

The veterinary technician's

role: Dermatology & parasitology

“My pet is itchy”—it’s the most common reason clients visit a veterinary clinic. Flea allergy dermatitis is the most common dermatologic disease of dogs. As a veterinary technician, you need to understand why managing flea bites is so important for allergic dogs—so you can relate this important information to clients.



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Blood feeding & flea allergy dermatitis

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Highlights

- A reduction in flea numbers can achieve clinical improvement of FAD.
- All fleas bite, and they start soon after finding a host.
- A rapid kill time is an important element in a successful flea-control product.

All fleas bite—fast

For years, veterinary dermatologists have stated that only a single flea bite is necessary to produce the clinical signs of flea allergy dermatitis (FAD) in hypersensitive animals. Most flea-control products kill fleas fast enough to interfere with most egg production, which breaks the flea life cycle. However, they're not able to prevent fleas from biting and feeding before they are killed.

Fleas almost immediately begin to feed once they find a host.¹ One study found that 25% to 60% of fleas fed within five minutes, and another found that 89% fed within five minutes.^{2,3} Fleas are voracious feeders, and females can consume up to 15 times their body weight in blood in one day.

The speed with which a product kills fleas and prevents them from injecting antigen may influence how quickly the irritation from the inflammatory response to flea bites improves. Studies have demonstrated that neither topical nor systemic insecticides can stop initial biting and feeding.⁴⁻⁶ But in one study, systemically active insecticides decreased blood feeding more rapidly and more profoundly than topically active insecticides.⁶ To sum up, a fast residual speed of kill is an important element in a successful flea-control product.

As new compounds are developed, research on blood feeding, residual speed of kill, and the relative effects on FAD will need to be conducted. This data can provide insight into their potential effectiveness in controlling flea bites and managing FAD.

References

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Flea feeding findings

Do flea-control compounds stop fleas from feeding?

Compound	Percent of fleas found to have taken a blood meal ⁴
Fipronil	92% still fed
Imidacloprid	89% still fed

A blood meal was taken by a high percentage of fleas that had been placed on cats treated with fipronil or imidacloprid six days previously.

Compound	Time after treatment	Percent reduction in blood consumption by fleas ⁶
Imidacloprid*	Day 7	90.8%
	Day 14	43.3%
Fipronil*	Day 7	69.8%
	Day 14	0%
Selamectin*	Days 7, 14, 21, and 28	≥88.9%
Nitenpyram**	Days 7, 14, 21, and 28	≥98.4%

* Treated on day 0. Infestation and measurement of blood consumption was repeated every seven days until day 28 or percent reduction in blood consumption reached 0%.

**Treated one hour prior to each infestation every seven days.

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Flea bites cause FAD

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Flea bite hypersensitivity

Despite modern advances in flea control, FAD continues to be the most common skin disease seen in general small animal practice. Practitioners and technicians must diffuse owners' belief that it is impossible for ectoparasites to exist on their pets. You must get the owner to accept the possibility that their dog's pruritus could be caused by hypersensitivity to flea bites (see *How to convince clients their pet has FAD*).

Using a "Prove me wrong!" approach—instead of a "Trust me" approach—I offer my clients six weeks of concerted flea control based on my recommendations before starting expensive or time-consuming dermatologic testing.

“Practitioners and technicians must diffuse owners' belief that it is impossible for ectoparasites to exist on their pets.”

How to convince clients their pet has FAD

- **Don't jump right in with the bad news.** Never simply tell an owner, "Your dog has FAD." Instead, you must first establish rapport during the examination.
- **Use visuals.** Draw an imaginary line around the dog's middle and ask the owner, "Does your dog itch more in front of or behind this line?" FAD is the only known canine pruritic skin disease seen consistently with a markedly caudal, bilaterally symmetric distribution pattern.
- **List the possible diagnoses.** Define allergy and talk about the three most common allergic skin diseases seen in dogs: atopic dermatitis, food allergy, and flea allergy.
- **Explain the diagnostic process.** Briefly discuss how a diagnosis of FAD is made, and describe the lesions, pattern, and frequency.
- **Explain the cause.** Inform owners that flea allergy is an allergic reaction to proteins in the saliva of fleas.
- **Save face.** Indicate that flea allergy often occurs in well-cared-for animals in clean environments.
- **Ultimately, let the clients decide.** Describe the distribution pattern of the three most common allergic skin diseases and gradually let the owners draw their own conclusions.

