

Cat Watch

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

© THIS JUST IN

Cats Are Minor Species

This makes cat-drug companies eligible for FDA incentives

The Food and Drug Administration (FDA) revised population estimates for drugs for “minor species use” in cats. Using numbers from 2014 and 2018 American Veterinary Medical Association surveys, the cat population in the United States has decreased by 21%. In real numbers, this is a reduction from 74 million to 58.4 million cats in four years (horses, too, saw a 22% reduction from 3.8 million to 4.9 million).

Population estimates help determine eligibility for drugs to be used for “minor uses,” such as conditions or diseases that occur infrequently or in only a small number of animals annually. Often drug manufacturers do not want to spend the money required for full drug approval for a small number of animals, even though the medications may be essential.

The Minor Use/Minor Species program, says the FDA, helps assure that safe, effective animal drugs are available by allowing them to qualify for certain incentives, such as exclusive marketing rights and grants to support product development and approval. ■



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The Primordial Pouch

That loose, wiggly flab of skin at the bottom of his belly

You watch as your cat walks away, his belly pooch swaying gently in the breeze. What exactly is that loose skin fold on your cat's abdomen?

This is technically your cat's primordial pouch. It is not a condition secondary to spaying or neutering or even to being overweight. Almost all cats, even lions and tigers, have this skin flap, but its size can vary. Some cat breeds, such as the Pixie Bob and Egyptian Mau, have a description of the pouch written into their breed standard. You may not notice the primordial pouch until your cat is an adult.

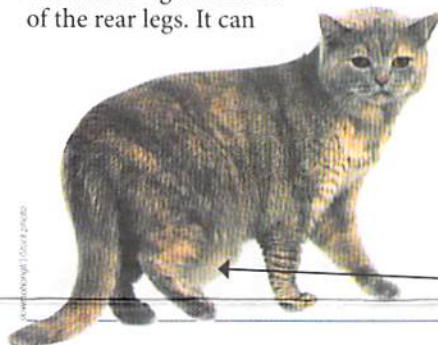
This flap of skin runs pretty much the length of your cat, from the front legs to the rear legs, along the side of the abdomen. The pouch is usually most noticeable right in front of the rear legs. It can

feel slippery or jellylike when you gently palpate it, depending on the amount of fat deposited in the area. It is not directly attached to muscle, so it is movable and somewhat elastic.

You may notice this pouch droop somewhat with age as your cat loses some muscle tone. It is important to recognize that this is a normal part of your cat's anatomy, and that she doesn't need plastic surgery to improve her figure!

There are many theories as to why cats have this extra loose skin. One theory is that it allows cats to stretch and leap more easily. A second is that it helps to protect vulnerable abdominal organs from injury if a cat is in a fight. It has also been proposed that the pouch is handy when a cat gorges on a big meal, allowing for easy expansion of the abdomen.

This pouch of skin can make it tricky to evaluate your cat's weight. Ideally, your cat will still have an hourglass shape when looked at from above and meet other body condition scores for fitness. The primordial pouch tends to sway as your cat moves, whereas an obese cat is round and firm. ■



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Location of the primordial pouch.

Cat Foods: Choosin' Is Confusin'

Especially when it comes to the brand vs. cost of cat food

Choosing a cat food comes down to being informed, reading the label, consulting with your veterinarian, and weighing the cost, but the choice still can be difficult. To help you with this decision, we compiled some websites that may be useful:

- ▶ **Cornell Feline Health Center** discusses important issues to consider when choosing food for your feline friend. <https://tinyurl.com/FHC-food>
- ▶ **Cummings Veterinary Medical Center** at Tufts University calculates your cat food cost by using how many kilocalories a day your pet needs and what is provided by the food you are using. <https://tinyurl.com/food-cost>
- ▶ **Pet Nutrition Alliance** has information on manufacturers, such as whether they employ a nutritionist and own their own manufacturing plant. <https://tinyurl.com/mfg-background>
- ▶ **World Small Animal Veterinary Association** addresses quality-control measures for “complete and balanced” foods. <https://tinyurl.com/complete-balanced> ■



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What Your Indoor Cat Does All Day

No surprise here: It involves checking for food

In the wild, cats are busy hunting and foraging all day. So how does your indoor cat occupy her time? The Winn Feline Foundation has funded an ongoing study at the University of California at Davis to look at these behaviors.

The study enrolled 18 single-cat households and 13 households with two cats. All cats wear an activity tracker and have a video set up near their food bowls. From the observations so far, food bowls appear to be important resources for cats. The cats in the study visit feeding areas between 15 to 30 times per day and spend over an hour a day in the vicinity of their food dish.

