

Heartworm is a serious and potentially deadly disease which is spread by mosquitoes. Therefore there is a higher incidence of Heartworm in areas heavily populated by mosquitoes. The Heartworm Surveillance Project has recorded over 1300 cases in Australia in the last three years, with over 1100 of these occurring in Queensland. Dogs are considered the most common host for heartworms, however it may also infect and be spread by more than thirty other species including foxes, wild dogs and feral cats.

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### HOW IS HEARTWORM SPREAD?

Heartworm requires two hosts to complete its' lifecycle. It isn't spread directly from dog to dog. When a female mosquito bites a previously infected dog it will ingest the immature heartworms (microfilariae) along with the dogs' blood. The microfilariae develop for a further 10 - 30 days inside the mosquito's gut. before evolving into an infective larvae. They can complete their maturation when they enter another dog.

A Heartworm infestation begins in your dog with a single mosquito bite. Infectious larvae are transmitted into a dog's bloodstream and make their way to the lungs and heart. It takes six to seven months for the heartworm to mature. They will spend the next five to seven years reproducing and can reach lengths of 30cm.

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### WHAT IS HEARTWORM DISEASE?

As they grow and multiply, the adult Heartworm clog the main blood vessels and interfere with the function of the heart valves. The blood supply to the body's organs, particularly the lungs, liver and kidneys is reduced causing damage and breakdown of the organ function. The heart may enlarge and become weakened due to an increased workload, and congestive heart failure may occur.

The immature Heartworm (Microfilariae) primarily live in the small blood vessels. These may become blocked, starving the body's cells of nutrients and oxygen. Most damage caused by microfilariae is to the liver and lungs.

Left untreated, the disease can be fatal to dogs.

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### SYMPTOMS

Although no symptoms may be present in the early stages of the disease, irreversible damage is still being done to the dog's organs.

Visible symptoms may include:

- Coughing
- Difficulty breathing
- Fatigue, a dog that tires easily
- Listlessness
- Weight loss
- Rough hair coat
- Enlarged or swollen abdomen
- Jaundice
- Anaemia
- Fluid accumulation in the legs

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### HEARTWORM DISEASE AND TREATMENT

There are several methods and levels of diagnosis used to confirm the extent of Heartworm infestation. Proper diagnosis helps foresee complications that may arise during treatment.

A quick and simple blood test can be performed by your Veterinarian during a consultation to verify the presence of adult heartworm, and a blood sample seen under the microscope can verify the presence of the immature microfilariae. More comprehensive blood testing is used detect abnormalities in the kidney and liver function and indicate the extent of the disease. in its later stages, Ultrasound and x-rays are used to detect the degree of heart enlargement and damage to the lungs and pulmonary vessels. The longer the disease has been present without detection, the more irreversible damage will have been caused.

Dogs diagnosed with severe heartworm disease may require pain relief, antibiotics, treatment to improve their heart function and medication to remove fluid in their lungs even before the worms are dealt with. A course of injections may be required to kill the adult heartworm. As they die and decompose, the worms are carried to the lungs. They will be slowly reabsorbed over the next few months. Complete rest is essential during this time, as it is not uncommon for complications to be seen while the dead worms are in the lungs.

Following this, additional treatment will then be required to kill the immature microfilariae in the blood. Even after the Heartworm infestation has been removed, lifetime treatment for heart failure may be required. The good news is that most dogs with heartworm can be successfully treated and have renewed enthusiasm and energy.

### PREVENTION IS BETTER THAN A CURE

Prevention is the best solution – it's safer, less expensive, and better for your pet!

Dogs that have not been on consistent heartworm prevention should be tested before commencing any heartworm prevention, as preventative medications may cause a severe reaction in dogs that already host adult heartworm.

Preventative medications are available as monthly chews. They are extremely effective at killing immature microfilariae and larvae, however, if they are not given continually the developing heartworm may have matured beyond this stage. Therefore, monthly heartworm protection is only as good as your diligence in remembering to give your pet their scheduled dose with no delays.

As we have a high mosquito population on the Coast, we recommend Proheart injectable as the best prevention against heartworm. It provides continuous protection and removes the chance of a forgotten dose. An injection is available from 12 weeks of age. As the puppy is still growing at this stage, a follow up injection will be required in approximately six months, then an annual booster gives easy, lifelong protection.

Depending on where you live, your Veterinarian may recommend a repellent to help avoid mosquito bites.

We do not recommend purchasing daily heartworm protection from a supermarket or pet shop. These contain Diethylcarbamazine, an older and less effective drug.

A range of preventative products are available that provide monthly protection. Most include some level of protection for fleas or internal parasites. We recommend Interceptor, as it treats the broadest range of intestinal worms and can be given from two weeks of age.