



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

THIS JUST IN

Help for Stressed Cats

Gabapentin shows promise

A study at UC-Davis looked at using gabapentin for short-term stress relief in cats traveling to the veterinary clinic. Gabapentin has been used in cats for seizure and pain control, but human studies show some reduction of anxiety as well. An earlier study used gabapentin for feral cats involved in trap/neuter/release programs to reduce fear responses.



The study cats were all healthy but fractious or anxious during travel and less-than-compliant about procedures at the clinic. The goal was a reduction in anxiety as detected by owner and veterinarian, and video interpretations by behavioral experts.

By all accounts, the cats were less stressed. Some cats showed some ataxia or wobbliness for up to eight hours after the drug was administered but otherwise had no ill effects. This study suggests that the medication must be given about 90 minutes before travel and two to three hours before the actual appointment.

Since stress is often given as a reason for avoiding regular preventive veterinary care for cats, this could be an important step towards better feline health. ■

Journal of the American Veterinary Medical Association, November 2017

INSIDE THIS ISSUE

Stem Cells for Feline Asthma	2
Urinary Problems: Herbs	2
Cat-Food Roulette	3
Did You Know? Raw Diet Risks	3
Systemic Fungal Infections	4
Dementia in Cats	6
5 Reasons Your Cat's Vision is Unique.....	7
Licking Off Patches of Hair	8
Happening Now	8

Are Essential Oils Safe for Your Cat?

Perhaps, but our advice is don't use them

The growing popularity of essential oils for health, ambiance, and behavior modification has led to real feline-safety concerns. The problem is that cats have a unique set up for enzymatically metabolizing many compounds in their liver, so something safe to use around dogs and humans may still be toxic to your cat.

Among the known toxic-to-cats essential oils are:

- ▶ Cinnamon oil
- ▶ Citrus oil (d-limonene)
- ▶ Clove oil
- ▶ Eucalyptus oil
- ▶ Oil of sweet birch
- ▶ Oil of wintergreen
- ▶ Pennyroyal oil
- ▶ Peppermint oil
- ▶ Pine oils
- ▶ Tea tree oil
- ▶ Ylang Ylang oil

However, it's important to check with your veterinarian and never assume an oil is safe just because it isn't listed here. Both the ASPCA Poison Control Center and Pet Poison HelpLine recommend avoiding the use of essential oils around your cat unless specifically approved by your veterinarian for aromatherapy.

Contact Through Skin and Air

Safety concerns relate to different modes of contact with related symptoms of toxicity. For starters, never apply any essential oil to your cat's skin. Many oils can have a local dermal irritant effect, especially in areas with minimal hair, such as the groin. Some oils may be absorbed through the skin, plus cats may lick off and ingest oils on their hair coat.

Many essential oils are diffused into the air with an "active" diffuser, which means droplets of oil are put into the air. If she gets close enough, the cat may get oils on her coat. She may also inhale

some of the oil droplets. According to the Pet Poison HelpLine, "Liver failure can potentially develop depending on the type of essential oil that was used and the dose that the cat was exposed to."

With passive diffusers, your cat is unlikely to get oil on her coat, but she can inhale the compounds, causing respiratory irritation. This is true of any strong odor/fragrance. Watch for signs of distress: labored breathing, fast breathing, panting, coughing, or wheezing.

If you see any of the red-alert warning signs, something is not right. Your cat should immediately be removed from the room with the odor and given fresh air to breathe. If your cat does not recover rapidly, you should contact your veterinarian immediately.

Not All Oils Are Bad

All warnings noted, essential oils are sometimes used for cats, including for parasite control. In these cases, the site and frequency of application, and the amount applied, are important. Always look for the highest quality and purity of essential oils, if you use them, and check with your veterinarian as a precaution to be certain the oil is safe.

If you suspect toxicity from the use of essential oils, be sure to note how the oils were used, the brand, concentration, and exact combination of oils when you contact your veterinarian or an animal poison control center. ■

Red-Alert Warning Signs

- ▶ Ataxia (wobbliness)
- ▶ Difficulty breathing
- ▶ Drooling
- ▶ Lethargy
- ▶ Low body temperature
- ▶ Low heart rate
- ▶ Nausea
- ▶ Respiratory distress
- ▶ Tremors
- ▶ Vomiting
- ▶ Watery nose or eyes



istockphoto.com / iStockphoto

Stem Cells for Feline Asthma Woes

We're not quite there yet, but a study shows promise

Stem-cell injections are common in veterinary medicine, but mostly for joint and lameness problems in dogs and horses. A pilot study in the *Journal of Feline Medicine and Surgery* may change things for cats with asthma.

