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

Grant Renewal

Financial assistance for cancer treatment

The Cornell University College of Veterinary Medicine, Petco Foundation, and Blue Buffalo renewed a grant that subsidizes the cost of cancer treatments for qualifying owners of dogs and cats.

The two-year, $150,000 grant is part of the "Petco Foundation & Blue Buffalo Cancer Treatment Support Fund," available at the Cornell University Hospital for Animals to owners who otherwise could not afford the cost of cancer treatment.

Since partnering with Cornell in 2010, the Petco Foundation and Blue Buffalo have provided $500,000 to Cornell for cancer treatment and research, assisting 136 families thus far.

"Many pets greatly benefit from radiation and chemotherapy after a cancer diagnosis, but affording treatment can be difficult for some owners," says Dr. Meg Thompson, director of the Cornell University Hospital for Animals. "We are grateful to the Petco Foundation and Blue Buffalo for a grant that alleviates a large portion of this stress during an already challenging time for clients." ■



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Chirps and Chatters

Some felines sound more like birds than cats

Does your cat make noises that sound nothing like a traditional meow? She's not the only one! While purrs, hisses, and, of course, the famous "meow" are the best-known cat sounds, cats have a wide repertoire of noises they use to communicate with other cats and us.

Chirping

"A chirp is given by the queen when she is returning to her kittens, perhaps to call them so they can all nurse at the same time," says Pamela J. Perry, DVM, PhD, Behavior Resident at the New York State College of Veterinary Medicine at Cornell. This is a happy sound that indicates familiarity.

But chirps aren't just for mother cats. "Adult cats chirp to get the owner's attention," says Dr. Perry. "I had a cat, Curly, who would chirp on command. Then when he really, really wanted something, he would chirp exuberantly!" (See sidebar, below.)

Chattering

While chattering is cute, it isn't quite as happy a sound as chirping. "Cats often chatter when they are watching prey through a window," says Dr. Perry. "It appears to be hunting-related and due to excitement and frustration from not being able to get the prey." If your cat is not an avid hunter or doesn't have much opportunity to observe prey animals, you may never hear her chatter.

Noisy Breeds

Any cat can chirp or chatter, as it's more an individual personality trait than a breed tendency. As for noisiness in general, some breeds do stand out. "Oriental breeds certainly have a reputation for being vocal," says Dr. Perry. "Siamese and Tonkinese cats were reported in one study to be the most vocal, whereas Persians, Maine Coon, and Ragdolls were the quietest." So if you live in an apartment with fussy neighbors, a Siamese kitten may not be the best fit for you right now.

Changes in Vocalization

"Any change in behavior, including vocalization, should alert an owner to seek veterinary advice," says Dr. Perry. "Cats may vocalize when ill, distressed, or in pain. A change in the cat's voice also may indicate a problem in the larynx or pharynx." Foreign objects lodged in the cat's throat can distort her voice, as can tumors in that area of the body. And just like us, some cats cry out when in pain while others hunker down and stay very quiet, probably in a preferred hiding place where the cat feels secure.

Dr. Perry adds, "Geriatric cats often vocalize more frequently, especially at night. This may be an indication of cognitive dysfunction or other diseases," which may require a veterinary visit to rule out causes. (See February 2018 "When Kitty Battles Dementia.") ■

Sounds on Command

You can teach your cat to vocalize on command. Start by doing some reconnaissance: Find out what treats or toys she likes as a reward, and in what situations she makes the desired sound, be it a meow, mew, or chirp. When you know she is likely to make the sound, be ready to reward her. After several repetitions, she will figure out that the sound is earning her the reward and will start offering it to you intentionally. At this point, you can introduce a cue, such as "speak," "meow," or "chirp."



Photo courtesy Pamela Perry DVM

Curly would chirp on command.

