THE FELINE HEALTH CENTER • CORNELL COLLEGE OF VETERINARY MEDICINE

CatWatch

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

THIS JUST IN

Understanding Time

Active "timing cells" at work

Ever wonder how your cat knows you're late coming home from work? A recent study found evidence that mice can judge time. By examining mouse brains' medial entorhinal cortex, researchers discovered neurons that turn on like a clock when they wait.

The researchers hypothesized that the medial entorhinal cortex, an area in the brain associated with memory and navigation, could be responsible for encoding time.

They set up an experiment called the virtual "door stop" task. In the experiment, a mouse runs on a physical treadmill in a virtual reality environment. The mouse learns to run down a hallway to a door that is located about halfway down the track. After six seconds, the door opens, allowing the mouse to go receive its reward.

After running several training sessions, researchers made the door invisible. In that scenario, the mouse knew where the now-invisible "door" was located and still waited six seconds at the door before racing to its reward. The study found that the "timing cells" didn't fire during active running, only during rest. While more study is warranted, the findings may relate to the ability of animals, including cats, to track time. ■

Heys, JG et al. Evidence for a subcircuit in medial entorhinal cortex representing elapsed time during immobility. Nature Neuroscience, 2018

INSIDE THIS ISSUE

Dolasetron Fails for Vomiting in Felines.....2
Hefty Fines for Adulterated Pet Food.....2
Kids Bored This Winter? 2
Shivering Cats 3
Helping Stray Cats With Kittens.....4
Cats vs. Rats, Rats Are Winning 5
A Blind Cat Can Live a Happy Life 6
Five Weight-Loss Tips for Cats 7
Consider Radioiodine Therapy.....8
Happening Now 8

New Feeding Guidelines Address Behavior

The message is to consider how you feed your cat

The American Association of Feline Practitioners (AAFP) recently released a consensus statement called "Feline Feeding Programs: Addressing Behavioral Needs to Improve Feline Health and Wellbeing" to address medical, social, and emotional problems that can result from the manner in which most cats are currently fed. It was published in the *Journal of Feline Medicine and Surgery* and transformed into a handout for cat owners.

What we feed our cats is very important, but so is how we feed them. How we feed our cats can affect them physically and emotionally.

All cats are carnivores (meat eaters), so they have a strong hunting instinct. They also prefer to eat alone and receive multiple small meals daily.

Satisfying these needs will make your cat happier, healthier, and avoid over or under feeding. This may include using puzzles or automatic feeders and, in multiple cat homes, arranging food and water to reduce stress among your cats.

"Currently, most pet cats are fed in one location ad libitum, or receive one or two large and usually quite palatable meals daily. In addition, many indoor cats have little environmental stimulation, and eating can become an activity in and of itself," says the statement's chair, Tammy Sadek, DVM, DABVP (Feline). "This current type of feeding process does not address the behavioral needs of cats. Appropriate feeding programs need to be customized for each household and should incorporate the needs of all cats for play, predation, and a location to eat and drink where they feel safe."

The statement emphasizes that we not only need to feed our cats quality food, but also recognize normal feeding behaviors of cats, such as hunting, foraging, and eating meals alone. By allowing our cats these normal feeding behaviors regularly, we can help alleviate or prevent stress-related issues such as cystitis and/or obesity-related problems such as inactivity and overeating. Reducing stress with appropriate feeding programs can also help anxious cats, who in an attempt to avoid other pets in the household, may not access the food frequently enough and may lose weight.

The statement highlights feeding preferences of cats, proper environment, and efforts to avoid under feeding or over feeding. It discusses the importance of different feeding programs, which should be designed to consider whether cats are indoor-only or have outdoor access, live in multi-pet households, or are aged or debilitated. Recommendations include frequent small meals, forage feeding, multiple food and water stations, automatic feeders, and appropriate puzzle feeders.

For example, the statement says, "Using puzzle feeders and even hiding kibbles around the home increases activity and provides mental and physical stimulation. There are many types of puzzle feeders you can buy or easily make at home. Puzzle feeders vary in their complexity, can be motionless or rolling, and can be designed for dry or wet foods. Always start with simple puzzle feeders first because your cat needs to learn how to use them."