Asthma is a scourge for cat owners, as affected cats usually require treatment for life. Therapy may involve oral medications, inhalers, and periodic hospitalization for severe flare-ups. Treatment can be costly, and it is certainly not fun for the owner or the cat.

This stem-cell study involved six cats with experimentally-induced asthma. Four of the cats received intravenous injections of stem cells derived from connective tissues over a period of about four months. The other two cats received

a placebo treatment. The six cats were followed for nine months.

Over time, the cats treated with stem cells showed statistically improved respiratory signs based on a variety of measurable factors, including blood counts, immunologic tests, and CAT scans. The results provide hope for asthmatic cats in the future. Before celebrating, however, more studies will need to be done with larger numbers of actual clinical cases of cats with feline asthma. ■



Trzil JE, Masseur I, Webb TL, et al. Intravenous adipose-derived mesenchymal stem cell therapy for the treatment of feline asthma: a pilot study. J Feline Med Surg. 2016;18(12):981-990.

Urinary Problems: Herbs Are Not the Answer

If natural solutions don't work, they're not worth trying

A study in the *Journal of Feline Medicine and Surgery* looked at using Chinese herbs to treat cats with urinary-tract problems. As we wrote in our September 2017 issue (go to catwatchnewsletter.com archives to read the article), lower urinary-tract problems are common in cats. The cause might be infection, crystal formations, or may be without known cause—the infamous “idiopathic cystitis.”

Cats with urinary problems can show a wide range of signs, including frequent urination, pain on urination, and accidents outside the litter box. Owners may notice the cat straining to urinate or passing blood in their urine. All are causes for concern.

The reasons behind bladder problems in cats are as wide ranging as the symptoms seen. Diet is often considered a factor, along with hydration. Stress seems to be involved in many cats, and there may be genetic predispositions.

Treatment is aimed at dealing with as many causes as possible, so

behavioral management, diet changes, encouraging drinking, and medications may be used. Goals include lowering the concentration of urine and increasing urine volume so that cats flush their bladders more often and more fully. Many owners want a “natural” therapy for health problems.

This study looked at three medicinal Chinese herbs: San Ren Tang, Wei Ling Tang, and Alisma. It was hoped that these herbs might increase urine volume and correspondingly dilute urine as well as decrease urine pH so there would be fewer crystals. Cats received each herb for two weeks, with a one week washout period in between.

Only six cats were in the study—all healthy spayed females. Unfortunately, none of the herbal supplements showed a benefit for urinary problems. Further studies, perhaps using higher doses and/or cats with naturally occurring disease, may be warranted, but these supplements are not recommended at this time. ■

<https://www.ncbi.nlm.nih.gov/pubmed/29256321>



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, Clinical Sciences

Pamela J. Perry, DVM, Ph.D.
Lecturer, Clinical Sciences,
ACVB Behavior Resident



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**

B 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. ©2018 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.

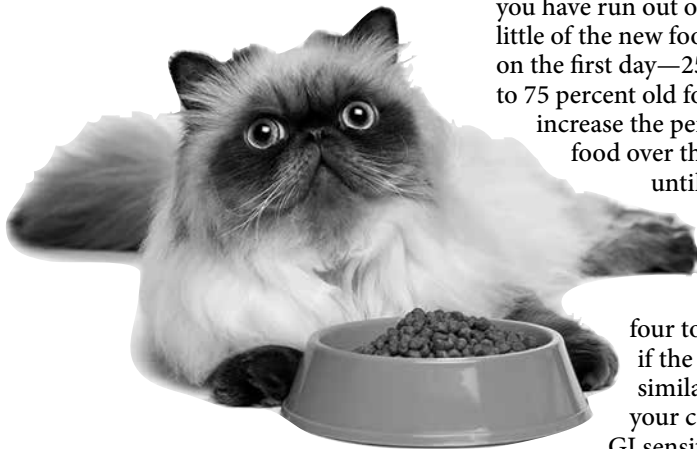
Cat-Food Roulette

Feeding cats the same food every day isn't realistic or necessary—it's OK to make a switch

Life can bring valid reasons for switching your cat's food, including an illness that requires a specific diet or a discontinuation of the formula you usually feed. Or maybe you've heard good things about a new brand and want to try it out. Or there's a great deal on a brand of cat food this month . . . the reasons are endless. So, is it OK to switch? Yes, just make the switch sensibly.

