



# Cat Watch

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



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## IN THE NEWS ...

### A Retrospective Study Uncovers Bowel Disease

Researchers set out to review the medical records of 100 pet cats who had chronic vomiting, diarrhea, weight loss and thickening of the bowel. The goal was to determine if the cats had chronic small bowel disease.

The cats had undergone *bowel biopsies*, and when researchers sent specimens for specialized evaluations, they discovered that 99 of the cats indeed had small bowel disease. The most common diagnoses were chronic inflammation and intestinal lymphoma.

"Weight loss and chronic or recurrent vomiting are extremely common in cats," but should not be dismissed as normal, the researchers say. "The findings suggest that cats with clinical signs should have detailed diagnostic testing. They're likely to have a diagnosable, treatable disease." ❖

## How Anatomy Shapes Their Sight

*Their vision is less focused than ours, but cats excel at motion detection and night vision — the better to hunt*

If you suspect your cat sees the world differently, you may be right. The complex anatomy of a cat's eye results in less focused vision than ours, and he likely sees only a limited range of colors. On the other hand, these historically nocturnal



What we see at 50 to 200 feet, cats see well only at 20 feet.

predators boast superior night vision and skill in detecting motion, making their vision all the better for hunting.

Cats have "low-resolution" vision when compared to people because they have a proportionately lower number of what are

called cone cells in their retinas — the light-sensitive layer at the back of the eye. The cone cells help make images sharp.

"The tradeoff is that cats generally have better night vision than people do because their cone cells and their

counterparts the rod cells are distributed differently than in humans," says ophthalmologist Seth Eaton, VMD, DACVO, Cornell University Veterinary Specialists in Stamford, Conn. "We believe it may represent an evolutionary advantage to cats, a nocturnal

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## Hack! Stand Back! It's a Hairball

*'Fur-mowers' who excessively lick their skin can develop them and in some cases suffer life-threatening blockages*

You know the sound. It's as if your cat is coughing so hard he'll turn himself inside out. Then out pops an object that has been revered in folk medicine, recounted by comedians and reviled by cat owners everywhere: a hairball.

The formal name for such a mass in the digestive system, bezoar (pronounced BE-zor), comes from Persian for "protection from poison." Persian cats, however, have never been alone in developing bezoars. Cows, sheep, deer and antelopes are among the animals that develop bezoars from indigestible material in their cud.

In fact, according to the National Museum of Health and Medicine in Silver Spring, Md., European healers from the Middle Ages into the 1700s used Persian antelope bezoars as medicine, and cow bezoars are still used to treat mouth diseases in China.

**Needing Attention.** In cats, bezoars formed of hair — trichobezoars (trik-oh-BE-zors) — are not normal, but they're also not necessarily bad. They can, however, signal that a cat needs a veterinarian's attention. In extreme cases, they can even be life threatening.

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## SHORT TAKES

### Dispelling the Many Myths About Their Body Language

Do you know what message your cat sends when his tail stands upright? A survey of 1,100 owners in England found that 75 percent of them didn't realize that an upright tail meant the moggy — their slang for cat — was sending a greeting.

Cat Protection, a charity organization with more than 250 volunteer-run branches in 29 adoption centers, questioned owners to determine their understanding of cat body language and also found that:

- ◆ One third failed to recognize that slow-blinking cats are contented. They may also turn their heads to the side to show trust and relaxation, the charity says.
- ◆ Thirty percent of owners believed a cat's licking his lips indicates hunger. It can actually indicate stress, nausea, dry lips or the need to clean his face after a meal.
- ◆ One in three thought a cat lies on his back when he wants his tummy tickled. Not so, says Nicky Trevorrow, CABC, RVN, the charity's behavior manager. Cats regard the rubbing as an abuse of trust they're exhibiting and may scratch or bite. She says cats prefer to have their heads stroked.
- ◆ Forty percent didn't realize flattened ears meant the cat is scared and wants to hide. Pulling a frightened cat from a hiding place to "comfort" him could increase his stress.

