



## **Resolving stubborn flea problems in cats and dogs**

What are fleas?

Fleas are very small, orange-brown insects. They feed on blood from cats and dogs but also other wild animals such as rabbits, hedgehogs, and foxes. They have an excellent ability to jump so are able to hop onto pets readily.

The flea life cycle

Because fleas are so tiny and dogs and cats have such dense coats, owners are unlikely to spot them immediately. Fleas feed on blood within seconds of landing on a dog or cat, and continue to feed regularly during their stay on the pet. After 24 hours, the fleas will begin laying eggs at a rate of 40-50 eggs every day for every flea! These eggs are not sticky, so they readily fall out of the pet's coat wherever the pet goes. Clearly, more flea eggs will fall in the areas where pets spend most of their time.

It takes 1-6 days for the eggs to hatch into larvae. These are tiny (1-2mm), white, maggot-like creatures. They gather deep down in carpeting, under furniture and in shady, sheltered places outdoors.

The larvae turn into pupae inside silk cocoons. It usually takes 3-5 weeks for an adult flea to hatch out of one of these cocoons. However, if a house is cold and empty, the pupae may remain inside the cocoons for months before hatching out – explaining why empty houses can suddenly develop a flea problem when people move in. And if the weather is warm and humid (or the central heating is on), the fleas will hatch out much faster.

As soon as an adult flea hatches out it will look for a warm-blooded person or pet to feed on and the cycle begins again!

Why do fleas matter?

- Fleas can cause pets to be itchy and uncomfortable. If there are a lot of fleas, or if an animal is particularly sensitive or allergic to flea saliva, extensive hair loss and skin damage may occur.
- Flea bites can cause skin reactions in people – small red bumps, often around the ankles.

- Tapeworms can live inside fleas. If a pet (or person) accidentally swallows a flea (e.g whilst grooming), the tapeworm can be passed on.
- Severe flea infestations can cause anaemia, particularly in young or weak pets.
- In rare cases, fleas can transmit other parasites and infections.

## Flea prevention

Studying the flea life cycle shows that the best way to prevent a flea infestation is to make sure that fleas are never introduced into the home. If cats and dogs are regularly treated with a product that kills adult fleas within 24 hours of jumping onto the pet, they will never be able to lay any eggs and the problem will be sorted almost before it has begun.

There are several products available to be used year-round to ensure that any fleas that jump onto your pet when he or she is walking/playing outside; mixing with other pets at a boarding kennels/cattery, groomers, dog show or veterinary surgery; or visiting other households without adequate flea control are killed before they can begin to lay any eggs.

These include:

- Spot-on preparations such as Frontline or Frontline Combo (applied every 2 months), Stronghold (applied monthly), Advocate or Prinovox (applied monthly)
- Tablet preparations such as Comfortis (one tablet given monthly with a meal)

The products all contain different active ingredients and work in different ways – for example Stronghold, Advocate / Prinovox and Comfortis are absorbed into the pet's blood stream, whilst Frontline remains in the skin itself.

Spot-on preparations are good for pets that are difficult to give tablets to. However, some pets dislike the sensation of the spot-on being applied and a tablet may be easier – particularly as Comfortis is designed to be palatable, and is given mixed into a meal.

The products also vary in the time taken to kill fleas, their suitability for different lifestyles and coat types and other effects that they have. The receptionists, vets and nurses at Acorn House will all be able to help you select the most appropriate product for your pet.

The following is a brief and basic summary of the flea products commonly recommended by Acorn House.

<b>Product</b>	<b>Frontline Combo</b>	<b>Broadline</b>	<b>Stronghold</b>	<b>Advocate or Prinovox</b>	<b>Comfortis</b>	<b>Seresto</b>
<b>Frequency of application</b>	Every 2 months for dogs	Every month for cats	Every month for cats and dogs	Every month for cats and dogs	Every month for cats and dogs	Every 7-8 months
<b>Method of application</b>	Spot on	Spot on	Spot on	Spot on	Tablet given with a meal	Collar worn continuously
<b>Time taken to kill fleas</b>	Starts within 4 hours, full efficacy by 12 hours	Starts within 4 hours, fully efficacy by 12 hours		Starts within 5 minutes, full efficacy by 12 hours	Starts within 30 minutes, full efficacy by 4 hours	Efficacy begins immediately
<b>Additional effects</b>	Also contains an ingredient to inhibit the development of flea larvae and pupae.  If applied every month, kills ticks that attach.	Also contains an ingredient to inhibit the development of flea larvae and pupae.  If applied every month, kills ticks that attach.  Also kills roundworms and tapeworms.	Kfleills roundworms (but not tapeworms). Also active against ear mites, and several other types of mites and lice (consult your vet for further details). Also prevents heartworm infestation (pets travelling abroad).	Also kills roundworms and lungworm (but not tapeworms). Also active against ear mites, and several other types of mites and lice. Also prevents heartworm infestation (pets travelling abroad).		Also contains an ingredient to inhibit the development of flea larvae in the environment.  Repels and kills ticks.  Can treat some lice infestations.
<b>Less suitable for</b>	Reduced efficacy in dogs with very long or thick coats, or those that swim or are bathed frequently. Families with multiple pets or children may dislike possible contact with the product.	Reduced efficacy for fleas in cats with very long or thick coats. Some cats may dislike application. Families with multiple pets or children may dislike possible contact with the product.	Some pets may dislike application. Families with multiple pets or children may dislike possible contact with the product.	Some pets may dislike application. Families with multiple pets or children may dislike possible contact with the product.	Some pets may not take tablets readily (although many well, as palatable).  May cause vomiting shortly after administration.	Some families may dislike the idea of their pet wearing a visible plastic collar permanently. Families with multiple pets or children may dislike possible contact with the product.

