

Peer Reviewed

Flea Management: An Integrated Approach



Jocko, a 6-year-old neutered male indoor-only cat, suddenly developed a severe flea problem.

CASE SCENARIO

In February, Jocko presents for a routine semianual visit to his veterinarian in Sayre, Pennsylvania, a small town located in the north-central part of the state. The owner, Mrs. Jacobs, is a widow who lives by herself in Lehigh Towers, a retirement apartment complex maintained under the Sayre community's housing authority. Each tenant is allowed to have a single pet cat or small dog, but pets are forbidden access to the facility's grounds, so Jocko is truly an indoor cat.

When it comes to flea control, Mrs. Jacobs is happy enough with how Jocko has been faring over the past 6 months and would like to stay the course on monthly Program (lufenuron, program.novartis.us). During this visit, she needs the veterinarian to complete the required annual certification that Jocko is flea-free.

Unfortunately, Jocko is anything but flea-free. Thus the veterinarian is left with a conundrum: What can be done to help Mrs. Jacobs keep Jocko as well as protect the other elderly folks living in Lehigh Towers?



ASK YOURSELF...

- What actions can be taken so the veterinarian can sign the required flea-free certification form—and Jocko can return to his home and previous flea-free status?
- A. Switch Jocko to an oral or topical adulticide.
 - B. Switch to injectable Program because you suspect Mrs. Jacobs has not been religious in giving monthly Program in Jocko's food.
 - C. Give Mrs. Jacobs 7 days of Capstar (nitenpyram, capstar.novartis.us), tell her to continue with Program, and send her home.
 - D. Give Mrs. Jacobs 7 days of Capstar and suggest a house visit by your veterinary technician who has expertise in resolving flea problems.
 - E. Give Mrs. Jacobs 7 days of Capstar and a flea bomb to treat the premises.
 - F. Give Mrs. Jacobs 7 days of Capstar and switch the cat to Revolution ([selamectin, revolutionpet.com](http://selamectin.revolutionpet.com)) along with applying Frontline Plus (fipronil + (S)-methoprene, frontline.us.merial.com) each month.
 - G. Switch Jocko to Advantage ([imidacloprid, bayerdvm.com](http://imidacloprid.bayerdvm.com)) and use an additional carpet treatment.
 - H. Stay the course and inform Mrs. Jacobs that she needs to rent a carpet steamer.

CONTINUES

CORRECT ANSWER

D. Give Mrs. Jacobs 7 days of Capstar and suggest a house visit by your veterinary technician who has expertise in resolving flea problems.

WEIGHING YOUR OPTIONS

From the Case Scenario, it should be clear that this very likely is not a simple case of product failure. Although that is always a possibility, Mrs. Jacobs receives her product from you, and you have had no complaints from others about its use. Yes, someone always must be the first to complain when problems arise, but in this case, Jocko is probably suffering from a shared affliction.

Obviously, fleas must have slipped into the Towers and taken up residence, so a search for the offending party or parties needs to be initiated.¹ Jocko is likely serving as a sentinel, as the flea control product being used on him has no adulticidal effect.

By giving 1 Capstar tablet to Jocko during this visit and having Mrs. Jacobs give him 1 tablet daily for 6 days (total of 7 days of Capstar treatment), you should be able to sign the document with a clear conscience²—but only if there is proper follow-up.

Managing this flea problem is going to require veterinary staff intervention—as well as assistance from the building's administrator. Jocko has obviously found himself in a situation in which fleas are breeding around him and have now sneaked into his environment. Thus a member of your team needs to use his or her knowledge of flea biology to figure out the source for the large numbers of fleas moving into Jocko's apartment.



Ctenocephalides felis
captured in an apartment
(male left, female right)

CONTINUES

Did You Know?

One of the most common flea species seen in households today isn't the cat flea or the dog flea—it's the human flea.



In fact, *Pulex irritans* is a species with a diversified host spectrum, including both domesticated and wild mammals and birds—dogs, wild canids, pet cats, wild felids, pigs, monkeys in captivity, wild rodents, free-tailed bats, to name just a few, and of course people.



One of the more abundant flea species is *Ctenocephalides felis*, which is the cat flea. Its primary host is domestic cats, but it is also a major player in flea infestation of dogs. Although cat fleas will bite humans, they are not a sustainable host. Therefore, survival relies on infestation of other mammals.

To learn more

about flea species and the infectious pathogens they can harbor, download a list at cliniciansbrief.com.



Although *Ctenocephalides canis* primarily lives off the blood of dogs, it also feeds on domestic cats and sometimes bites humans. The dog flea can live for months in carpets, couches, bedding, and other places without needing a blood meal. However, the female must have a blood meal before it can produce eggs, which it lays on the host's fur.

Sometimes managing flea problems requires direct intervention by veterinary staff with expertise in flea biology.

THE SOURCE & SOLUTION

Although using various products with adulticidal, ovicidal, and larvicidal activities would likely protect Jocko and Mrs. Jacobs from being bothered by fleas, the problem probably extends into the surrounding apartments.³ Thus, the best means of success in this scenario would be to send the clinic's flea expert to the Towers to determine the source of flea infestation. This can be challenging because of the number of individual apartments that could be involved, but often the administrative staff in residence facilities is willing to work with concerned, knowledgeable individuals in order to prevent problems from getting out of control.

In this case, once the staff technician with expertise in flea management visited the Towers the problem was easily solved. The tenant in the next apartment had taken his dog, which was not

on flea prevention, for a week-long visit to his daughter's house. During that time, the fleas in the neighbor's apartment eclosed from their pupal cases but had no host with the dog being gone, so they started looking for a new blood source. The timing coincided with Jocko's scheduled wellness visit and the owner's need to obtain a flea-free certification.

Source found. Problem solved.

Although reviewing all viable approaches to integrated flea management is beyond the scope of this article, a few options that can be considered for Jocko are outlined in **Finding a Solution for Jocko: Flea Control Strategies**.

See Aids & Resources, back page, for references & suggested reading.



FINDING A SOLUTION FOR JOCKO: FLEA CONTROL STRATEGIES

Many scenarios can be played out to bring Jocko's flea problem under control. Following are 3 options to consider when devising an integrated flea control strategy.

1. Continue flea prevention with Program for Jocko or perhaps for the dog that created the problem, Sentinel (milbemycin + lufenuron, sentinelpet.com), along with Capstar for both pets. The latter rapidly kills adult fleas, and lufenuron prevents fleas from developing.
2. Various adulticides contain built-in activities against eggs, larvae, or both. For example, Revolution, Frontline Plus for Cats and Kittens, Advantage II (imidacloprid + pyriproxyfen, bayerdvm.com), and Vectra for Cats and Kittens (dinotefuran + pyriproxyfen, summitvetpharm.com).^{3,4} These products have

excellent integrated pest control by targeting different life cycle stages.

3. Comfortis for Dogs (spinosad, comfortis4dogs.com) and Assurity for Cats (spinetoram, assurity4cats.com) are two products that were launched more recently for flea control.^{5,6} These products target adult fleas with a once-a-month application, and in this scenario where cats and dogs in the Towers never roam, these products too would be likely to get this problem under control and keep it away for an extended period.

Advantage = imidacloprid, Advantage II = imidacloprid + pyriproxyfen, Assurity for Cats = spinetoram, Capstar = nitenpyram, Comfortis for Dogs = spinosad, Frontline Plus = fipronil + (S)-methoprene, Program = lufenuron, Revolution = selamectin, Sentinel = milbemycin + lufenuron, Vectra for Cats and Kittens = dinotefuran + pyriproxyfen