

Flea and Tick Mythbusting

Prepare yourself for these “home remedies”

by Jen Reeder; mythbusting by Rick Marrinson, DVM

With spring around the corner, it's time to start talking to clients about flea and tick control. With all of the misinformation floating around the Internet, it is crucial for veterinarians to be prepared to answer questions from clients who may be wary of medications or other tried-and-true prevention plans.

Chris Carpenter, DVM, MBA, and executive director of the nonprofit Companion Animal Parasite Council (CAPC), said times have changed due to modern technology, with over 70% of consumers making their buying decision for a product or service before they leave home.

“To be successful as a profession, we all must work hard to connect with pet owners while they are researching parasite control on the Internet and to provide them with accurate medical information that balances the ‘myths’ they come across,” Carpenter said.

To that end, CAPC board member Rick Marrinson, DVM, owner of Longwood Veterinary Clinic in Longwood, Fla., addressed some of the home remedies for flea and tick control pet owners can find on the Internet.



“One common myth is that fleas spread by jumping from pet to pet.”

—RICK MARRINSON, DVM

Heartgard[®] Plus

(ivermectin/pyrantel)

CHEWABLES

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

INDICATIONS: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae (*Dirofilaria immitis*) for a month (30 days) after infection and for the treatment and control of ascarids (*Toxocara canis*, *Toxascaris leonina*) and hookworms (*Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*).

DOSAGE: HEARTGARD[®] Plus (ivermectin/pyrantel) should be administered orally at monthly intervals at the recommended minimum dose level of 6 mcg of ivermectin per kilogram (2.72 mcg/lb) and 5 mg of pyrantel (as pamoate salt) per kg (2.27 mg/lb) of body weight. The recommended dosing schedule for prevention of canine heartworm disease and for the treatment and control of ascarids and hookworms is as follows:

Dog Weight	Cheewables Per Month	Ivermectin Content	Pyrantel Content	Color Coding On Foil Backing and Carton
Up to 25 lb	1	68 mcg	57 mg	Blue
26 to 50 lb	1	136 mcg	114 mg	Green
51 to 100 lb	1	272 mcg	227 mg	Brown

HEARTGARD Plus is recommended for dogs 6 weeks of age and older. For dogs over 100 lb use the appropriate combination of these chewables.

ADMINISTRATION: Remove only one chewable at a time from the foil-backed blister card. Return the card with the remaining chewables to its box to protect the product from light. Because most dogs find HEARTGARD Plus palatable, the product can be offered to the dog by hand. Alternatively, it may be added intact to a small amount of dog food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes after administration to ensure that part of the dose is not lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

HEARTGARD Plus should be given at monthly intervals during the period of the year when mosquitoes (vectors), potentially carrying infective heartworm larvae, are active. The initial dose must be given within a month (30 days) after the dog's first exposure to mosquitoes. The final dose must be given within a month (30 days) after the dog's last exposure to mosquitoes.

When replacing another heartworm preventive product in a heartworm disease preventive program, the first dose of HEARTGARD Plus must be given within a month (30 days) of the last dose of the former medication.

If the interval between doses exceeds a month (30 days), the efficacy of ivermectin can be reduced. Therefore, for optimal performance, the chewable must be given once a month on or about the same day of the month. If treatment is delayed, whether by a few days or many, immediate treatment with HEARTGARD Plus and resumption of the recommended dosing regimen will minimize the opportunity for the development of adult heartworms.

Monthly treatment with HEARTGARD Plus also provides effective treatment and control of ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*). Clients should be advised of measures to be taken to prevent reinfection with intestinal parasites.

EFFICACY: HEARTGARD Plus Chewables, given orally using the recommended dose and regimen, are effective against the tissue larval stage of *D. immitis* for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus Chewables are also effective against canine ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*).

ACCEPTABILITY: In acceptability and field trials, HEARTGARD Plus was shown to be an acceptable oral dosage form that was consumed at first offering by the majority of dogs.

PRECAUTIONS: All dogs should be tested for existing heartworm infection before starting treatment with HEARTGARD Plus which is not effective against adult *D. immitis*. Infected dogs must be treated to remove adult heartworms and microfilariae before initiating a program with HEARTGARD Plus.

While some microfilariae may be killed by the ivermectin in HEARTGARD Plus at the recommended dose level, HEARTGARD Plus is not effective for microfilariae clearance. A mild hypersensitivity-type reaction, presumably due to dead or dying microfilariae and particularly involving a transient diarrhea, has been observed in clinical trials with ivermectin alone after treatment of some dogs that have circulating microfilariae.

