

Cat Watch

June 2020 - Vol. 24, No. 6



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

THIS JUST IN

2019 Top Pet Poisons

These items prompted the most calls for help

From the ASPCA Pet Poison Control Hotline, the most pet poisonings were due to:

1 **Over-the-Counter Human Medications.** These products account for 20% of the poisons consumed by pets this year, according to the ASPCA's calls.

2 **Human Prescription Medications.** Prescription meds were found in 17% of the cases.

3 **Human Foods.** A surprising third, although mainly in dogs.

4 **Chocolate.** At 10%, cats scarfed down a share of gourmet chocolate.

5 **Veterinary Products.** These cases were mainly due to overdoses and improper use.

6 **Household Items.** This category included things like spackle, paint, cleaners, and antifreeze.

Rounding out the list were: rodenticide, which accounted for 7% of the Poison Center's calls; plants, both indoor and outdoor varieties; insecticides, with most exposures due to unsafe-use practices and storage;

and garden products, fertilizers, and plant foods that contain fish products or bone meal that attract some pets. ■



Can Music Relax the Savage Cat?

One study showed behavioral but not physical changes

Feline friendly practices are always looking for ways to make their patients happier and calmer, as minimizing stress makes for a better veterinary experience for the cat, owners, and the veterinarian.

A study from the Louisiana State University School of Veterinary Medicine published in the *Journal of Feline Medicine and Surgery* investigated the use of music to reduce feline stress in the veterinary setting. Since music has been shown to calm dogs in this setting, the study authors wanted to know if the same is true of cats.

Twenty cats were scheduled for three wellness visits, two weeks apart. At each visit, the cat was exposed to a different 20-minute set of either silence, classical music, or "cat-specific" music, which is music in which the melody is based upon frequencies that mimic feline vocalization.

The cat-specific music used for this study was "Scooter Bere's Aria" by David Teie. Go to <https://tinyurl.com/CWmusicresearch> to hear the music.

During the visits, each cat's stress level was evaluated behaviorally and by measuring the ratio of two types of white blood cells (neutrophils and lymphocytes) in a small blood sample. This ratio is a widely recognized measure of physiologic stress.

The study found that cats listening to the cat-specific music were behaviorally less stressed than the cats that listened to classical music or had silence. No evidence of the effect of music on physiologic stress was seen in the cats. The researchers believe the 20 minutes may not have been long enough to cause a shift in physiologic parameters. ■

<https://journals.sagepub.com/doi/full/10.1177/1098612X19828131>



Maybe the stereo's not just a comfy spot to rest.

Small Study Offers Sedative Alternative

Medication can be administered via the cheek and gums

A study published in the *Journal of Feline Medicine and Surgery* investigated the sedative effects and influence of buccally administered tiletamine-zolazepam (TZ) on systemic blood pressure (BP), heart rate (HR), and respiratory rate (RR) in seven healthy cats. (Buccally administered drugs are placed between the cheek and gums; the medication dissolves and enters the bloodstream.)

Both low-dose and high-dose administrations produced an acceptable level of sedation for manual restraint and fur clipping within 15 minutes of administration. The sedation lasted between 30 and 45 minutes.

A dose-dependent but acceptable decrease in BP, HR, and RR was seen in all seven cats. The decrease in BP and HR lasted 15 to 30 minutes after administration. The decrease in RR lasted approximately 60 minutes. "These findings suggest that buccally administered TZ might be a reasonable alternative to injectable sedatives in cats, thereby improving the overall veterinary experience for both cats and their owners," says Bruce G. Kornreich, DVM, Ph.D., DACVIM, Associate Director of the Cornell Feline Health Center. ■

J Feline Med Surg. 2020 Feb;22(2):108-113. doi: 10.1177/1098612X19827116. Epub 2019 Feb 12.

INSIDE THIS ISSUE

Effective Pain Control Option for Spays	2
New Technique for Differentiating Samples	2
Origin of Madagascar's Forest Cats	2
Understanding Vaccines	3
Cats Losing Sight	4
Help for Horrible Halitosis	6
Stop Scratching Everything!	7
Optimal Weight	8
Happening Now	8



Effective Pain Control Option for Spays

An injectable block that helps kitty stay pain-free

A 2019 study evaluated the efficacy of a bupivacaine liposome injectable suspension (BLIS) for controlling pain in cats after undergoing an ovariohysterectomy. Forty-seven cats were included in the study, with half receiving a local block of BLIS around the incision and the other half receiving a standard protocol of a bupivacaine block followed by oral medication.



