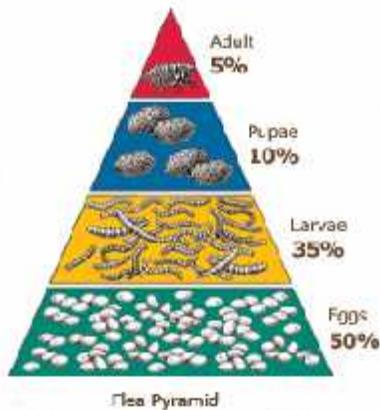




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Environmental Flea Control

With a proper understanding of the flea life cycle and the types of flea control products available, you CAN win the fight against a flea infestation. *When you see significant numbers of fleas on your pets then you are already BEHIND in the management of these parasites.*



If all your flea control efforts are aimed at treating only your pet, then you will never succeed. With significant exposure, or with flea allergic pets, it is IMPOSSIBLE to control fleas by only treating your pet. To be effective, you must deal with the environment as well.

Why? Although the adult fleas on your pet are the most obvious, they represent only 5% of the total flea problem. An adult female can lay up to fifty eggs per day, and even the MOST effective topical products are not 100% effective for the entire dosing period, so even routine use can result in a minor flea infestation in the house. *Thus, minor breaks with late dosing can definitely result in fleas laying eggs that will accumulate within the house.*

Once newly emerged adults find and feed on the pet, they do not usually leave. That means **95% of the total flea population associated with your pet is in the environment.**

Does this mean you have to treat acres of yard in addition to your house? NO! Successful treatment programs are based on the fact that fleas are nest parasites.



Flea Dirt (Feces)

The adult flea lays eggs in your pet's coat that readily fall from the hair into the environment. *The vast majority of the eggs (90%) have been proven to fall within 2 feet of the animal's favorite resting areas.* Therefore, most of the flea larvae will hatch near your pet's most common resting places inside and out. They require the droppings or pellets from the adult flea to survive and mature. **These nesting areas will be the flea hot spots.**

The final pre-adult stage is the pupae. The pupae spin cocoons which make them virtually resistant to all insecticides. Vibration, pressure, heat, and carbon dioxide from your pet's breathing stimulate their emergence. If not stimulated to emerge, the **pupae can survive in their cocoons for up to six months or longer.**

In fact, sometimes when battling back from a large infestation, you may be discouraged about that time – 6 months later suddenly you seem to be back to where you started. Do not despair, that is likely the last hatching of the oldest flea pupae from the initial infestation, and if you are following the steps outlined you should have things well under control even for that last 'blast' of emergence from the environment.

Flea Control Products:

1) **Insect Growth Regulators (IGR's)** : These products inactivate the flea eggs and larvae, thus effectively breaking the life cycle. They are sometimes referred to as emergence pesticides. They are generally environmental treatments, but some of the topical products for use on the pet contain them as well.

a) Older products : Methoprene (Precor), and Fenoxycarb (Torus) – generally only effective for 2-3 weeks. They break down more rapidly in direct sunlight.

b) Newer generation products : **Pyridine (ovikill), and Nylar**. These are stable in direct sunlight and so can even be used effectively in the yard and are generally considered to have a residual active period of 5-6 months provided they have not been removed by cleaning.

They come in either Area control house sprays or foggers – these products always have an adulticide pesticide in them as well but it is the IGR that is the most important choice.

2) Insect Development Inhibitors: Lufenuron (Program and Sentinel)

This is a product designed to be fed to dogs and cats once a month on a full stomach (or given to cats as an injection that last for 6 full months). *Lufenuron does NOT kill adult fleas; however, it does effectively sterilize the fleas on your pet, thus effectively stopping their reproductive cycle in your home.*

Ultimately, this product provides excellent flea control. You may still need to use environmental/topical flea control efforts to bring the initial infestation under control, or to insure lack of symptoms for flea allergic pets being incidentally exposed to adult fleas. Generally, you will see fewer and fewer adult fleas emerging, as the original pupae's infestation in your home becomes exhausted.

3) Adulticidal Products : (Advantage, Frontline, Vectra, Comfortis/Trifexis)

a) Topical Products (Advantage, Frontline, Vectra) - These kill adult fleas on contact. They are applied directly to the surface of the skin, and quickly spread to provide full body coverage and bind to the upper skin layers, so that sunlight, rain, and regular shampooing do not significantly affect protection. All are extremely effective within the first three weeks. *But with ALL there is some marginal loss of effectiveness between the 3-4 week mark (that can allow for minor flea reproduction to occur in the house from month to month even if you are perfectly regular in your product use).*