Caution With Homemade Feline Diets

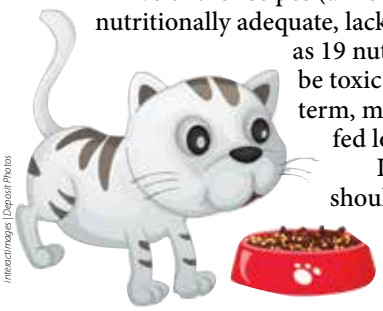
Even published recipes can fall short on nutritional needs

A study in the May 15, 2019, *Journal of the American Veterinary Medical Association* looked at the nutritional adequacy of recipes provided by various sources for homemade diets for cats. The recipes evaluated were all for maintenance only, and no therapeutic diets were included.

Of the 114 recipes examined, only 94 had enough information for them to be analyzed and compared to National Research Council nutritional recommendations for cats (see related story sidebar on p. 7). Recipes were located online or in books, with some being provided by veterinarians and others by non-veterinarians.

Directions for preparing and feeding the diets were often lacking. Preparation can influence the availability of some nutrients, and the amounts fed affect how much of a given nutrient a cat gets with each meal.

Virtually all the diets lacked some essential nutrients, including choline and taurine in some cases. Some recipes contained extra amounts of important nutrients, but no recipe met all of the recommended allowances for a healthy feline diet.



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Five of the recipes (all formulated by veterinarians) came close to being nutritionally adequate, lacking one nutrient. Others were deficient in as many as 19 nutrients. A few recipes included ingredients that can be toxic to cats, such as garlic and onions. Over the short term, most cats could handle these diets, but when they are fed long term, deficiencies would likely become evident.

If you make home-prepared meals for your cat, you should consult a veterinary nutritionist, such as at Cornell (http://www.loftuslab.vet.cornell.edu/nutrition-service.html or 607-253-3060), for a customized recipe designed for your cat. ■

Torn Cruciate Ligaments

Study suggests cats do best with conservative treatment

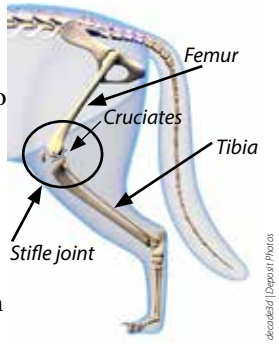
The cranial cruciate ligament helps to stabilize the knee (stifle) in cats. Cats who tear their cruciate ligaments usually will be acutely lame. Upon veterinary examination, a "drawer sign" (abnormal laxity of the stifle) will be evident, suggesting instability of the joint.

In dogs, especially large dogs, surgery is generally recommended to restore the pet to soundness. Surgical techniques vary, from dramatic tibial plateau leveling osteotomy (TPLO) to the less invasive lateral suture technique, to stabilize the joint. Smaller dogs are often treated with a lateral suture repair or conservative management. Cats are smaller than most dogs that rupture their cruciate ligaments, and they can also be amazing in their ability to get around despite orthopedic injuries.

In a retrospective study done at two university hospitals in Sweden and reported in the March 2019 *Journal of Feline Medicine and Surgery,* 60 cats with cruciate injuries were identified. Of these cats, 50 had follow-up to evaluate how their therapy worked. Conservative treatment was pursued in 28 cats, while 22 had a surgical lateral suture technique.

Cats with surgical correction tended to score higher (more painful) on the pain assessments, even long-term, than cats who only had conservative care. (The Feline Musculoskeletal Pain Index was used for pain evaluations.) In addition, more cats who had surgery ended up rupturing the cruciate ligament on the other rear leg (common in dogs who have surgery).

This study strongly suggests that cats with cruciate injuries might be best served by conservative treatment. Conservative therapy may include crate rest, use of a brace, and rehabilitation exercises. This requires owner dedication and willingness to provide supportive care, but in the long run, the prognosis appears to be better with this approach, in most cases. ■



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The cruciate ligaments crisscross at the cat's stifle.

CatWatch

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Caring for Your Sphynx Cat

These cats are lots of fun but have a few special needs

Sphynx cats know how to have fun and love interacting with their people. Some owners say they're mischievous and noisier than the average cat. But they're not really completely hairless.