The charity has produced a three-minute video guide to cat body language after its study found that many owners struggle to understand their pet. The video is accessible at [www.cats.org.uk/news/behaviour-survey](http://www.cats.org.uk/news/behaviour-survey).



**A sizable number of surveyed owners thought a cat licking his lips was hungry.** The behavior actually indicates stress, nausea, dry lips or the need to clean his face after a meal.

Trevorrow acknowledges cats' subtle facial expressions can be difficult to interpret. "Unlike dogs and humans, cats have not evolved the complex facial muscles that allow them to make obvious expressions," she says. "They are more subtle and can be difficult to read, so owners also need to look for non-facial signals that can indicate how their cat is feeling. Misreading signals can lead to you distressing your cat or being scratched, even if you have its best intentions at heart."

### Lack of Medical Care

A survey of 1,938 cat owners in the U.S. found that more than half of their cats — 52 percent — had not had a veterinary visit in 2012. The study by Bayer Health Care, working with the American Association of Feline Practitioners, uncovered a surprising reason for the lack of medical care beyond cats' masking signs of illness and resisting veterinary visits:

Most respondents consider dogs as companions and cats as pets. "The vast majority — 81 percent — believed that cats are very self-sufficient and independent and therefore required little attention. Dogs, on the other hand, were viewed as much more dependent and needy," according to the study. Sixty percent of respondents had cat-only households, while 40 percent had both cats and dogs. ♦

# Pursuing a Nutritional Treatment

*A Cornell study will test a specialized diet's effect on serious cases of hyperthyroidism*

Today's treatments of choice for hyperthyroidism are often quick and effective, but can also have their downsides. Radioiodine therapy — a safe injection of radioactive iodine — has cure rates as high as 98 percent with one treatment.

It's the gold standard, says nutritionist Joseph Wakshlag, DVM, Ph.D., Associate Professor at the Cornell College of Veterinary Medicine, because it basically destroys the epithelial cells that make thyroid hormone.

The challenge is that radioiodine's availability is limited to clinics and hospitals like Cornell that have permits to use radioisotopes. Another disadvantage is that the cat must be hospitalized for a few days until the radioactive iodine clears his body.

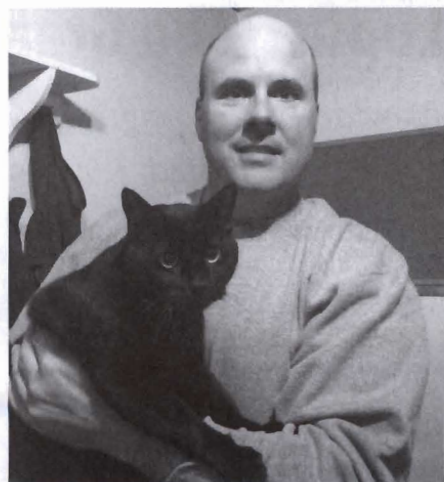
**Lifetime Medicine.** Methimazole, an affordable medication, is another treatment option. It is readily available but may require lifelong administration,

along with regular exams to monitor dosage. Some patients develop side effects such as itching, rashes and loss of appetite. In addition, Dr. Wakshlag says, "Cats are masters of getting away from pills."

Surgery to remove a hyperactive thyroid gland is another treatment option, but it's invasive, requires anesthesia and, like any operation, can lead to complications.

Dr. Wakshlag is pursuing a nutritional option — a therapeutic diet for hyperthyroidism already on the market — to see if it can help seriously affected cats. After he learned that Hill's Pet Nutrition Prescription Diet y/d Feline Thyroid Health food brought its colony cats' thyroid hormone levels down to normal ranges, Dr. Wakshlag asked the company if pet cats with difficult cases could improve on the diet. The company made him an offer: You research the food on pet cats, and we'll provide funding for the study.

Now Dr. Wakshlag is recruiting pet cats with hyperthyroidism through June



**Early results in some severely affected cats** are promising, says nutritionist Joseph Wakshlag, DVM, here with his cat, Kermit.

for his research. Five cats already under study have stabilized or gained weight after being on the diet for more than six months, and he's seeking 15 more. "Early results in some cats severely affected with extremely high thyroid concentrations are promising," Dr. Wakshlag says. "It's been very, very encouraging for the five."