Half of the cats are given food puzzles. These distribute a piece or two of kibble after an interaction by the cat. This is in contrast to having food available without any effort in the food bowl.

There are multiple concerns being addressed here. With respect to weight gain, cats who work for their meals may be better off. Equally, or more importantly, activity and “hunting” meals may help cats with behavior problems. The goal is to provide enrichment for indoor cats once the “normal” behavior is characterized.

In addition, researchers look at cat interactions with other cats and with their owners at mealtimes and around food sources. This information could be useful for predicting or treating some behavior problems. Living with other cats also can change eating habits. Competing for food can cause cats to eat less often, explains the Winn Foundation, and to spend less time eating (although they may eat more or less total food). These changes in the way cats eat may have serious and harmful effects on their health and welfare. ■

<http://www.winnfelinefoundation.org/docs/default-source/grant-progress-reports/w17-033-foraging-behavior-in-confined-cats-interim-report-summary.pdf?sfvrsn=0>



Tabby Scottish Fold cat

Treating Ringworm in Cats

Two cultures may not be necessary, says study

Dermatophytosis (“ringworm”) is a common fungal skin infection in cats that can cause hair loss, erythema, and pruritis. The most commonly isolated organism in feline dermatophytosis is *Microsporum canis*, although infections by other *Microsporum* and *Trichophyton* species may occur.

Fungal culture is the gold standard for diagnosis, and therapies include topical and systemic antifungal medications combined with cleaning the environment and limited confinement to prevent transmission to other cats and humans.

Since the late 1950s, “mycological cure” has been defined as two successive negative fungal cultures taken two weeks apart, although the usefulness of the second culture in verifying mycological cure had not been critically evaluated.

A recent retrospective study of 371 shelter cats diagnosed with dermatophytosis and treated a minimum of 21 consecutive days with oral itraconazole and twice-weekly lime sulfur rinses showed that in 335 cases, the first of weekly fungal cultures was negative and follow-up weekly fungal cultures remained negative for the duration of the study. This suggests that two consecutive fungal cultures may not be necessary to verify mycological cure of feline dermatophytosis. ■

J Feline Med Surg 2020 Jun;22(6):598-601. doi: 10.1177/1098612X19858791



Ringworm



CatWatch

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It's All Fun and Games Until . . .

Someone needs surgery! Yarn and string are dangerous

Cats enjoy playing with bits of string and yarn, unravelling carefully rolled balls and batting at dangling ends. Unfortunately, though, this cute pastime can quickly develop into an emergency veterinary visit if the cat eats the string.

What's the Big Deal?

Your cat's digestive tract moves food along via a series of contractions. As muscles along the intestines contract in order, a wave-like motion called peristalsis is created, causing food to move along. If your cat just chomps down on a small piece of string, ribbon, or yarn, it will likely tag along on this peristaltic ride and pop out in your cat's feces along with everything else that couldn't be digested.

Trouble arises with longer strings, or if the string gets caught on something along the way. If one end of the string gets wrapped around your cat's tongue or a tooth, that end becomes an anchor. The rest of the string can still move freely for a bit and will continue down your cat's throat and into the stomach and intestines. As the intestines go through their normal contractions, each wave "grabs" at the string, but because the string can't move forward, the intestines end up creeping backward up the string.

Over time, the intestines become bunched up, with the string getting pulled tighter and tighter. The bunching limits the ability of normal digestive processes and can result in an obstruction. Eventually the string gets tight enough that it starts to cut off the blood supply to parts of the intestines or to slice through the tissues. These complications quickly progress to necrosis, and perforation of the intestines can cause systemic shock and infection as the contents of the digestive tract spill into the abdomen.



Yarn and string are favored cat toys, but they require that you monitor the playtime.

Signs of an Obstruction

Unfortunately, we often don't know when our cats have eaten something they shouldn't (and your cat probably won't confess). Signs of a potential intestinal obstruction include:

- ▶ Vomiting
- ▶ Inappetence
- ▶ Foul breath
- ▶ Repeated swallowing
- ▶ Diarrhea
- ▶ Decreased stool production
- ▶ Depression and lethargy
- ▶ Tender abdomen

If your cat is showing any of these signs, especially if you know that some string, yarn, or ribbon has gone missing, a veterinary visit is in order.

In some cases, your cat may not succeed in hiding the evidence of his crime. You may be able to see the string caught under his tongue, or it could even protrude from his anus after defecation. **DO NOT** tug on the string in either case! Depending how long the string is and where it ends, pulling on it could cause damage to the esophagus and/or intestines. Get help from your veterinarian.