Sphynx cats often have a fine layer of down, which can cover the body or just grow around the head, tail, and feet. The hairs are so fine they may make the cat feel like suede or peach fuzz. Some Sphynx cats may have a few whiskers, while others have none. This cat's unique skin and coat require special care.

Skin Care

In furry cats, the oils secreted by the cat's skin are dispersed along both the skin and the hair shafts. Because Sphynx cats lack a thick coat, the oils have nowhere to go. This can cause an oily buildup on the skin, which can make the cat feel greasy and may lead to skin disorders. To keep the skin healthy and clean, regular baths with a gentle shampoo and warm water may be necessary.

Sphynx cats have pronounced wrinkles around their face and shoulders. While adorable, these skin folds are the perfect spots to trap skin oils, so pay special attention to these areas when bathing your Sphynx.

The bare skin of Sphynx cats is easily sunburned. Short walks on a leash and harness are great exercise, but try to stick to areas with a fair amount of shade or use a shirt to protect your cat's skin. Avoid sunscreen because many contain ingredients toxic to cats.

Hairless cats like the Sphynx may be predisposed to a skin condition called urticaria pigmentosa. This is a rare condition in which defective mast cells build up in the skin, lymph nodes, liver, spleen, and bone marrow. It will usually appear as red papules on the skin. In cats, this condition is generally treated with anti-inflammatories such as glucocorticoids, antihistamines, and fatty acid supplements. If you notice these abnormal skin patches, make an appointment with your veterinarian.



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The Sphynx cat can be a fun, loving pet.

Keeping Warm

As you probably expected, Sphynx cats are prone to getting cold. Sphynx often curl up in sunny spots on the floor, fuzzy blankets, and the warm spot on the couch when you get up to get a drink. They also love to snuggle. As you hold a Sphynx, you will notice that he feels very warm, which is because his body heat escapes directly into the air and is not trapped by his coat.

To help keep your Sphynx cat warm, especially in the winter, make sure he has plenty of cozy spots to rest. You also can teach him to wear clothes as an extra layer of warmth. Have at least two sweaters on hand so that you can swap them out regularly to wash—those skin oils will build up quickly on clothing.

Nail Care

Delicate skin unprotected by a hair coat can be easily damaged by normal scratching. Trim your Sphynx's nails regularly to prevent overgrowth. Commercial nail caps are another option to cover the sharp nail tips.

Training

Because of their high intelligence and energy, Sphynx cats usually enjoy learning tricks. You can teach your cat to do just about anything—sit, shake, retrieve, and even come when called. Training is a great bonding activity, and mental activity will tire out a crazy kitty faster than physical exercise alone.

The Sphynx is one of several breeds of hairless cats, including the Bambino, Donskoy, Elf Cat, Ukranian Levkoy, and the Peterbald. If you're willing to provide the additional care, the Sphynx cat can make a wonderful, loving, fun pet. Their life expectancy is nine to 15 years, compared to 13 to 17 for an indoor domestic shorthair cat. ■

A Word on Allergies

No cat is truly hypoallergenic, and Sphynx cats are no exception. While these cats have very little hair, they still have plenty of dander and skin oils, which are usually the trigger for humans with cat allergies. If you are allergic to cats but want a feline friend, do a trial run ahead of time to see if you react to that particular cat.

Did You Know? Blood Type and Breeding

Like many other purebred cats, most Sphynx are blood type B. This blood type is less common than type A, which is found in most domestic shorthairs and mixed breed cats. Rarely, a Sphynx will be type AB. This is important to know if your Sphynx has a health emergency that requires a blood transfusion, because giving type A blood to a type B cat causes a fatal reaction. Both the potential donor and recipient should always be blood typed before performing a transfusion. This can be performed with an agglutination test at your vet clinic.

Blood type is also important to know if you are considering breeding Sphynx cats. In rare cases where the kittens do not have the same blood type as their mother, antibodies passed to the kittens in the colostrum can cause reactions.

Blood type both parents and brush up on your genetics before breeding a litter to avoid unnecessary heartbreak.