Cats in both groups had low pain scores up to 68 hours after surgery. The researchers concluded that the pain control imparted by BLIS is equivalent to that provided by bupivacaine block followed by oral analgesics and reduces the need for continued post-operative drug administration. ■

Gordon-Evans, W. J., Suh, H. Y., & Guedes, A. G. (2019). Controlled, non-inferiority trial of bupivacaine liposome injectable suspension. *J Feline Med Surg.* 1098612X19892355.

Technique for Differentiating Samples

The HGMS method proves more accurate than PARR

Chronic intestinal problems are common in older cats and generally result from one of two causes: lymphocytic-plasmacytic enteropathy (a form of inflammatory bowel disease) or small cell lymphoma. A diagnosis is made via biopsy and histopathologic (microscopic) evaluation. The trouble is it is not always easy to distinguish between the two problems, even with histopathology. That makes it difficult to determine the best treatment and prognosis.

A recent study by the Gastrointestinal Laboratory at Texas A & M University looked at tissue samples retrospectively to see if a new technique could help distinguish between the two conditions. Samples from 41 cats with lymphocytic plasmacytic enteropathy and 52 cats with small cell lymphoma were evaluated. The average age of the cats was 11.

The samples were used to compare two histologic techniques for differentiating these problems: polymerase chain reaction for antigen receptor rearrangements (PARR) and histology-guided mass spectrometry (HGMS). About half the samples were used for training purposes to get techniques down, then the other half was used for clinical evaluations.



All the cases had been evaluated by five to seven veterinary experts (including internists, pathologists, and oncologists) and assigned a consensus diagnosis. The researchers found that HGMS was a more reliable technique for diagnosis and might have advantages over PARR, which is currently considered state of the art. ■

<https://onlinelibrary.wiley.com/doi/full/10.1111/jvim.15742>

Origin of Madagascar's Forest Cats

DNA shows this species of cat is from the Arabian Sea area

An article in *Science* looked at the origin of Madagascar's forest cats. The cats, which are twice the size of domestic house cats, are a bit of a problem for the island. The tabby-coated felines have quite an appetite for birds, snakes, rodents, and lemurs, which, of course, are the most famous animal in Madagascar.

Researchers believe the cats descended from domestic cats who jumped off of Arabian trading ships over 1,000 years ago. The researchers used DNA from the forest cats and compared it to other cats. The closest match was from domestic cats in the Arabian Sea region. While more work needs to be done, the discovery may help Madagascar find a way to gain control of these feline predators. ■

doi:10.1126/science.abb6718



Madagascar's famous lemurs are forest cat prey.



CatWatch

EDITOR IN CHIEF

Bruce G. Kornreich, DVM, Ph.D., Dipl ACVIM

EXECUTIVE EDITOR

Cynthia Foley

TECHNICAL EDITOR

Debra M. Eldredge, DVM

ADVISORY BOARD

James A. Flanders, DVM, Dipl ACVS, Associate Professor, Clinical Sciences

Margaret C. McEntee, DVM,

Dipl ACVIM, DACVR, Professor of Oncology

William H. Miller, Jr., VMD, Dipl ACVD, Professor Emeritus, Clinical Sciences

Pamela J. Perry, DVM, Ph.D.

Lecturer, Clinical Sciences, ACVB Behavior Resident

CatWatch is an independent newsletter produced in collaboration with the Cornell College of Veterinary Medicine Feline Health Center



Cornell University
College of Veterinary Medicine
Feline Health Center

For information on your cat's health, visit the Cornell University College of Veterinary Medicine, Cornell Feline Health Center website at www.vet.cornell.edu/fhc/.

Send Ask Elizabeth questions and letters to the editor:
CatWatch*

535 Connecticut Ave.
Norwalk, CT 06854-1713
catwatcheditor@cornell.edu

Subscriptions: \$39 per year (U.S.) • \$49 per year (Canada). For subscription and customer service information, visit www.catwatchnewsletter.com/cs or write to: CatWatch, P.O. Box 8535, Big Sandy, TX 75755-8535. 800-829-8893



CatWatch* (ISSN: 1095-9092) is published monthly for \$39 per year by Belvoir Media Group, LLC, 535 Connecticut Ave., Norwalk, CT 06854-1713. Robert Englander, Chairman and CEO; Timothy H. Cole, Executive Vice President, Editorial Director; Philip L. Penny, Chief Operating Officer; Greg King, Executive Vice President, Marketing Director; Ron Goldberg, Chief Financial Officer; Tom Canfield, Vice President, Circulation. ©2020 Belvoir Media Group, LLC.

Postmaster: Send address corrections to CatWatch, P.O. Box 8535, Big Sandy, TX 75755-8535.

Express written permission is required to reproduce, in any manner, the contents of this issue, either in full or in part. For more information: Permissions, CatWatch, 535 Connecticut Ave., Norwalk, Connecticut 06854-1713.