All of the cats are enjoying a mix of wet and dry food. The dry cat food is 36 percent protein, 25.7 percent fat, 28.6 percent carbohydrate. The canned is 34 percent protein, 25.9 percent fat, 31.4 percent carbohydrate. Both foods are restricted in iodine to the minimum requirement for cats established by Hill's feeding studies.

The prevalence of hyperthyroidism in cats has significantly increased since it was first reported in the 1970s. Estimates are that more than 10 percent of older cats will develop the disease. It's now recognized as the most common feline endocrine disorder worldwide, according to a study published in the *Journal of Feline Medicine and Surgery*.

**Undetermined Causes.** The cause of hyperthyroidism, an excess of hormone production by thyroid glands in the cat's neck, is unknown, though many factors likely are involved. For example, the journal study suggests lifelong environmental exposure to thyroid-disrupting chemicals in food or water may set the stage.

*(continued on bottom of page 4)*

## PARTICIPANTS SOUGHT FOR STUDY

If you live in New York and your indoor-only cat has increased levels of thyroid hormone but is otherwise in good health, he may be eligible for a complimentary cardiology exam, food and an extensive health workup. What's more, your cat will play a role in potentially helping other cats.

The Cornell College of Veterinary Medicine invites New York cat owners and their veterinarians with clinically affected cats who are newly diagnosed or hard to control on methimazole, to consider enrolling in this study. Eligible cats will be placed on this special food for a year with regular screening to assess its ability

to control thyroid hormone levels. "The food may be an alternative for older cats or those with indications where radioactive iodine treatment is not an option," says Cornell nutritionist Joseph Wakshlag, DVM, Ph.D., who is leading the research.

The study entails six visits, including two overnight stays for the cat at the Cornell University Hospital for Animals. Accommodations for cats whose owners would find it difficult to travel to Cornell may be made with regional veterinarians. For more information, please contact study coordinator Angela Struble at 607-253-3060 or [ams29@cornell.edu](mailto:ams29@cornell.edu).

# Lupus: 'The Great Pretender'

*Its wide-ranging signs mimic many other diseases, and left untreated, it can cause serious complications*

Imagine this scenario: Unsightly inflamed and crusting skin start to appear on a cat's face, the tips of his ears and pressure points such as toes, elbows and footpads. His fever persists despite antibiotics. His legs are stiff, and urination has increased. What could the diagnosis be?

It might come as a surprise to those of us who believe only people get lupus, but the cat in question could indeed have the disease. His owner likely doesn't know it, because lupus can mimic many other diseases and systemic drug reactions. Dermatologist William H. Miller, VMD, Medical Director of the Cornell Companion Animal Hospital, calls it the great pretender.

**Immune Mediated.** Formally named systemic lupus erythematosus (SLE), the multi-systemic immune-mediated disease causes the cat's immune system to wage war against itself. In normal cats, white blood cells help protect them from harmful substances — antigens like bacteria, viruses and toxins. The healthy immune system unleashes antibodies that destroy antigens. In cats with lupus, the immune system can't distinguish between healthy tissue and foreign antigens, and destroys normal tissues.

True lupus is rare in cats though some believe that SLE may be somewhat underdiagnosed. However, Dr. Miller says, "Drug reactions are common — SLE is not." Because the signs of lupus

resemble other diseases, however, owners should take their cat for a veterinary exam for diagnosis and treatment as soon as signs emerge. If untreated, autoimmune diseases can cause serious, system-wide complications.

"Many other conditions that can be cured, like Lyme disease, can look like lupus. The diagnosis of lupus can be made only after an extensive, and therefore usually expensive, evaluation," Dr. Miller says.

Lupus is discounted or diagnosed using both clinical and laboratory evaluation, including a urinalysis and a tick-borne disease panel. If the cat lives in an area where he may have been bitten by a female sandfly, giving rise to a disease called leishmaniasis, he'd also be tested for that disease.