Diagnosis

Any physical exam should include an oral exam, allowing your vet to check for any strings or other items stuck around his tongue or teeth. If you know or suspect that your cat has consumed string, a good look

into his mouth will be essential. For some cats, this may require sedation.

Depending on your cat's presenting symptoms, your veterinarian may also recommend:

- ▶ Bloodwork to check for signs of infection or systemic diseases that could cause similar symptoms
- ▶ Radiographs to check for blockages
- ▶ Ultrasound to evaluate the digestive tract for damage or obstruction
- ▶ Endoscopy to check the string's length.

If your cat is in fairly good condition and there is no obvious sign of a string, you may be advised to monitor him. Medications can be prescribed to help with nausea, vomiting, and diarrhea. For cats that are caught in the act of swallowing a piece of string or related item, your vet may induce vomiting if you are able to get him in quickly.

If a string is found or there are signs of obstruction, surgery is often the recommended treatment.

Surgery

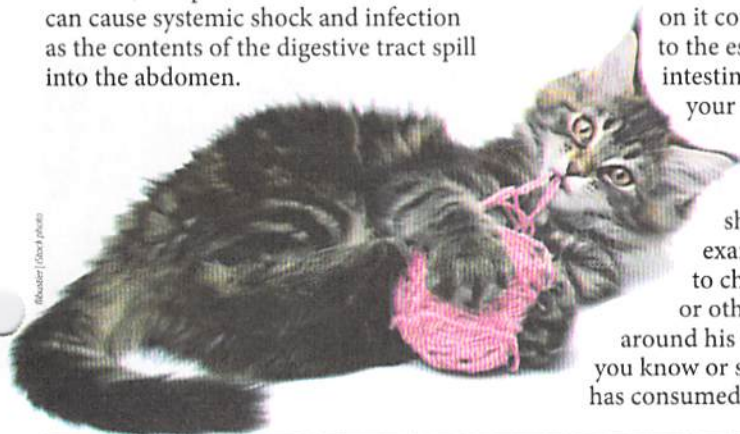
"Most owners think that it would be a routine intestinal surgery in order to extract the string," says James Flanders, DVM, DACVS, Emeritus Associate Professor Section of Small Animal Surgery. "However, we always remind them that there is a chance that the string has seen through the wall of the intestine and there may be peritonitis or the need to do a resection of damaged intestine." The surgeon will carefully free sections of the string one at a time to prevent any further damage to your cat's tissues. Depending on the length and location

The \$64,000 Question: Can I Just Cut the String?

CatWatch: Do you ever recommend that an owner cut the string, let the cat swallow the exposed end, and monitor the cat?

Dr. Flanders: If an owner could not afford the surgery then this might work. There is certainly a risk that the string will continue to do damage. However, there is a chance that it could pass if it does not get caught on anything during its passage through the entire intestinal tract.

When possible, have the string removed promptly before it has time to damage your cat's digestive tract.



Size Matters

Longer strings are more likely to cause a problem, but any string can do damage under the right conditions. Dr. Flanders says: "If the string is caught around the cat's tongue then the string needs to extend from the base of the tongue into the small intestine at least 6 inches or so. That would be about 18 to 24 inches at a minimum. Remember though, sometimes the string is caught in the stomach or in the small intestine and in that case it would not have to be so long."

Other items that cats like to play with that can cause harm include rubber bands, hair ties, and even the twist ties from bread bags. All of these are thin and long, making them more likely to get caught on something and then tighten as the intestines do their thing.

of the string, this may require several incisions in the intestines themselves.

The surgeon will also evaluate your cat's entire intestinal tract to look for damaged tissue. If any section of the intestines has been cut off from its blood supply, the surgeon will remove the necrotic tissue and close the intestines back up so that there is only healthy tissue left behind. If there has been a perforation, the abdominal cavity will be flushed several times to clean it out. The extra care taken now could prevent your cat from needing a second surgery.

After surgery, your cat will need supportive care. "The string can really cause a lot of trauma to the stomach and the lining of the intestine as it rubs against the lining. We expect the cats to feel pretty crummy for a few days so they need some analgesia and sometimes some appetite stimulation," says Dr. Flanders. "If the owner can get the cat to take some sucralfate then that helps to coat the stomach and makes them feel a bit better. We also may recommend Onsior (a non-steroidal anti-inflammatory drug) for a few days. If a cat has had an intestinal perforation, we will usually prescribe antibiotics for one to two weeks to prevent or resolve infection."