Understanding Vaccines

With a little guidance, you can make wise choices

Vaccines, which induce an immune response that protects against infectious diseases, are vital to good feline health. Like most medical interventions, though, they do carry some risk. For this reason, minimizing the number of vaccines that cats receive, while assuring that they are protected from the infectious diseases that they are most likely to encounter, is important.

Core vaccines refer to those that impart protection against the most common feline infectious diseases and/or that protect against diseases that can be transmitted to people. All cats should receive these core vaccines.

Non-core vaccines refer to those that provide protection against diseases that not all cats will encounter or to vaccines that have debatable effectiveness. Some cats should receive non-core vaccines in addition to core vaccines, depending upon their lifestyles. You must work with your veterinarian to determine the best vaccination plan for your cat.



You should understand why a certain vaccine is recommended or skipped for your cat.

Vaccinations against feline panleukopenia, feline herpes virus, and feline calicivirus are core vaccines for cats. Rabies virus vaccine, while not considered a core vaccine, may be mandated by legislation depending upon locale. Current recommendations are also to administer the first in the series of feline leukemia virus (FeLV) to kittens,

and then to base recommendations for boosters against FeLV on a cat's lifestyle (i.e., potential for exposure to cats carrying FeLV).

The effectiveness of feline immunodeficiency virus (FIV) vaccines has been brought into question, and recent evidence suggests that cats infected with FIV may live normal lifespans, so FIV vaccines are not currently recommended. Similarly, the effectiveness of feline infectious peritonitis (FIP) vaccine is questionable.

Other non-core feline vaccines include those against *Bordetella bronchiseptica*, *Chlamydomphila felis*, and dermatophytosis.

Vaccines come in a number of different types. "Inactivated" vaccines refer to those that use organisms that have been "killed" so that they can induce an immune response against the organism but cannot replicate ("reproduce") in a cat or cause disease.

In some cases, adjuvants are added to inactivated vaccines to stimulate a stronger immune response. While still the subject of debate, adjuvants have been associated with the development of feline injection-site sarcoma (FISS), a known vaccine risk. FISS is a serious type of cancer that occurs in approximately one out of every 10,000 vaccines administered to cats.

"Modified live" or "attenuated" vaccines use intact versions of organisms that have been modified so that they can replicate in a patient and induce an immune response but cannot cause disease. These vaccines basically produce an infection that does not cause symptoms but stimulates an immune response. All intranasal feline vaccines in use are modified live vaccines. Generally, modified live vaccines induce a more rapid and robust immune response than inactivated vaccines.

Another class of vaccines are called recombinant vaccines. These are produced by isolating small pieces of genetic material of the infectious organism that are then used to make small proteins that are components of the organism. These proteins induce an immune response but don't cause disease.

Too Much of a Good Thing?

Your veterinarian will work with you to determine your cat's risk and establish a schedule that minimizes vaccinations while ensuring your cat is protected.

Vaccines continues on bottom of p 4

Who Makes All These Decisions?

Your veterinarian has access to a number of associations that publish vaccination guidelines and update them periodically:

- ▶ The American Animal Hospital Association
- ▶ The World Small Animal Veterinary Association
- ▶ The American Association of Feline Practitioners
- ▶ The Advisory Board for Cat Diseases



In order to track reactions to vaccines, the Advisory Panel recommends that veterinarians administer vaccines in specific locations:

- ▶ Feline panleukopenia virus (FPV), feline herpesvirus-1 (FHV-1) and feline calicivirus (FCV) vaccines below the right elbow
- ▶ Feline leukemia virus (FeLV) vaccines below the left stifle
- ▶ Rabies vaccines below the right stifle
- ▶ Vaccines should be administered as low on the leg as possible

With these defined locations, it is easier to track vaccine adverse reactions and if a cat does develop a feline injection site sarcoma, amputation is a possibility. Note: Some veterinary clinics have their own recommended locations. As long as these are followed carefully, the result is the same: Adverse reactions can be more easily tracked and linked to the vaccine.

Cats Losing Sight

Loss of vision is often a subtle, gradual progress

The first clue to vision loss in your cat is usually a behavior change. She may move more cautiously, possibly bump into things. She may no longer jump onto favorite perches, and she may not think "chase the feather" games are as fun as they used to be. Although you should always watch for changes in your cat's eyes—redness, cloudiness, squinting, or unusual pupil responses—these symptoms aren't always easy to see.

Healthy feline eyes are bright and clear, the pupils are of equal size, and the cat should not squint with either eye. There should be little or no tearing in the corners of the eye, and the tissue lining the eyelid should be a healthy pink.

Loss of vision may be due to an injury, genetics, or disease. Cataracts, glaucoma, and retinal detachments are causes that can result in anything from a minor inconvenience to total blindness. Vision loss is usually gradual in middle-aged and older cats, but sudden vision loss may occur with retinal detachment.

