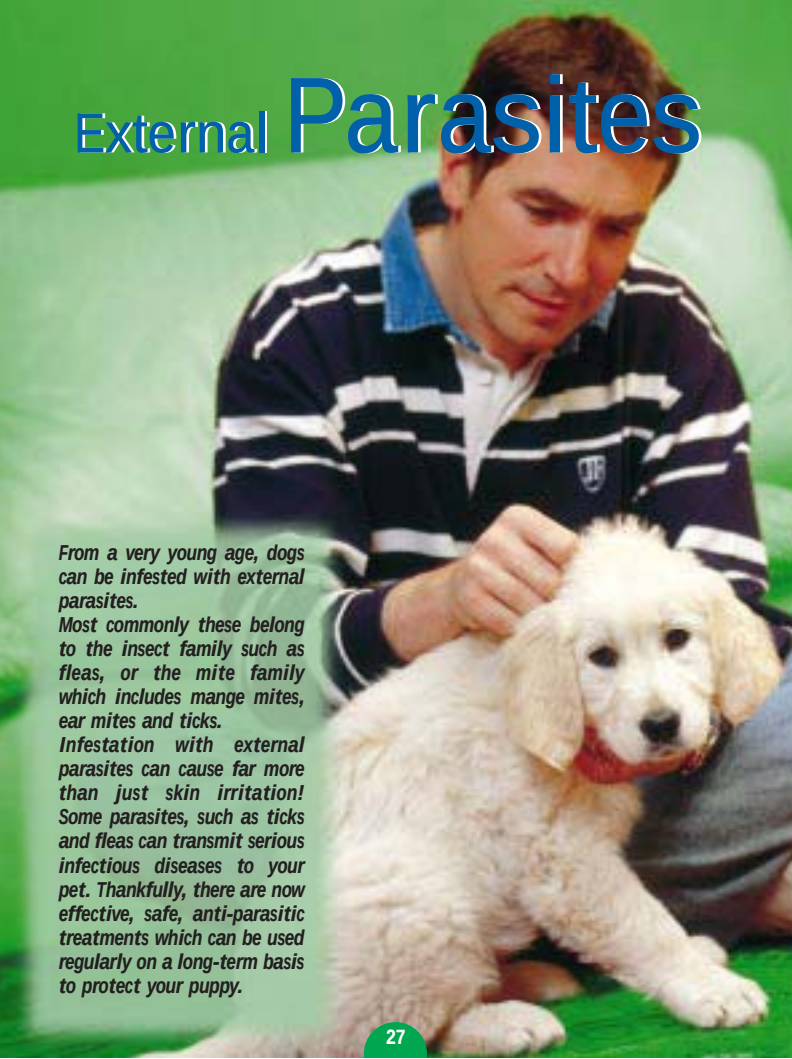
External Parasites



From a very young age, dogs can be infested with external parasites.

Most commonly these belong to the insect family such as fleas, or the mite family which includes mange mites, ear mites and ticks.

Infestation with external parasites can cause far more than just skin irritation! Some parasites, such as ticks and fleas can transmit serious infectious diseases to your pet. Thankfully, there are now effective, safe, anti-parasitic treatments which can be used regularly on a long-term basis to protect your puppy.

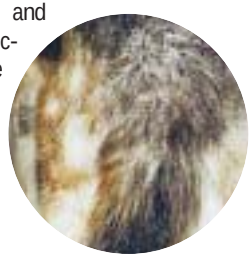
Fleas

A flea is a small wingless insect that is known for its exceptional jumping ability; it can jump up to 1,000 times its own height. The "cat" flea, Ctenocephalides felis, is the most common flea species not only on cats, but also on dogs in most areas of the world. Adult fleas live permanently on the skin and feed on the blood of dogs and cats. Heavy infestations can cause severe anaemia in young puppies. Fleas bite an average of 10 times per day and can suck up to 15 times their own body weight in blood. Flea bites also cause skin irritation followed by biting, scratching and rubbing by your pet that may result in skin damage and dermatitis.

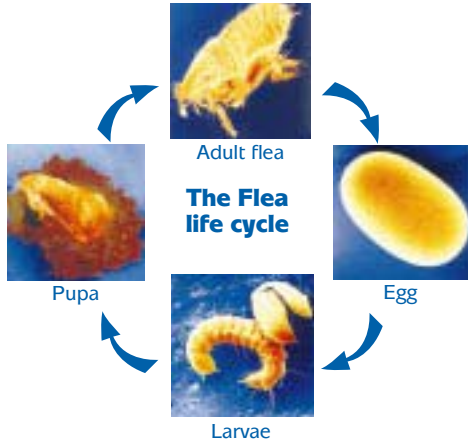
Why treat for fleas?