Check the Label

Whichever brand of cat food you're feeding, or even if you make your own (which is not a trivial endeavor), your



Feeding your cat two or three different cat foods provides flavor variety and may prevent your cat from developing an exclusive preference for a single food.

cat's diet needs to be balanced and complete to meet his nutritional needs. The Association of American Feed Control Officials (AAFCO) determines the nutritional needs of cats in their various life stages, and these standards should be used by pet-food companies when formulating their diets.

If you're considering a new food, check the package label to make sure that it has an AAFCO statement on it that says the food has been formulated to meet the AAFCO nutrient guidelines or that the food has been verified through feeding trials.

Feeding trials are considered the gold standard, but most foods use the nutrient profile standards, and that's just fine. As long as you see an AAFCO statement, the

food should contain everything that your cat needs.

How to Mix It Up

When changing your cat's diet, the most important thing is to make the transition gradually. Sudden diet changes, particularly if your cat has been eating the same food for a long time, may cause gastrointestinal (GI) upset. This can manifest as something as simple as a little loose stool or, in more severe cases, as bloody diarrhea and/or damage to your cat's digestive tract.

Start introducing the new food before you have run out of the old food. Mix a little of the new food in with the old food on the first day—25 percent new food to 75 percent old food—and gradually increase the percentage of new food over the next several days, until your cat's meal is completely made up of the new food. For most cats, a switch can be done in four to five days, especially if the two foods are fairly similar in ingredients. If your cat has a history of GI sensitivities, make the change over a period of seven days or longer to give him plenty of time to adjust to the new food.

Incorporate Variety

Feeding the "same food" has a bit of leeway in it. We all know cats are notorious for being finicky. Some cats will only eat one flavor of one brand of food, while others seem to change their tastes every other day and expect you to keep up with their desires.

But relax, says the Cornell Feline Health Center, you can safely handle these demands: "Feeding your cat two or three different cat foods provides flavor variety and may prevent your cat from developing an exclusive preference for a single food." Cats need to eat on a regular basis to maintain optimum health, so having a couple different types of food on hand for a picky eater can help to keep him eating daily.

And regular meals are so very

important for cats, even overweight cats. Although a gradual caloric restriction and increased exercise will help him to lose weight, stopping eating entirely can lead to a serious condition called hepatic lipidosis (see our December 2017 issue or visit catwatchnewsletter.com archives).

Emergency Situations

In addition, sometimes a gradual transition to a new diet isn't possible. If your cat is being switched to a special diet for a medical problem, ask your veterinarian if it would be better to take a few days to do the switch or to do it immediately. The answer will vary depending on what is wrong and how severe the issue is.

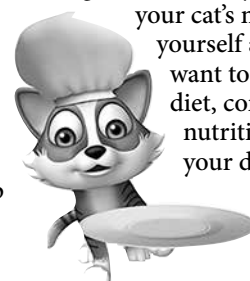
Natural disasters—earthquakes, blizzards, tornadoes, fires—can interfere with store shipments, leaving you without your usual brand of food. And traveling or moving always brings the risk of forgetting to pack enough cat food and not knowing where to get more. In these situations, buy the food that seems most similar to what you have been feeding. If possible, mix that food with something bland, such as boiled chicken or plain canned pumpkin. If your cat has some loose stool or diarrhea, don't worry too much; but if the diarrhea persists for more than a day or two a call to your veterinarian is in order. ■

© DID YOU KNOW?

Considering a Raw Diet?

Hygiene ranks at the top of the list of precautions

As cats are obligate carnivores, a raw meat-based diet sounds like the perfect option. Unfortunately, that "natural" diet also comes with some all-natural risks, including parasites and bacteria, such as *Salmonella*. Be aware of the symptoms associated with food-borne pathogens if you are feeding raw, and use good kitchen hygiene when preparing



your cat's meals to protect yourself and your family. If you want to make a homemade diet, consult with a veterinary nutritionist to be sure that your diet is balanced and provides all of the necessary nutrients for your cat. ■

Systemic Fungal Infections

Systemic infections spread throughout the body, and they can be deadly

The first fungal infection that comes to mind when we think of cats is ringworm. As you likely know, it doesn't involve a worm, but rather the fungus *Microsporum canis*. This is a skin infection that often has round, ring-like lesions. It is not life-threatening, although it does require exquisite hygiene and weeks of topical and/or oral medication to cure.

