



Environmental contamination

THE FORGOTTEN FACTOR OF EFFECTIVE PARASITE CONTROL



Despite the routine of wormers as a fundamental component of responsible dog ownership, veterinarians are seeing a lack of understanding amongst dogs owners on how to effectively manage and control intestinal worms. Whilst frequently administering wormers, many owners are failing to recognise the need for a tailored and comprehensive approach to controlling parasites.

“Many people don’t understand the role of the environment”, says Dr Robert Zammit (BVSc) of Vineyard Veterinary Hospital. “We are genuinely surprised by the lack of understanding, even in experienced breeders”. Dr Zammit has seen an increase in the number of worm burdens presented, particularly over the last 12 months, as owners continue with anthelmintic administration and overlook the significance of environmental contamination.

It is essential owners understand not only the life cycle of parasitic worms, including the role the environment plays, but they then need to tailor their management procedure to the unique needs of their dogs. “Breeder and show dogs are not in the normal pet climate”, says Dr Zammit. These dogs are frequently taken to multiple locations, including show grounds, parks or kennels, which may be heavily infested with immature parasites due to poor worming schedules of other owners. As Dr Zammit explains, dogs simply need to walk on contaminated ground to be exposed. “The dogs don’t need to sniff the ground or interact with an infected dog, as these public places can be a haven for worm larvae and infection can occur transdermally through the paw pads.”

Furthermore, Dr Zammit has found a misunderstanding in treating breeding bitches. “Most breeders don’t understand treating a pregnant bitch does little to treat the puppies”. When a bitch has not been routinely wormed and develops tissue deposits of worms, these are still a risk to the puppies. With the intestinal burden removed, dormant worms are able to become active and infect puppies via uterine and mammary tissue.

So how should breeding and show dogs be managed? Regular worming with an intestinal all wormer - such as Endogard, which contains praziquantel and oxibendazole to target all intestinal worm species - is essential. Oxibendazole targets the worm’s energy management mechanism systems, whilst praziquantel interferes with the tapeworm’s skin, destroying their resistance to

digestive enzymes. It is these actions that cause the worms to be effectively destroyed and expelled by the animal.

Importantly, Dr Zammit recommends where worms can be a problem, such as in large breeding kennels or show dogs, to increase dosing frequency. “I suggest to worm monthly, on the first of every month, as seasonal worming is just not sufficient in some cases”. Whilst Dr Zammit understands this is an increased cost for owners, the financial costs far outweigh the potential consequences on the animal’s health. “I have seen experienced breeders with anaemic animals near to death that have been treated for everything - but worms. They have simply forgotten to go back to basics”. To increase affordability, consider selecting a wormer available in bulk kennel packs.

Correct husbandry, coupled with good hygiene practises, will ensure environmental contamination is reduced. In addition to the risk to the animals, intestinal parasites can present a significant zoonotic risk to people, particularly children. All faeces should be collected and disposed of, with concrete runs kept in good condition, free of any cracks where eggs and larvae can be protected. In addition to regular worming, no animal should be fed the offal of any species and bedding should be frequently washed. Interestingly, Dr Zammit recommends using boiling, salted water to wash concrete surfaces, in place of detergents, as the salt ruptures the immature eggs. Any person who handles the dogs, particularly children, should be sure to wash hands thoroughly, to reduce the risk of egg ingestion.





VET CHAT



In order to ensure management procedures are efficiently controlling worm numbers, all dogs with a higher risk of intestinal infestation should undergo regular faecal testing, both prior to and after worming, as worming tablets do not have a residual effect; they only kill the current infestation and do not protect against reinfestation. Managing the environment is crucial to breaking the parasitic life cycle, controlling worm populations and preventing recontamination. Furthermore, the potential for recontamination from the environment and this lack of residual activity means a single treatment may not be enough, and retreatment will be required. Worming should not be seen as an occasional treatment, but a component of an ongoing, lifelong health management program for all animals.

KEY AUSTRALIAN INTESTINAL PARASITES

Roundworm

(*Toxascaris leonina*, *Toxocara* spp)

Roundworms are the most common intestinal parasite, with puppies and kittens the most susceptible to infection. Adult roundworms feed off partially digested food and have the potential to cause life-threatening intestinal blockages. Eggs can be ingested from the environment and larvae can be passed from the mother or when an infected intermediate host, such as a rodent or bird, is eaten. An intermediate host is an animal that a parasite uses to complete its life cycle, where as a definitive, or final host, is where the parasite reaches maturity to reproduce.

Hookworm

(*Ancylostoma caninum*, *Uncinaria stenocephala*)

Hookworms attach to the lining of the intestinal wall to feed on the host animal's blood, so are particularly dangerous to young puppies due to the life-threatening anaemia the worms can cause. Female hookworms produce hundreds of eggs which are passed via animal faeces. Once the eggs have entered the environment they hatch into larvae and can remain ineffective in the soil for months. The larvae are able to contaminate animals orally, transdermally (through the skin) and transmammary (via milk) or transplacentally (via the placenta) from their mother.

Whipworm

(*Trichuris* spp)

Whipworms also attach themselves to the lining of the host's intestinal wall, causing irritation and inflammation. Whilst a whipworm cannot be passed from mother to puppies, a key feature of whipworm is the longevity of the egg's survival in the environment and the consequent ability to cause reinfestation.

Tapeworm

(*Dipylidium caninum*, *Taenia* spp, *Echinococcus granulosus*)

Despite living in the small intestine, tapeworms irritate the anal region causing dogs to "scoot". Infective tapeworm segments are visible as small 'grains of rice' around the anus and in the faeces. Fleas act as an intermediate host for flea tapeworms (*Dipylidium caninum*), so it is imperative to have effective flea control to manage infestation. Larval fleas are able to ingest tapeworm eggs, which reach infectivity inside the maturing flea, and reinfect the animal via ingestion during grooming. Hydatid tapeworms (*Echinococcus granulosus*) present a significant zoonotic risk to humans due to the formation of cysts caused by the worms, particularly in critical tissues such as lungs, brain or liver.

Signs of a worm infestation:

- 🐾 Dull coat
- 🐾 Coughing
- 🐾 Lack of growth, also known as ill-thrift
- 🐾 Pale gums
- 🐾 Diarrhoea
- 🐾 Vomiting
- 🐾 Poor appetite
- 🐾 Lethargy
- 🐾 Weight loss
- 🐾 'Pot-bellied' appearance