Prevention

The best way to prevent your kitty from ingesting string or yarn is to prevent access to these items unless your cat is under direct supervision. ■

IBD: A Challenging Diagnosis

You'll need to put on your detective hat for this one

Inflammatory bowel disease (IBD) is caused by an abnormal influx of inflammatory cells into the gastrointestinal (GI) tract. These cells thicken the walls of the GI tract and interfere with digestion and the absorption of nutrients. Cats of any age can get IBD, but it's usually middle-aged and older cats. Male and female cats are equally affected. Based upon similarities between IBD in people and dogs, genetic abnormalities of the immune system are thought to play a role in feline IBD.

While the cause of IBD is poorly understood, it is believed to arise from a complex abnormal interaction of the immune system, diet, bacterial populations in the intestines, and other environmental factors. In spite of the fact that it can be a challenge to diagnose, affected cats can live high-quality, comfortable lives.

Signs of IBD

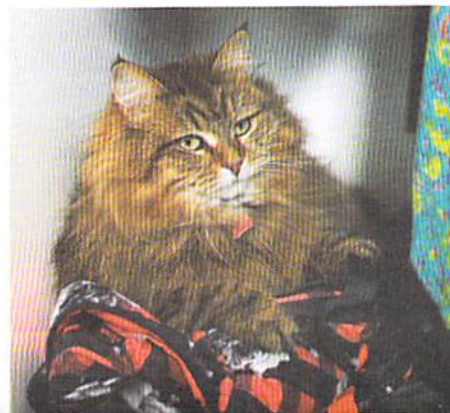
Most cat owners first notice vomiting, which initially may be dismissed as a hairball problem, but chronic vomiting may indicate IBD in the stomach or small intestine. Affected cats may have diarrhea, and blood in the diarrhea may indicate large intestine involvement. Many cats will lose weight despite a voracious appetite. Other cats may show a decreased appetite and weight loss.

Abdominal pain and lethargy may be observed, and chronic or severe cases may develop hypoproteinemia (low levels of protein in the blood) with associated fluid buildup in the abdomen, which is called ascites (see "Ascites Is a Serious Symptom," CatWatch July 2020, available at catwatchnewsletter.com). Ascites requires immediate veterinary attention.

Detective Work

Diagnosing IBD usually begins with ruling out intestinal parasites and screening for feline leukemia virus (FeLV), feline immunodeficiency virus (FIV), and hyperthyroidism, all of which can show similar clinical signs. Additional diagnostic blood tests may be performed, including:

- ▶ Serum biochemistry
- ▶ Complete blood count
- ▶ Serum folate
- ▶ Vitamin B12



A cat hiding in unusual but quiet places like a closet may be indicating he isn't feeling well.

On physical examination, your veterinarian may palpate thickened loops of intestines due to the infiltration of inflammatory cells.

Radiographs are not usually helpful, but an abdominal ultrasound may suggest IBD and can help evaluate the liver and pancreas as well. (Cats can have inflammatory disease in the small intestine, liver, and pancreas at the same time, a condition called "feline triaditis.")

To arrive at a definitive diagnosis, biopsies of the intestine obtained via either an endoscope (flexible camera that is passed into the GI tract) or laparotomy (surgical opening of the abdomen) are often necessary. Both modalities require general anesthesia. Even with biopsies, the distinction between IBD and small-cell lymphoma can be challenging in some cases.

Many veterinarians choose to start treatment based on a presumptive diagnosis of IBD before recommending intestinal biopsies. If your cat is elderly or frail, this may be the best option. Treatment for internal parasites is often

The "Itis" Dictionary

You may hear different terms used for IBD depending on what areas of the GI tract are affected:

- ▶ Gastritis: stomach
- ▶ Enteritis: small intestine
- ▶ Colitis: large intestine

Clinical Trial at CSU

The Feline Cancer Core at Colorado State University (CSU) is studying the use of stem cells to treat feline IBD. Cats with a biopsy-confirmed diagnosis of IBD can be entered in the study. If an adult cat has chronic diarrhea, but has not yet had a biopsy, the study may pay for the diagnostic workup needed. The study also will pay for most of the costs associated with treatment. For more information, go to <https://tinyurl.com/CSU-study>.

recommended as the first step, as this is not likely to cause harm and may be beneficial if parasites are the cause of the symptoms observed.

Dietary Management

Dietary modification may help get your cat's IBD under control. Most diet-management recommendations begin with using "novel" protein sources, meaning those your cat has never eaten before, because proteins are often the ingredient that induces an immune response that can lead to inflammation in the GI tract. Rabbit, duck, or venison-based diets are common initial choices. It may take several weeks, or even longer, for cats to improve after a diet change. If novel protein sources are not successful, your veterinarian may recommend a hydrolyzed diet, in which the proteins have been broken down into smaller pieces that may not induce an immune response in the GI tract.