You can download the entire handout at catvets.com/howtofeedcats. ■

Sadek et al. Feline Feeding Programs: Addressing behavioral needs to improve feline health and wellbeing. Journal of Feline Medicine and Surgery, 2018; 20 (11): 1049



Your cat might enjoying "hunting" for her food dish and love knowing that she's the one who found the food!

HASLOO | Deposit Photos

Dolasetron Fails for Vomiting in Felines

Used to treat chemo-induced nausea in people, dolasetron was hoped to prevent feline vomiting

Dolasetron (brand name Anzemet) has been used in people to help with chemotherapy-induced nausea. It inhibits vomiting and nausea via pathways in both the gastrointestnal tract and the central nervous system. This dual action made it sound helpful to cats, thought researchers in California. Their study was reported in the August 2018 *Journal of Feline Medicine and Surgery.*

The researchers looked at how long the drug would maintain active levels in the blood after injection either intravenously or subcutaneously (pharmacokinetics) as well as how effective the drug might be (pharmacodynamics). Unfortunately, dolasetron failed on all counts.

The active metabolite of the medication disappeared within two hours for most of the cats. In addition, it was ineffective in stopping vomiting, lip licking (nausea sign), or even delaying vomiting induced by a dose of ketamine. More research will need to be done, because it is possible that too low a dose was given in this study to be effective. ■



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Vomiting Treatments

If your cat vomits but seems otherwise normal, withhold food for about six hours before offering his next meal.

If your cat continues to vomit or doesn't eat, take him to the veterinarian. Many pets are treated with an antacid such as famotidine (Pepcid AC) or an anti-nausea drug, such as maropitant (Cerenia) or ondansetron (Zofran). If vomiting is severe or protracted, or other signs of systemic illness are observed, call a veterinarian.

Hefty Fines for Adulterated Pet Food

Companies admit they substituted cheaper ingredients

According to the U.S. Department of Justice, two companies—Wilbur-Ellis Company, San Francisco, Calif., and Diversified Ingredients, Inc., Ballwin, Mo.—were found guilty in federal court of adulterating and misbranding pet food ingredients. Both companies pleaded guilty of the misdemeanors.

Wilbur-Ellis Company was sentenced to three years of probation and ordered to pay $4,549,682 in restitution, criminal forfeiture in the form of a monetary judgment in the amount of $964,442, and a fine of $1,000.

Diversified Ingredients was sentenced to three years of probation and ordered to pay $1.5 million in restitution, criminal forfeiture in the form of a monetary judgment in the amount of $75,000, and a fine of $2,000.

The adulterated ingredients did not pose a threat to the health or safety of any animal. ■

Kids Bored This Winter?

Download the free AVMA Coloring Book

The American Veterinary Medical Association has a downloadable PDF called "Owning a Pet: A Job for the Whole Family." The bilingual (English with Spanish subtitles) coloring/activity book provides young children with activities that teach them about being a responsible pet owner. Go to https://tinyurl.com/colorpets to download a copy of the PDF. ■



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CatWatch

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Shivering Cats

Consider problems besides the air temperature if your cat is shivering or shaking

You turned the heat up, the whole family is roasting, but your cat appears to be shivering! What do you do now?

First, consider reasons other than the ambient temperature for your cat's behavior. A common cause of shivering or shaking in cats is hypoglycemia or low blood sugar. Hypoglycemia tends to occur in very young kittens who simply aren't eating enough to stay warm and in cats that receive too much insulin when being treated for diabetes.

The immediate way to deal with low glucose in a diabetic cat is to put some honey or corn syrup on her gums. If you have a plastic dropper or syringe, you could put a couple drops of either in her mouth as well. If she does not respond fairly quickly with some improvement or starts to act unresponsive and "out of it," call your veterinarian and head for the clinic. Severe hypoglycemia can be fatal.

Maybe She Is Cold

Of course, a shivering cat may be cold. If your cat was outside, especially if there was wet heavy snow or hard rain, she may be chilled. She could have hypothermia or a low body temperature. Normal body temperature for cats is 100.5° to 102.5° F. The same effect can result after bathing your cat, but usually to a lesser degree.

The first thing to do is dry your cat, using warm towels or a blow dryer on the low setting. Most cats will tolerate a blow dryer, but some will do everything they can to get away from it. Be careful with the heat. "High" is too strong for most cats. Once the cat is dry, the shivering should stop.

