

CURRENT THINKING ON... PARASITICIDES FOR CATS AND DOGS

Welcome to our CPD module series for community pharmacy technicians. Written in conjunction with the *Pharmacy Magazine* CPD series, it will mirror the magazine's programme throughout the year. The series has been designed for you to use as part of your continuing professional development. Reflection exercises have been included to help start you off in the CPD learning cycle.

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Management of parasites in companion animals is crucial to the health of pets, animal-human relationships and for the protection of public health. There are over 100 products available for treating and preventing parasitic infections in cats and dogs, which can make this a confusing area for pet owners.

With many community pharmacies now stocking a limited range of parasiticides, the aim of this module is to

help pharmacy teams understand the products they sell, be aware of the full range of parasiticide products available on the market and be able to advise customers about their use in cats and dogs.

Cats and dogs are susceptible to infection with internal and external parasites. These can cause discomfort and disease in the animal, they may interfere with the human-animal bond and some can be transmitted to and cause

disease in humans – known as zoonotic diseases. Control of parasites is crucial in maintaining healthy pets and for protecting public health. Environmental and hygiene measures, such as handwashing, disposal of dog faeces and checking for ticks, as well as parasiticides are central to maintaining this control.

External parasites

Fleas and ticks are the most common external parasites (ectoparasites) that affect cats and dogs in the UK.

- **Fleas**
Fleas cause discomfort to the animal, can result in allergic dermatitis and can also transmit tapeworm infection.

Signs of flea infestation might not be obvious in a non-allergic animal. Cats and dogs most often become infested with newly-emerged fleas from the environment, but they can also pick up fleas from close contact with other infested

animals. Combing the pet's fur is the best way of detecting fleas and, if an animal has an infestation, an insecticide can be used to kill the fleas. Treatment may need to be repeated until the problem is controlled. It is also important to treat other pets living in the same house.

Adult fleas on the animal are only part of the problem, so it is also crucial to eliminate fleas that are in their immature stages from the home. Regular use of insecticides on the animal will contribute to the reduction of immature fleas, but environmental measures are also needed, including vacuuming carpets, washing the animal's bedding and using products designed to kill fleas that are in their developmental stages.

A lack of understanding of the need to attend to the environment may underlie pet owners' frustration about the apparent lack of effect of flea treatments used on pets. Monthly flea prophylaxis (treatment) is recommended for most cats and dogs.

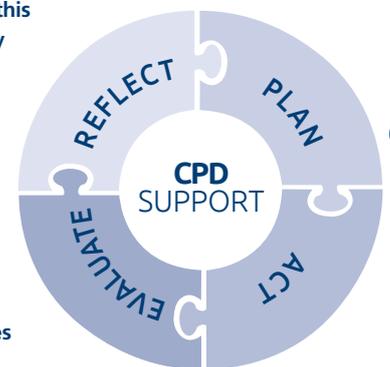
MODULE NUMBER: 65

AIM: To provide an overview of the common parasitic diseases that affect cats and dogs and the parasiticide products used in the management of parasites.

OBJECTIVES:

After completing this module, pharmacy technicians will:

- Be aware of the common parasite diseases affecting cats and dogs
- Understand the treatments for fleas, ticks and different types of worm.



• **Ticks**

Ticks can carry diseases that can be transmitted to animals and humans. In the UK, the main example is Lyme disease (borreliosis). A dog or human might contract Lyme disease after being bitten by a tick that is carrying the bacteria. Tick infestation is usually seasonal, peaking between March and June and again between August and November.

Ticks are usually picked up after walking in locations with high grass and livestock or deer. They can attach anywhere on the body, but prefer non-hairy and thin-skinned sites, such as on the face and ears, between the toes and in the armpits and perianal areas.

Female ticks attach to large animals (including deer, dogs and humans) in order to take a blood meal before laying eggs. When fully engorged with blood, the size of a tick can increase to around 1cm in length and can be seen easily.

Ticks should be removed as soon as possible to avoid the potential transmission of any disease. Purpose-made tools are available for tick removal. These grip the head of the tick without squashing the body, as this could potentially encourage the release of more saliva or stomach contents from the tick. Alternatively, pointed tweezers or a single loop of cotton can be used to grasp the tick as close as possible to the skin, and then pull outwards and upwards without twisting.

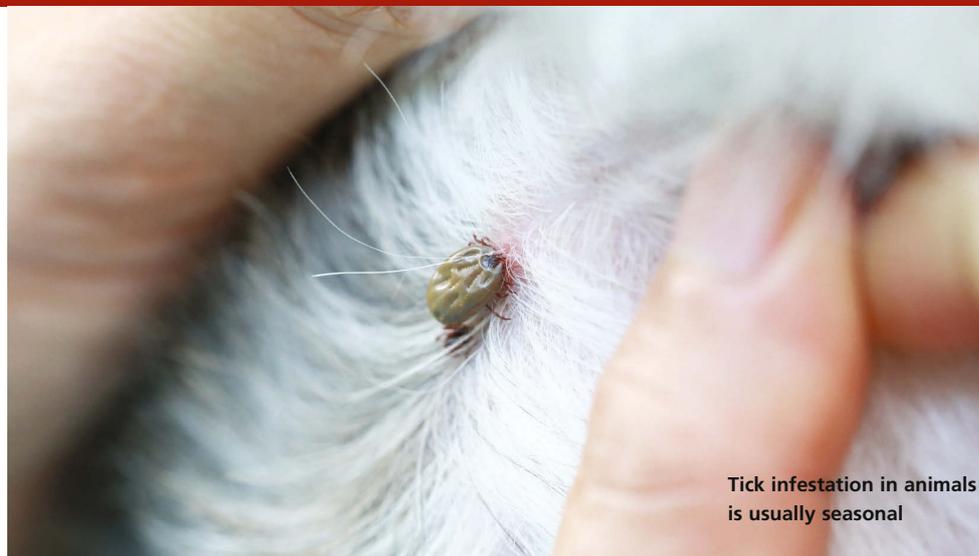
A product that kills and/or repels ticks is recommended for animals on which a tick has previously been found and for dogs that are taken for walks in areas with tall grass and deer or livestock. The risk of tick attachment and transmission of infection can be reduced by avoiding or limiting access to areas with known high tick density or at times of the year when ticks are most active, and by inspecting animals daily and immediately removing ticks.