In addition to the irritation and the loss of blood caused by flea bites, they may cause a serious skin allergy in sensitive dogs, Flea Allergy Dermatitis (FAD).

- The main features of FAD in dogs are severe itching, hair loss and skin ulceration affecting the skin of the back towards the tail, the rump, thighs and perianal area. The severity of FAD is not proportional to the number of fleas seen because only a very few bites may be enough to trigger this skin disease in a sensitive animal. Not only do fleas cause serious skin disease in pets, they also transmit the tapeworm (Dipylidium) and other infectious disease agents.



FAD lesion



The flea life-cycle

- ***Fleas have a very high reproductive potential: females may lay up to 50 eggs per day for more than 100 days.***

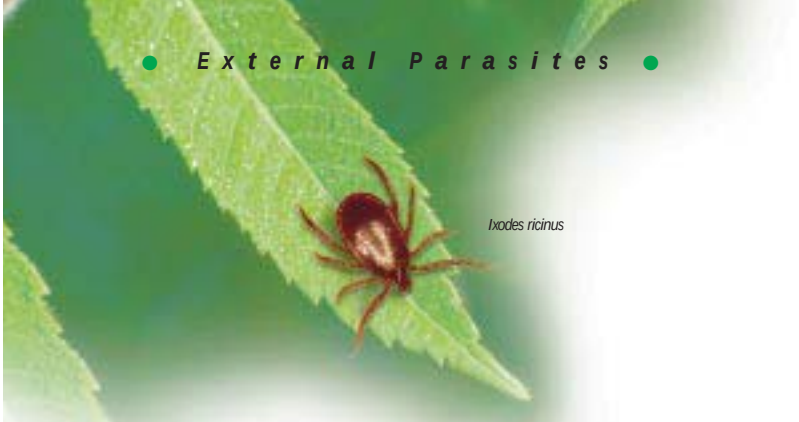
Flea eggs drop off the pets' coat and then hatch releasing larvae which crawl into carpets, under furniture and even into cracks between floorboards.They feed on flea faeces, seen as black 'dirts' on your pets coat. The larvae then form pupae inside which they transform into young adult fleas. Well sheltered, they can survive here for many months. Stimuli for adult fleas to break out of the pupal casing are produced when a potential host (dog, cat or human) is in the vicinity. The average length of the flea life cycle (Ctenocephalides felis) is from 3 to 5 weeks under optimal conditions (warm and humid) but it may be much longer under cold, dry conditions. Young fleas protected in pupae may survive for 6 months or more.

How to protect against fleas?

Because fleas can survive in centrally heated houses, pets are subjected to infestation all year round, with a peak in both spring and autumn. Routine treatment all year will protect your puppy against infestations.

- Spray or Spot On formulations with persistent activity allow treatments to be given at extended intervals, usually between one and three months. All the in-contact animals (including cats) must also be treated with an appropriate flea treatment, as they are likely sources of infestation for dogs. In heavy infestations, particularly where humans are also being bitten by fleas, an environmental treatment may be advisable.

These frequently contain insecticides in combination with insect growth regulators, to inhibit egg hatching and larval development.



Ixodes ricinus

Ticks born to infest

- Few parasites except ticks arouse such revultion in dog owners! Unlike adult fleas, ticks spend less time on our pets and more in the external environment. Once they have located a host, they attach relatively quickly and start sucking blood. This blood meal generally lasts several days (3 to 7 days depending on the tick stage).

Ticks are found in many areas throughout the UK*

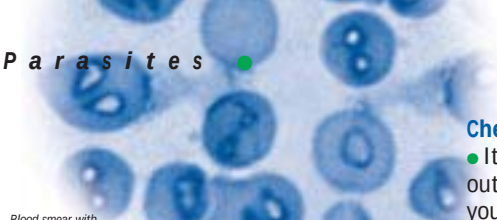
**A survey of ixodid ticks attached to cats and dogs in Great Britain & Ireland.*
Ogden, N.H. & Coll.
Seventh Biennial Meeting of the European Tick study group, Oxford, 28/04/00

Why treat for ticks?

Ticks are hard to remove as they attach firmly to your dog's skin. Dogs may remove the body of the parasite through scratching and grooming but there is a risk the head may be left in the skin. Tick bite sites can become infected and a local ulcer or skin lump may form where the tick attached. The main risk of tick infestation is not related to the skin damage, but from the diseases they carry. Through tick bites, several serious and possibly fatal infectious disease organisms are transmitted to our dogs, e.g. babesiosis, ehrlichiosis, Lyme disease (borreliosis), some of which are present in the UK.

Ticks may cause skin lumps or infection where they attach to you or your pet

Photograph : Pr. P. Bourdeau - ENVN



Blood smear with Babesia canis

How To Protect Your Puppy against Tick-Borne Diseases?