A high temperature or fever can cause shivering too. That seems to be contradictory, but if your cat's inner body temperature is high, even a warm house can feel chilly. Any temperature reading much over 102.5° F indicates a fever. Fevers commonly accompany infection of some sort, whether viral or bacterial. A fever is a reason to contact your veterinarian.

For a young kitten, warm the kitten by holding her next to your body or wrap her in a warm towel. Once the kitten has warmed up a bit, feed her warm formula. That should help restore her body temperature and provide her some calories.

Painful Shivers

A cat in pain may shake or shiver. Usually these cats are hunched up and look uncomfortable or agitated. If you try to pick up a cat with this appearance, you may get hissed at. This is a time to carefully pick up the cat in a thick, warm towel and have your veterinarian check her over for the cause of the pain.

Shock

Cats in shock may shiver or shake, appear weak, feel cold to the touch, and have rapid heart rates. The cat should be wrapped in a warm blanket and brought to the veterinarian immediately.

Fear

A very fearful or stressed cat may also shake. As with pain, this is not true shivering, but it can be hard to distinguish the two. Many stressed cats will pant, have dilated pupils, and either freeze in place or hiss and swat at you. It is important to calm stressed cats down. See if you can determine the reason for the stress and remove it from the cat's immediate environment.

Seizures

Seizures are not common in cats, but seizuring cats usually appear to shake, often urinate and/or defecate, and may vocalize. Seizures are medical emergencies that require immediate veterinary attention.

Senior Cats

Elderly cats, especially if they are thin, can often feel cold even in a warm house. You can help your cat to feel warm and comfy by doing some environmental adjustments. Put a cat bed near an heating vent or woodstove. Cats tend to be heat seekers naturally and will gravitate toward a warm spot.

You can also set up a heating pad under a bed or on part of a couch. Always make sure that the cat can move off the heating pad if she feels too warm.

An alternative to a heating pad is a hot water bottle. Cover the hot water bottle with a towel to dissipate some of the warmth. If you have a tiny kitten, she will warm up nicely in a sweatshirt pouch. ■

Have a Question For Elizabeth?

Send Ask Elizabeth questions (see page 8) and letters to the editor to:

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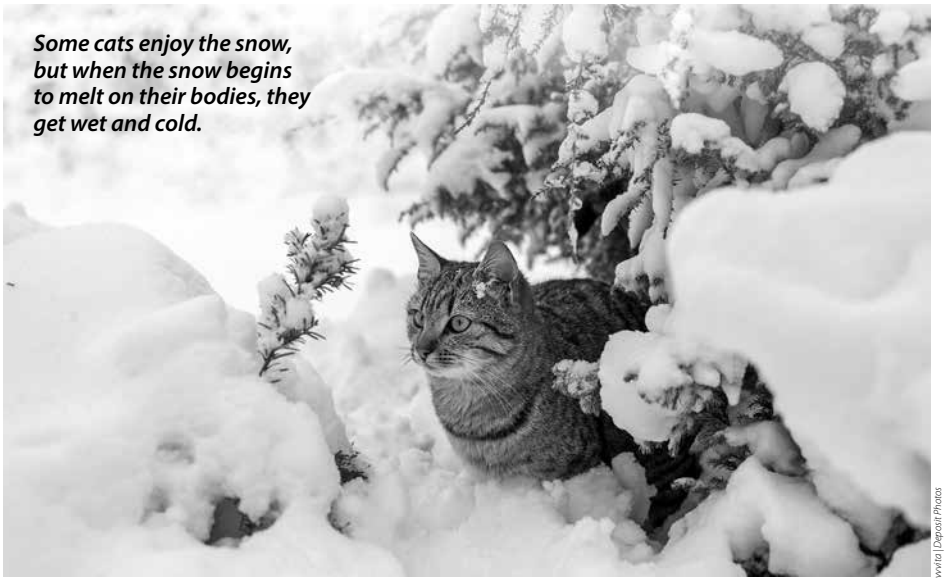
We welcome digital photos of your cat to consider for use with your question.



Some cats enjoy the snow, but when the snow begins to melt on their bodies, they get wet and cold.