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Blue-eyed Sphynx kittens

When Hospice Is Needed

The Five Freedoms can keep you on track

Everyone hopes the day will never come, but at some point, you may notice that your cat is approaching the end of her life. When this happens, your goal becomes to keep her comfortable and happy for as long as possible.

The American Association of Feline Practitioners (AAFP) differentiates hospice and palliative care, but they are similar: "Hospice care is a system for providing comfort care to animals nearing the end of their life and emotional support for the clients who love them. Palliative care focuses on the relief of suffering while providing for the best quality of life regardless of the disease outcome."

A cat needing hospice care may have a terminal or chronic illness or injuries that mean a decreased quality of life. Treatment may have been attempted and failed or perhaps treatment was not considered appropriate for this cat and her conditions.

When developing a palliative care plan for an individual cat, the essential Five Freedoms for quality of life should be considered. The Five Freedoms are:

1. Freedom from hunger, thirst, and malnutrition. Make sure your cat is eating a nutritious diet. While this may need to be adjusted for health problems (such as protein levels for a cat with kidney failure), basically you want your cat consuming appropriate foods. This may change over time. At some point, you may have to resort to "whatever she will eat." It's not unheard of for a cat at this stage to dine on canned shrimp alone.

Remember that feline appetites rely heavily on smell. Make sure your cat has a clean nose. When in doubt, choose food flavors that come with a stronger odor. Warming up the food can increase the scent. Always check the temperature before you serve the food. It should be lukewarm, not hot.

Short-term appetite stimulants can increase a cat's appetite. Some need to be administered by your veterinarian. Mirtazapine can be formulated as a pill or a transdermal gel, which is applied to the inside of the ear to absorb through the skin.

Many families feel that when their cat can't or won't eat on her own it is time to consider euthanasia. Used short-term, feeding pureed foods that can be gently warmed and fed as a slurry can help a cat to maintain nutritional adequacy for a longer time.

You will need to experiment with both foods and fluids, trying items with a strong scent such as the juice from canned tuna or offering foods and drinks at different temperatures (always test to make sure foods are not too hot before feeding). Different flavors may induce consumption and the favored flavor may change from day to day.

The same is true for drinking. You need to provide plenty of options for fresh clean water. Always make sure your cat can access her water sources and food bowls. Don't expect a senior cat to climb stairs or get up on a counter to eat or drink. Many senior cats benefit from subcutaneous fluids near the end of their lives, especially cats with kidney failure.

If your cat has been eating from dishes on the floor, try raising them up a bit. This might help a cat with arthritis in her neck to eat and drink more easily. A pet water fountain may entertain your cat and encourage more drinking.

2. Freedom from discomfort. One way to avoid discomfort is to keep your cat cool in hot weather and warm in cold weather. Frail, elderly cats tend to suffer from hypothermia more than being too warm. Extra padded beds around the house, soft blankets, and resting places set where patches of sunlight come through windows are appreciated by senior felines. Heating pads can be dangerous if your cat is too frail to move away if she gets too warm. Padded hot water bottles or frozen ones in hot weather are better ways to add to her comfort.

Some cats will lie on top of heat or air-conditioning vents, depending on the season, but many cats don't like air blowing over them. A soft bed located near the vents could be appealing. Cats in hospice care should only go outside in catios or on a leash and harness and always with supervision.

Part of physical comfort could include the location of necessities such as food, water bowls, and litterboxes. Senior cats with arthritis and elderly cats who are

Five Freedoms History

These Five Freedoms were released in 1965 in the United Kingdom for livestock husbandry. They were developed by British scientist Roger Brambell in response to concerns in animal activist Ruth Harrison's 1964 book *Animal Machines*. Officially published in 1979, they have been adopted by veterinarians and animal organizations around the world.

In 2016, David Mellor, a professor at Massey University in New Zealand, published a paper called "Moving beyond the 'Five Freedoms' by Updating the 'Five Provisions' and Introducing Aligned 'Animal Welfare Aims' " (Animals [Basel]. 2016 Oct; 6 [10]: 59. Published online 2016 Sep 23. doi: 10.3390/ani6100059), which expands upon the original Five Freedoms and moves them from what he considers a negative/avoidance slant to a positive focus.