The onset of lupus can be slow and insidious — or apparently sudden. In that case, the disease actually has been progressing before owners notice that their cat is sick, Dr. Miller says. It takes time for tissue damage to reach a level where an organ can't function effectively. Some lupus conditions, such as widespread cutaneous lupus and discoid lupus erythematosus, affect the skin but not internal organs.

The cause isn't known, although ultraviolet sunlight may be one of many factors involved. In humans, genetics and viral infections also are thought to play a role. Several studies on pets of human lupus patients suggested the pets may be at higher risk of acquiring lupus, but Dr. Miller



Dr. William H. Miller

**A cat suffering from arthritis** has also developed the inflamed footpads typical of lupus.

doubts the findings. "I do not believe that there is clear and convincing evidence of that association."

**No Cure in Sight.** "Any version of lupus is incurable," Dr. Miller says, "but can be controlled with medications of varying potency and toxicity."

Lupus usually is treated with immunosuppressive treatments for life. The drugs and their doses depend on the disease's severity. For example, a cat with a type of anemia called hemolytic anemia, which may be found in lupus patients, may die quite quickly, Dr. Miller says, so he will be treated with high doses of one or more potent drugs.

"If a steroid has to be given daily at high doses, steroid side effects will shorten the patient's life," Dr. Miller says. Also, animals with severe anemia or thrombocytopenia (low platelet counts, which can also accompany lupus) "may die despite vigorous treatments."

Cats with mild skin disease, arthritis or other less severe symptoms typically can go into remission, Dr. Miller says. If a low dose of a steroid such as prednisolone given every other day proves effective, then the cat usually can do well for long periods of time. ❖

## RESEARCH

### **HYPERTHYROIDISM** ... (continued from page 3)

Signs of hyperthyroidism include weight loss despite a voracious appetite, thinning of the coat, anxiety and increased vocalization. Cats with hyperthyroidism may also develop thickening of the left ventricle of the heart. If left untreated, the changes can result in heart failure.

"The consequences of hyperthyroidism are quite severe," Dr. Wakshlag says. "Cats lose tremendous amounts of body weight. They develop cardiac problems, but it's 100 percent treatable. Although we have treatments for this disease, they don't meet the needs of every cat due to the na-

ture of delivery or to geographic location. This new dietary approach appears to be a safe, easy and effective treatment option for owners with cats who have uncomplicated hyperthyroidism — no concurrent kidney issues, which can be common for cats with hyperthyroidism." ❖

**HAIRBALLS...** *(continued from cover)*

"My dermatology cases have a high frequency of hairballs if they are fur-mowers — cats who lick their skin excessively both in frequency and intensity," says dermatologist William H. Miller, VMD, Medical Director of the Cornell Companion Animal Hospital. "We rarely see 'normal' cats with hairballs."

Research into hairballs is scant, Martha Cannon, BA VetMB, a feline specialist in Oxford, England, noted in a review in the *Journal of Feline Medicine and Surgery*. Scientists aren't even sure of its incidence. Studies that she reviewed indicate that only 10 percent of healthy short-haired cats bring up two or more hairballs a year and 73 percent of short-haired cats never have them.

In another study, owners of long-haired cats reported twice as many hairballs as owners of short-haired cats. While long-haired breeds such as Persians and Maine Coons are among the breeds at greater risk for developing hairballs, it's not uncommon for some cats to cough up a hairball once or twice a week. Kittens, who are just learning how to lick, develop fewer hairballs than well-practiced older cats.

The supposition is that many, perhaps most, cat owners view hairballs as a normal part of feline life and never mention them to a veterinarian.

**Shedding Seasons.** Cat hair is made of indigestible protein. Eventually, a hair stops growing, loosens and sheds.

Loosened hair that's licked free by cats' rough tongues and is swallowed normally passes through the gastrointestinal tract. The amount is so small that the owner never notices it, though more hair and even small hairballs may show in the feces during the spring and fall shedding seasons. If the cat swallows more hair than the digestive tract can handle, a hairball may form in the stomach. The only way for the cat to get rid of is to cough it up.