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Helping Stray Cats With Kittens

As cat lovers, we are driven to help cats in need, especially queens with kittens, but it's wise to initially evaluate the situation from afar

Few things tug more at our heart strings than a mother cat trying to care for her kittens in the "wild." Whether or not you should intervene, though, "depends on the relationship between the person and the stray queen," says Dr. Leni Kaplan, Lecturer in the Community Practice Service at the Cornell University College of Veterinary Medicine. "Do not handle a cat that you are not familiar with. As rabies vaccination status for stray cats is unknown, the person must first and foremost protect themselves from scratches or bites from these cats."

Feral cats are the least trusting of humans, but exercise caution even if you think you know the cat and have interacted with her before. "Lactating queens are often very protective of their kittens and will not hesitate to protect them at all costs," says Dr. Kaplan. "Consequently, people should not attempt to touch kittens or a feral stray queen in order to prevent injury as well as stress on the queen and kittens."



yanukit | Depositphotos

As much as you want to end the fear and pain you see in her eyes, handling a stray cat can be dangerous due to the possibility of rabies.

Helping from Afar

Often the best way to help a stray queen is to provide food, water, and/or shelter that she can access easily on her own terms. Dr. Kaplan advises, "Cats prefer to feel safe and in control of their environment, so a queen may prefer to spend time in someone's garage with access to the outside versus being inside a home." Other options for shelter include an open but covered crate, a dog house, or a barn door left open. Water should be replenished on a regular basis to keep it fresh and clean.

Leaving food out does come with a risk of attracting other cats and wildlife. Considerable debate surrounds the long-term implications of feeding feral cat colonies and other wild animals.

Knowing When Something's Wrong

Most queens do just fine on their own and do not require human intervention for basic care. Things to look for that suggest something is wrong include:

- queen appears skinny
- discharge from eyes and/or nose
- lethargy
- not grooming and caring for the kittens.

If you're concerned about the health of the mother and/or kittens, Dr. Kaplan recommends contacting your local rescue or Humane Society immediately. They will be able to assess the situation and will have the resources to safely trap mother and kittens if needed.

Trapping a lactating queen can be risky if the location of the kittens is unknown. By removing the mother cat from the area, the kittens could be left behind without protection or a caretaker.

It is normal for unweaned feral kittens to be left alone for short periods of time. Queens hunt or forage for food and sometimes relocate their litters to new locations (this takes several trips as she carries each kitten). Monitor the litter from a distance for several hours or even a day or two to see if the queen returns.

If you're certain the kittens no longer have their mother caring for them, they will need help. Kittens under three weeks old need to be bottle fed every two or three hours with kitten milk replacement and stimulated to urinate and defecate (they cannot eliminate waste on their own). Older kittens that are eating solid food can be started on a quality kitten food. Be smart and take the litter to your veterinarian for advice on the age of the kittens and any health problems or concerns present at that time. A local shelter or rescue group also will have experience in this area.

Catching Stray Kittens

"If someone is planning to rescue and socialize the kittens, they should attempt

Neuter or Not?

Cats are not native to North America, so strays are ultimately our responsibility because we brought them here. If you are trying to decide whether to have your cat spayed or castrated, consider your and your cat's lifestyles and the potential impacts of either choice.

A free-roaming intact cat is likely to reproduce, increasing the total cat population and increasing the stray cat population if the kittens grow up feral. This makes spaying and neutering the best choice for cats who have access to the outdoors.

Intact cats can exhibit unpleasant behaviors, such as urine spraying, scratching to mark territory, calling to attract mates, and roaming. The intensity of the behavior varies from cat to cat. Consider whether you have a plan for managing these behaviors and for preventing your intact cat from roaming. Intact cats are also at increased risk of certain diseases, such as mammary adenocarcinoma in intact female cats.



Nataly-Nete | Depositphotos

If your cat produces a litter, those kittens are your responsibility, especially if you intentionally bred the litter or allowed it to happen. Homes often can be found for kittens, but not always. If you cannot afford to provide quality care, including food, water, litter, vaccinations, and other medical treatments as needed for multiple cats, spay/neuter is the best choice to keep your household cat population at a level you can manage.

to bring them in between the ages of 5 and 8 weeks old," advises Dr. Kaplan. "Once the kittens are 10 weeks old or older, it is difficult to tame them to be a pet."

Some feral or semi-feral cats may still adjust to an indoor life, but the process is easier for young kittens. However, you need to be certain that the kittens are old enough to be separated from the mother. If this is done too early, it can be detrimental to their health and development. It is a balancing act, and the ideal time of separation can vary depending on the situation in which the litter is living and the condition of both kittens and queen.