Internal parasites

The internal parasites (endoparasites) that commonly affect cats and dogs in the UK are roundworm, tapeworm and lungworm.

• **Roundworm**

Puppies can be heavily infected by roundworm before birth or via lactation, which can lead to serious illness. Therefore puppies are normally treated



Tick infestation in animals is usually seasonal

with a de-wormer (known as an anthelmintic) at two weeks of age, and this is repeated until they are six months old.

Kittens are not infected before birth and so are usually wormed from three weeks of age until they are six months.

Roundworm infection can occur in older dogs and cats, but is not usually associated with obvious signs, so it is difficult to know if they are infected without regular examination of the faeces.

It is usually recommended to continue regular – at least four times a year – de-worming in adult cats and dogs. More

lungworm are only available on veterinary prescription.

Assessing the need for parasiticides

The risk of infection to the animal and the need for parasiticide therapy depends on various factors, including the age of the animal, its lifestyle (e.g. access to offal or molluscs) and location (which determines which parasites are endemic), and whether the animal lives with susceptible humans (such as young children or people with immunosuppression). Animals therefore require parasiticide

acaricide (tick-killing) effects. Most products, apart from shampoos and powders and certain tablets, remain on or in the body of the animal for several weeks and can kill parasites newly acquired by the host. This means they can prevent infestation over a period of time, usually one month. Frontline, a brand commonly stocked in pharmacies, contains fipronil, which kills fleas and ticks. It is available as a spot-on (topical) formulation and its effects last for up to four weeks.

• **Endoparasiticides**

Worming products (known as endoparasiticides) contain one or more drugs that kill specific types of worm. Drontal tablets, a brand commonly stocked in pharmacies, contain pyrantel and praziquantel, and are used to treat roundworm and tapeworm.

OTC product formulations

There are several ways of using parasiticides: as impregnated collars, spot-ons, shampoos and sprays, and as oral formulations.

• **Impregnated collars** – the active ingredients are slowly and continuously released in low concentrations, spreading from the site of contact over the entire skin surface.

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frequent worming (monthly) is recommended for animals that live in households in which there are people who might be particularly susceptible to disease if infected, such as young children or people with immunosuppression.

• **Tapeworm**

Dogs are at risk of infection with tapeworm if they have a raw meat diet, hunt, or otherwise have access to raw offal and carcasses. Other tapeworms that infect dogs are spread by fleas and biting lice.

• **Lungworm**

Lungworm infects the lungs and heart in dogs and can cause serious disease. Dogs can acquire the infection through ingestion of slugs, snails, frogs and other amphibians. Drugs for treating and preventing

therapy that is tailored to their needs.

In general, cats and dogs in the UK need routine cover for fleas and roundworm. Also, depending on the animal's lifestyle, it may need cover for ticks, tapeworm and/or lungworm. Broader parasite cover is needed for animals travelling outside the UK.

Parasiticide products

• **Flea and tick products**

Most flea and tick products (ectoparasiticides) contain one or more ingredients that have insecticide (flea-killing) and/or

Impregnated collars have an effect that lasts several months.

• **Spot-on solutions** – are applied to the skin on one to four spots on the back of the neck of the animal. The product distributes across the skin and hair of the animal over the following days. They are convenient and easy to use but their effect can be reduced by bathing and swimming.

• **Shampoos and sprays** – products that are available OTC are used for one-off treatment and have no lasting effect.

• **Oral formulations** – flea and tick and worming products are available OTC as tablets. A few roundworm products are available as granules, paste, syrup and suspension.

What if flea products don't seem to work?

A flea infestation can be difficult to control. Many people assume the products do not work due to resistance of fleas to the product. However, there is no strong evidence of a resistance problem.

Lack of effect is most likely to be due to incorrect use of the product and a lack of understanding of the need to break the flea reproduction cycle (i.e. the need to treat the environment).

It takes time and perseverance and possibly several treatments to eliminate an established flea infestation. If a customer complains that a product is not working, it is worth checking the following:

- Was the product used correctly, according to the instructions?
- Has the animal been shampooed or does it swim?
- Has the environment been cleaned? (There can be areas that are not so obvious, such as garden sheds)
- Were all animals in the house treated?



reflection exercise

With your pharmacist, discuss the role of pharmacy team in giving advice on animal medicines.

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