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Providing quality of life as our feline friend ages is the most important way we can show our love for all he gives us.

frail with muscle loss will have trouble going up or down stairs. Even negotiating a high lip on a litterbox might be too much. Think about options such as a lipped cookie tray for a litterbox, and put newspaper under and around to catch litter, urine, or stool that gets kicked out or misses the mark. Placing ramps to provide access to preferred places such as a bed can also make things easier on elderly cats with arthritis.

For cats who tend to slip, strategic placement of nonskid rugs or mats can help keep them mobile but safe.

Self-grooming can become difficult for many old cats. Consider shaving areas that tend to mat, especially in long-haired cats. Choose quiet, cordless clippers, which are less frightening to cats. A cat who is used to being groomed will appreciate daily brushings. You may need to experiment to find grooming tools that work better with the thin skin that comes with age. Grooming mitts work well. Even a gentle wiping all over with a warm, damp washcloth can help some cats feel and look better.

Special consideration should be given to nail care. Younger, healthy cats wear off old nail sheaths by scratching, stretching, and pulling on scratching posts. Older cats might prefer horizontal scratching devices. Even if you have never had to clip nails before, you might need to with an elderly cat. Start by doing one paw, or even one toe at a time if necessary, until she becomes accustomed to it.

3. Freedom from fear and distress. For many cats, any change in routine can lead to fear and/or distress. This is not a good time to add a new pet. Most cats in palliative care don't want the uproar that accompanies a new family member.

Try to keep standard times for feeding, grooming, and any interactions with you. Familiarity helps to keep a senior cat content. Discourage visits by anyone except family members and friends the cat has enjoyed over the years and knows well.

4. Freedom from pain, injury, and disease. Managing pain and illness symptoms will require a close working relationship with your veterinarian. Again, each cat is an individual. A drug combination that works for pain in one cat may not provide relief for another cat. Some pain medications also provide some sedation, which can be important for cats in their last days to give them pain relief and let them relax and be comfortable. If your cat detests pilling, look into options for compounded medications (see p. 6) that can be given transdermally or orally in a flavored liquid.

You walk a fine line providing pain medications, and you may have to balance potential side effects with the need to keep your cat comfortable and pain free.

Acupressure points may give some temporary relief as can warm or cool compresses. Learn about massage techniques to relax your cat and give some comfort if your cat is one who enjoys human touch.



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Daily assessments can become necessary as your cat works through the stages of his illness.

5. Freedom to express normal patterns of behavior, as long as it does not cause injury to them or another species. Behavior changes are sometimes the first way to recognize that your cat has reached the end stages of her life. A cat may become more resistant to touch or interaction, and may even hide. Other cats become friendlier, seeking out people for companionship. Relationships with other pets in the household may change as well. A cat may ignore an animal who was a lifelong buddy or alternatively may only move to follow a dear friend.

Loss of senses can change a cat's outlook and attitude. While most cats will retain a sense of smell until death, hearing loss and visual impairments are common in elderly felines. You may need to try creative approaches to help your cat with these losses.

Stomping your foot on the floor as you approach a sleeping deaf cat will alert her to your presence via the vibrations. Cats also learn to react to a flickering small flashlight. Sometimes a cat can still hear a whistle even if most human vocal communications are lost.

A cat with vision loss can make her way around your home using "scent trails" she has established over the years. Don't rearrange furniture and, in most cases, she will be fine.

While these freedoms were developed to help all animals, keeping them in mind can be an especially helpful guide through the course of hospice care for your cat. ■

It Will Be OK

Hospice is a time to let your cat set the limits and make the choices. This can be difficult if you would like to cuddle with your cat and she prefers to be alone. This may be hard to accept, but it is important that you allow your cat to make these decisions. It is simply what she needs at that particular moment.