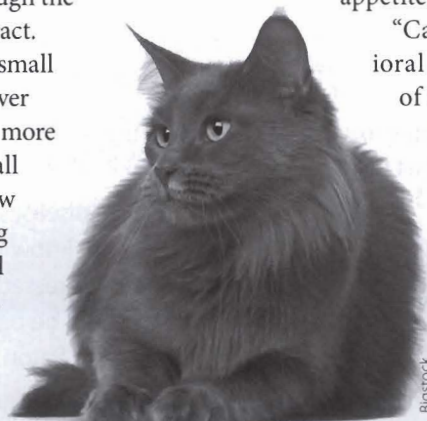
"Some cats, because of their housing, degree of nervousness or medical conditions, have more telogen [no longer growing] hairs than the healthy well-adjusted house cat," Dr. Miller says. "In these instances, the cat can swallow large amounts of hair. The mass of hair can irritate the stomach and the cat will vomit up the hairball. Large masses are called trichobezoars, and these can cause obstruction of the gut, requiring surgery." These obstructive hairballs, he adds, are uncommon.

Nevertheless, owners should be alert for more than the occasional hairball,

as well as failed attempts to cough up anything, lack of energy, decreased appetite, constipation or diarrhea.

"Cats with allergies or behavioral conditions can spend a lot of time licking 24/7/365,"

Dr. Miller says. "They also may have subclinical gastrointestinal disease, which can make the development of hairballs more likely. The primary focus in these cats is to diagnose the underlying condition and resolve it. Sometimes that is easy, and sometimes it's not. Sometimes it's impossible."



Bigstock

**Long-haired breeds** such as Maine Coons are at greater risk for developing hairballs, but some cats commonly cough up a hairball once or twice a week.

**Underlying Causes.** The possible underlying conditions comprise a serious list, including dietary intolerance, inflammatory bowel disease, lymphoma and other disturbances in the movement of food through the digestive tract.

Owners can help to prevent hairballs by brushing their cats daily. Long-haired cats may benefit from trimming their fur. Small meals seem to help because they empty faster from the stomach, reducing hair buildup, as do hairball-control treats and diets. The diets usually have added fiber to help the passage of hairballs and ingredients to improve skin and hair condition, which reduces shedding.

Over-the-counter hairball remedies with lubricants can move ingested hair smoothly along its path, too.

With a little attention, a cat should never have as bad a hairball day as Gemma, a ginger-color longhair who made headlines in January 2012 when a 5-inch-diameter, 7½-ounce hairball was removed from her stomach. Her veterinarians in Cambridgeshire, England, told local newspapers that her owners loved her but had not known how to groom her. With regular brushing and combing, they don't expect to see a recurrence for the remaining eight of her nine lives. ♦

**WHAT EXACTLY ARE HAIRBALLS?**

Hairballs are made of keratin, an insoluble protein and key component in hair, but they're not usually round. According to the Cornell Feline Health Center, hairballs are often slender and cylindrical like a cigar or sausage.

The shape results from passage through the narrow esophagus. However, a hairball that is not disgorged and remains in the stomach will indeed be round — like a sponge or a rolled-up sock. This can constitute a medical emergency.

Although regurgitated hairballs are usually about an inch long, some can be five inches long and an inch thick. The color is similar to the haircoat, darkened by food and secretions, the health center says, adding that, "The ejected matter will typically have an unpleasant but tolerable odor."

**VISION** ... (continued from cover)

prey-seeking species, affording them better night vision.”

Of course, cats can't read eye charts, so it's difficult to know exactly how well they see in normal light conditions, but estimates of visual acuity range from 20/50 to 20/200. That means that what a person can see in detail at 50 feet or even up to 200 feet, cats can see well only at 20 feet. “I always tell owners that it doesn't mean that you should be worried that their pets aren't seeing well and they need glasses,” Dr. Eaton says. “Their visual acuity is dependent on a lot of different factors.”