It is also contagious to humans, in whom the lesions are even more obvious. Still, ringworm infections are generally a minor blip in the life of cats who get infected. Read more about ringworm in our October 2017 issue (available at catwatchnewsletter.com).

Systemic fungal infections are much more serious. A systemic infection is one that spreads throughout the body via the bloodstream. Many organ systems can be affected in a systemic infection.

Some of these fungal infections are not common, but they can be deadly. Systemic fungal infections tend to start out as respiratory infections or in single wounds, but can spread throughout your cat's body. They require prolonged treatment with drugs that can have serious side effects. In some cases,



You can't stop an outdoor cat from playing in dirt.

treatment is not effective and infected cats will succumb to infection.

Cats with chronic disease or compromised immune systems due to viral infections—such as feline leukemia virus (FeLV) and feline immunodeficiency virus (FIV)—or the administration of immune-compromising drugs, such as corticosteroids and chemotherapeutic drugs, are at highest risk.

What to Do

Preventing fungal infections can be difficult, particularly if your cat goes outside. When digging to cover up their feces or working through dirt while hunting, cats can easily become exposed to fungal spores. A cat with a healthy immune system may be able to fight off these exposures without ever becoming ill. Cats with suppressed immune systems are at a higher risk of infection.

Indoor cats may be exposed if you dig up dirt from outside and use it for potting indoor plants. Aerosol exposure (as in spores blowing in through a window) is much less likely.

If you live in an area with a higher risk of fungal infections (see "Description" under each of the fungi listed below for locations) or have traveled with your cat to these areas, be aware of any changes in your cat's health, and let your veterinarian know if you have traveled to high-risk areas. Early diagnosis, especially if you catch an infection while it is still localized and has not gone systemic, greatly improves your cat's prognosis.

Protect your cat from immune-compromising diseases by vaccinating

for FeLV and by avoiding contact with cats that may be infected with FIV (there is a vaccine available for FIV, but its effectiveness is controversial).

Keep your cat fit and on good nutrition and follow an appropriate parasite-control program. A healthy, vaccinated, parasite-free cat who develops an infection has a better chance of coming through the illness and treatment in good shape. Luckily, systemic fungal infections are not common, but it's important to be aware of the symptoms and possibility of infection.

Cryptococcosis

Fungus: *Cryptococcus neoformans*

Description: This is the most common systemic fungal infection found in cats. This organism is found virtually everywhere in the soil. Some forms of the fungus are normally present on the skin and in the gastrointestinal tract of healthy cats. It is most concentrated in areas where bird (particularly pigeon) droppings collect. These areas of high concentration can remain infectious for years, especially if the droppings collect in a shady and damp area.

Transmission: Most cats become infected by inhaling the spores (dormant reproductive form) of the fungus.

Symptoms: Signs of upper-respiratory illness show up in cats where the infection has taken hold. Sneezing and a bloody or pus-like nasal discharge (which may only be from one nostril) may be noted. In addition, up to 70 percent of all cases develop a polyp in the nostril or a mass under the skin on the bridge of the nose. Masses can show up under or in the skin in other locations as well. Large lumps tend to open, ulcerate, and drain, leaving raw sores. The head and legs are the most likely sites for these lesions.

Cats may also show neurologic signs, such as seizures, circling, and paralysis. You might notice your cat acting depressed and/or different from her normal temperament. Some cats will go blind. Chronically infected cats may have a poor appetite and weight loss.

Diagnosis: Diagnosis is usually achieved by visually identifying the organism in the discharge from one of the nodules or from the nose under a microscope. A culture and/or other blood work may be suggested to verify a diagnosis. A CT scan or MRI may

What You Can Do

If your kitty spends any time outdoors or assists with potting plants, keep her vaccinated, and up-to-date on parasite control. Be aware of the symptoms that could indicate a fungal problem:

- ▶ Depression
- ▶ Diarrhea
- ▶ Fever
- ▶ Lack of appetite
- ▶ Neurological issues, like wobbling
- ▶ Non-healing lesions, especially those that drain and ulcerate
- ▶ Reduced vision
- ▶ Respiratory issues (sneezing, coughing, bloody or pus-filled discharge, difficulty breathing)



Indoor cats love window screens, although fungal spores can come in with the breeze.

be recommended to evaluate the nasal passages, sinuses, and skull in the case of nasal infections.