Detached Retina

The retina is the layer of pigmented cells coating the back of the eye. These cells receive light (images) from the front of the eye and transmit them to the brain.

Vaccines, continued from page 3

If you're concerned that your cat might be receiving too many vaccines, measuring your cat's titers (concentration of antibodies to a particular infectious organism) may be substituted for some vaccine boosters.

Titers are obtained from your cat's blood and provide information about the level of protective antibodies in the blood at the time the blood was drawn. Since titers can change significantly over time, though, there are some limitations to using this technology to predict protection over long periods of time. For this reason, many jurisdictions will not accept titers in lieu of rabies vaccination.

Individuals

Feline lifestyles influence which vaccines make sense. A strictly indoor cat that is never boarded, not exposed to other cats, and doesn't travel has different vaccination needs than a cat that goes outdoors or travels. Many boarding facilities and veterinary practices have specific vaccine requirements.

Cats that may be exposed to many other cats—shelters, breeding, cat shows, feral cats, and cats in trap, neuter, and release programs—have different vaccination needs due to higher risk of exposure.

For most indoor cats, core vaccinations beginning at 8 weeks of age (12 weeks for rabies), followed by monthly boosters until 16 or 20 weeks of age is recommended. Boosters are recommended one year after this and then at three-year intervals.

Adult cats with an unknown vaccine history generally receive two doses of the vaccine given one month apart, then a yearly booster and every three years after that. For all cats, the goal is to provide adequate protection against potentially deadly infectious diseases while minimizing vaccine-associated risk. ■



Note the disk in the pupil of the eye on the right (the cat's left eye). This is a cataract.

If the retina detaches, that area will no longer transmit visual images.

Retinal detachment tends to be a disease seen in elderly cats. It often occurs secondary to hypertension caused by either renal disease or hyperthyroidism. Trauma and any cause of bleeding in that area of the eye may damage the retina. If there is trauma or bleeding into the eye, you may notice this, but cats will often present with acute onset of blindness.

Diagnosis requires a thorough ophthalmic examination. In some cases,

ocular ultrasound may be required if corneal opacity or cataracts prevent the veterinarian from evaluating the retina (more on cataracts coming up). Your veterinarian will evaluate the whole cat, not just her eyes.

For instance, hypertension could indicate kidney problems or hyperthyroidism. Normal systolic blood pressure for an adult cat is between 100 and 160 mmHg. Any cat with a reading higher than 170 mmHG is considered to have high blood pressure. (Note, this should be checked more than once, as a stressed cat may have a false high reading.)

If the detachment and hypertension are diagnosed within 24 hours, reattachment of the retina may be possible with appropriate therapy for hypertension. Kidney failure and hyperthyroidism require additional diagnostics and medications. Surgical repair can sometimes partially restore vision, but the prognosis is guarded with a retinal tear or detachment.

Cataracts

While not as common in cats as in dogs, cataracts can occur in one or both eyes. Some cataracts are minor and merely cause a small area of vision loss. Mature cataracts may cause total loss of vision.

A cataract is an opacification (clouding) of the lens of the eye. The lens is normally a transparent structure that focuses light coming into the pupil onto the retina at the back of the eye. If the lens becomes cloudy, it can block light from getting back to the retina.

Cataracts may be caused by a variety of things, including diabetes, aging, electric shock, a perforated lens, inflammation in the eye, certain medications, toxins, or poor nutrition.

Uveitis (inflammation of the pigmented portions of the eye) is the most common cause of cataracts, and this may occur secondary to systemic

Diabetes and Cataracts

One of the most common causes of cataracts in dogs is diabetes mellitus. Luckily, diabetic cats are more resistant to this side effect. Dr. Thomas Kern, DVM DACVO, Associate Professor, Section of Ophthalmology at Cornell, notes that this is due to the level of the enzyme aldose reductase in the lenses of cats.

illnesses, including feline leukemia, feline immunodeficiency virus, feline infectious peritonitis, and feline herpesvirus-1. In addition to causing cataracts, these illnesses may lead to luxation of the lens. Usually, however, the actual cause is never identified.

Incipient cataracts are small areas of lens involvement that have a minor effect on vision. Immature cataracts have not reached full density, so they still allow light to pass through. Mature cataracts are solid and usually cause blindness.

A study published in *Veterinary Ophthalmology* looked at 2,000 normal cats and found that by 12 to 14 years of age, about half of cats had some type of cataract. By 15 to 20 years of age, virtually all the cats examined had cataracts. Luckily, these cataracts tended to be small or not fully mature so the cats retained some vision.