The general blueprint for the anatomy of the eye is much the same for cats and people, he says. All mammals have a cornea — a clear window in the front of the eye — as well as a lens that sits roughly at the middle of the eye and provides focus. The most important structure we all have for vision is at the back of the eye — the retina, a membrane made of hundreds of thousands of tiny cells that are responsible for generating the images we see.

Dr. Eaton fields many queries from pet owners puzzled about feline vision. He takes some of the mystery out of the topic here.

(continued on page 7)

**WHY THEIR EYES GLOW IN THE DARK**

When caught in the headlights of a car, a camera's flash or other low levels of light, cats' eyes glow with a bright green reflection.

The reason: an iridescent, light-reflecting layer of tissue called the tapetum lucidum behind the retina. This structure lets cats reflect light back through their eyes and enhances their night vision. Known as “eyeshine,” the ability provides an advantage for hunters at dawn and dusk. Other species such as cows, dogs and ferrets share the trait. Not humans and other primates, however.

**SIGNS OF DISEASE SHOULD BE ADDRESSED SOONER RATHER THAN LATER**

When a cat squints and paws at red, irritated, cloudy eyes, it's sleuthing time for a veterinarian. Such symptoms can be the same in a variety of eye diseases ranging from infection and dry-eye syndrome to potentially sight-robbing glaucoma.

“All of these diseases can produce similar kinds of signs, so it's important for owners to know what they are but also to know that it's something that should be addressed sooner rather than later to prevent a more serious problem that could be painful and vision-threatening,” says veterinary ophthalmologist Seth Eaton, VMD, DACVO, at Cornell University Veterinary Specialists.

Untreated glaucoma leads to increasing pressure within the eye. “Once it starts in cats, glaucoma can progress quickly, resulting in potentially permanent vision loss,” Dr. Eaton says. “Getting that pressure under control as soon as possible is the best way to maintain vision and not unfortunately end up with an eye that is permanently blinded.”

The two most common maladies that Dr. Eaton sees in cats:

**CONJUNCTIVITIS**

**Signs and causes:** Your cat squints because of painfully inflamed eyes, which secrete tears and perhaps a cloudy, yellowish discharge. Infectious causes and some inherited conditions are among possible culprits. Persians, for example, are more prone because of hairs irritating their prominent eyes.

- ◆ **Treatment:** Drops or ointments containing antibiotics or anti-inflammatory drugs; depending on the case, possibly oral medications or even injectable medications. If feline herpes virus is causing the conjunctivitis, antiviral medications may be prescribed.
- ◆ **Prognosis:** Favorable with consistent care, which can mean diligently applying medication initially up to six times a day. Be sure to use medication as prescribed; don't stop medication early just because symptoms ease. An infection may return and your cat can experience a recurring cycle of infections.

**CORNEAL ULCERATION**

**Signs and causes:** Just like a wound on the skin, a corneal ulceration is an erosion of the surface of the eye, possibly due to scratches, viral infection, dry eyes, ingrown eyelashes or other causes such as eyelids that roll inward. Symptoms are the same as for conjunctivitis — teary red eyes, squinting, a discharge and pawing at sore eyes.

- ◆ **Treatment:** Topical antibiotics, topical or oral anti-viral medications, possibly surgery.
- ◆ **Prognosis:** Good with medical care. Untreated ulcerations can become infected and lead to blindness.

**Can Cats See Colors?** While humans normally see a wide range of colors, cats and dogs appear to see a more limited spectrum. Dogs, for example, are thought to be akin to people with typical color-blindness, Dr. Eaton says, and they likely have trouble differentiating red and green. That's because of the difference in the retina, specifically in the pigments within the retinal cells. Dogs have only two types of pigments in their retinal cells. Humans with normal color-seeing ability have three different types. Cats are a little controversial; most sources believe cats, like dogs, have two pigments, Dr. Eaton says, but a

