



# Cat Watch

Expert information on medicine, behavior and health from a world leader in veterinary medicine



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## IN THE NEWS ...

### FDA Warns Topical Drug Poses Toxic Risk to Cats

The Food and Drug Administration has issued a warning about pets' exposure to a topical non-steroidal anti-inflammatory (NSAID) drug after reports of deaths and illness in cats. Their owners had applied flurbiprofen cream or lotion to their own neck or feet to treat pain.

Two cats in one household developed kidney failure and recovered with veterinary care. Two cats in a second household became ill and died despite treatment after developing loss of appetite, lethargy, dilute urine, vomiting and black, bloody stools. A third cat in the second household died after the owner had stopped the medication. Veterinarians who performed necropsies on the three cats found evidence consistent with NSAID toxicity in the kidneys and intestines.

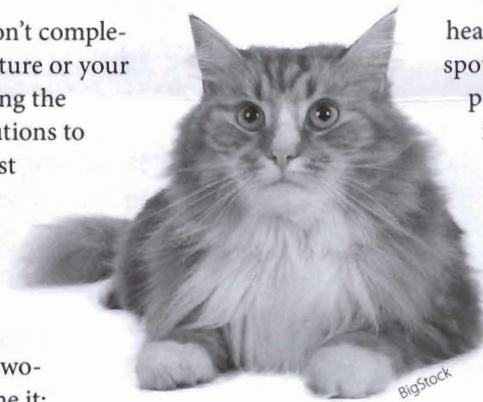
The FDA warns that even very small amounts of flurbiprofen can be dangerous to animals, and while it hasn't received reports of dogs becoming ill as a result of exposure to the drug, they may also be vulnerable. ❖

## When There's Hair, Hair Everywhere

*Shedding is usually seasonal, but factors such as diet, genetics and even temperament can all trigger it*

If clouds of cat hair don't complement you, your furniture or your home, you may be among the owners looking for solutions to shedding. Dermatologist William H. Miller, VMD, Medical Director of the Cornell University Companion Animal Hospital, has a simple two-step prescription to tame it: a brush and a vacuum.

Shedding is a normal function. However, Dr. Miller offers this cautionary advice: If your cat's shedding appears to be unusually



**Siberians have triple purrs** and triple coats that shed impressively.

heavy or results in bald spots, make a veterinary appointment to determine if he has an underlying medical condition.

High fevers, allergies, the hormonal imbalance hyperthyroidism, pregnancy and parasites like fleas and ticks can cause a cat to shed excessively.

If your cat doesn't have a health-related problem, Dr. Miller offers an explanation of hair growth to help you understand

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## Is a Clinical Trial Right for Your Cat?

*It depends in part on your commitment, concern about his taking placebos and the impact on his quality of life*

If your cat had a life-threatening disease with no effective treatment, would you enter him in a clinical trial that might result in a helpful drug or other therapy — perhaps even a cure? Clinical studies are essential in moving medicine forward and often rely on the participation of animals with naturally occurring diseases to find answers.

But before you sign up your cat for a trial, it's important to do your homework on its goals and how it will be conducted. Not every study is a good fit for pets, and not every cat is right for all studies.

**Multiple Exams.** "There are often many visits in a clinical trial, and the temperament of the cat is very important to ensure he or she can handle the stress of multiple appointments," says nutritionist Joseph J. Wakshlag, DVM, Ph.D., Associate Chair of Research and Graduate Education at Cornell University College of Veterinary Medicine.

The best drug studies are double-blind and placebo controlled. That means that one group of cats receives the drug being tested while the other group receives a placebo, a substance with no therapeutic effect. Neither the owners nor the researchers

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# Indoor Cats Aren't Safe From Lyme Disease

*Though very rare, they can contract it from infected ticks other pets bring indoors or we track in on clothing*

Ticks used to be most active in spring through autumn, but rising temperatures attributed to global warming have shortened their long winter naps and in some areas eliminated them entirely. The result: Tick bites have become a year-round risk in many parts of the U.S.