Whenever a choice is made to start palliative or hospice care, it is time to prepare for euthanasia. This is a gift that veterinarians can provide to their patients. When it is no longer possible to relieve pain or to maintain quality of life, a humane death is possible. You need to ask yourself the hard questions: Are you keeping your cat alive for her or for you? Is your cat having more bad days than good days? For the second question, it may help to have a list of things you feel are important to your cat. You can check off activities daily to see which ones she is still enjoying.

A decision for euthanasia, made out of love, is one of the most unselfish and courageous decisions you will ever make. Plan ahead to minimize the stress to your cat, including making use of sedatives and doing a home euthanasia if your vet is willing. Consider what your plans are for remains (cremation, a pet cemetery, or home burial if it is allowed in your area).



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Compounded Drug Benefits

For cats, it's often to make the drug easier to give

One day, you may find yourself heading for a pharmacy because your veterinarian prescribed a special drug that the pharmacist has to prepare. These medications are called "compounded drugs," and they serve an important role in veterinary medicine.

Compounded drugs are not necessarily generic drugs. Generic drugs have been tested and approved by the FDA as being the bioequivalent of a brand-name drug. The FDA advises veterinarians that an approved brand or generic drug should be used before considering a compounded medication.



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A compounded medication may allow your veterinarian to choose an easier route of administration.

Avoiding Pills

With cats, a common reason to compound a drug is its route of administration. Cats are often tenacious about rejecting pills, but a transdermal route—such as through the skin of the ear—is usually accepted much more easily. The downside is that, in some cases, compounded drugs may not be absorbed in the same manner as their non-compounded counterparts, resulting in variability in drug absorption.

Compounded drugs are "not subjected to the quality testing that traditionally manufactured products are," according to the Veterinary Information Network. The product may contain more or less of the active ingredient. The stability of the product may also be variable, despite being labeled with a "beyond use date." Expiration dates are rarely used because the drugs are not tested over long periods of time. The "beyond use date" is an approximation of when the drug is no longer stable.

When choosing to use a compounded drug for your cat, ask your veterinarian these two important questions:

- Does the pharmacy conform to the United States Pharmocopeia guidelines?
- Is the pharmacy accredited by the Pharmacy Compounding Accreditation Board?

These two boards offer guidelines for best practices, as well as information about compounded products. While they are not regulatory boards like the FDA, they can help in ensuring a compounded medication's quality and consistency.

A good example of a commonly compounded medication is methimazole, which is used to treat hyperthyroidism, a common disease of older cats. Both brand name and generic methimazole tablets are available, and these are usually the first choice in treatment of hyperthyroidism.

However, because many cats are difficult to give pills to, transdermal methimazole has become popular. Since there is no approved transdermal methimazole available, a compounded drug is the only option. Other frequently compounded medications include buprenorphine, metronidazole, and fluoxetine.

Veterinary Appointments

It is important when deciding to use a compounded medication—or any medication for that matter—that your cat is monitored closely for response to therapy. Your veterinarian may require more frequent bloodwork and check-ups to ensure that the medication is working properly. ■

Do You Have a Question for Elizabeth?

Send Ask Elizabeth questions and letters to the editor to:

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

Rules Surrounding Compounded Drugs

The prescription of veterinary drugs is regulated by the Food and Drug Administration (FDA). In 1994, the Animal Medicinal Drug Use Clarification Act (AMDUCA) legalized the use of compounded drugs and established the conditions under which they can be prescribed. Compounding is the preparation of a drug according to a veterinarian's prescription. This must be done for a medical condition and within an established veterinary/client/patient relationship. It is popular in veterinary medicine because of the unique demands of animal patients.

The AMDUCA allows compounding under these conditions:

- An approved drug is not available for the condition
- A drug is on back order
- Administering the medication is not possible (i.e. oral versus transdermal)
- A different strength is needed

Note that cost is not a valid reason to prescribe a compounded medication.



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Special Feline Nutritional Needs

When it comes to nutrition, cats are indeed unique

Who would have guessed feline nutrition could be tricky? Many major nutrients must be consumed by your cat for him to stay healthy. While your cat food likely includes the proper levels of these nutrients, it's important for you, as the cat owner, to understand what they are and why they are important.