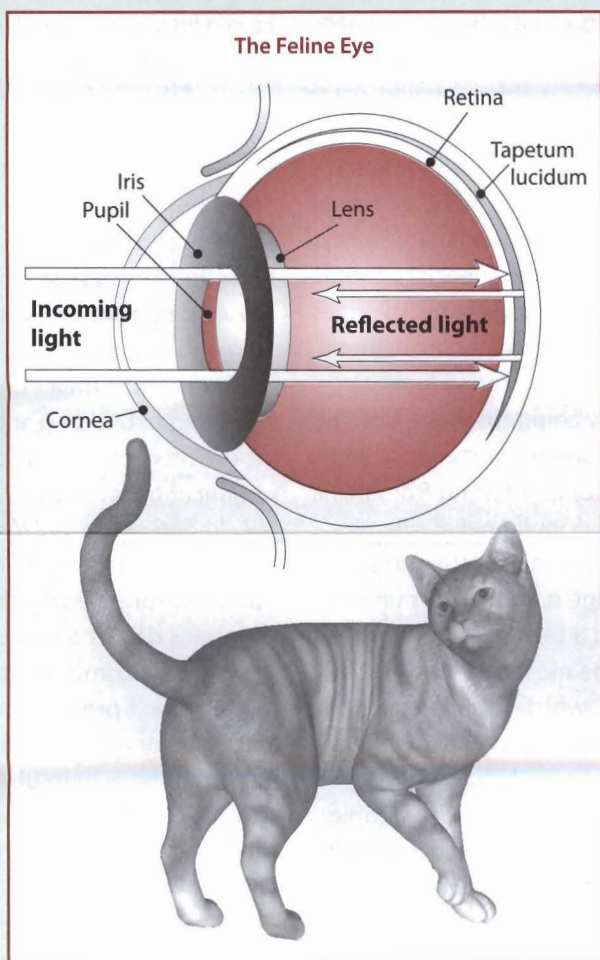


**Persians are more prone** to inflammation of the eye because of hair irritating their prominent eyes.

study contends that cats may have three. So feline color vision is at least similar to dogs and cats might even enjoy a slightly broader spectrum.

## A GLOSSARY OF THE EYE'S ANATOMY

- ◆ **Cornea:** The transparent coating of the eyeball that admits light.
- ◆ **Iris:** Its colored anterior surface determines the eyes' color.
- ◆ **Lens:** Provides focus.
- ◆ **Pupil:** The opening at the eye's center that lets in light. It shrinks in bright light and enlarges in darkness.
- ◆ **Retina:** The membrane whose tiny cells are responsible for generating images.
- ◆ **Tapetum lucidum:** The iridescent, light-reflecting layer of tissue behind the retina reflects light (known as "eyeshine") and enhances night vision.



## Are Cats Prone to Nearsightedness?

Yes, some cats may see better up close. A study of 98 healthy normal domestic cats published recently in the American Journal of Veterinary Research found that domestic shorthair cats were significantly likelier to be nearsighted than longhair or medium-hair cats. "In almost all cases, we would never know it," says Dr. Eaton. "They compensate very well."

## My Cat Has Gone Blind — What Now?

In reality, cats adapt to vision loss, even when it's sudden. Owners' efforts can help the transition, such as by talking to your cat before touching him or entering a room, and by not moving furniture, the ASPCA advises. "Dogs and cats are incredibly adaptable and can have a great quality of life with their vision impairment, regardless of the underlying cause," Dr. Eaton says.

Surprisingly, blindness is reversible in some cases. A number of factors can lead to blindness in cats, including eye inflammation, glaucoma, cataracts, trauma, inherited disease and a reaction to certain drugs. Cataract surgery can restore what might have been minor or total loss of vision. The surgery is similar to human cataract surgery, and best results occur when removed early.

"What I think is important for owners to know," Dr. Eaton says, "is before assuming that it's an unfixable problem, as many owners might understandably do, they probably should consult with their veterinarian or a veterinary ophthalmologist because in some cases, those problems can be identified and fixed." (To find an ophthalmologist near you, ask your pet's veterinarian or visit the American College of Veterinary Ophthalmologists website: [www.acvo.org](http://www.acvo.org).)

