



# Companion Animal Parasite Control

## Summary

A whole range of parasites can live inside or on our pets, affecting their health and wellbeing. Some parasites pose a risk to people too. As responsible pet owners we have a duty of care to proactively protect our pets and families from these risks. Authorised anti-parasitic veterinary medicines are widely available from veterinary practices, a range of pet supply stores and pharmacies to control common and important parasites.

## Introduction

Companion animals are playing an increasingly important role in our lives. They often live in our homes, in close proximity, as family members. Enjoying the benefits of owning a pet also brings a responsibility to protect their health and welfare (1). Prevention is better than cure for many reasons. Putting in place a preventative plan of action for common parasitic infections has the benefit of avoiding clinical disease and unpleasant infestations of e.g. worms or fleas. While some signs of parasitic infection are noticeable, in most cases, we will not see any signs, which makes a proactive parasite control plan even more important.

All authorised veterinary medicines available in the UK, including those indicated to control or treat parasitic disease in our pets, have met strict regulatory controls of safety, efficacy and quality and are widely available through a variety of pet supply stores, veterinary practices and pharmacies (2).

Most pets are at risk of parasite infection. One reason for this is that many parasites have evolved features that help them to survive and spread. A good example is the large roundworm *Toxocara*, a very common parasite of dogs and cats, which can transfer to puppies across the placenta before they are born and via the milk after birth to puppies and kittens. Parasite eggs, which are produced in large numbers and shed in faeces contaminating the environment, are hardy and once mature can remain infective for months to years (3).

Pets may also need protection when travelling abroad from parasites they aren't normally exposed to in the UK. This will also help prevent bringing unwanted and new parasites back to the UK.

Responsible pet ownership can also reduce the risk of zoonotic disease - those diseases passed from animals to humans. *Toxocara* is responsible for a zoonotic disease, toxocarosis. Although infection is rare, these parasites usually affect younger children as they are spread when children put contaminated soil in their mouths. The migration of larvae around the body can sometimes reach the eye and cause blindness. When we consider the largely 'invisible' parasite world, where e.g. eggs shed in faeces cannot be seen by the naked eye, hand washing and cleaning up pet faeces helps to minimise the risk of infection for pets and people. However, regular preventative treatment can reduce this invisible contamination in the first instance, whether at home, in the garden or at the park.

Many pets will have a similar risk of exposure to the most common internal and external parasites and all pets should be treated regularly to control these parasites. A recent report shows that UK pet owners take these risks seriously with an estimated 87% of dogs treated for worms and 82% treated for fleas (3). Each pet will also have individual risk factors for parasite infection. A comprehensive and tailored parasite control programme should consider factors such as their age (young and old are at greatest risk), health status, environment (outdoor access, staying in kennels/catteries), lifestyle (access to rodents, slugs, raw meat), location and travel (4).

## Internal Parasites: Endoparasites

Parasites that live inside our pets include roundworms, tapeworms, lungworms, hookworms, heartworms and whipworms. Many of these worms live in the gut, airways, blood vessels or travel through tissues around the body.

### **Focus on Roundworms (*Toxocara spp*)**

Toxocara are very common zoonotic roundworms, which affect dogs (e.g. *Toxocara canis*) and cats (e.g. *Toxocara cati*). Infections are heaviest and cause the greatest illness in puppies and kittens. Heavy infections in puppies before birth, when infected through the placenta, can result in severe disease with diarrhoea, constipation, vomiting, a 'pot belly' with poor growth and condition. However, puppies and kittens can also be infected when drinking their mother's milk. In adults, infection can occur when infective eggs are eaten or when e.g. a cat eats rodents which are infected. The myriad of ways that roundworms can spread and infect pets means they are very common parasites, which should be effectively controlled through regular preventative treatment.

### **Focus on Lungworm (*Angiostrongylus vasorum*)**

Lungworms, although much smaller than roundworms, are potentially life-threatening parasites. Larvae not visible to the eye are passed in faeces and dogs can become infected when they eat infected snails and slugs. This increasingly important parasite can cause a variety of symptoms including neurological problems, coughing, poor appetite and weight loss, vomiting and diarrhoea and bleeding disorders. A comprehensive parasite control plan should consider the risk of lungworm infection alongside the other major parasite threats.

## **External Parasites: Ectoparasites**

Parasites that live on our pets are called ectoparasites and include fleas, ticks, lice and mites. These parasites are important not only for the direct impact they have on our pets but also because some of them carry other diseases, which are important for both pets and people. Importantly with climate change and pets travelling more frequently and more widely, the distribution of these parasites is changing.

### **Focus on Fleas**

Many pet owners will be familiar with flea infestations, which affect dogs, cats and other small mammals such as rabbits. It is difficult to avoid the risk of flea infestation at any time of the year. Flea bites can cause irritation and Flea Allergy Dermatitis (FAD) when fleas feed on blood and a pet reacts to flea saliva. There are many different types of products authorised to treat and prevent fleas, but it's important to remember that the vast majority, 95% of the flea population, made up of eggs, larvae and pupae, is found in the environment, which includes cracks and crevasses around the home, such as flooring, fabrics and bedding. This means it is not unusual to have some difficulty finding adult fleas on pets and when trying to prevent cycles of re-infestation, the environment around the home should also be treated along with vacuuming carpets and washing pets' bedding. To treat or prevent future flea infestations, it is best to treat all pets in the same

household at the same time, but using a product authorised for a specific species – dog products should not be used on cats (4).

Another aspect of flea infestation is their association with tapeworm infection. Fleas can be infected with tapeworm larvae and when a pet grooms and they can accidentally swallow infected fleas, the tapeworm larvae will then develop into adult tapeworms. When controlling fleas we must also consider the associated risk of tapeworm infection.