During any food trial, all other food sources—including table scraps, flavored medications, and treats—must be eliminated. If symptoms do not improve with the dietary changes, your cat may benefit from diets that are high in fiber, low in fat, and easily digestible.

Your veterinarian may recommend vitamin B supplementation because IBD decreases the absorption of B vitamins. B12 (cobalamin) is given via injection weekly initially, then it is tapered to every other week and potentially every month or six weeks. Your veterinarian may suggest that you add a prebiotic and/or probiotic to your cat's diet to help build up the good bacterial flora in the gastrointestinal tract.

Soluble fiber, in the form of psyllium, may help cats with the colitis form of IBD. Omega 3 fatty acids have helped people with Crohn's disease, and it

is theorized that they may help cats, although more studies need to be done.

Additional beneficial nutritional supplements may include vitamin E, vitamin A, vitamin C, zinc, and N acetyl glucosamine. These antioxidants can help suppress inflammation. Note: Trying to just up your cat's dose of these vitamins without veterinary supervision is not a good idea. For instance, too much vitamin A can cause irreparable damage to the liver.

Medical Therapy

Fecal microbiota transplants are sometimes used as part of treatment for cats with IBD. For this therapy, fecal material from healthy cats is compacted into pills that are then given to the cat with IBD. The goal is to help re-establish normal gut flora in the intestinal tract.

The medication metronidazole has antibacterial, antiprotozoal, and anti-inflammatory effects, so it covers a lot of bases. It may even resolve a mild case of IBD, although flare-ups are common. Some cats will lose their appetite while on metronidazole. It is not usually prescribed long-term.

Most veterinarians also prescribe a corticosteroid, such as prednisolone, to decrease inflammation in the GI tracts of cats with IBD. All steroids have some side effects, though, including suppression of the immune system, increased appetite, thirst, and urination, and the potential development of diabetes mellitus. Luckily, cats are moderately resistant to many side effects of these medications.

While cats may need to start on a high dose of corticosteroids to get IBD under control, the goal is to gradually reduce the dose to the minimum needed to be effective. In many cats, dosing frequency can ultimately be decreased to every other day.

Budesonide is a corticosteroid drug that is used to treat conditions like Crohn's disease and ulcerative colitis in people. Now also being used to treat IBD in some cats, its actions are localized to the intestinal tract, which means less chance of systemic side effects. Unfortunately, it is quite expensive.

Severe cases of IBD often need stronger immunosuppressive medications, such as chlorambucil. While these medications can help control IBD symptoms, they also have some serious potential side effects, including a decrease in the production of white blood cells, red blood cells, and platelets in your cat's bone marrow.

Under Study

Stem-cell therapy is showing some promise in the treatment of feline IBD. In this modality, mesenchymal stem cells are isolated from adipose (fat) sample taken from the cat to be treated. By using the cat's own cells, the likelihood of rejection is minimized. The processed cells are given by intravenous injection. It is not clear whether the mesenchymal stem cells act as immunosuppressants or more as immune-tolerance agents, but they do have immunomodulating effects.

Limited studies on the use of stem-cell therapy for feline IBD have been carried out so far, but based on human studies, this is a promising potential treatment for IBD in cats. In a study performed at Colorado State University, five of seven cats with IBD showed a positive response to stem-cell therapy.

The prognosis for complete resolution in cats with IBD is guarded, but about 80% of affected cats respond to diet and prednisolone therapy and can be managed successfully. Unfortunately, severe IBD may progress to small cell lymphoma in some cats. ■



An abdominal ultrasound allows your veterinarian to evaluate the internal organs.

Panting a Cause for Concern in Cats

Frequent or prolonged panting warrants a vet visit

When cats get hot, their preferred means of cooling down are lounging in cool or shady areas (such as your bathroom or kitchen floor) and grooming themselves to allow the saliva on their fur to evaporate just like our sweat does. Cats also can sweat through their paw pads and noses. Panting (rapid, open-mouthed breathing) is a last resort for a cat that is extremely overheated.

Unless your cat has just been playing hard for an extended period of time in a warm environment or is extremely stressed (healthy stressed cats may pant), panting is a cause for concern.



If you see persistent panting, contact your veterinarian.

Signs of Trouble

Observe your cat's posture and behavior as well as the frequency and context of panting episodes. These clues can all help point to the cause of the panting. Normal breathing should be smooth and effortless, with no audible sound and just a gentle rise and fall of your cat's chest as his lungs expand.