No single recommendation can guarantee 100% protection against tick-borne diseases. That is why the solution involves a combination of approaches.

An effective tick treatment

Be careful: products effective against fleas are not necessarily active against ticks. Moreover, the treatment should be administered at recommended intervals to achieve proper protection. Frontline® kills ticks with in 24-48 hours; attached ticks should fall off once dead or can be easily removed.

Check for ticks

It is essential that after each outing you carefully examine your dog's coat and skin for any ticks. Make sure you check the skin folds of the body, inside the ear flaps and between the toes. Check the head and neck particularly well! Ticks usually transmit disease after 48 hours of attachment, you will therefore minimise the risk of infection if you kill ticks early on.

Ixodes (transmits Lyme disease and Ehrlichiosis)

Dermacentor (Transmits Babesiosis)

Rhipicephalus (Transmits Ehrlichiosis)

Lice

The important lice of dogs are *Trichodectes canis* and *Linognathus setosus*. They are small wingless insects that spend their whole life on the animal and can only survive a few days off the dog. Lice are spread by direct contact or by contaminated brushes, combs, and bedding. The eggs (nits) are cemented onto the hairs of the coat. Lice are irritant to the dog and cause intense itching leading to self inflicted wounds on your pet. *Linognathus setosus* can also cause severe debilitation especially in puppies. Lice are specific to a species, so effective treatment must include all in-contact dogs but need not include cats.

Mites

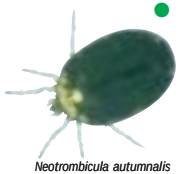
Here are some of the more common mites that may affect your dog.

Neotrombicula autumnalis or 'Harvest Mite'

- This mite is not specific for dogs, it also affects cats, man, and sometimes horses. Animals are parasitised only by the larval stage of the mite which attach and feed on your pets' blood, each meal lasting one week. Several larvae attach in the same location such as the ears and between the toes, where they are just visible to the naked eye as orange 'dots', about 0.5mm in size. They cause considerable irritation and may cause inflammation at their attachment sites. Administration of an effective product from your vet, such as Frontline® Spray, is required for treatment and prevention.

Cheyletiellosis or 'Walking Dandruff'

- Infestation may be common in multiple dog households, kennels, and in young puppies. These mites may spread directly between dogs, cats and rabbits, and will also transiently



Neotrombicula autumnalis engorged larva

infest humans where they cause an itchy red rash. Infestation in dogs causes skin irritation, and scaly skin or "dandruff" especially along the back.The mites can also survive for a few weeks in the environment. Infestations require an effective treatment, such as Frontline® Spray. All in contact animals should be checked and treated and the environment should be treated as for flea infestation. Adult dogs often become carriers showing few signs of infestation.

Ear Mites or *Otodectic mange*

- Ear mites live in the ear canals of dogs and cats, and only survive for a short time in the environment. They are spread by direct contact between animals and particularly to puppies from their mother. Inflammation of the ear canal causes irritation, head shaking, and ear scratching and a brown discharge may accumulate in the ears. If you suspect your puppy has ear mites consult the vet for appropriate treatment.

Sarcoptic Mange

- These mange mites burrow into the skin of dogs and also foxes. The mites spend most of their time in the burrow, coming to the surface only to mate and to spread by direct contact. They survive very short periods off the host and may cause short-lived infestation of humans with an associated rash. The presence of mites causes severe inflammation. Dogs will scratch, causing marked skin damage particularly affecting the elbows and hind legs. Infestations may become generalised with hair loss, crusting, skin thickening and ulceration. In some cases, infestation is associated with deterioration in body condition, and generalised disease. For treatment seek your vet's advice.

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Over the past few years, one product, Frontline® has "revolutionised" the treatment and control of fleas and ticks. Frontline® (containing fipronil) is the flea and tick product most prescribed by vets in the world today. To date more than 400 million treatments have been administered world-wide!

Effective and long lasting elimination of fleas and ticks

A 2 to 3 months protection against fleas

- Frontline® has an effect straight after administration and kills 98-100% of fleas within 24 hours, before they lay eggs.

A one-month protection against ticks.

- Frontline® kills ticks in less than 48 hours, minimising the risk of infection by tick borne disease. Attached ticks should fall off once dead or can be easily removed.

Resistance to Bathing and Shampooing

- Frontline® is not affected by rain or swimming and will continue to work even if your pet is shampooed up to four times within 2 months. However, for the best results, it is recommended not to bath your pet 48 hours before or after treatment.

Safety

- Frontline® Spray (from 2 days of age) and Frontline® Spot On (from 10 weeks of age) may be used with confidence in all breeds of dog.

Two presentations: Spray and Spot On

- Frontline® Spray is a mechanical pump spray.
- Frontline® Spot On comes as handy pipettes. You just have to apply contents to the skin between the shoulder blades of your pet.