Treatment: Oral itraconazole, fluconazole, ketoconazole, or amphotericin B are therapeutic options, and the effectiveness of each of these drugs may vary depending upon the site of infection and stage of disease. Treatment is often required for months to totally clear the infection.

Prognosis: Cats who just have nasal involvement have a fair to good prognosis. If the infection has spread beyond the nasal cavity to involve the brain, prognosis becomes more guarded.

Prevention: Prevention is difficult since the spores are ubiquitous (everywhere). Still, avoiding areas where pigeons congregate is helpful for your cat if she goes outside. Keeping your cat indoors, in good health, and vaccinated against FeLV (particularly if he/she goes outside) are the best preventive measures.

Sporotrichosis

Fungus: *Sporothrix schenckii*

Description: Sporotrichosis is a relatively uncommon but potentially dangerous fungal infection. Like most fungal infections, the spores are found in dirt and rotting vegetation. Regions along river valleys or in coastal areas have the highest incidence.

Transmission: This infection tends to enter cats via wounds in the skin, including cat bites and scratches. If a cat who has any spores on his mouth or on his nails fights with your cat, the spores may be deposited into the wounds.

Symptoms: Sporotrichosis infections tend to present as abscesses, draining wounds, or skin ulcerations at the site of wounds that caused transmission. Nearby lymph nodes may be affected. When it does spread via the bloodstream, tissues anywhere can become infected, although the lungs and liver are preferred

sites of systemic infection.

Diagnosis: Cats with non-healing wounds on the face, tail, or legs (common cat-bite sites) should be checked for sporotrichosis. The discharge from these sores usually has large numbers of the organism present when looked at under the microscope.

Confirmation by culture may be helpful.

Treatment: As with any of the fungal infections, long-term treatment (i.e. months) with antifungal drugs such as itraconazole is required. Recommendations for treatment generally suggest continuing medication for a month after the wound appears to be healed.

Prognosis: Prognosis is good if the duration of treatment and compliance with therapy are good. Systemic spread and/or poor therapy compliance and/or too short a duration of therapy are associated with a poor prognosis.

Prevention: Keeping your cat indoors or only outdoors under supervision (so she is not involved in any cat fights) is helpful, especially in immunocompromised cats. This is an illness that can be spread to people, so good hygiene should be practiced when treating any wounds on your cat. Children and anyone with a compromised immune system should not handle these cats or attempt to treat the cat's wounds.

Histoplasmosis

Fungus: *Histoplasma capsulatum*

Description: This fungus is found in the soil and may spread by bird and bat population droppings. While it has been identified in 31 states, most infections tend to be found in river valleys, such as the Ohio, Mississippi, and Missouri river valleys in the Midwestern and southern regions of the United States.

Transmission: Once spores are inhaled or swallowed, infection may settle in the respiratory tract or travel to the gastrointestinal tract, bone marrow, and/or central nervous system.

Symptoms: Clinical signs will depend upon the site of infection. Many cats show high fevers, depression, diarrhea, and weight loss along with coughing and labored breathing. Anemia is common.

Diagnosis: Diagnosis is usually achieved via microscopic examination of samples obtained by either biopsy, fine needle aspiration, or trans-tracheal wash (respiratory tract). Fungal culture and/or other blood tests may also be used to confirm diagnosis.

Treatment: While some cats with normal immune systems may overcome the infection, most cats with histoplasmosis require extensive, prolonged treatment. Both antifungal medications and lots of supportive care in the areas of hydration and nutrition are important for success.

Prognosis: Prognosis depends upon the overall health of the cat and the extent of the infection. If the infection is limited to the lungs, the prognosis is fair. If it has invaded the central nervous system and/or other organ systems, the prognosis is guarded.

Prevention: Keeping your cat indoors and in good general health is your best option.

Blastomycosis

Fungus: *Blastomyces dermatitidis*

Description: This fungus is commonly found in river valleys, but may also be seen in and around the Great Lakes and along the St. Lawrence Seaway. Any area with moist soil rich with decaying vegetation and an acidic pH is ideal for this fungus to grow in.

Transmission: Inhalation of spores is the most common means.