Keep this and all drugs out of the reach of children.

In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning cases of ingestion by humans.

Store between 68°F - 77°F (20°C - 25°C). Excursions between 59°F - 86°F (15°C - 30°C) are permitted. Protect product from light.

ADVERSE REACTIONS: In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported following the use of HEARTGARD: Depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

SAFETY: HEARTGARD Plus has been shown to be bioequivalent to HEARTGARD, with respect to the bioavailability of ivermectin. The dose regimens of HEARTGARD Plus and HEARTGARD are the same with regard to ivermectin (6 mcg/kg). Studies with ivermectin indicate that certain dogs of the Collie breed are more sensitive to the effects of ivermectin administered at elevated dose levels (more than 16 times the target use level) than dogs of other breeds. At elevated doses, sensitive dogs showed adverse reactions which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitability, stupor, coma and death. HEARTGARD demonstrated no signs of toxicity at 10 times the recommended dose (60 mcg/kg) in sensitive Collies. Results of these trials and bioequivalency studies, support the safety of HEARTGARD products in dogs, including Collies, when used as recommended.

HEARTGARD Plus has shown a wide margin of safety at the recommended dose level in dogs, including pregnant or breeding bitches, stud dogs and puppies aged 6 or more weeks. In clinical trials, many commonly used flea collars, dips, shampoos, anthelmintics, antibiotics, vaccines and steroid preparations have been administered with HEARTGARD Plus in a heartworm disease prevention program.

In one trial, where some pups had parvovirus, there was a marginal reduction in efficacy against intestinal nematodes, possibly due to a change in intestinal transit time.

HOW SUPPLIED: HEARTGARD Plus is available in three dosage strengths (See DOSAGE section) for dogs of different weights. Each strength comes in convenient cartons of 6 and 12 chewables.

For customer service, please contact Merial at 1-888-637-4251.



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“Mulch in the yard will do nothing to protect the inside of the house, which is where most infestations occur.”

—RICK MARRINSON, DVM

Myth

Feed pets raw garlic, garlic powder, or garlic pills.

Status

Busted!

Not only is there no clinical evidence that garlic has any effect on fleas, it is a potentially hazardous substance to pets, particularly cats. Garlic is in the allium family, which includes onions, shallots, leeks, and chives. In some animals, these plants can cause severe anemia. Lesser reactions could include upset stomach, vomiting, and diarrhea.

Myth

Feed the dog 1 mg of brewer's yeast for every 5 pounds it weighs, mixing it into the food (or buy tablets with brewer's yeast).

Status

Busted!

While brewer's yeast is not toxic to pets, it is equally lacking in evidence of any effectiveness against fleas. As remedies against fleas, both garlic and brewer's yeast survive in folklore through anecdotal reports, despite research studies that have disproven their value.

Myth

Put an ultrasonic device on pets' collars to emit ultrasonic sounds fleas and ticks hate.

Status

Busted!

High-frequency ultrasonic devices, whether worn as a collar or placed around the home, have no effect on fleas or other pests such as insects and rodents. Some states have legislation banning sales because these products have been labeled as fraudulent. The high frequencies generated cannot be heard by humans, but may be audible to pets and have been blamed for behavioral changes when used on or around animals.

Myth

Cut an orange in half and rub it on your dog's back and stomach.

Status

Busted!

The peel of citrus fruits, particularly oranges, contains a chemical known as linalool. Linalool is used as a fragrance in products such as soaps, shampoos, detergents, and lotions. It has also been used as an insect repellent with variable results. For citrus oil to have any effect on fleas, it would need to be extracted from the orange peel and concentrated. It is not effective or practical to use the juice of the orange.

Myth

Spray the dog or cat with a mixture of apple cider vinegar and baking soda.

Status

Mostly busted!

Flea Facts

These flea facts and dispelled myths are courtesy of Rick Marrinson, DVM, CAPC board member, owner of Longwood Veterinary Clinic in Longwood, Fla.

- There are more than 2,000 species of fleas, but only a few of them affect our pets and infest our homes. The most common flea found on dogs, cats, and certain wild animals is *Ctenocephalides felis*, also known as the common cat flea.
- Fleas are more of an environmental concern, since 95% of the flea population (eggs, maggots, and pupae) lives in the environment and only 5% of the population (adults) lives on the animals.
- Dog parks and other open spaces (like most of your yard) are not likely sources of fleas, since these are not places pets spend a lot of time resting. Also, open spaces exposed to sunlight (or to cold in the winter) are not conducive to the immature flea's life stages.
- Inside the home, the flea population will be concentrated in areas where a pet spends time sleeping or resting.
- Successful flea control requires treatment of both the pet and the environment. Addressing only the pet or only the environment will result in a failure of control.
- Squirrels and other rodents do not carry the same species of flea that infest dogs and cats. Other wild animals, such as raccoons and opossums, can introduce fleas into a yard only if they are nesting in areas accessible to the pet.