Although blacklegged deer ticks prefer mice, birds and deer, they can bite other warm-blooded mammals — cats, dogs, horses and people. When the ticks are infected with the bacteria *Borrelia burgdorferi*, they can transmit Lyme disease. In the U.S., it's now the most common disease spread by

arthropods — invertebrate animals with external skeletons.

Lyme disease is very rare in cats, but even those living indoors aren't safe from it. Other pets can bring infected ticks into our homes and yards, or we can track them inside on clothing. There's no evidence that pets can spread the disease to people, however.

**Scant Information.** It's difficult to tell if a pet — particularly a cat — has Lyme disease. Unlike humans, cats show no skin rashes or neurologic signs. "Cats appear to have a natural resistance to Lyme disease and tend not to show



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**Cats tend not to show signs of Lyme disease.** When signs are evident, they can include lethargy, along with fever, lameness, swollen glands and vomiting or diarrhea.

signs," says Tiva Hoshizaki, BVSc, a resident in Maddie's Shelter Medicine Program at Cornell University College of Veterinary Medicine. "There is little published information about Lyme disease in cats."

Meryl Littman, VMD, ACVIM, Professor of Medicine at the University of Pennsylvania School of Veterinary Medicine, whose research interests include canine tick-borne diseases, concurs: "Lyme disease in cats is not well-documented. The percentage of cats which test positive for exposure to Lyme bacteria and show signs of illness is unknown but is probably lower than 5 percent."

Until the mid-1900s, infected deer ticks mostly inhabited the islands off New York to Massachusetts. Today they're found as far west as California, south to Virginia and north into Canada. Recently, Northeastern states have been particularly hard hit. The blacklegged tick (*Ixodes scapularis*) spreads the disease in the Northeastern, Mid-Atlantic and North-Central United States, and the Western blacklegged tick (*Ixodes pacificus*) spreads the disease on the Pacific Coast.

**Blood Samples.** Exposure to the bacteria can be confirmed by examining blood samples with a SNAP-4DxPlus test. "An antibody made by the white blood cells fights the antigen — a part of the bacteria made of protein," Dr. Hoshizaki says. "This SNAP test shows the presence

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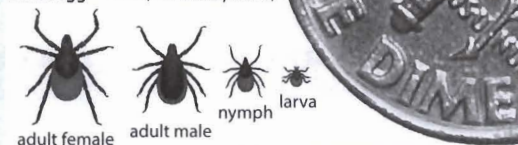
## THEY'RE ALWAYS LOOKING FOR A WELCOME HOST

Lyme disease bacteria live in deer ticks that feed on deer, rodents and other hosts. A tick in search of a meal may lurk on a blade of grass or bush. When a promising animal passes by, it grabs hold and hitches a ride. Once aboard, it crawls along, seeking an unobtrusive patch of skin, then latches on with its front legs, cuts open the skin with its mouthparts and inserts a barbed feeding tube that makes removal challenging.

The tick sucks blood and after about two days of attachment, releases Lyme-infected saliva into the host's blood. When full, the tick pulls out its mouthpart and falls off. Adult deer ticks are active in the fall and lay their eggs outside, which hatch to uninfected larva about the size of a grain of salt the next summer.

A larva tick usually attaches onto a rodent or bird, drinks its host's blood for a few days, and may pick up the organism from that host. It then falls off, molts and doubles in size to the nymph stage, when it has its second blood meal, on a new host, usually the following spring. It can then infect that new host. Once finished, it will again drop off, molt, become an adult and search once more for a host and mate — all within a two-year life span. The engorged adult can be up to a half-inch long — nearly 3,000 times its original size. Only nymph and adult stages can transmit Lyme disease.

Blacklegged Tick (*Ixodes scapularis*)



**THEIR TWO-YEAR LIFECYCLE — Adult ticks are about the size of a sesame seed,** while nymphal ticks are the size of a poppy seed. Both the nymph and adult stages can transmit Lyme disease. The larval tick — which transforms into nymphs — is no bigger than the period at the end of this sentence.

**LYME** ... (cont. from page 3)

of that antibody, indicating that there has been a past response to the Lyme bacteria antigen, although that exposure could have been long ago.”

