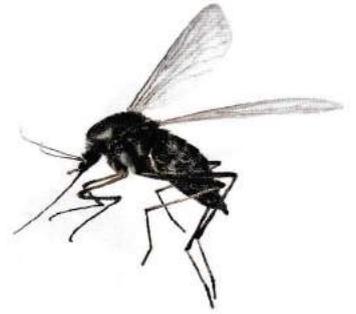


# Canine heartworm/intestinal worms

## Heartworm disease

Heartworm is a parasitic disease that can affect any dog regardless of age, sex or habitat. It is found in many parts of Australia. Heartworm is spread by mosquitoes, and tends to have a higher incidence in areas heavily populated by mosquitoes. Dogs are considered the most common host for heartworms, however heartworms may also infect more than thirty other animal species (including foxes, domestic cats, ferrets).



## What are heartworms?

Heartworms are parasites that live in the chambers of a dog's heart and adjacent blood vessels. They can grow from ten to thirty centimetres in length, reach maturation six to seven months after infection, and live for approximately five to seven years. Adult heartworms living in the heart produce offspring, known as microfilariae, which circulate in the animal's blood. When a female mosquito bites an infected animal, it sucks out the blood containing the microfilariae. When the mosquito bites another pet, the larvae are transmitted. In most cases the infected dog will not show symptoms in the early stages.

Heartworm is the most serious common parasite in dogs because it stresses the dog's heart by restricting blood flow and damages other internal organs. The heart may enlarge and become weakened due to an increased workload, and congestive heart failure may occur. Left untreated, the disease can be fatal to dogs. Treatment of severe disease may involve physical removal of adult worms from the heart.

Blood screening tests can verify the presence of immature heartworm (microfilariae). Ultrasound and x-rays are used to detect the disease in its later stages. Prompt detection prevents needless suffering.

## Heartworm treatment and prevention

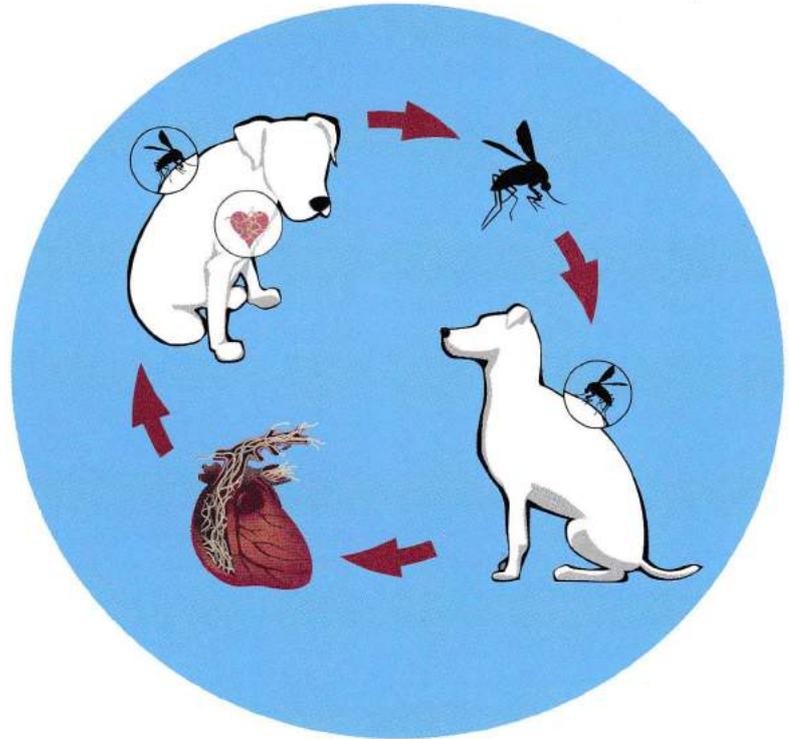
The good news is that most dogs with heartworm can be successfully treated, usually with drugs (adulticide, microfilaricide) that kill adult heartworms and their offspring. But prevention is the best solution – it's safer, less expensive, and better for your pet!

There are a variety of options for preventing heartworm infection, including an injection, monthly topicals and monthly chewable or flavoured tablets. Preventative medications are extremely effective and when administered correctly on a regular basis, can completely prevent your pet from contracting heartworm. But remember, annual or monthly heartworm protection is only as good as your diligence in remembering to give your pet the prescribed medication, as directed by your veterinarian!

Depending on where you live, your veterinarian may recommend a repellent to help avoid mosquito bites, as part of a preventative program.