Vinegar is acetic acid. While high levels of acetic acid can be toxic to fleas, the acidic nature can also be harmful to the skin with repeated or long-term exposure. Baking soda has no known effect on fleas.

Myth

Use lice shampoos for humans on the pet.

Status

Maybe!

Shampoos and other topical treatments for lice in humans contain pyrethrins, organic compounds also found in many flea shampoos labeled for dogs and cats. While lice shampoos will kill adult fleas on the pet, there is no benefit to their use over shampoos intended for dogs and cats.

Myth

Coat pets with mineral oil to suffocate the fleas.

Status

Maybe, but not practical!

While you may be able to drown fleas in mineral oil, the volume of mineral oil required would create an enormous mess on your pet. This is an extremely impractical method for flea control.

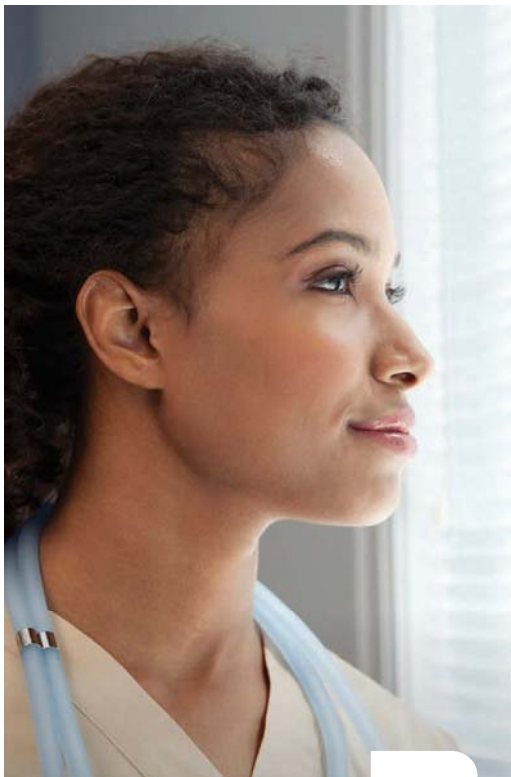
Myth

Bathe the cat or dog with Dawn liquid detergent and oatmeal.

Status

Maybe, but not a good idea!

In general, bathing a pet, even with plain water, can help kill and remove



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fleas. However, any sort of detergent used as a shampoo can be very drying to the skin of dogs and cats. Dawn dish soap is particularly effective at removing grease and oil from hair, but has no specific efficacy at killing fleas. Oatmeal-based shampoos are typically non-detergent and have been used as therapy for certain skin conditions. Oatmeal itself has no ability to kill or repel fleas.

Myth

When washing your pet, don't rinse first because fleas will jump off. Start with a soapy lather that will trap and suffocate them.

Status

Huh?

Since a bath in water alone can help kill fleas, it does not make much sense to avoid putting water on the pet. Although I've never tried it, lathering a dry dog or cat with shampoo would seem to be difficult.

Myth

Keep a thin layer of diatomaceous earth on your floors (where vacuums can't reach) and vacuum every 3 days, tossing some on the floors first. Sprinkle Borax washing detergent on carpets and wash pet beds with it. Salt your carpet.

Status

True (but incomplete)!

Diatomaceous earth (DE), boric acid (found in Borax and other powders intended to be applied to carpet), and salt all dehydrate the flea maggots (larvae) that are found in the carpet, pet bedding, and other places in flea-infested environments. These remedies can be an effective part of

an overall flea-control program and work best when applied to the locations in which a pet frequently sleeps.

Myth

Spray the yard with Ivory soap and water.

Status

Busted!

Soap and water can be effective against adult fleas on the pet, but since the adult flea is only on the pet and does not live out in the yard, this would be an ineffective environmental treatment.

Myth

Release nematodes (roundworms) into the backyard to eat flea larvae.

Status

Busted!

Once a popular natural remedy for application in the environment, treatment with nematodes was never found to be effective, probably because there are not huge concentrations of flea maggots in the open spaces of a yard.

Myth

Spread cedar chips in the yard to repel fleas.

Status

Maybe, but impractical!

Cedar is a natural insect repellent, but unless your entire yard is covered in mulch, it is not likely to be of much value. Plus, mulch in the yard will do nothing to protect the inside of the house, which is where most infestations occur.