The canine SNAP-4DxPlus tests for exposure to several tick-borne diseases, including Lyme disease, *Anaplasmosis* and *Ehrlichiosis*, and can be used off-label for cats. A cat could be sick with more than one tick-borne disease and ticks can carry more than one type of organism. “Testing shows only whether a cat has been exposed to these organisms — but

not whether or not they are sick because of them,” Dr. Littman says.

“Tick prevention is the first line of defense,” says Dr. Hoshizaki. Keeping cats indoors keeps them safe from ticks, as long as you thoroughly check your dogs and family members for ticks before they come inside. For outdoor cats, Seresto Flea and Tick Collars repel ticks before they bite for up to eight months. Monthly topicals available for cats can kill attached ticks.

One caveat: “It’s important not to use a dog product on a cat,” Dr. Littman says. “For example, the topicals which contain

**THE CITY THAT GAVE THE DISEASE ITS NAME**

Thanks to ticks, the city of Lyme, Conn., has the disease named after it, and an entomologist named Willy Burgdorfer had the Lyme bacteria (*Borrelia burgdorferi*) named after him. In 1982, Burgdorfer discovered the bacteria in deer ticks, also called black-legged ticks. When blood serum from infected sick people was mixed with the Lyme bacteria, their antibodies swarmed it — a suspicious sign that these bacteria had caused the disease.

permethrins can cause illness if used on a cat. And if you have both dogs and cats, and want to treat your dogs, you may want to choose products that are safe for both species.”

In the end, says Dr. Littman, “Think of ticks on your cat and a positive SNAP-4Dx result as sentinels, letting you know that there are ticks in your area and that they carry these organisms. It’s an opportunity for you to improve your tick control methods — for everyone’s safety.” ❖

**THREE SIMPLE TIPS TO TICK REMOVAL**

Ticks can be found anywhere on a cat’s body but usually attach near the head, neck, ears and feet. If you discover one, remove it as soon after attachment as possible, says Meryl Littman, VMD, ACVIM, at the University of Pennsylvania. “Do not cover the tick with Vaseline, gasoline or anything else beforehand. And do not remove it with your bare hands — a crushed tick’s bacteria could get into your cuticles and infect you.”

The steps to removal:

- ◆ Part your cat’s fur.
- ◆ Using fine-pointed straight tweezers or a tick-removal tool, grasp the tick as close to the skin as possible.
- ◆ Draw it out slowly and steadily to remove the entire tick.



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“If the tick is flat, exposure to Lyme disease is unlikely. If engorged, transmission may have occurred, but don’t panic,” says Tiva Hoshizaki, BVSc, at Cornell. “Antibodies take weeks to months to develop, so the best approach is to wait and see. If your pet shows signs such as lethargy, fever, lameness and not wanting to move, swollen glands, anorexia, vomiting or diarrhea, then take your pet to his veterinarian and let him know that your pet has been exposed to ticks.”

**FOR MORE INFORMATION**

Please visit the Cornell Feline Center at [www.vet.cornell.edu/FHC/health\\_resources/LymeDisease.cfm](http://www.vet.cornell.edu/FHC/health_resources/LymeDisease.cfm).

**SHEDDING**... (cont. from page 4)

least. On the other hand, the Himalayan, Persian, Siberian and Maine Coon shed a great deal. Piloerection is self-perpetuating in these high-shed cats. When the hair follicle is empty, the hair bulb receives a signal to start growing hair, so a very highly nervous cat is constantly supplied with new hair to shed.

Despite popular belief, non-shedding cats don’t exist, Dr. Miller says.

Some breeds do have a different hair cycle than other breeds, so shedding may not be as obvious, but it still does occur. If these “non-shedding breeds” truly didn’t shed, they would grow their coats continually and their hair would drag on the floor, Dr. Miller says.

One final factor in hair growth is a process described as asynchronous growth, meaning hairs don’t all grow

at the same time. Some hairs actively grow, while adjacent ones are in the no-growth telogen phase. This may seem an odd act of nature, but Dr. Miller says it’s fortuitous. “If all hairs were in the same phase of growth, the dog or cat would go totally bald when he sheds. That would make house cleaning easier, but bald dogs and cats really aren’t beautiful.” ❖

## ASK ABOUT ADVANTAGES AND DRAWBACKS

If you want to check out a potential clinical trial for your cat, these are questions to ask his veterinarian and the study's research coordinator.