Himalayan, Birman, Persian, Bengal, Russian Blue, and British Shorthair cats have a congenital predisposition to cataracts. These cats can present with cataracts as young as 2 to 5 years of age. Some are small cataracts that don't progress to full size and, although they do limit vision, they don't cause total blindness for the cat.

Surgery by a board-certified veterinary ophthalmologist is the only real treatment for cataracts. The cataracts can be removed through a process called phacoemulsification, which destroys the defective lens, or the lens may be extracted whole. An artificial lens can be placed to restore vision. Surgery is usually only pursued if a cat has cataracts in both eyes and has total vision loss.

Surgery is not recommended if your cat also has recurrent uveitis, retinal damage, or glaucoma.

Glaucoma

Signs of glaucoma, or elevated pressure within the eye, in a cat can be quite subtle, says Thomas Kern, DVM, DACVO, Associate Professor in the Section of Ophthalmology at Cornell.

Hazy Eyes?

With nuclear lenticular sclerosis (NLS), an age-related change seen in most cats over 8 years old, a hazy discoloration of the eye may be noted. As it progresses, the lens loses flexibility, but the cats retain vision. NLS is usually in both eyes.

Owners may notice the eye(s) becoming cloudy and one eye may enlarge compared to the other. They may notice their cat squint or that the pupil of the affected eye may not react normally to light changes.

"Typically," he adds, "the progression takes months or longer before changes are noticed. Even with significant eye discomfort, a cat with visual impairment can continue its normal indoor and outdoor activities." This means that owners must be very observant.

Glaucoma can lead to total vision loss and is usually secondary, which means it is the result of a process other than a structural defect in the eye itself. Primary glaucoma is quite rare, and often results from a structural genetic defect that prevents fluid outflow from the inside of the eye. Burmese and Siamese cats are genetically predisposed to glaucoma.

Uveitis is a major cause of secondary glaucoma. With uveitis, inflammatory cells can build up inside the eye and block its outflow tracts. Toxoplasmosis can be a source of uveitis. Hemorrhage into the eye, possibly from systemic hypertension, may cause a similar cellular blockage of the draining tracts of the eye. Cancers such as iris melanoma or lymphoma may also contribute to glaucoma.

In a normal eye, the aqueous humor (liquid in the chamber between the cornea and the lens) is continually produced and drained. With glaucoma, the fluid can't drain appropriately, leading to increased intraocular pressure (IOP) and compression of the optic nerve. Ultimately, the compressed optic nerve loses its ability to transmit data to the brain, leading to vision loss. Elevated IOP is the hallmark of glaucoma.

The tonometer used to measure your cat's IOP is not painful, and cats are checked while awake (a topical anesthetic is often applied to the cat's eyes). Both eyes should have similar readings. Since glaucoma can, and often does, first appear in one eye, a dissimilar reading is cause for concern. A thorough ophthalmic examination is essential to obtain an accurate diagnosis.

Glaucoma is not as common in cats as in dogs and tends to occur more gradually than in dogs. With gradual progression, many cats simply adapt to the increasing loss of vision. Unfortunately, this often means that by the time glaucoma is diagnosed in cats, irreparable damage may already be done.

The first step in treatment is to

What You Should Know

Symptoms that may be associated with visual impairment

- ▶ Bumping into furniture or tripping on stairs
- ▶ Difficulty finding litterbox or food/water bowls
- ▶ Behavior changes
- ▶ Squinting, redness, drainage
- ▶ Color changes in the iris
- ▶ Cloudy eyes
- ▶ Protruding third eyelid
- ▶ Pupils differ from one another

determine the cause of the increased IOP. If uveitis is suspected, treatment of this inflammatory process is usually the first step. Other helpful medications may include carbonic anhydrase inhibitors and/or beta blockers (both of which lower aqueous humor production). Some drugs act by both reducing fluid production and increasing fluid outflow.

Medical treatment of glaucoma usually requires multiple daily administrations of topical drops, which can be difficult for some owners.

For cats that have gone blind from glaucoma, the best solution may be to remove the eye. While this may seem dramatic, it removes the source of pain, and most cats adapt quite well once recovered. ■



Healthy cat eyes are clear, bright, and look similar, especially in the pupil (black area).

Help For Horrible Halitosis

Why your cat has bad breath and how to fix it

Most cat lovers don't mind that cat breath isn't always minty-fresh. When your cat's breath gets so bad that it makes you want to gag, though, it's time to head to the veterinarian to figure out the cause of the stink.

Dental Woes

"Periodontal disease is by far the most common cause of bad breath," says Lindsey Schneider, DVM, Dentistry and Oral Surgery Resident at the Cornell University Hospital for Animals. Periodontal disease, also referred to as periodontitis, is infection of the gums and other tissues that support your cat's teeth. It is very common, with the Cornell Feline Health Center citing that it can affect between 50 and 90% of cats over the age of four. Cats suffering from periodontal disease typically have inflamed gums that may also bleed easily, cause them to chew oddly or refuse certain foods, and have plaque and calculus (tartar) buildup on their teeth. As the disease progresses, the gums can recede, the teeth can become loose, and they may fall out.