Myth

Flood the yard to suffocate flea eggs and larvae.

Status

Really?

Unless you live in a bog or on a boat, this doesn't seem like a realistic option. Again, this would provide no protection for indoors.

Some say that the plant itself, alive or in dried form, can repel fleas. Other references claim that it is the smoke from the burning of the plant that becomes the repellent. Either way, like cedar mulch, it would likely require large quantities to be effective and once again leaves the inside of the home unprotected.

flea to be introduced, perhaps as a hitchhiker on a pant leg, shoe, or visiting pet, to start an infestation. Within a few weeks, two fleas can become two thousand fleas inside the home.

Myth

Plant pennyroyal, also known as fleabane, in your yard to repel fleas.

Status

Mostly busted!

There are botanical references to fleabane's attribute of repelling fleas.

Myth

Keep cats indoors.

Status

Busted!

Any pet that lives strictly indoors theoretically has a lower exposure to external parasites. However, fleas thrive in indoor environments and all it takes is one male and one female

Concluding thoughts from the experts

Marrinson said that CAPC does not endorse any particular flea and tick medication and instead relies on the discretion of veterinarians to develop a prevention or treatment plan based on each pet's history and circumstances. Effective parasite control can include manual removal of parasites through brushing and bathing; oral or topical medications prescribed by a veterinarian; indoor environmental treatment including

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“Fleas thrive in indoor environments and all it takes is one male and one female flea to be introduced, perhaps as a hitchhiker on a pant leg, shoe, or visiting pet, to start an infestation.”

—RICK MARRINSON, DVM

frequent washing of bedding materials and vacuuming (as well as application of powders or sprays by a licensed pest control operator); and outdoor environmental treatment such as keeping grass cut, controlling brush and other vegetation, and discouraging wild animals from nesting in the yard.

He said it is important to remember how pets get fleas: by passing through an area where some other host has left behind an environment contaminated with flea eggs, maggots, and pupae.

“One common myth is that fleas spread by jumping from pet to pet,” Marrinson said. “Once a flea finds a host, it will not leave its host unless killed by treatment; washed off; or inadvertently displaced by the scratching, chewing, and grooming. Instead, fleas spread by environmental contamination.”

CAPC releases a parasite forecast to the media each spring, informing pet owners that parasite populations are constantly changing and that local veterinarians are the experts on activity in the area and know the best ways to control the pests. Veterinarians can sign up for monthly email updates about parasite counts for their county at capcvet.org. Carpenter suggests veterinarians share the information with their clients through blogs, community newspapers, and Facebook pages to help position themselves as the expert on parasite control in their area.

David A. Visser, DVM, codirector of AAHA-accredited Center for Animal Health in Edwardsburg, Mich., said sharing seasonal and regional trends is important to personalizing a recommendation for a pet. When ticks are removed from animals at his practice, they are placed in a secured bottle called the “Tick Morgue.”

“The bottle is restarted every spring and serves as a visual reminder of the silent presence of ticks in our environment,” Visser said. “Ticks are disgusting bloodsuckers, but what is worse is that they transmit potentially deadly diseases, so we raise the level of concern from ‘pest level’ to ‘disease level.’”

He said that clients trust veterinarians, so it is important to protect that “sacred trust” by being honest with clients. To increase compliance, he suggests his staff members speak to clients during any educational opportunity as if they’re standing beside them rather than across from a table. As far as medication goes, he typically recommends Revolution for parasite control and likes to limit the amount of other products his practice carries to avoid creating confusion for clients.

“The confused mind tends to say ‘no,’ and when a client hears or sees a whole list of products with various uses and precautions, they may be apt to put the recommendation on hold,” he said.

Visser said the over-the-counter market stands ready to take advantage of partially informed consumers through low prices and creative marketing, so pet owners can find themselves a bit lost in a pet supply store.

“As advocates for our patients, wouldn’t we prefer to be standing right there guiding their decision? We can in our practices: with professional staff standing beside our client, in front of the best recommendation, tailored specifically to their pet’s unique medical and lifestyle needs.” ✨

For More Information

CAPC Vet, capcvet.org

Longwood Veterinary Clinic, longwoodvet.com/home

Center for Animal Health, centerforanimalhealth.vetstreet.com

American Veterinary Medical Association, avma.org/public/PetCare/Pages/Safe-use-of-flea-and-tick-preventive-products.aspx



Freelance journalist Jen Reeder is grateful that her Lab mix, Rio, has managed to avoid flea and tick infestations thanks to prevention plans from her veterinarian.