Diagnostic clues for FAD

Signalment	<ul style="list-style-type: none">• Breeds: FAD is more common in allergic dog breeds prone to atopic dermatitis and food allergies• Age: Usually occurs in dogs 6 months and older• Sex: No predilections have been reported
Speed of onset	<ul style="list-style-type: none">• Rapid
Seasonality	<ul style="list-style-type: none">• Contingent on flea availability, which depends on weather, temperature, humidity, and severity of winters
Laboratory testing	<ul style="list-style-type: none">• No definitive laboratory tests exist• Rule out FAD through several months of strict flea control

A technician's role in dermatologic exams

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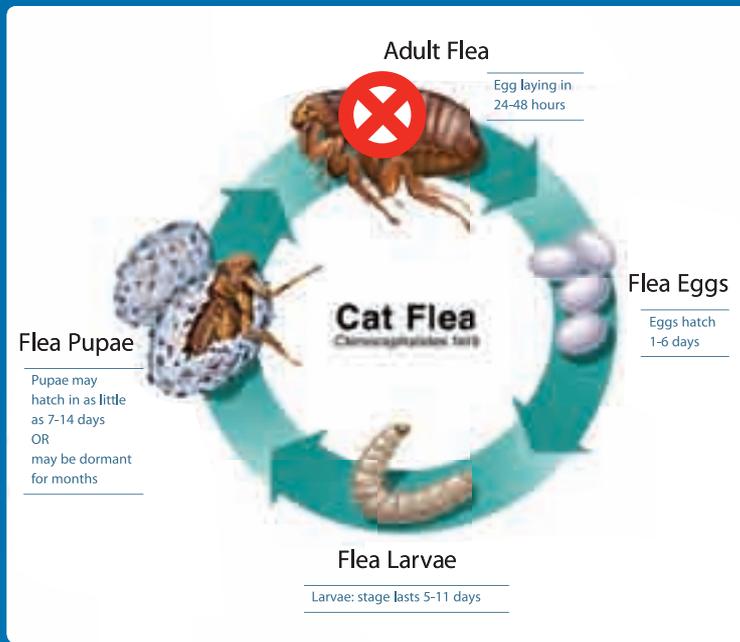
As a veterinary technician, the vital role you play with dermatology patients cannot be emphasized enough. Obtaining an accurate history and performing diagnostic procedures correctly are extremely important. Educating clients is crucial to improving compliance. These fundamental elements are essential for the successful management of patients with dermatologic conditions.

1. Take a thorough history.

- Create a dermatologic history questionnaire for clients to complete.
- Take note of the patient's breed and age, which can give you clues to likely conditions.
- Ask direct questions, such as:
 - Is the pet itchy?
 - When did you first notice the problem, and how has it changed over time?
 - Do you notice the problem seasonally?
 - What treatments have you tried?
 - What is the pet's diet, including treats?
 - Are other pets showing similar signs?
 - Are any people in the household affected?
- Learn to ask the same question in different ways. For example, if a client says his dog is not itchy but its paws are red, ask if he's ever seen the dog licking its paws. Then inquire about how often this occurs and the intensity.
- A thorough history can help you determine what diagnostic tests to perform.

2. Perform appropriate dermatologic procedures to confirm the presence of ectoparasites.

- Flea comb to identify adult fleas and flea dirt



- Ear canal examination, swab, and cytology for yeast, bacteria, or mites
- Skin scraping for *Sarcoptes*, *Demodex*, or *Cheyletiella*
- Fecal flotation for *Cheyletiella* if skin scrapings are negative
- Trichogram for lice eggs, *Cheyletiella* eggs, or *Demodex* mites
- Skin punch biopsies.

3. Educate clients to improve compliance.

- Explain the pet's condition and flea life cycle.
- Demonstrate how to apply all medications.
- Show clients how to clean the ears properly.
- Create handouts for specific conditions and give these to owners as take-home references.
- Emphasize the expectations of treatment.
- Stress the importance of rechecks.
- Mention that additional diagnostic tests or a referral to a dermatologist may be indicated.
- Explain that prevention is usually less expensive for clients than treatment of the primary condition and secondary complications.