

# Vaccinations, Worming and Heartworm

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## Vaccinations

The first vaccination your puppy has had at 6 weeks of age is temporary. The vaccination given at this age will cover only mild exposure to diseases. New owners should not take their puppies from place to place and should particularly avoid public places such as parks. The puppy should basically stay within its own backyard as much as possible until it has received the second vaccination at 12 weeks old.

### *What diseases the vaccines cover:*

#### **Distemper**

Distemper is a severe viral infection which attacks all mucous surfaces as well as lymphoid and nervous tissue. The symptoms of distemper are eye inflammation and discharge, pneumonia with a productive cough, gastro-enteritis and nervous signs -twitching of muscles, temperament changes and depression.

Distemper has an incubation period of up to 3 weeks. By 3-4 weeks post infection, many dogs are either euthanased because of severe neurological symptoms, or the dog dies from cumulative systemic degeneration. Treatment once neurological symptoms develop is often to no avail. Mortality is very high (over 90%).

#### **Hepatitis**

Causes a hepatitis and occasionally respiratory infections in dogs. The effects of viral hepatitis can be anything from subclinical to a severe and rapidly fatal infection. However, the majority of cases are often so mild as to be undetectable.

The severe form is almost always seen in young puppies from 2-8 weeks of age, primarily where the immunity of the mother to the virus is very low. The disease is characterised by high fever, vomiting, diarrhoea, anorexia, abdominal pain and depression.

#### **Parvovirus**

Causes severe gastro-enteritis in young puppies. The disease is characterised to be severe vomiting, bloody diarrhoea and severe depression. Many puppies can die from this disease particularly if they are in poor condition when they contract the disease. Usually seen between 5-20 weeks of age. Affected puppies require hospitalisation, intravenous fluids etc. Corona virus is another gastric virus with similar effects.

## Kennel Cough

Is caused by a group of viruses and bacteria. Kennel cough is generally seen as an upper respiratory tract infection characterized by a hoarse cough, particularly noticeable after exercise of any kind. Incubation is from 3-10 days, and the disease can spread very rapidly within a kennel, particularly in younger individuals.

The course of the infection takes about 7-10 days, with few dogs exhibiting any symptoms more severe (apart from the coughing, that is) than mild depression and occasionally loss of appetite for more than 24-48 hours. Vaccinations are available for each of the viruses and bacteria involved, and are given to older dogs who may be going into a kennel for boarding or being taken out to shows regularly.

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## Worming

The means of worm 'pick up' by dogs - by ingestion of contaminated material. Worm eggs hatch from the faeces that were passed by infected animals. Eggs that pass out into the faeces do not always hatch immediately; they have a thickened shell which protects them from adverse conditions, and worm eggs can lie dormant in the ground for long periods of time.

When conditions are ideal - warmth, moisture and/or humidity - then the eggs will hatch. The hatched eggs are ingested by the dog when the dog eats eg. a bone -there is usually some dirt on it that gets eaten as well; hole digging etc. Hook worm larvae (ie. the hatched form of the egg), can also penetrate the skin, giving another method of worm pick-up.

Bitches can pass immature round and hook worm larvae via the uterus to the puppies during pregnancy. This means that puppies can be born with immature round and hook worm, which then undergo development. Tapeworms are transmitted to dogs by the ingestion of the 'intermediate host' which is the flea. Heavy flea infestation obviously means a fairly continuous tapeworm pick-up, so more frequent tape worming may be necessary.

## Hookworm

The life cycle can be as short as 3 weeks. The signs of infestation of hookworm in puppies (regardless of age), are poor condition, dull dry coat and gale mucous membranes (of the mouth) due to anaemia. These changes occur because the hookworms are blood parasites - they latch onto the inside walls of the intestines and use the blood they absorb to live on. The puppies are reluctant to move around and tire easily. Motions often tend to be dark and "tarry" - which is actually broken down, digested blood. The hook worms themselves are rarely seen as they are very small -resembling short 1-1.5 inches of cotton thread.



*Hookworm*

### Round Worm

The life cycle is 4-6 weeks. Round worms live in the small intestine and the upper areas of the large intestine. They are quite large and can reach 6-8 inches long and look like pieces of `spaghetti'. Heavy round worm burdens can cause deaths due to bowel obstruction and malnutrition if there are sufficient present. The signs of round worm infestation are- pot-bellied puppies, failure to thrive and/or `weedy' looking pups, dry coats, poor appetites and `a whingey attitude". Puppies will, under conditions of stress and heavy worm burden, pass round worms and occasionally vomit them up (it looks as bad as it sounds).



*Round Worm*

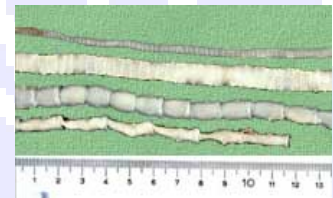
### Whip worm

Whip worm has a life cycle of 3-4 months and is not transmitted via the uterus. Therefore it is not necessary to worm for whip worm before 3-4 months of age as this is the earliest age that there can be adults in the intestine; after this worm for whip worm at 3-4 monthly intervals. Whip worm is unfortunately rather difficult to shift and can be tedious to clear up, i.e. it may need several treatments before removing it all together.