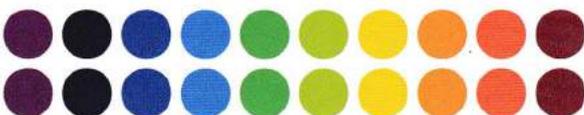
## Ask your veterinarian

Because of the regional and climate-dependent nature of the heartworm cycle, it is crucial to consult your veterinarian before giving any medication to your pet. Your veterinarian is your best reference, with expert knowledge of the heartworm cycle and transmission patterns in your region, along with the individual health and activity profile of your dog. Before starting a preventative program, all dogs that could possibly be affected with mature heartworms should be tested, as preventative medicines may cause severe reactions in dogs that are already hosts to adult heartworms. A dog that is on a preventive medicine should be tested if a dose has been missed or forgotten.



### Canine heartworm symptoms include:

- Difficulty breathing
- Coughing
- Fatigue; a dog that tires easily
- Listlessness
- Weight loss
- Rough hair coat



# Canine heartworm/intestinal worms

## Can you catch heartworm and other parasites from your pet?

Mosquitoes transmit heartworm, not pets. Humans are unnatural hosts for heartworm, therefore cases of infection are rare. Many heartworm preventative medicines for pets also control other parasites such as hookworms, roundworms, tapeworms and whipworms. Parasitic infections that can be transmitted from animals to humans are known as parasitic zoonoses.

## Be safe, not sorry

Children are more prone to contracting zoonotic parasites, as they tend to kiss and play more readily with pets. Parasite larvae are shed in the pet's faeces and may contaminate soil and sand. When children play in the contaminated areas and place their fingers in their mouths this allows the eggs to be ingested, causing infection. Hookworm larvae are capable of infecting a host through penetration of the skin. Be sure to pick up faeces promptly and avoid eating while playing with your pet. Frequent hand washing, as well as good general hygiene for people and dogs, is recommended. Regular veterinary check-ups including assessment for worm infestations, as well as regular worming treatments will keep your pets healthy and reduce any risk to your human family.

### Hookworms

In dogs, hookworm infection occurs through ingestion or skin penetration of hookworm larvae found in the stools or soil contaminated by faeces of an infected animal. The larvae then develop and migrate to the intestines where they hook onto the intestinal wall and feast on the host's blood. The larvae of hookworms can penetrate the skin and infect humans through contact with soil or sand contaminated by faeces of host dogs or cats. In a human host, the hookworm larvae do not migrate to the intestines and become blood-sucking adults as they do in pets. Instead, they move around under the skin and eventually die, causing an inflammatory skin reaction known as cutaneous larva migrans, or 'creeping eruptions'. It is important to keep your pet free of hookworms with good hygiene, preventative medication and regular veterinary checkups. Also, keep stray dogs and cats out of sandpits and gardening areas.

### Roundworms

Roundworms are parasitic worms that live in the dog's intestines and consume partially digested food. Unlike hookworms, they do not attach to the intestinal wall, but literally swim in their food. Adult worms resemble spaghetti and may come out in the faeces or vomit of an infected dog. Transmission to dogs is through eggs in faeces which contaminate soil that may be ingested, eating a prey animal that is a host (usually rodents), mother's milk, or *in utero*. In dogs, roundworms cause diarrhoea, vomiting and in extreme cases pneumonia and intestinal obstruction. In humans, roundworms can cause a serious condition known as visceral larva migrans. Most victims are children who are infected when putting contaminated fingers into their mouths. Once ingested, the roundworm larvae, though not in its usual host, tries to complete its lifecycle. The roundworm gets lost in the human body, usually in the eye, then dies and generates an inflammatory reaction that can cause blindness. Proper hand washing can prevent infection. Deworming of puppies and preventative medication will reduce environmental contamination.

### Tapeworms

There are various species of tapeworms that infect dogs, and this can occur in different ways, such as transmission from fleas, or by ingesting infected raw meat or offal, depending on the particular species of tapeworm involved. Tapeworms in the intestine can cause symptoms varying from unthriftiness and malaise, to colic and mild diarrhoea, depending on the degree of infection, and the age and condition of the affected dog. Transmission to humans of certain species of tapeworm usually occurs via accidental ingestion of the eggs present in dog faeces, and can have serious repercussions. Preventative medication including regular worming and effective flea control, as well as avoiding feeding your dog raw meat or offal, will significantly reduce the chance of canine and human infections.

### Whipworms

The only way a dog can contract whipworms is by ingesting the eggs. When a dog walks on ground infected by eggs, they are picked up on the paws and travel into the mouth when they lick their paws or any contaminated toys or food bowls. Whipworm eggs can survive extreme exterior conditions for months and even years. Within one to three months after the eggs are swallowed they hatch in the dog's intestine, attach to the wall and begin to suck blood and lay eggs. In dogs, whipworm can cause diarrhoea, weight loss and in some cases, anaemia. Whipworm infection in humans is extremely rare.



## Comments

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