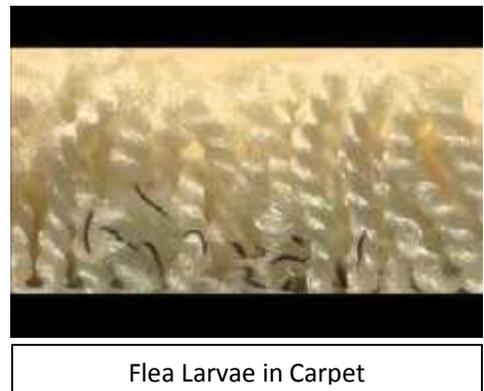
If you are dealing with a heavy infestation or a flea allergic pet then consider applying them every 3 weeks rather than every 4 weeks. Also consider switching products if you are seeing large numbers of adult fleas even though you are being faithful applying the product.

b) Systemic Products (Comfortis or Trifexis) – These are oral tablets that kill adult fleas after a single bite. They target insect receptors and are very safe for use in dogs and provide a very rapid flea kill. *They are an excellent choice for flea allergic animals due to the rapid rate of their adult kill.*

Steps to Successful Flea Control:

1) **Identify all the “flea hot spots”:** Which will be your pet’s favorite resting and sleeping areas. Be careful to notice ALL the places your pets rest. If you do not treat them all then you will NOT gain control of the environmental infestation. Pay close attention to cats’ resting areas especially, which are often up of the floor, and sometimes they are prone to hang out in areas that are not routinely cleaned such as the top of the fridge or windowsills, etc.

2) **Clean Thoroughly** – This is not to imply that fleas are there because the house is dirty, but rather that you have to realize that *NOTHING you spray or treat with will kill the pupal cocoons.* **Manually removing them is by far the most effective way to deal with them.** That means frequent cleaning, vacuuming, washing of the hot spot areas that you identified 2-3 times a week until you no longer see evidence of adult fleas emerging.



3) **Treat the environment :**

A. Indoors - All rooms that your pets have access to should be treated twice, one month apart with products that contain adulticidal components as well as an “IGR”. The key to success is the thoroughness of the application. *Remember, if your pets stay indoors regularly and they have fleas, then you definitely need to treat your home!* If you are cleaning the bedding areas frequently then consider spraying them each time they have been freshly cleaned until the infestation breaks, then treat them once a month (or after each wash if less frequent).

1. Bombs – use a single bomb per room. They do NOT spread from room to room well at all. All animals must be evacuated, and fish must be covered, etc.

2. Area Treatments – safe to allow animals back in room once they are dry. They are made in aerosol cans or spray pumps that you can apply yourself.

3. Professional treatments – specify for fleas, and specify you want a new generation IGR. **Baseboard treatments with routine pesticides will NOT address the flea nesting areas.**

B. Outdoors - Remember, you DO NOT have to treat acres of yard - you need to concentrate on kennel areas and your pet's favorite sleeping or grooming places, especially shaded areas. Flea eggs and larvae cannot survive extended periods in full sun areas during the heat of our summers here.

If you see any fleas or flea dirt on your pets after 4-6 weeks of following this outline, you should seriously evaluate the thoroughness of each step. Be certain you have not missed any "hot spots". *If you miss even one hot spot, then you will instantly have a source of re-infestation.*

4) Kill fleas on your pets :

Keeping your pets well groomed/bathed will help reduce the numbers of eggs and fecal pellets infesting the environment. Dips, flea collars, and most sprays really do not have much residual action at all, and are a waste of time and money entirely. If you want quick, useful adult kill that can be readily re-applied look for a flea spray with an IGR.

The over the counter knock offs are cheap for a reason – they do NOT have any residual action like they claim and they seldom ever last more than 2-3 days top. They are generally permethrins and pyrethrins that were in the old flea sprays and those certainly never lasted a month either. *There are generics of Frontline (fipronil) out these days, but YOU have to check the active ingredient listing to be certain you are getting a decent product and not simply a permethrin or pyrethrin.*

Use a solid monthly product and consider using them every 3 weeks until the infestation comes under control. We recommend using the monthly products year around here. *It is far too easy for a minor flea infestation to become a major one when you cease using the products over the winter and the few fleas already there multiply uninhibited.*

5) If you are truly battling a recurrent problem then we have found the best results are obtained by using an adulticide on the pet along with an IGR applied in the house or Program (Lufenuron). Should an adult flea not be killed immediately by the adulticide, then any eggs laid will be sterilized, thus breaking the flea life cycle!

6) Last, but not least, BE PATIENT! Because of the new adults emerging from the resistant cocoons, you should expect a lag time of four to six weeks before achieving a significant reduction in the number of adult fleas infesting your home and pet. Any product will not seem to be working if your pet is being assaulted by hundreds of newly hatched fleas in a day (and they can be!). **And if there was a heavy infestation, then bear in mind that you may see one final “bloom” of the fleas at the 5-6 month mark when all the old, original pupae hatch from their cocoons.**

DON'T FORGET---if you have thoroughly accomplished Step 3, killing existing adult fleas and larvae, and started your pet on a proven monthly product, then new pupal cocoons will not be formed.

Also if YOU fail to apply the products faithfully, then YOU are creating breaks during which those female fleas can lay 50 eggs a day in your house.



Remember, with an understanding of the flea life cycle, and the right Larvacidal products, total flea control is possible and affordable.

-Dr. Jacky May