Symptoms: Respiratory signs (difficulty breathing/coughing), skin lesions (abscesses, draining wounds), and ocular problems may be noticed. Your cat may cough or simply have exercise intolerance and act very lethargic. If the infection spreads to the bones, cats may develop lameness. Spread to the central nervous system can lead to seizures or changes in behavior.

Diagnosis: Microscopic examination of tissue biopsies or fluid samples collected from draining skin areas is required. Enlarged lymph nodes may also be removed for examination.

Treatment: Long-term therapy using antifungal drugs (itraconazole, fluconazole, amphotericin B) and supportive care are required.

Prognosis: Guarded, especially with lung and/or central nervous system involvement.

Prevention: Keep your cat indoors. Immediately contact your veterinarian if you see any signs of this disease. ■

When Kitty Battles Dementia

Just as with humans, your cat's increased lifespan means cognitive dysfunction is a real possibility

With dramatic advancements in feline veterinary care, our beloved cats are living longer and healthier lives. A cat who lives to be 20 years old is the approximate equivalent of a 96-year-old person. Unfortunately, all cats eventually show signs of aging.

Cognitive dysfunction (like dementia) is a common ailment of the senior cat, although the symptoms can be subtle and may sometimes mimic other illnesses. Up to a third of cats 11 to 14 years old may have cognitive dysfunction. That may rise to 50 percent for cats over 15 years old.

Behavioral Changes

Changes that can indicate dementia are:

- ▶ Aggression
- ▶ Altered sleep cycles
- ▶ Disinterest in food and water
- ▶ Disorientation
- ▶ Inappropriate elimination
- ▶ Irritability
- ▶ Loud vocalizing
- ▶ Reduced interaction with favorite people or toys
- ▶ Wandering



A normally playful cat who suddenly stops playing needs a veterinary checkup.

Some of these changes are easy to live with, but others can be dangerous for your cat and frustrating for you.

Rule Out Medical Problems

The first thing to do with all problems is take your cat to your veterinarian for an examination. While there is no specific test for feline cognitive dysfunction, many of the behavioral changes that fall under the umbrella of cognitive dysfunction can be caused by underlying health problems.

Your veterinarian will do a thorough exam, likely including blood work, to rule out other serious problems before diagnosing your cat with cognitive dysfunction. Medical problems that can

cause signs that may be confused with dementia include:

- ▶ **Arthritis** may cause a cat to stop playing and snuggling. She may eliminate outside a litter box with sides that are too tall; the sides make climbing in uncomfortable. The cat also may not want to navigate stairs to food and water bowls or a litter box on a separate floor of the house.
- ▶ **Hyperthyroidism** can cause excessive vocalization, particularly at night.
- ▶ **Hypertension** also can cause excessive vocalization along with retinal detachment, which will cause your cat to go blind. Sudden onset blindness will, of course, be accompanied by disorientation and stress.
- ▶ **Kidney disease** can increase urination and thirst. If you aren't able to keep up with your cat's new bathroom habits, she may avoid the dirty litter box in favor of other, cleaner spots.
- ▶ **Urinary tract infections** may cause her to be unable to get to a litter box in time or to soil a box more quickly than usual.
- ▶ **Deafness** often results in frequent, loud vocalization.
- ▶ **Blindness** causes disorientation and makes navigating around the house more difficult, including getting to food and water bowls.
- ▶ **Dental disease** can make eating uncomfortable. A painful mouth may cause your cat to be more subdued in general.
- ▶ **Brain tumors** can cause a wide variety of signs, depending on the location of the tumor.

If your cat is diagnosed with any of these conditions, treating that problem may resolve the behavioral issues. But, if she gets a clean bill of health, your veterinarian may suggest cognitive dysfunction as a cause of her changed behavior (see our November 2017 issue for additional information on geriatric cat health at catwatchnewsletter.com).

How to help

Just as is done for humans battling dementia, extra effort to keep your cat's mind sharp may reduce symptoms of cognitive dysfunction.

Enrichment. New toys, exercise (like chasing a feather on a wand), and teaching tricks are great ways to improve

Teach Your Cat by Shaping Behavior

It's a gradual process, rewarding "close" attempts

Cats are super easy to train by using "shaping." Shaping is a training technique where you build up to the desired behavior by rewarding steps in the right direction. To teach shaking hands, for example, you might first put your hand under her paw so she touches it. Give her a special treat, like a tiny piece of chicken, for the touch. Repeat, offering your hand and moving it closer to her to see if and when she'll touch it.