Signs of whip worm infestation are- dry coat, failure to gain weight, motions with small amounts of fresh looking blood in the faeces. Whip worm is to be found in the large intestine and rectum, hence the fresh-looking blood. Once treated successfully the dog picks up fairly rapidly.

### Tapeworm

Life cycle is 6-8 weeks in length. The flea is the intermediate host of the tapeworm. In the flea season fairly regular tape worming is necessary if you have a flea tapeworm problem, i.e. every 6-8 weeks. During the rest of the year, once every 3-4 months is adequate. Tapeworm are found throughout the small and large intestine. Segments of tapeworm are passed with the faeces and have an appearance of cucumber seeds, that can be white to pinkish. Tape segments are flat, wriggle (and wave at you). Tapeworm can be several feet long. Tapeworm do not on the whole cause much trouble -unless accompanied by heavy burdens of other internal parasites.



*Tapeworm*

Signs of tapeworm these include scraping and/or `scotting' around on the bottom, chewing and licking around the anal area, failure to gain weight despite ordinary worming, dry coat and an ill-thrifty appearance. Tapeworm come from a different family of worms to the other internal parasites as they are fiat segmented worms. As such, tapeworms will often not respond to drugs that affect round, hook or whip worms. It is usually necessary to worm separately for tapeworm to get effective removal. Tapeworm can be difficult to shift, and occasionally may need higher or repeated doses to clear the parasite.

### *Routine worming for:*

#### **Puppies.**

Start worming puppies at 14 days of age; repeat every 2 weeks until 12 weeks of age. After this worm every two 2 weeks until 16 weeks of age, from 4 months worm every 6-8 weeks until one year of age.

#### **Adult Dogs - should be done every 3-4 months**

1. Use a broad spectrum wormer that does round, hook, whip, and tapeworm.

2. Follow up 10-14 days later with a wormer for round and hook worm- to get the immature worms that were (or could have) been missed in the first worming. This is like a double worming and is most effective. By waiting the 10-14 days, the immature worms that were unaffected by the chemicals used (as they were migrating here, there and everywhere), will have of developed into adults in the intestines and be susceptible to chemicals.

#### **OR**

From 6 weeks of age, a monthly Heartworm/Worming treatment can be used, I use '**Sentinel Spectrum**' as it treats Heartworm, Roundworm, Whipworm, Hookworm, Tapeworm and controls fleas and flea allergy dermatitis.

#### **There are two important facts to remember in any worming program:**

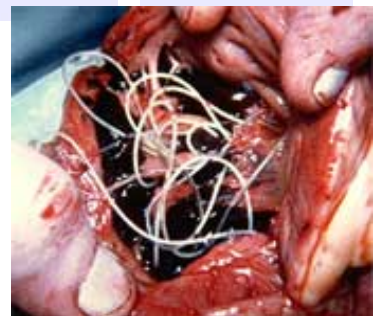
1. Worm eggs hatch in warm, humid weather. There are two periods of the year -Spring and Autumn - when there is a high pickup of worm larvae, i.e. worming should be more regular (every 6-8 weeks) during these periods. During the colder and dryer periods worming can be less regular - every 3-4 months.
2. Immature round and hookworms undergo migration through the body and during this stage they are not susceptible to worming preparations, i.e. the first 10-12 days of their life cycle. Therefore, if you wish to have an effective worming programme, it is often advisable to worm dogs twice for round and hook worm at a 10-14 day interval.

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## **Heartworm**

Heartworm is widespread in Australia. Heartworms are blood parasites that live in the greater vessels of the heart - the right side; but they can develop and live in the lungs and liver upon occasion. Adult heartworm reach 15-18cm in length and can cause considerable damage to the valves of the heart as well as obstruction to blood flow through the heart.

Symptoms of infestation are a slight cough that starts at night and/or after strenuous exercise, weight loss and poor coat condition - the ends of the coat are dry and starey. The



*Heartworm*

dog tends to tire easily and get unusually distressed in hot weather. Changes are usually gradual, and are often attributed to the dog 'getting older'. Infection occurs when an infected mosquito bites a dog, injecting Infective larvae.

These larvae then gradually develop in the tissues under the skin -this usually takes 3-4 months. The immature heartworm then begin to migrate through the body, occasionally causing liver and lung damage, and finally arrive at the heart (4-7 months after initial infection). The life cycle of the heartworm takes 6-9 months ie. from the time the dog is infected to the time that there are adult heartworm in the heart producing offspring -microfilaria.

Mosquitoes ingesting blood from infected dogs also ingest microfilaria which then undergo changes within the mosquito to become infective larvae -this takes 2-3 weeks. Heartworm can only be transmitted via the mosquito, never by dog to dog contact.

### **Preventative Measures -when to start :**

#### ***Puppies***

Start them at 6-8 weeks of age.

#### ***Adults***

Adults and any dog over 5-6 months of age, must be tested before being placed on preventative tablets.

***Dogs MUST be kept on preventative all year round***