Other problems in the mouth can cause bad breath in cats, too. Dr. Schneider says, "These include oral foreign material (i.e., something the cat chewed on), stomatitis (an inflammatory disease that affects between 1 and 2% of cats), oral tumors, and viral infections that cause oral ulcerations, such as calicivirus or herpesvirus."

Depending on your cat's personality, your veterinarian may be able to identify problems in the mouth during a routine appointment. To determine the extent of any problems or for uncooperative kitties, though, an oral exam and dental radiographs (x-rays) under sedation or anesthesia is often necessary.

Systemic Illness

"Metabolic causes of bad breath include kidney disease, diabetes, and GI issues," says Dr. Schneider. Cats with kidney disease may have bad breath that smells like ammonia. A sweet smell to the breath can indicate diabetes, and the breath of a cat suffering from gastrointestinal disease or blockage may smell like vomit or even rotting food.

These conditions can occur on their



We all like to get close to our cats, but bad breath can make you reconsider.

own or in conjunction with periodontal disease (or with each other). So even if your cat's teeth look like something out of a horror movie, it is a good idea to check for other problems while at the veterinary hospital for a dental cleaning.

History and Bloodwork

Identifying the cause of bad breath requires a knowledge of your cat's history and behavior, the results of diagnostic tests, and your veterinarian's ability to interpret these factors. Think about any new behaviors your cat has been exhibiting, such as chewing with his head tilted sideways, refusing food, drooling, acting depressed, and any overall changes in your cat's health, including weight loss, the amount of water he drinks, the development of vomiting and/or diarrhea, and how much he is urinating. Write everything down, so you can stay organized during the visit with the veterinarian.

Bloodwork is an important part of regular veterinary care to monitor for developing problems. If your cat is being put under anesthesia for a dental cleaning or other procedure, your veterinary team will usually recommend preanesthetic blood work to make sure that her organs are functioning normally and that she will be able to clear the anesthesia from her body.

Dr. Schneider says that at Cornell, "A complete blood count and chemistry panel are required for all animals over seven years of age prior to a dental procedure, or any animals with other underlying medical conditions. Younger healthy animals receive quick assessment blood tests prior to dental procedures."

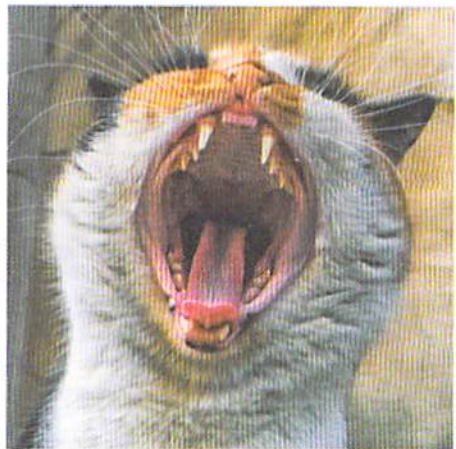
Treatment

Exact treatment will vary depending on your veterinarian's diagnosis, but a dental cleaning will often be part of the plan. Even if your cat's teeth don't look particularly bad, plaque and bacteria can build up under the gumline and wreak havoc. Periodontitis left untreated can progress to cause systemic health problems, so it is a good idea to get your cat's teeth cleaned while he is a healthy adult so that he has a clean slate going into his senior years.

If your cat has a systemic illness such as diabetes or kidney disease, he may not be able to have a dental cleaning until he has been stabilized.

Help at Home

If your cat only has occasional bad breath or you are waiting for an appointment, there are some things you can try at home. Dr. Schneider advises, "The best way to alleviate bad breath is routine oral home care with daily toothbrushing. In addition to minimizing halitosis, this will also help slow the progression of periodontal disease. Numerous other dental hygiene products are available to help reduce plaque and calculus (including diets, water additives, oral sprays, and treats). I typically refer clients to the Veterinary Oral Health Council website, vohc.org, for a list of products that have earned the organization's seal of acceptance, which indicates that the product has undergone clinical testing to show that it meets pre-set standards for retarding the development of plaque and tartar." For video instructions on how to brush a cat's teeth, visit the Cornell Feline Health Center's website <http://tiny.cc/CWbrushteeth>.



It's a rare view, but a good look into your cat's mouth may give you clues to the source of her bad breath.

Stop Scratching Everything!

Get creative to control this natural behavior

Scratching furniture and curtains is a feline trait that has frustrated cat owners for many years. Luckily for you, behaviorists, veterinarians, and owners have been studying this challenge for a long time, and we have some insight and tips for you.