When she's touched it—even if you still have to move all the way under her paw—give her a treat. Don't force the issue, and it's preferable to use short training sessions.

Remember, you're shaping the behavior, which means you reward "close" behaviors, gradually asking for a movement closer to the desired behavior. You can also use this to teach your cat to high five, rear up, and more.



With patience and treats, you can teach an old cat new tricks.

learning and memory. Make a point of regularly engaging your cat's brain starting from when you first bring her home. If your cat's brain is in good shape to begin with, she'll be ahead of the game as she ages.

Steady routine. Cats like schedules. Make a schedule for your cat and stick to it as much as possible. Serve meals at the same time, so that she'll know when to expect them. If you leave food out for her all the time, plan a couple times to give her a special treat that she can look forward to.

Encourage her to keep a regular sleep schedule as well. If she is napping more frequently during the day, gently wake her up and carry her around petting her or try to get her to play. Preventing too many daytime slumbers will make it easier for her to sleep at night and cut down on the nocturnal wanderings. Note: Younger cats and kittens may sleep 20 hours a day, but adult cats average 14 to 16 hours.

Easy access. Food, water, and litter boxes should be easily accessible for your cat and should always be kept in the same spot. If your cat has difficulty navigating stairs, consider a little ramp for her to use. If she is disoriented or visually impaired, doors and baby gates can keep her confined to a part of the house where she can get to everything she needs and can't get lost, stuck, or injured.

Supplements. While there isn't much scientific data or research about supplements for brain health in cats, a diet rich in omega 3 fatty acids, vitamin E, and antioxidants may help support your kitty's mental health.

Medications. Your veterinarian may prescribe medications for your cat. Selegiline hydrochloride is approved

for cognitive dysfunction in dogs, but some veterinarians use it for cats as well. Fluoxetine and other anti-anxiety medications can help to cut down on behavioral changes due to stress and disorientation. Using cat pheromones in your house may help to keep your cat calm. (Note: We would avoid the use of essential oils—see p. 1. Essential oils can slowly poison your cat.)

Be careful with your choices. "There are certain drugs to avoid, such as some pain medications, anesthetic drugs, and

perhaps even supplements containing iron," advises Brian Glenn Collins, DVM, Section Chief of the Community Practice Service at Cornell.

Before adding any supplement purported to help with cognitive dysfunction, discuss the product with your veterinarian. Products like S-Adenosylmethionine (SAM-e), phosphatidylserine, ginkgo biloba, apoaquorin (which is like the human supplement Prevagen), and resveratrol may only put a hole in your wallet. ■

◎ 5 THINGS

5 Reasons Your Cat's Vision of the World is Unique

Compared to humans, feline eyesight offers advantages and disadvantages

- 1 **Eyeshine.** At night, when caught in the headlights of a car, a camera's flash, or other lights, cats' eyes glow with a bright green reflection. This is due to an iridescent, light-reflecting layer of tissue called the tapetum lucidum, which is behind the retina. This structure lets cats reflect light back through their eyes and enhances their night vision. Other species, such as cows, dogs, and ferrets, share the trait.
- 2 **Cone and rod cells.** Compared to humans, cats have a proportionately lower number of cone cells and a higher number of rod cells in their retinas. Cone cells handle day vision and color discrimination. Rod cells are responsible for night vision and distinguishing shades of gray and brightness.
- 3 **Limited color.** Some sources believe cats, like dogs, only have two pigments in their retinal cells, while others believe they have three, allowing them to distinguish among red, blue, and yellow.
- 4 **Nearsightedness.** A study of 98 healthy normal domestic cats, published in the *American Journal of Veterinary Research*, found that domestic shorthair cats were significantly more likely to be nearsighted than longhair- or medium-hair cats.
- 5 **Wider field.** Cats are believed to have greater peripheral vision than humans at about 200 degrees versus the 180 degrees humans enjoy. However, a cat's visual acuity (sharpness) is thought to range from 20/50 to 20/200. That means what a person can see in detail at 50 feet or even up to 200 feet, cats probably can see well only at 20 feet. ■

A Word to Our Readers: CatWatch Mailing List Policy

Like many other publishers, we make portions of our customer list available to carefully screened companies that offer products and services we believe you may enjoy. Indeed, in all likelihood, we were able to first reach you only because another company graciously permitted us access to its customer list. If, when we make our list available, you do not wish to receive these offers and/or information, please let us know by contacting us at: CatWatch Opt-Out Program, PO Box 5656, Norwalk, CT 06856-5656. Please include your mailing label.