Kittens (and adult cats) that are caught as strays should be kept away from other cats until they have been seen by a veterinarian, even if you intend to keep one or more. Your veterinarian will do a full exam and can test for contagious diseases such as feline leukemia virus and feline immunodeficiency virus. Upper respiratory infections are common in cats living in stressful situations and are highly contagious. The most common symptoms of an upper respiratory infection are discharge from the eyes and/or nose, possibly accompanied by oral ulcers or a cough, depending on the virus and how sick the kitten is.

An ill kitten should be kept away from other cats until he or she is healthy to prevent the spread of disease. If a kitten tests positive for feline leukemia or feline immunodeficiency virus, do not despair. Cats with these diseases can lead normal, healthy lives for long periods of time if given proper care, but they do pose a threat to other unvaccinated cats.

Cats and the Environment

Stray cats hunt and kill large numbers of wild birds and small mammals (1.3 to 4 billion birds and 6.3 to 22.3 billion mammals per year in the United States, according to a 2013 study published by Nature Communications), promote the spread of parasites and diseases, and can be a nuisance. Living in the wild is not always sunshine and roses either, as these cats do not have the benefits of veterinary care or guaranteed sources of food and shelter.



tamifreed | Deposit Photos

Alone, Not Abandoned: "Queens often leave their kittens for several hours while they hunt," says Dr. Kaplan. "Do not panic if you do not see the queen with the kittens all of the time." Leave the kittens where their mother left them.

Trap-neuter-return programs have been suggested as a solution to the stray cat problem, but the jury is still out on whether they are effective. These programs leave cats living in potentially poor conditions and do not address all of the health hazards presented by cats not receiving regular veterinary care.

The ideal solution would be for stray cats to be placed in sanctuaries where they can receive care and be prevented from harming wildlife. Due to the number and elusiveness of feral cats, this is a difficult goal, but cat lovers and scientists continue to try to find a way to help as many animals as possible. ■

What Makes a Feral Cat?

Feral cats have grown up without much human contact and are fearful of humans. They behave similarly to wild animals when cornered or caught. Strays who have been abandoned by owners or wandered from their homes are more comfortable with human interaction and may even seek people out, but chances are good that they will be wary. Strays often can be reintroduced to homes and families, but true feral cats are difficult to tame and can be dangerous when handled.

DID YOU KNOW?

Cats vs. Rats, Rats Are Winning

Feral cats are not efficient predators of New York City's rats

The first study to document interactions between feral cats and a wild rat colony finds that, contrary to popular opinion, cats are not good predators of rats.

Researchers monitored the behavior and movement of microchipped rats in the presence of cats living in the same area. They show the rats actively avoided the cats. Only two rats were killed in 79 days.

When feral cats invaded a New York City waste recycling center, the researchers took the opportunity to correct the record on cats vs. rats. Their team was already studying a colony of more than 100 rats living inside the center. When the cats entered the research area, they set up motion-capture video cameras to quantify the effect of the cats on the rats. The videos revealed that in the presence of cats, the rats spent less time in the open and more time moving to shelter.



Talliman | Deposit Photos

"Like any prey, rats overestimate the risks of predation. In the presence of cats, they adjust their behavior to make themselves less apparent and spend more time in burrows," says the study's lead researcher Dr. Michael H. Parsons, a visiting scholar at Fordham University. "This raises questions about whether releasing cats in the city to control rats is worth the risks cats pose to wildlife."

The findings add to the evidence that any benefit of using cats to control city rats is outweighed by the threat the cats pose to birds and other forms of urban wildlife.

People have long considered cats the natural enemy of rats. However, Australian and American researchers show cats prefer smaller, more defenseless prey, such as birds and smaller native wildlife. ■

Parsons, HM, et al. Temporal and Space-Use Changes by Rats in Response to Predation by Feral Cats in an Urban Ecosystem. Frontiers in Ecology and Evolution, 2018; 6 DOI: 10.3389/fevo.2018.00146

A Blind Cat Can Live a Happy Life

The sooner you catch signs of visual impairment, the better her prognosis and adjustment

You may notice your cat becoming hesitant about moving around the house. Or, you rearranged the furniture and your cat is bumping into things. What's happening? Your cat may be going or have become blind.