Concerning observations include:

- ▶ **Posturing with the head and neck stretched out and slightly raised.** This indicates that the cat is having difficulty breathing and is trying to minimize resistance to air entering the lungs.
- ▶ **Abdominal breathing.** The cat's abdomen will violently expand and contract, helping to force air in and out of the lungs.
- ▶ **Pale gums.** This may indicate poor circulation secondary to a variety of conditions including heart failure, shock, or anemia.

- ▶ **Rapid shallow breaths.** Shallow breaths do not inflate the lungs properly, and may not be providing the body with sufficient oxygen.
- ▶ **Exercise intolerance.** A cat who is suddenly unable to undertake normal activities without panting.
- ▶ **Signs of distress or illness.** This includes signs like unusual hiding, weight loss, unkempt hair coat, and poor appetite.

Trouble in the Chest

Most physical or infectious causes of panting and difficulty breathing are found in the cat's chest. Daniel Fletcher, PhD, DVM, DACVECC, Associate Professor of Emergency and Critical Care at Cornell, says: "The three most common causes of respiratory distress are asthma and its acute exacerbation; heart failure, which

causes fluid to build up in the lungs; and pleural effusion, which is a collection of fluid in the space surrounding the lungs that makes it difficult for a cat to expand its chest."

An asthma attack or traumatic injury to the chest usually will cause respiratory distress to come on suddenly. The other causes tend to be more gradual, with changes in your cat developing slowly and increasing in severity and frequency. For example, a cat going into heart failure may start off by only panting after playing hard, but then start to pant after going up a flight of stairs or even while resting.

Although fairly rare in cats, a heartworm infection also can cause respiratory difficulty, exercise intolerance, and panting.

In a workup for unexplained or frequent panting, your veterinarian will start by listening to your cat's heart and lungs for any obvious abnormalities with the sound of his breathing or heartbeats. Bloodwork may be done to check for signs of infection or systemic illness, and radiographs (x-rays) will be taken to evaluate the chest. On a normal radiograph, your cat's lungs will show up mostly black, with the heart clear and distinct. X-rays can reveal the presence of tumors in the lungs, clouding of the lungs caused by infection or congestion, and the characteristic outlining of inflamed airways seen with asthma.

In some cases, an echocardiogram may be recommended to evaluate the structure and function of the heart. This is often performed by a veterinary cardiology specialist with additional training and equipment. An electrocardiogram also may be done for cats with suspected heart disease.

If your veterinarian suspects a viral, bacterial, or fungal infection to be the cause of your cat's panting, he or she may collect a sample to send out to a diagnostic lab. Samples can be taken from the nostrils or the lungs depending on the case, and collection may require sedation or anesthesia depending on the technique used.

Rhinoscopy, the use of a tiny flexible camera that is passed into the nasal cavity, can be used to check your cat's nasal passages for tumors or other issues and to take biopsies.

The specific treatment recommended will depend on the cause of your cat's panting, but cats in respiratory distress will usually be provided with supplemental oxygen. ■

What You Should Do

If you notice your cat panting, the most important thing is to stay calm. Panicking may stress your cat out and could make the situation worse.

Evaluate the context and consider what your cat has been doing. Did you just find him after he snuck out the door and went missing for a couple hours, or has he just been lounging in his favorite spot? Has he been playing hard for an extended period of time?

Periodic panting without other signs of respiratory distress or other problems is a concern, but you can usually schedule an appointment during regular business hours after consulting with your veterinarian. Persistent panting, though, should be considered an emergency requiring immediate veterinary consultation.

Whiskers and Food Bowls

Should we be using whisker-friendly bowls?

Your cat's whiskers are a sensitive part of her anatomy. Also called vibrissae, whiskers are touch-sensitive hairs that grow in a couple of locations around your cat's body. The most notable site is on the muzzle.

Muzzle whiskers help cats navigate in dark areas. They also guide a cat as to whether she can fit through a narrow space. In addition, whiskers are part of a cat's body language and used to help express emotions.

You may have heard about "whisker fatigue" in cats, which may arise from overstimulation of the whiskers, such as may occur while eating out of a narrow food bowl that causes the whiskers to constantly touch the sides of the bowl. A study from the Animal Medical Center in New York City looked at this potential problem.