## The Best Advice for Healthy Vision.

"Some conditions like cataracts occur mainly at the microscopic level," Dr. Eaton says, "so it's important to have your veterinarian check your cat's eyes for subtle changes during annual exams or when you suspect a problem." ❖



Elizabeth

Elizabeth is thankful for the assistance of **Bruce G. Kornreich, DVM, Ph.D., DACVIM**, Associate Director of the Cornell Feline Health Center, in providing the answer on this page.

## Itching for Answers About the Cause of Cat Allergies

**Q** We have two Maine Coons and a Pixie Bob, all longhaired cats. A friend told me that they do not cause allergies in humans, as shorthaired cats do. People will not come to our home because they say they are allergic to cats. But a few people who have come not knowing that we have cats do not seem to have a reaction. I would greatly appreciate some discussion from you.

**A** Thanks for contacting me about this common question. I know that you must be itching for an answer. Sorry, I couldn't help that, anymore than I can resist scratching a flea! Perhaps a few facts about human cat allergies will be instrumental.

An allergic reaction is caused by an overreaction of the body's immune system to a foreign protein (an allergen) that is either inhaled, eaten, touched or injected. Such a reaction results in the production and/or release of compounds that cause inflammation, which is characterized by redness, swelling, itchiness and pain. Signs of allergies include a runny nose, sneezing, coughing and a scratchy throat. In rare cases, allergies can trigger potentially life-threatening asthma attacks in extremely sensitive individuals.

Cat allergies are very common in the U.S. They are, in fact, the most common pet allergy, with up to 15 percent of people suffering from this condition. Contrary to popular belief, allergic individuals do not react to a cat's fur *purr se*. Rather, they react to one or more of a number of proteins secreted in a cat's saliva and/or their oily skin secretions. The most common culprit is a protein called Fel d1, which is secreted in cat saliva and by cat skin oil (sebaceous) glands. So you see, the length of a cat's hair is not really a major factor in determining whether people suffering from cat allergies will react. Rather, it is the amount of Fel d1 produced by a cat.

The amount of Fel d1 that a cat produces may be affected by a number of factors, including gender (male cats produce more) and reproductive status (intact males produce more than neutered cats). As far as we know, hair length is not related to the amount of Fel d1 allergen that a cat produces, and it is therefore impossible to predict whether a cat will induce an allergic response in sensitive individuals based upon hair length alone.

It is interesting to note, though, that some cat breeds produce less Fel d1 than other breeds, making them less likely to cause an allergic reaction in those suffering from cat allergies. While these breeds may be more tolerable, there are no known cat breeds that do not produce Fel d1, making all breeds a potential source of reaction in people with cat allergies.

A number of other factors may affect whether a sensitized individual will react to cats in a specific circumstance. Proximity to cats, the cleanliness of the environment, air purification and how recently a cat has been brushed can affect the likelihood that a cat will cause an allergy sufferer any problems. In terms of things that can be done to minimize the likelihood of an allergic reaction, the easiest is for those with allergies to avoid direct contact with cats. Frequent bathing and brushing of cats minimize the amount of allergens in their environment, and regular washing of bedding and toys does as well, so these precautions can be helpful. Finally, air purification is another means of decreasing the likelihood of allergic reactions.

So while I'm very glad to hear this, it's hard to know for sure why some people with cat allergies don't have problems at your house. It might be a combination of the fact that your kitties don't produce much Fel d1 and that you are very clean! In any event, I hope this information is helpful. Give my regards to your babies, keep in touch, and let me know how things are going ... achool! Excuse me.

—Best regards, Elizabeth ❖

### PLEASE SHARE YOUR QUESTIONS

We welcome questions on health, medicine and behavior, but regret that we cannot comment on prior diagnoses and specific products. Please write *CatWatch* Editor, 800 Connecticut Ave., Norwalk, CT, 06854 or email [catwatcheditor@cornell.edu](mailto:catwatcheditor@cornell.edu).

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