Why She Scratches

The Cornell Feline Health Center says that scratching is largely a marking behavior that deposits scent from special glands on the cat's paws into his territory and removes the translucent covering, or sheath, from the claws. We can't smell the pheromones from the glands on your cat's front paws, but your cat (and other cats) can. Scratching is something your cat does naturally and is likely to try out even if you don't have other cats in the house.

Because scratching is an innate behavior, it can be difficult to stop. Redirecting your cat's scratching to an acceptable scratching post (more on that later!) is a better approach.

The good news is, cats who scratch a lot will often wear their nails down on their own and need less frequent nail trims than cats who rarely scratch.

Proper Outlet

Since getting your cat to completely stop scratching is a battle that can be difficult to win, provide her with an alternative item to scratch. Before going out and buying a fancy scratching post, consider your cat's scratching tendencies and preferences. Does she go after the couch and arm chairs, which are vertical surfaces with fabric, or does she prefer trying to rip up the carpet? Does she tug at the curtains or go for door frames? Once you know what your cat likes, you can choose a scratching post or scratch board that fits her orientation and material preferences so she will be more likely to use it.

Once you have picked out (or built) a scratching post for your cat, set it up either next to or blocking the items that you don't want her to scratch. You may be able to move the scratching post later, but for now, take advantage of the fact that she already associates that location with scratching and use it to transition her over to the post.



Look through your annoyance—and her cuteness—and note her scratching preferences, so you can choose an outlet she would like. For this kitty, a vertical secure scratching post would probably be welcome.

You can encourage your cat to use the post by rubbing catnip on it to attract her or by dragging a toy up or across it. If she starts to approach the off-limits furniture, gently pick her up and move her to the scratching post. During this learning period it is usually best to limit your cat's access to the room/items that she likes to scratch so that you can interrupt any poor choices and consistently redirect her to the scratching post.

You may need multiple scratching posts or boards if your cat has multiple locations that she likes to scratch.

Breaking the Cycle

Scratching is a rewarding behavior for your cat—she has thousands of years of evolution telling her to do it, it's good exercise, and it marks her territory as her own. As well as providing items that she is allowed to scratch, you will need to make the furniture, curtains, carpeting, and walls less attractive to her.

Start by washing the areas (if possible) she has been scratching to remove the scent of her pheromones. You can try a cat repellent spray, but be sure it won't stain the item you are spraying. Place her new scratching post or board near her favorite scratching place (even blocking it), and rub catnip on that so it smells more appealing than the furniture.

Covering your furniture may make it less satisfying to scratch. Try sheets of plastic, smooth plastic shields or covers, aluminum foil, or double sided tape.

Another option is to “booby trap” the area you want your cat to leave alone with something that will startle her but not hurt her. Katherine Houpt, VMD, PhD, DACVB, Emeritus Cornell Professor of Behavior Medicine, often recommends a tower of plastic cups that will fall when your cat brushes up against it. A compressed air canister or noisemaker that is hooked up to a motion-sensor also may work.

All of these options don't require human presence, so they will work to protect your furniture even when you are not around. This is much more successful than scolding your cat or using a squirt bottle (these are not recommended methods!), as cats quickly learn that they can get away with scratching when you aren't around.

Never yell at your cat or punish her physically for scratching. She is unlikely to understand that the scratching is the issue, and instead it may cause her to fear you or lash out and attack you. Plus, these deterrents depend on you being in the room, so she will still scratch when you are elsewhere, which makes it even more difficult for her to learn that scratching the furniture is the problem behavior.

If you are unable to set up a shield of some sort for the area your cat scratches, prevent her from accessing it by keeping her in another room when you are out or placing her in a large dog crate along with water and a litterbox. This will allow you to work on training when you are home and prevent setbacks when you are away.

Getting Creative

If commercial scratching posts and boards are too expensive or don't look like they will strike your cat's fancy, try making your own! Your scratching station should be sturdy enough to withstand the force of your cat leaning and scratching and oriented at the angle she prefers (vertical or horizontal) and covered in a material or materials she likes to scratch. Remember: If it falls down when she tries to scratch or otherwise scares or harms her, she will not use it.

Some options for materials include:

- ▶ Sisal
- ▶ Carpet samples
- ▶ Indoor-outdoor carpeting
- ▶ Cardboard
- ▶ Wood, with or without bark

If you have multiple cats, you may need multiple scratching stations to fit each cat's preferences. ■

Optimal Weight

It is more than a number on a scale

Q Our adopted shelter cat is now 6 years old and weighs 17 pounds. He is a tiger/tabby mix, and we are told, with a trace of Egyptian Mau. He is an indoor cat, so his exercise consists of running around the house, climbing, and playing with his toys. His health is good. His daily diet consists of 4 oz. of dry food and 3/4 of a can of wet food for a total of 300 calories a day. Our vet said he wants to see him at 15 pounds. Considering he's a big cat, is this realistic?