### **Focus on Ticks**

Ticks are blood sucking parasites, which can attach to animals and humans as they pass through vegetation. Ticks can cause irritation where they attach, but more significantly they are important in the transmission of serious Tick Borne Diseases (TBD's), including Lyme disease and Babesiosis. TBD's are a health risk to pets and people.

As part of a comprehensive parasite control plan, a vet can assess the risk of exposure to ticks and TBDs. This will involve considering lifestyle factors, such as access to high risk tick areas or travel within the UK and abroad. Regular treatment is recommended for dogs travelling abroad (6). Importantly, with changes in climate and increased movements of pets, the geographical spread of endemic and exotic tick species, and TBDs, is changing – making it ever more important to consult with your vet.

It also makes good sense to regularly check your pet for ticks and remove those attached with a tick removal device or fine pointed tweezers – as the risk of transmission of a TBD's increases significantly after 24 hours of attachment (6).

## **Comprehensive Parasite Control Plan**

Understandably, people find the very idea of their pet passing worms in their faeces or seeing fleas unpleasant. These visual reminders can focus pet owners towards treating parasites and preventing re-infection. But parasites, along with their eggs or larvae, are mostly invisible to people. Parasites mostly live undetected in pets and contaminate the environment at home, in the garden or at the park. We can't therefore rely on these infrequent unpleasant visual reminders to prompt us to control parasites.

A year round parasite control plan should include treatment for common parasites but also cover particular risks such as travel and specific lifestyle factors. Pet owners have access to a wide range of authorised anti-parasitic veterinary medicines, which are available from pet supply stores and veterinary practices. If unsure, pet owners can speak with their vet or SQP (Suitably Qualified Person).

Importantly, not all products are suitable for all pets, there are important differences between dogs, cats and rabbits for example. All veterinary medicines,

including anti-parasitics, should be used as indicated on the product label or as directed by the vet or SQP.

When we think about parasite control, we must also consider the bigger picture. Fortunately, there are effective veterinary treatments available for parasitic infestations, but there are also other sensible measures that we can be taken to reduce the risks. These include collecting and disposing of pet faeces, checking for ticks, covering sandpits and good hand hygiene.

### Parasite Control: Dogs

Controlling parasites means thinking about their needs throughout their life from puppy to mature adults. As puppies face risks of roundworm infection, before birth and as very young puppies, they should be treated with a suitable product regularly from a young age and according to the label. Some of the other internal parasites of dogs that should be considered include tapeworm, lungworm, hookworm, whipworm and heartworm. Lungworm is important to consider if your dog could possibly have eaten snails or slugs. Dogs should be treated for tapeworm if they have had fleas. Environment risk factors for roundworms, hookworms, lungworms and whipworms include outdoor access and spending time in kennels (4). Dogs that eat rodents or eat raw meat are also at increased risk of certain types of internal parasites (4). Most external parasites can be difficult for pet owners to see so it makes sense to include controlling these in a complete parasite plan – taking into account their life-stage and lifestyle risk factors.

### Parasite Control: Cats

Cats also face changing parasite risks as they develop from kittens into adult cats. Kittens can become infected with *Toxocara* in the weeks after birth from their mother's milk and should be treated from a young age according to label instructions and veterinary advice. Severe infestations of fleas in small kittens can, along with the irritation and potential allergy, cause anaemia. Ear mites can cause irritation and discomfort and are more common in kittens (5). Some cats will have access to the outdoors and may hunt and eat prey, which is associated with increased risk from certain types of worms (4). Tapeworm infection should also be considered when cats have fleas. Stray cats, those with outdoor access and cats in catteries are at a higher risk of parasite infection and need a parasite control plan adapted for these risks, which includes products that have been authorised for use in cats.

### Parasite Control: Rabbits

Rabbits can also become infested with internal and external parasites and it is important for rabbit owners to be aware of the parasite risks. Blowfly strike is a serious and distressing condition where flies lay eggs that hatch into maggots and feed on the rabbit. This can occur at any time of year, but is more common in

the summer months. It is important to seek veterinary advice to prevent and immediately treat any rabbit with flystrike. Rabbits can get fleas just like dogs and cats. Fleas can also spread an important viral disease called myxomatosis between rabbits. Preventing flea infestations is therefore key and if fleas do become a problem, rabbits and their environment should be treated. An example of an internal rabbit parasite is the very small parasite *Encephalitozoon cuniculi* (or *E. cuniculi*), which can cause neurological and kidney disease. This infection can be spread when rabbits eat food or grass contaminated with the urine from an infected rabbit. As part of a veterinary health visit, rabbit owners can discuss the parasite risks their rabbit may face and put in place a plan of action taking care to only use veterinary medicines licensed for use in rabbits or prescribed by your vet.

### Take Home Messages

- Pets are exposed to a great variety of internal and external parasites in their daily lives.
- Many parasitic infestations in pets go unnoticed.
- Contamination of the environment with parasite eggs or larvae is invisible.
- Some parasites are zoonotic, meaning they can be passed from animals to humans.
- Responsible pet ownership means proactively planning to prevent and control parasites regularly.
- This will help protect your pets' health and welfare and prevent the contamination of the surrounding environment.
- Each pet is unique and a parasite plan will address their particular risks.
- Authorised anti-parasitic veterinary medicines in the UK, whatever route they are sold, have met rigorous safety, quality and efficacy standards.
- All anti-parasitic medicines should be used as directed or as per label instructions.

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**What is NOAH?** The National Office of Animal Health Ltd represents the UK animal medicine industry: its aim is to promote the benefits of safe, effective, quality medicines for the health and welfare of all animals. For further information, including more briefing documents on animal medicines topics see [www.noah.co.uk](http://www.noah.co.uk) and follow @UKNOAH on Twitter.

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