Blindness in cats has numerous causes. Rarely, a cat may be born blind or have serious neonatal eye infections that cause blindness. Although cats that are blind from birth can lead relatively normal lives, they should not be allowed outside. These cats tend to use their senses of hearing and smell for guidance and can compensate fairly well if they are in a familiar environment like their home.

Trauma, along with some other conditions such as retinal detachment, can lead to acute blindness. A cat who has had normal vision and becomes acutely blind does not have time to adjust to gradual vision loss. These cats may either freeze in place due to fear or run wildly in a panic. It is best to confine these cats to a large dog crate with litter box, food and water bowls, and a bed to curl up in while seeking veterinary consultation. A veterinary consult should be sought in any case of acute blindness.



evdoha | Depositphotos

For a cat who suffers acute blindness, it might be easiest to put the cat in a large crate until she starts to adjust.

Likely Causes

Eric C. Ledbetter, DVM, DACVO, Associate Professor of Ophthalmology at Cornell University College of Veterinary Medicine, says, "The most common causes of blindness in cats are hypertensive retinopathy, glaucoma, and uveitis." While these conditions can lead to permanent vision loss, if caught early, treatment may prevent or delay the progression to blindness.

Hypertensive retinitis results from hypertension causing retinal detachment and bleeding in the back of the eye. What causes the hypertension or high blood pressure? The most common cause of hypertension is kidney failure, although hyperthyroidism also is a culprit for some cats. Kidney failure is a common condition in senior cats that can be diagnosed (along with associated hypertension) by your veterinarian through measures of blood pressure and blood tests to evaluate kidney status. (See "Kidney Failure Is a Progressive Disease," at catwatchnewsletter.com.)

Early diagnosis and treatment of kidney disease can slow the progression of its sequelae (including hypertension) and potentially save your cat's eyesight. Amlodipine, a drug used to treat hypertension, may allow for some healing of a detached retina, thereby preserving or restoring some vision.

Glaucoma and Uveitis

Glaucoma is an increased pressure within the eye that can occur secondary to abnormal drainage of intraocular fluid. It will eventually put pressure on the optic nerve. If this pressure persists, permanent damage can be done to the nerve and vision loss or blindness in that eye may result.

There are two types of glaucoma. Primary glaucoma is an inherited condition and usually will affect both eyes. Cat breeds with a predisposition to this type of glaucoma include Burmese and Siamese cats.

Secondary glaucoma has an inciting cause that can vary. While both eyes may be affected, sometimes just one eye is involved. A common cause of secondary glaucoma is the third most common

Helping Your Blind Cat

No matter what caused vision loss in your cat, you can make life a bit easier for her by trying to integrate these steps into your daily routine:

- Minimize furniture rearranging and clutter.
- Keep important things (food and water bowls, litter boxes) in consistent places.
- Choose toys that involve noise and smell. Food puzzles are great, and toys that jingle or crinkle can be fun for your cat. Catnip toys can attract a blind cat.
- Consider small bells on the collars of your other pets so your cat is alerted when they approach. Use extra caution when introducing any new pets.
- Block off dangerous areas, such as stairs and balconies.
- Do not allow her outside unsupervised.
- Consider different floorings to help her navigate.
- Alert your cat before touching her. Talk, hum, whistle, or clap to let her know you are about to touch her.
- Provide identification (microchip, tags) in case she gets outside alone.



AndrewLozovyi | Depositphotos

Let your cat know you're there before touching her.

cause of blindness overall—uveitis.

Uveitis is inflammation of the uvea, the pigmented area between the sclera and the cornea that contains the iris, choroid, and ciliary body. Uveitis causes a buildup of proteins and inflammatory cells that block the fluid drainage ducts, putting pressure on the optic nerve and leading to glaucoma. Many viral illnesses—including feline immunodeficiency virus (FIV), feline leukemia virus (FELV), and feline infectious peritonitis (FIP)—can cause uveitis.

Glaucoma usually begins subtly. If only one eye is affected, it may be noticeably cloudier than the other eye or appear to be enlarged and/or red. The pupil will eventually dilate. You might notice your cat squinting and acting like the eye is painful.