Note how large this cat's pupils are in this night-time photo.

Licking Off Patches of Hair

Physical causes must be ruled out, but stress is likely

Q My cat likes to lick himself on both shoulder blades, shortening the hair to the skin in some places. The areas are 2 by 5 inches. He used to have several smaller spots that he'd licked until the hair was totally gone and the skin was getting raw from all of the licking. Now it's just two bigger patches on the shoulders, but not down to the bare skin all of the time.

I'd sure like to know the cause, and the treatment if any. I'd love to help him if I can. He's a great cat.

A Thanks for getting in touch, and I can certainly understand your concern about this issue. There are a number of reasons we cats may lick this way, so let me discuss a few possibilities, in hopes that



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



Cats naturally lick their coats, but when it's constant—to the point of licking themselves raw—the cause must be addressed.

this may shed some light on potential causes and perhaps send you in the right direction toward a resolution.

The first thing to consider is that your kitty is doing this for a medical/physiological reason. By that, I mean that he is either itchy or experiencing discomfort in these areas. It is important to work with your veterinarian to rule out things that can cause him to itch (i.e. flea infestation, allergies) and/or to be painful in these regions (orthopedic/muscular problems).

If you can identify potential causes of itchiness and/or pain, then addressing these problems is certainly the first step. If not, the possibility of a behavioral cause should be considered. We cats do groom inappropriately in response to stress, a calming behavior that veterinarians refer to as displacement (we cats simply call it stress!).

Conflict among cats and other pets within a household (over food, territory, litter boxes, owner attention)

or stress caused by owners (failure to spend adequate time focused on the cat, punishment, loud vocalizations, irregular feeding/sleeping schedules) can induce

stress in a cat and, for reasons that are unclear even to us, cats may groom to relieve this stress. One theory is that grooming may release endorphins that make a cat feel calmer, but this is not currently known for sure.

Irrespective of the mechanism, if cats begin displacement behaviors such as grooming, this behavior may ultimately progress to an obsessive-compulsive disorder (OCD), which is when the cat continues to exhibit the behavior even when the stimulus (the stress) is removed.

When cats groom inappropriately in this OCD-type of way, it's called "psychogenic alopecia." While it may not cause any major physical problems, overly zealous/prolonged grooming may damage the skin, requiring treatment and intervention to stop the cat from partaking in this behavior.

Given your description of where your kitty is grooming, it sounds like a behavioral cause is a reasonable thing to consider. Write down the times you see him exhibiting this behavior and what's going on around your kitty, especially anything that may be a cause for stress in your kitty.

You can try to distract him by providing acceptable alternatives to inappropriate grooming, such as dedicated play time with a feather toy that he can chase (oh, how we love feather toys!). Setting aside specific, dedicated times for you to play with him and making sure routines of feeding and sleeping are regular can also be helpful to your cat. Providing diversions for him, such as a new toy, paper bag, or cardboard box, throughout the day can also be a great way to prompt your cat to occupy his time appropriately.

Figuring out the source of your cat's stress and how to minimize this stress can sometimes be challenging, and consultation with a veterinary behaviorist can be helpful.

I hope that this is helpful, and please discuss these issues with your veterinarian as the first step.

Best of luck, and please let me know how things are going when you can.

All my best, Elizabeth

© HAPPENING NOW...

New Clinical Trial: The section of Oncology at the Cornell College of Veterinary Medicine needs cats for a clinical trial on injection-site sarcomas (also known as a fibrosarcoma), a tumor

that can arise following injections. Although the cause is unknown, treatments are available, such as the anti-cancer drug carboplatin. The study wants to determine if customized doses based on kidney function rather than body weight will be effective. Eligible cats must have a tumor greater than 2 cm in diameter with confirmation of tumor type from histology (incisional biopsy). The tumor may be a primary tumor or metastatic lesion. Email vet-research@cornell.edu if you're interested. ■

Coming Up ...

- ▶ [Managing Feline Hip Dysplasia](#)
- ▶ [How to Choose a Urinary-Support Food](#)
- ▶ [Low-Calorie Yummy Treats For Your Cat](#)
- ▶ [Manicure Time: Safely Trim Nails](#)