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Cats need to consume certain amino acids that are only found in meat.

Amino Acids

While most amino acids can be produced by animals from basic nutrients, there are "essential amino acids" that an animal must get from food. For cats, there are 11 essential amino acids: arginine, methionine, histidine, phenylalanine, isoleucine, threonine, leucine, tryptophan, lysine, valine, and taurine.

Taurine and arginine are especially unique since they are only found in animal protein, which means meat. That means cats are "obligate carnivores"—they must eat meat to remain healthy. They cannot produce adequate amounts of these two amino acids on their own and cannot obtain them from a vegetarian/vegan diet.

Taurine

Taurine is important for cardiac function. A deficiency of taurine can lead to fatal heart failure, generally presented as dilated cardiomyopathy. This heart condition is characterized by thinning of the walls of the ventricles, dilation of the ventricles, and a decreased ability of the heart to pump blood through the body.

Blindness, deafness, and reproductive problems may result from taurine deficiency, but the symptoms take time to develop. Most cats can eat a taurine-deficient diet for a several months before any signs of illness develop.

Arginine

Arginine is important in the production of ornithine, an amino acid that is important in the detoxification of ammonia, which is a waste product of protein digestion. If ammonia is allowed to build up in a cat's system (toxicity), there is a fairly rapid onset of vomiting, ataxia (incoordination), seizures, and other neurologic signs.

Since, as obligate carnivores, cats consume high amounts of protein in their daily diets, diets low in arginine may predispose to ammonia toxicity.

Arachidonic Acid

Arachidonic acid is an essential fatty acid involved in the inflammatory response. Many animals can convert linoleic acid to arachidonic acid via the liver enzyme delta-6-desaturase, but cats lack this enzyme, so they need a dietary source. Arachidonic acid also helps with maintaining skin health, clotting, and reproduction. This essential fatty acid is found in animal fat, another reason that your cat needs animal sources for much of her diet.

Vitamins

Cats also need special attention when it comes to vitamins. Most animals can make an adequate amount of vitamin A from compounds in vegetables such as carrots or leafy greens. Cats tend not to enjoy vegetables to begin with, and the enzyme required to manufacture vitamin A from these substances is not very effective in cats, so they need a dietary source of vitamin A. Vitamin A can be found in liver, fish oil, egg yolks, beef, and some dairy products.

Most animals can make vitamin D when exposed to sunlight, but cats cannot. In addition, they have trouble metabolizing the plant form of vitamin D (D2) so they need vitamin D3 in their diet, which they must obtain from animal sources. These are fat-soluble vitamins, which means they can build up to toxic levels in the fat in your cat's body, so you don't want to overfeed vitamin D to cats.

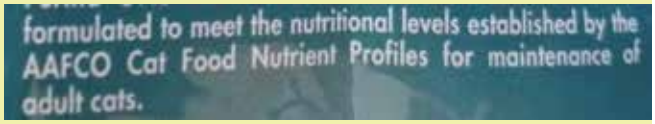
Cats need niacin in their diets. Niacin is also referred to as vitamin B3, or nicotinic acid. Many animals can convert extra tryptophan (an amino acid) to niacin, but cats have large amounts of the enzyme picolinic acid carboxylase that interferes with the conversion. Niacin is found in organ meat (like liver), beef, fish, poultry, and eggs.

Clearly, cats have unique dietary requirements, which may be why homemade cat diets aren't always a good idea (see p. 2). While "mouse in a can" would be perfect, most owners rely on proprietarily prepared balanced, complete foods produced in a manner that is informed by objective scientific research (see sidebar). ■

Did You Know? AAFCO vs. NRC

The two most important resources to ensure your cat's food is complete and balanced are AAFCO (Association of American Feed Control Officials) and the NRC (National Research Council). It's important to understand that these two organizations do not have the same nutrient requirements, and controversy continues among nutritionists as to which is preferable. Nevertheless, for now, most pet-food companies present an AAFCO statement on their bags, and AAFCO recommendations are widely accepted within the pet-food industry as minimum requirements for nutrients in cat food.