How does a flea problem develop in the house?

We have already mentioned that each adult flea lays 40 – 50 eggs each day, and so it is possible to see that within a few weeks of one flea being brought into the house, the house will contain a large number of eggs, larvae and pupae. Once these pupae hatch out into adult fleas there will be a huge explosion in the number of eggs laid and the problem gets bigger at a rapid rate. If flea protection is not used regularly on a preventative basis, it is most likely that owners will not realise that there is a flea problem until this stage has been reached. More aggressive control measures are needed for these households than simply using one of the preventative products listed earlier.

How can we treat a flea problem once it has become established?

The key to controlling an established flea problem is to think about all stages of the flea life cycle and not just the adult fleas. If we only treat the pet with a product to kill the adult fleas on the pet it will appear as if the treatment is not working because new fleas will continue to hatch out in the house and jump back onto the pet. There could easily be hundreds of thousands of developing fleas in a house and so simply applying a product to your pet may make very little difference at all.

1. Of course, it is still important to treat the pet with a product to kill adult fleas. Any of the above products would be sensible. However, in difficult situations we tend to favour those products that kill the fleas as rapidly as possible (so that they do not have time to breed again) and have as close to 100% kill rates as possible. Spot-on products may be less effective if they are not applied correctly, if the pet is bathed or goes swimming or out in the rain, or if the coat is very thick and dense. Cats and dogs that groom a lot may gradually reduce the concentration of spot-on products in their skin and coat. For all of these reasons, if we have a significant flea problem to control, we often suggest the use of a tablet flea treatment (Comfortis). If a tablet is unsuitable for your pet your vet may suggest the use of a different spot-on preparation or to use it at a different frequency. Because fleas will be constantly hatching out in the house and jumping onto your pet it is essential to keep up this treatment on a long-term basis.
2. The next step is to kill the eggs and developing fleas in the house. We recommend the use of an environmental spray such as Indorex which has been developed to kill the immature flea stages (and any live fleas) in the house. It is important to read the instructions carefully before you begin to use the spray. Indorex binds electrostatically to the surfaces that it comes into contact with and so presents no risk to babies, children and pets crawling on the floor. However, the spray is toxic to fish so tanks should be removed or covered with at least 2 blankets and the pump switched off before spraying. The propellant of the Indorex spray is carbon dioxide which may increase the risk of an asthma attack in asthmatic people (and possibly cats). Therefore, a non-asthmatic person should apply the spray. In all cases, the house should be ventilated for 1-2 hours after spraying. Any fabric that your pet has had contact with should be removed and washed at 60C if possible. Surfaces should be vacuumed thoroughly and the

bag discarded or Indorex sprayed into the bag or cylinder. Steam cleaning carpets and upholstery will kill pre-adult flea stages. Fabrics that cannot be removed or steam cleaned such as carpets and upholstered furniture should be sprayed with the Indorex spray. In houses without carpets; cracks in the floorboards, the edge of the skirting board and under furniture still require attention. The important thing to remember is that these sprays and treatments will kill the eggs, larvae and adult fleas but not the pupae. Therefore, it is essential that after spraying every effort is made to encourage the pupae to hatch. Switching on the heating (to increase temperature); hanging damp towels over the radiators (to increase humidity); and vacuuming daily for 2 weeks (to increase vibrations) will all maximise flea hatching so that the adult fleas will then be killed by the Indorex. It is normal to see some adult fleas during this time.

Indorex is also active against house dust mites and has persistent activity for up to 12 months, so may be beneficial for dogs and cats with dust mite allergy as well. However, dead dust mites are just as irritating as live ones, so vacuuming remains important.

3. In many cases, steps 1 and 2 will be sufficient to resolve a flea problem. However, in particularly difficult situations (e.g. where there are multiple pets in the house; the problem has been present for some time; or there is a persistent source of new fleas outside the home) additional measures may be required. Program can provide an additional level of flea control which acts as a “safety net” to the other measures described above. Program is available as an injection given every 6 months to cats or as tablets/liquid to be given orally to dogs/cats. This is a very very safe drug that has no effect on the pet but is taken up by any fleas feeding on the pet, causing their eggs to be infertile. Therefore it does not kill adult fleas at all, but acts to prevent the continuation of the life cycle as any flea that manages to survive the measures in steps 1 and 2 will at least not be able to breed.

Owners of pets without a flea problem and that are considered low risk for acquiring fleas (either because they rarely go out, or because the weather is very cold outside) may choose to use Program as the sole method of flea control – it will not kill any adult fleas that the pet picks up, but it will ensure that any fleas that are picked up cannot set up a flea infestation in the house.