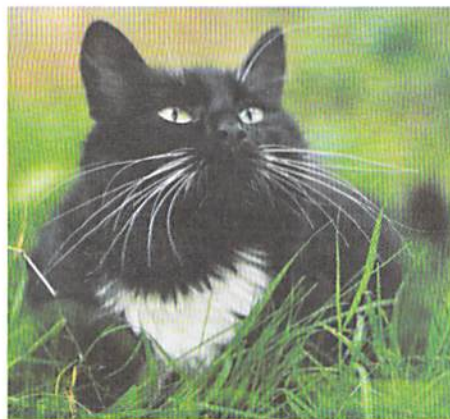
Forty cats were volunteered by their owners to eat out of their regular bowls and then out of special "whisker friendly" bowls (38 cats completed the study). Half of them used ceramic bowls and half used stainless-steel bowls. At the beginning of the study, each cat had facial photos and whisker measurements taken. Their normal bowls were measured, and they were given test bowls of the same type of material.

Each cat was fasted for 12 hours then fed out of her regular bowl. A week later, this procedure was repeated, but the new bowl was used instead. A day after the test, the cats were offered food from both bowls to see if they preferred one.

Cats were videotaped eating with both types of bowl, so that a comparison of how much was eaten, if food was dropped, and how much time each cat spent eating could be made. No differences were found between the two types of bowls, but 63% of the owners felt their cats preferred the "whisker friendly" bowls. That information, of course, is a subjective evaluation.

Obviously, the study needs to be repeated with more cats and with the owners "blinded" as to which type of dish the cat was eating from. Also, different types of food should be evaluated, as this study only used dry food. ■

Slovak JE, Foster TE. Evaluation of whisker stress in cats. *J Feline Med Surg [Internet]*. 2020 Jun 15 [cited 2020 Jun 15];1098612X2093019



Your cat's whiskers help him communicate and navigate his world, making researchers wonder if we need whisker-friendly bowls.

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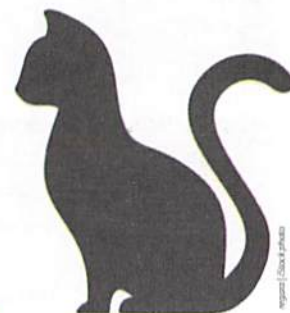
Be Careful With Essential Oils

Questions remain about their safety, especially for pets

A webinar from the Pet Poison HelpLine by Charlotte Flint, DVM, DABT, raises more concerns about essential oils, which are concentrated volatile plant oils found in many fragrances. Essential oils are readily absorbed orally, dermally, and through the respiratory tract (cats with feline asthma are especially susceptible to airway irritation and exacerbation of their respiratory problems). Many essential oils can cross the blood-brain barrier, which means they can enter the brain.

Cats can't metabolize some compounds as easily as dogs. They are deficient in a process called glucuronidation, which occurs in the liver. This is one reason that medications, shampoos, and flea-control products made for a dog carry a warning that the product cannot be used in a cat. If you use essential oils, you should know that:

- 1 Skin irritation and intoxication can occur if the cat accidentally gets oil on their paws. Symptoms include drooling, loss of appetite, and ulcers and burns on the mucous membranes of the mouth.
- 2 Cinnamon oil can cause painful, ulcerated lesions on your cat's paws and liver toxicity. There is no antidote. Care involves the use of gastrointestinal protectants.
- 3 Citrus oils concentrated in dips and shampoos may contain limonene found in citrus plants and can cause vomiting, diarrhea, skin irritation, and tremors.
- 4 Not all products are created equal. Plants are affected by growing conditions and geographical location, time of harvest, and possible adulteration with herbicides or pesticides, so quality and purity can vary significantly.
- 5 Dawn dishwashing liquid can remove much of any oil that may get on your cat's coat, but the cat should be seen by a veterinarian immediately if he shows symptoms. ■



Influenza and Your Cat

Cat-to-human transmission

Cats are susceptible to some strains of human flu, and previous studies have suggested that, in some cases, humans have transmitted flu to cats. However, the question of whether cats transmit flu to humans has been the subject of debate.

During a 2016 outbreak of the H7N2 strain of avian influenza in a New York City shelter, a shelter veterinarian with a flu-like illness was infected with the same strain of virus as the sick cats, suggesting cat-to-human transmission.