A Thank you for contacting us about this issue. We understand your concerns about your cat's weight. Being overweight is a significant problem in cats, as between 40 and 50% of adult cats are overweight and approximately 30% of cats are obese (greater than 20% heavier than their optimal weight). Obesity is associated with a number of health problems in cats, including diabetes, osteoarthritis, certain types of cancer, and high blood pressure, so maintaining a healthy body weight is an important aspect of assuring optimal health in us kitties.

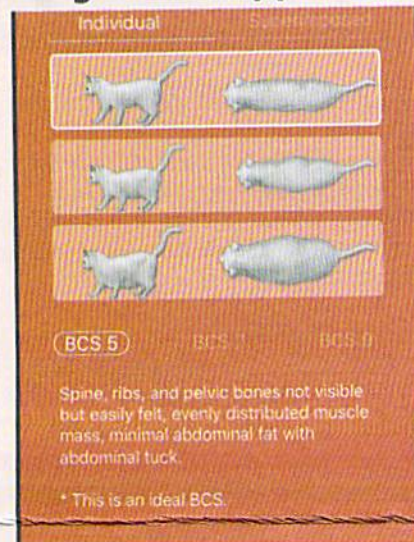
It's important to note that just looking at a cat's weight only tells us part of the story. As you have alluded to, it may be normal and healthy for some large cats to weigh an amount that would be too high for smaller cats. This highlights the importance of body condition.

The body condition score is a subjective measure of a cat's condition that is judged by things like ability to feel ribs and to see a waist and the presence or absence of rounding of the abdomen (i.e. belly pooch). Different body condition scales are used, with the most common being a scale of 1 to 9, with 1 being emaciated and 9 being obese. Using this particular scale, the optimal body condition score is 5.

Both body condition score and weight can be used to determine the best dietary plan, and while the number of calories that you are currently feeding your cat does not seem high (most indoor cats need approximately 20 calories per pound of body weight), there is some variability among individual cats, depending upon their activity level and overall health. Another thing to consider is whether you are feeding treats, which can be quite calorie dense. Treats should make up no more than 10% of a cat's total daily caloric intake.

I assume that your veterinarian may feel that your kitty's body condition score is a bit high, prompting him/her to recommend some weight loss. If this is the case, this can be achieved by increasing activity (i.e., dedicated play time) and by dietary modification (using foods that are designed for weight loss or by designing a feeding schedule that avoids free-choice feeding and slightly

Weight-Loss App



If you have an iPhone, check out Purrfect Weight, an app designed by the Cornell Feline Health Center. It's free and allows owners to achieve healthy weights in their overweight cats using foods of their choice, working in collaboration with their veterinarians. You can find it in the App Store at <http://tiny.cc/CWpurrfect>.

decreases the amount of food offered over time). It's important to note that weight loss in cats should occur VERY slowly, and your veterinarian is best equipped to advise you in this regard.

Best of luck, and please send an update when you can.

All my best,
Elizabeth

Elizabeth works with the Cornell Feline Health Center to provide answers on this page (vet.cornell.edu/fhc/). Write to her at catwatcheditor@cornell.edu or CatWatch 535 Connecticut Ave., Norwalk, CT 06854. We welcome digital photos of your cat to consider for use with your question.



© HAPPENING NOW...

More Microchip Benefits—A bill introduced in the Georgia House would require veterinarians to scan animals under their care for the presence of a microchip and contact law enforcement if the chip does not match the information of the person presenting the pet for treatment, reports AllOnGeorgia.com.

Big Bucks for Mirataz—Dechra Pharmaceuticals purchased KindredBio's Mirataz for a reported \$43 million, plus royalties from the sale of the drug. The transdermal ointment is applied to the cat's ear and used to help manage undesired weight loss in cats.



Beware of Mosquitoes—The Feline Health Center at Cornell reminds us that mosquitoes bring the risk of heartworm to cats as well as dogs. Although cats are not considered natural hosts of heartworms, they can be infected and at risk for significant, even life-threatening, heart, lung, and central nervous system disease. Cats should be regularly treated with heartworm preventative during times of the year when mosquitos are active even if they are kept indoors, as there are very few true mosquito-free homes. Talk with your veterinarian about this important feline health-care issue. ■

Coming Up ...

- ▶ Feline Cerebellar Hypoplasia
- ▶ Abdominal Fluid Buildup
- ▶ Is Feline Epilepsy a Catch-All Diagnosis?
- ▶ Let's Minimize Hairball Vomiting