### Questions for the veterinarian:

- ◆ What is the standard of care? Your cat may already be receiving the standard of care if he has been diagnosed with the disease under study for some time, but his veterinarian can outline it more explicitly for you and explain how it differs from the proposed treatment.
- ◆ Are there other treatments that can extend my cat's life or offer better quality of life?
- ◆ How will participation affect my cat's quality of life?
- ◆ Do you think this study is a worthwhile endeavor? Why or why not?

### Questions for the research coordinator:

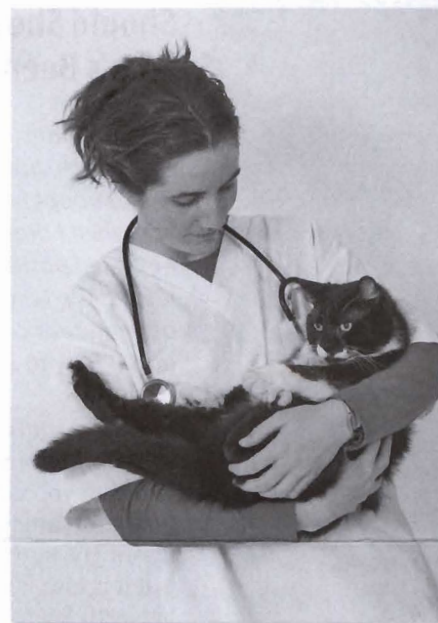
- ◆ Is there a cost to enroll my cat? The expenses of running a clinical trial can be substantial, from \$1,000 to \$1,500 or more per animal. Usually, the care of the animal is free, which is an incentive for owners to enroll their pets.
- ◆ What are the potential side effects of this new treatment? You will want to weigh whether they're worth the potential benefits your cat may receive.
- ◆ If my cat receives a placebo, will he later have an opportunity to receive the investigational treatment?
- ◆ If my cat's condition is painful, will he receive pain medication during the study? Pain control should always be a component of a clinical trial.
- ◆ Can I remove my cat from the study at any time?

The answers to these questions can help you decide whether it's best for you and your cat to go with the current standard of care or to try the new treatment being studied.

## CORNELL SEEKS CANDIDATES FOR RESEARCH

Check the websites of nearby veterinary schools and large referral practices in your area to see if any clinical trials are planned. Trials currently underway at Cornell University College of Veterinary Medicine include:

- ◆ Two studies of cats with injection site sarcomas. Cats must have a tumor that is greater than 2 centimeters, or about three quarters of an inch, in diameter. Email [vet-research@cornell.edu](mailto:veter-research@cornell.edu) for more information.
- ◆ A study to gather biological samples from a population of healthy cats to act as controls for researchers studying common disorders. Eligible cats must be 10 years or older. They will receive various physical exams at no charge and donate blood and urine samples. Email [dnavets@cornell.edu](mailto:dnavets@cornell.edu) for more information.



Some clinical trials require frequent monitoring by the cat's veterinarian or others at the institution sponsoring the study.

factors complicating the study." Exclusion criteria might include being a certain weight, breed and age — either too old or too young.

**Regular Checkups.** Owners who participate must be willing to devote time to the study, administering medications, taking their cat for checkups, whatever the protocol outlines.

"Clinical trials have brought about improved survival of animals for many conditions, often with the bonus of improving treatments for people," Dr. Wakshlag says. "If you find the right clinical trial for your cat's problem, you could contribute to a better future for him, other cats and humans, too."

Cornell recently completed a hyperthyroidism and diet study that had good success in controlling the disease for a number of cats, Dr. Wakshlag says. "This led us to better define the options for cats with this disease with an effective long-term outcome. This has become a great option for those who cannot afford radiation treatment and cannot pill their cat on a daily basis. It's as simple as an iodine-depleted diet to help return thyroid hormone levels back down to the normal ranges." ❖