Check your cat food (or manufacturer website) for the AAFCO statement for that particular food. Be sure that it is appropriate for your cat's life stage (growth, reproduction, adult maintenance, all life stages). This says the food is considered nutritionally complete and balanced, per AAFCO standards. If you don't see this statement, you may want to reconsider.



Look for the AAFCO statement on your cat food bag.

Grieving Is a Natural Process

Welcoming a new cat to your home can be a tribute to the love your deceased kitty brought into your family

Q We recently lost our dear 22-year-old cat after a prolonged illness, and her absence has left a void in our lives that has been difficult. While we are considering bringing another cat into our home, the guilt associated with trying to "replace" her has caused us hesitation. I'm not sure how you can help, but we thought others may be experiencing the same dilemma.



E_Smirnytskova | Depositphotos

Your heart will tell you when it's time to open your home to a new feline friend.

A Thank you very much for contacting us, and please accept my deepest condolences for your loss. I know that this is a difficult time, and you are clearly grieving, which is why you're hesitant to get another kitty. Feline friends become part of the family and losing a beloved cat can be as emotionally challenging for people as losing a relative or close friend (more so, in some cases).

It's important that you understand grief is a normal process and that people go through it in very different ways. Regardless of this variability, though, the grieving process that most people go through after losing a beloved friend has a number of things in common, including different stages that may be experienced in variable orders.

The common stages of the grieving process include denial (during which time the bereft may have difficulty accepting their loss), anger (which can prompt internal thoughts about the unfairness of their loss), bargaining (characterized by raising questions about how outcomes may have been different if we had noticed things or taken action earlier), depression (which can be characterized by lack of motivation, crying, and difficulty sleeping), and acceptance of the fact that our loved one is no longer with us.

While it is natural for those who are grieving to continue to feel sad about their loss, the process usually results in a gradual return to a more normal emotional state in which the bereft can cope with the normal stresses of life and return to a more optimistic outlook on the future. It is very important that those who are grieving are supported by family and close friends, and that they are reminded that there should be no guilt associated with this gradual return to normalcy. Some people feel guilty in resuming a more normal life without the beloved pet that they have lost, and being reminded that resuming this normalcy does not in any way diminish their love for the cat they have lost can be very helpful.

In most cases, people who are grieving the loss of a feline friend can manage getting through the grieving process with support of family and friends, and can ultimately resume life with the loving memory of their lost loved one serving as a source of emotional warmth and thankfulness. In some cases, though, grieving individuals may have more difficulty coming to terms with a loss and with the resumption of normal life. In these cases, it may be very appropriate to seek grief counseling from a trained professional social worker, therapist, or psychologist, and it is very important to note that there is no shame associated with, nor valid stigma associated with, seeking such help.

I hope that this is helpful, and my wish is that you and your family will ultimately pass through the normal process of grieving and emerge from it with a fond and heartwarming remembrance that will be with you for many years to come.

Best wishes to you from all of us here at *CatWatch* and The Cornell Feline Health Center, and may your memories of your baby be happy and peaceful.

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.

Coming Up . . .

- *Is Your Cat Angry or Frightened?*
- *Using Pred in Cats*
- *Build a Basic First-Aid Kit*
- *Immunotherapy for Cancer*

HAPPENING NOW…

Oxygen Masks Donation - The *Durham County (N.C.) News* reports that veterinarian Sabrina Grinstead donated a dozen $125 pet oxygen masks to the Durham Fire Department. "I've been looking for a way to contribute . . . and I came across the need for the masks," Dr. Grinstead says.

Award Winner - The Cat Writers Association awarded the Grooming and Feline Skin Care Award to *CatWatch* writer Kate Eldredge Basedow for her article "Time Takes its Toll on Tangles" (January 2018). "This article is straightforward and easy to digest, yet educational! Great read," says the judge.



Gstt | Depositphotos

Declawing Law - New York is again considering a declawing law. If passed, NY would be the first state to ban it. Denver, some California cities, and Switzerland, Israel, and the United Kingdom have similar laws.■