While this strain of flu virus was not particularly dangerous, this news highlights the importance of being vigilant about the potential for animal-to-human transmission (and vice versa) of influenza virus. ■

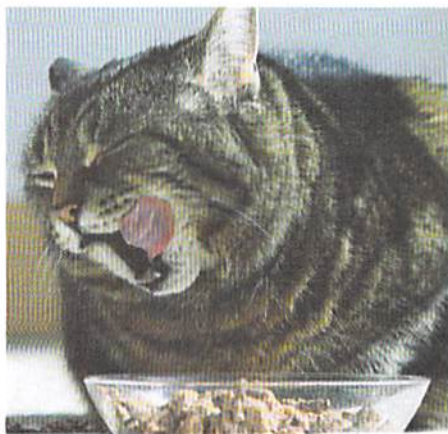
Tracking Carbohydrates

With diabetic cats, this is mandatory for good health

Q In two recent articles, you said the formula for calculating carbohydrate content in wet food was provided to assist diabetic cat owners find appropriate food. When my cat was first diagnosed as diabetic several years ago, I searched the web and learned that determining carbohydrate content on a dry matter basis is complicated and must come from the vendor directly. It seems that this cannot be calculated from the label or even info on the vendor website. Different websites provided different carb percentages for the same food. Can you provide any guidance?

A Thanks for getting in touch, and I understand your confusion about this topic. The different ways that nutritional information is supplied on cat foods can be hard to understand, so perhaps a brief review of some basic principles would help. It is vital, though, that you consult with your veterinarian, and perhaps a veterinary nutritionist as needed, in making the ultimate decision regarding which food to feed your kitty.

In general, the ideal diet for a diabetic cat should be low in carbohydrates (less than 12% of the energy contained within the food should be in the form of carbohydrates) and moderately high to high in protein (greater than 40% of the



Canned food may be a better choice than dry food for kitties watching their weight.

energy contained within the food should be in the form of protein). Canned food may be better than dry food (this is debatable), as it contains more water and makes cats feel more full after eating, which can make it less likely that a cat will become overweight (maintaining a healthy body weight is an important aspect of diabetic management). For the same reason, relatively low energy-density food (i.e., weight-loss diets) may help these cats.

To determine the carbohydrate content of cat foods on a dry matter basis

for a diabetic cat—or any cat for that matter—you can:

- ▶ Calculate the dry-matter percentage by subtracting the moisture content from 100%.
- ▶ Calculate the carbohydrate percentage by subtracting all of the following percentages from 100%: moisture, crude protein, crude fat, crude fiber, and ash.
- ▶ Calculate the carbohydrate percentage on a dry-matter basis by dividing the carbohydrate percentage by the dry matter percentage and multiplying this number by 100 (to give the result as a percentage).

The carbohydrate percentage on a dry-matter basis should be less than 20 for diabetic cats. There are therapeutic diets that are available through your veterinarian that meet these and other nutritional requirements, but there are also foods available over the counter that do a pretty good job of meeting these dietary recommendations. Please discuss these options with your veterinarian.

Of course, while diet is an important part of managing feline diabetes, control of blood glucose with insulin is also vital in most cases. If you work in close collaboration with your veterinarian, I am sure that you can devise a management plan that will keep your cat happy and healthy in spite of being diagnosed with this common condition.

I hope that this is helpful, and please send us an update when you can. ■

© HAPPENING NOW...



Elizabeth's popular column is being continued by Bruce Kornreich, DVM, PhD, DACVIM, Director of the Cornell Feline Health Center and Editor-in-Chief of

CatWatch. You can write to Dr. Kornreich 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.

Coming Up ...

- ▶ Warning Signs of Cancer
- ▶ FIP Research Holds Promise
- ▶ Signs Your Cat Loves You
- ▶ Do I Really Need All That Testing?

What a Ride—A cat was rescued after climbing into a car engine bay and going on a four-mile 70 mile-per-hour trip along a dual highway, reports *BBC North East & Cumbria*.

When the driver stopped at his destination, he heard the cat. As soon as the car stopped, though, the cat jumped out and ran into the engine of another car! Fortunately, he was rescued and returned to his owner without injury.

World's Oldest Cat Dies—Rubble passed away in July at age 31 (150 in human years), according to multiple news sources. He lived in Exeter, England.

While it is not clear yet what cat is now considered the new world's oldest living cat, Creme Puff, a Texas cat who lived to age 38, retains the Guinness title as the oldest cat ever.

Cats and COVID-19 Anxiety—*UC Davis News* says cats may be benefiting from the COVID-19 anxiety people are feeling. A new study from researchers at the University of California, Davis, and California State University, East Bay, finds that the more neurotic and anxious cat owners are, the more trust and affection they have for their cat.

Worthwhile Donation—*WKTAR News* in Arizona says that the Fetch Foundation is donating to firefighters the Fido Bag, which includes a specialized breathing apparatus that is formed to fit across a pet's mouth and allows for a secure seal on the pet's face to help prevent smoke inhalation. The bags also include specialized burn sheets, bandages, rinsing saline, protective restraints, collapsible water dishes, and stuffed toys. ■