. Microfilaria (immature worms) are released into the circulating blood of the host dog and are sucked up when a mosquito bites him.

Female adult heartworms can be six to 14 inches

long; males are half that size. They can live up to five years before dying off. The immature worms cannot develop in the host, and must go through a mosquito before they become infective.

Not all affected dogs get sick

The host dog allows the worm to live in the right side of the heart rather than mounting a defensive response. If the host is strong and healthy, the worm will not successfully develop; or if the heartworm is an adult, it will die and be digested or reabsorbed by the host.

If an infection does take place in a constitutionally strong dog, it may be very mild and pose no problem. If the dog becomes clinically affected, symptoms may include difficult or labored breathing, poor exercise tolerance, a soft, dry cough, and an increased respiratory rate.

Less than 15% of affected dogs show clinical signs. The main organs at risk of functional compromise are the heart, lungs, and liver. Blood flow can be blocked in the heart and pulmonary artery to the lungs, and the ventricle on the right side of the heart may become enlarged. In very severe cases, congestive heart failure can occur, but this is rare. A constitutionally strong animal will limit the infection, develop immunity, and cure himself. It therefore becomes vitally important to ensure the animal is as constitutionally strong as possible so he can resist heartworm.

A responsible and caring guardian will ensure that an animal is tested for heartworm. This is especially important if no chemical preventatives are used. It is a good idea to do these tests twice a year since it takes about six months for the heartworm to develop. In Ontario, animals should be tested in the spring (April) and fall (November).

Conventional prevention and treatment

There are many kinds of chemical preventative. They can be given orally on a daily or monthly basis, as an injection that is given in the spring and lasts six months, or as a topical preparation applied monthly. All chemical preventatives work backward, killing any developing larvae acquired the month before. With the exception of the daily dose preventative (diethylcarbamozine), the others also cover a broad spectrum of other parasites, such as worms, mites, and fleas. The more they cover, the greater the toxic load on the animal. For this reason, diethylcarbamozine may be less risky because the animal ingests smaller doses of less toxic material. It is also possible to use the monthly preventative less frequently (every six to eight weeks) and still have good efficacy.

Using these poisons is a concern for many. When you consider that the risk of contracting heartworm is less than 0.5%, using these preventatives becomes very debatable. How many dogs or cats die of heartworm? Very few. How many die of cancer and other diseases related to a toxic environment? Many.

If an animal tests positive for heartworm and conventional treatment is initiated, it may take a few forms:

1. A preventative such as Ivermectin will kill the microfilaria and weaken or shorten the lifespan of adult worms. This leads to a gradual die-off of the parasite and produces fewer complications.

2. Thiacetarsamide, an arsenic-based drug, is an injectible medication given for two

days, or divided into two treatments 30 days apart.

3. *Melarsomine is also arsenic-based, but is less toxic than the above.*

The prognosis in most cases is excellent to cautiously optimistic. Sometimes there may be a chronic residual cough.

Alternative approaches can help

Any of the above treatments can be supported with supplements. These include coenzyme Q10, vitamins B, C, and E, amino acids (taurine), and essential fatty acids (fish oils). Some approaches use combinations of herbs such as black walnut, wormwood, quassi, pumpkin seed, clove, and hawthorn tincture, a major heart tonic. Homeopathic remedies can also help the animal cope. The liver will most definitely need detoxification.

I once worked with a client whose dog was imported from the Turks and Caicos islands, and was diagnosed with heartworm shortly after arriving in Ontario. At the time, heartworm was treated at the University of Guelph with intramuscularly injected melarosomine. The injections can be very painful, but the homeopathic remedy arnica worked extremely well to help ease the pain, without further contributing to the dog's drug load.

How can I protect my animal?

A truly healthy animal will not be susceptible to heartworm. Disease cannot occur in an energetically healthy animal. Heartworm comes from weakness within the host, not from the worm itself. The best way to help your dog or cat avoid illness is to support his well being.

1. Start with lifestyle. Feed a high-quality, natural diet and avoid low-grade commercial foods. Don't overvaccinate. Provide regular exercise and an emotionally healthy environment.

2. Avoid commercial flea, tick and mosquito repellents and treatments. Instead, try the following:

- Many natural mosquito repellents are now available. Or prepare your own: boil two cups of water, pour over thin slices of unpeeled lemon, and add a branch of fresh rosemary and three drops of tea tree oil. Steep overnight and strain off liquid into a spray bottle. The key places to focus on are the neck and face (avoid contact with eyes and mucous membranes), the abdomen and groin, and anal and genital areas.
- Add fresh organic garlic to food.
- Supplement with a complex of B-vitamins (versus yeast, which many animals are sensitive to).
- Spritz a grooming brush or comb with a natural repellent and brush the dog daily. You can also spritz T-shirts and bandanas for him to wear when he's outdoors during mosquito season.
- Avoid foods, such as bananas, that attract mosquitoes.
- Don't let your animal out at dawn and dusk, when mosquitoes are most active.

Risk factors for heartworm

Geographic areas that have high-density pockets of infected mosquitoes.

Length of mosquito season.

Taking your dog to areas of high heartworm incidence.

Proximity to water, especially if it's stagnant or swampy.

Time of day (dusk and dawn are high-risk periods).

Lifestyle and time spent outside, especially at night.

3. Nosodes are homeopathic preparations made from diseased material. Some veterinarians use a nosode to help prevent heartworm. It is administered orally, introducing the energetic imprint of the heartworm to the animal. If he later encounters the real parasite, his body will be prepared to respond defensively. Holistic veterinarians in the southern U.S. have successfully used nosodes in healthy, non-infected dogs in endemic areas.

There may seem to be an epidemic of heartworm in certain areas, but there is also an epidemic of animals suffering from toxic drug loads. We live in a society that has a pathological fear of disease, so we over-medicate our pets. But perhaps the best approach is to keep your companion constitutionally strong. Assess the risks, make your dog as unattractive as possible to mosquitoes, use common sense, and most of all, don't buy into the fear factor.

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