Glaucoma can be diagnosed during a regular physical examination. Your veterinarian will use a tonometer—a tool that measures intraocular pressure—to check your cat's eyes. Normal intraocular pressure for cats varies with the time of day, the age of the cat, and whether the cat is spayed, neutered, or intact. If only one eye appears to be affected, your veterinarian will compare the eyes. In general, intraocular pressures of 10 to 25 mmHg are considered normal, but your veterinarian also will examine the retina and optic nerve.

Glaucoma is not curable (yet). However, if it's diagnosed early, it can be controlled, and the progression of the disease can be slowed or halted. Treatment requires the use of eye drops, which are usually well tolerated by cats. Coupling the daily treatment with a special food treat can make your cat more compliant. Cats tend not to be as painful as dogs with glaucoma, but if your cat is painful and the glaucoma has progressed enough to cause blindness, removal of the eye can provide relief in some cases.

Cataracts

Cataracts can occur in cats, but Dr. Ledbetter notes that they are much less common in our feline companions than in dogs. A cataract involves cloudiness or opacity in the lens of the eye that blocks light transmission back to the retina and optic nerve.

Cataracts may appear in one or both eyes and may not totally occlude vision. Cataracts can be secondary to diabetes, hypertension, exposure to toxic substances, or trauma (such as being hit by a car). If only one eye is involved, your cat will still have useful vision. If both eyes have cataracts and the retina and optic nerve are healthy, surgery may be considered to remove the affected lens in at least one eye. This surgery is done more commonly in dogs than cats and should be done by a veterinary ophthalmologist.

Bottom Line

While many blind cats continue to lead happy lives if the cause is caught early, some of the conditions that lead to blindness can be treated to stop or slow the progression of vision loss. This is yet another reason why an annual physical examination for cats under 10 years of age is important to your cat's health. For cats 10 years of age or older, once every six months is recommended.

Included in the annual exam will be a check of the cat's eyes, as well as for any other conditions that could eventually cause your cat to lose her sight. ■

Enrofloxacin

An unusual cause of acute blindness in cats is a secondary reaction to the antibiotic called enrofloxacin. This drug may be prescribed for bacterial infections, but can damage the retina and lead to acute and permanent vision loss. Most of the time, blindness associated with enrofloxacin is dose-related. If your cat needs this antibiotic, follow dosing guidelines exactly.

Eye Removal

If surgery needs to be done to remove your cat's eye, it's OK. Many cats feel more comfortable with the affected eye removed, since it wasn't helping with vision anyway. If a blind eye is left in place, you may need to provide artificial tear drops multiple times a day to keep sensitive tissues like the cornea healthy. Some cats would prefer not to be hassled with eye drops. In addition, a closed eye socket will be free from pain and avoids anything brushing across and irritating the cornea.

5 THINGS

Five Weight-Loss Tips for Cats

Helpful ways to help kitty trim her body and stay healthy

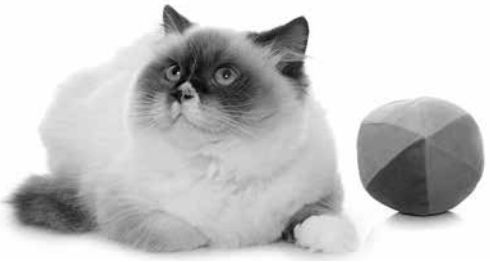
1. Get an accurate weight from your veterinarian. Many clinics have "open hours" or weigh-ins so you can check your cat's weight-loss progress.

2. According to Tufts' Nutrition Service, cats can safely lose 0.5 to 2 percent of their body weight weekly. This is a tiny amount: 2 percent of a 10-pound cat is one-fifth of a pound, or 3.2 ounces.

3. Losing more than the desired amount of weight can lead to a significant health problem called hepatic lipidosis (see "Fat Cats: Obesity Isn't Fun," December 2017, at catwatchnewseltter.com).

4. While cutting back on the amount of your cat's regular food may be a good solution, check with your veterinarian. Sometimes cutting back might mean depriving your cat of essential nutrients, such as vitamins that she needs. In those cases, a special weight-reduction diet might be the best option.

5. Add in an exercise program for your cat. She does not have to take up jogging, but planning 10 minutes of active play twice a day can help her to shed those extra pounds. You could get a feather toy for the two of you to play with or just a small rolling ball for her to chase when you roll it. ■



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Consider Radioiodine Therapy

Long-term methimazole can become less effective

Q We have a 17-year-old Tuxedo cat, Sox, who is still active, sharp-witted, and good natured. However, he has hyperthyroidism, and while he is being treated with methimazole and was doing fairly well, he has recently begun to lose weight again. In his prime years, he was a healthy 10-pound cat. Now he is down to six or maybe fewer pounds and looks boney, although he eats throughout the day and gets plenty of treats. Can you provide any advice?

A Thanks for getting in touch, and I am sorry, but not surprised, to hear that your baby has hyperthyroidism. This condition is quite common in older cats, and while it can certainly negatively impact the lives of affected cats, the good news is that there are effective therapies to treat it. Perhaps a brief discussion of hyperthyroidism would be helpful.

Hyperthyroidism results from the overproduction of thyroid hormone (which is vital to the normal function of many organs in the body) by the thyroid gland, usually due to the development of a benign adenoma (non-malignant tumor) of this gland. The cat's thyroid gland sits in the neck near his "vocal chords." In most cases of feline hyperthyroidism, the enlarged thyroid gland can be felt upon careful examination of this region. In rare cases, malignant tumors of the thyroid gland occur, but this is only found in approximately 2 percent of cats with hyperthyroidism.

Cats with hyperthyroidism generally show signs such as hyperactivity (they may also vocalize more and at strange times of the day), weight loss, increased appetite, increased water intake and urination, vomiting, and an unkempt haircoat.

The diagnosis of hyperthyroidism is made via blood tests that usually measure the amount of thyroid hormone (called thyroxine) in the bloodstream. There are some supplemental tests—including imaging studies of the thyroid gland using radioisotopes—that can be done in some cases.

There are generally four treatment options for hyperthyroidism in cats:

- Surgical removal of the thyroid gland. This procedure is almost never elected anymore due to safer, more effective options.
- Methimazole (the drug you are using) is an oral drug that blocks the production of thyroxine in the thyroid gland. In some cases of long-term use, however, it can become less effective, as the thyroid adenoma usually continues to grow.
- Feeding a diet that is low in iodine. Iodine is essential for the production of thyroxine. While the long-term effects of this diet are the subject of debate, they can be used successfully, but it's important that a cat on this diet to treat hyperthyroidism not be fed ANY other foods.
- Radioiodine therapy. This option is perhaps the best. It is one that is very effective, has few side effects when appropriately administered, and cures cats of hyperthyroidism approximately 95 percent of the time that it's used.



The treatment Sox has been receiving for hyperthyroidism may have stopped working.

This therapy involves injecting a radioactive compound that is linked to iodine, which is taken up by the thyroid gland as it produces thyroxine. Once this iodine-tagged isotope is in the thyroid gland, the radiation that it emits destroys overactive thyroid gland tissue in a very localized and usually safe manner, resulting in more normalized thyroxine production.

In rare cases, cats may become hypothyroid and require thyroxine supplementation or may require a follow-up dose of radioiodine to successfully restore normal thyroxine levels, but these are highly unlikely to occur.

I recommend that you consult with your veterinarian about Sox. It may be that his hyperthyroidism is not well controlled on his current dose of methimazole and that he either needs a higher dose or another treatment modality (like radioiodine therapy). It also may be that his recent weight loss has nothing to do with his thyroid function and is due to another problem, such as diabetes mellitus, kidney disease, gastrointestinal disease, or a variety of other conditions that can cause this clinical sign.

I hope that this is helpful, and we wish you the best of luck. Please drop us an update on Sox when you can.

All My Best,
Elizabeth



Elizabeth works with the Cornell Feline Health Center in providing the answer on this page (vet.cornell.edu/fhc/).

Coming Up . . .

- *Pancreatitis in Cats*
- *Rhinotomy/Chronic Nasal Disease*
- *Feline Odontoclastic Resorptive Lesions*
- *Bloodwork for Liver and Kidney Problems*

HAPPENING NOW. . .

Of Course They're Family: According to a recent note in *SmartBrief*, a *New York Times* report found that "Pets are increasingly thought of as family members and their owners are increasingly willing to spend more on veterinary care, but only about 10 percent of dogs and 5 percent of cats are covered by veterinary medical insurance, according to a survey. 'It's not what veterinarians are charging,' said Nationwide Chief Veterinary Officer Carol McConnell. 'It's more what consumers are choosing to pay.' "■



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