



Cat Watch

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



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IN THE NEWS ...

A 'Breathalyzer' May Help Diagnose Asthma

Asthma affects nearly 5 percent of cats and can be difficult to diagnose. The gold standard has been to sample airways, but this requires anesthesia, posing some risk to patients and delaying therapy in some cases.

A new, non-invasive tool may hasten identification of asthma and potentially prevent attacks. University of Missouri researchers collected exhaled breath condensate (EBC) from cats who exhaled into a cooling device — much like the test for alcohol concentration in humans.

The researchers, with a grant from the Morris Animal Foundation, collected EBC from cats with signs of asthma and compared it to condensate from cats without the disease. They found differing components between the samples that may help identify cats with asthma.

For more information on the disease please see "Respiratory Issues" at the Cornell Feline Health Center, www.vet.cornell.edu/fhc.

The Trigger for FISS Remains a Mystery

Cornell researchers work to improve chemotherapy's effectiveness in treating feline injection site sarcomas

Despite the recognition nearly 30 years ago that malignant tumors can develop at vaccination or injection sites in cats, a definitive explanation for the cause remains elusive.

Feline Injection Site Sarcomas (FISS) — which can grow in connective tissue months or years after an injection — continue to concern owners despite reports of low incidence. The reason for their development is the million dollar question,



Veterinarians and owners should assess a vaccination schedule's risks and benefits.

says oncologist Kelly Hume, DVM, ACVIM, at Cornell University College of Veterinary Medicine. "We don't know the exact mechanism of the trigger and how it progresses in FISS."

It's been hypothesized that something about the injection incites an inflammatory response, Dr. Hume says. "That's the purpose

of the vaccine — to build up the immune system. However, in some cats something

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What to Know Before Adopting a Stray

He may be lost, abandoned or born to a feral cat, so be patient, stay safe and look for signs he wants a home

Small plates and bowls sit on some front porches in a Dallas neighborhood of modest older homes. Like clockwork, a handful of homeless cats come out of hiding and hustle to the porches at dawn and dusk in anticipation of being fed.

Feeding these cats is the easy part. Determining if any would welcome being converted into indoor pets is the challenge. Questions abound. Is this a feral cat or an abandoned stray seeking a new home? Does this cat have contagious diseases that could harm my resident cat? Will they get along? Will this cat be affectionate toward me?

Just a Moocher? "You also don't know if that cat belongs to another neighbor and is an indoor-outdoor cat who is a moocher who makes his rounds getting breakfast at one house and lunch at another," says Katherine A. Houpt, VMD, Ph.D., former president of the American College of Veterinary Behaviorists and professor emeritus at Cornell University College of Veterinary Medicine. "This cat may be lost, abandoned or born in the streets to a feral cat. That's why it is important to be patient, keep yourself safe and look for signs that this cat needs and wants a home."

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CatWatch

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SHORT TAKES

Study Finds Higher Risk of Diabetes in Dry Food

The debate over whether dry cat food's high carbohydrate count causes diabetes continues. In the latest development, a study at the Swedish University of Agricultural Sciences found an increased risk of diabetes mellitus (Type 2) — which resembles the same type found in people — in normal-weight cats on dry food.

The researchers also attributed the risks largely to environmental factors such as indoor confinement, being a greedy eater and being overweight. "Through our research we found that while obesity is a very important and prominent risk factor for diabetes mellitus in cats, there is also an increased risk of diabetes among normal-weight cats consuming a dry food diet," says Malin Öhlund, DVM, a



Research on the effect of dry food diets on diabetes warrants further study, one investigator says, as dry food diets are fed to cats around the world.

Ph.D. candidate in the department of Clinical Services and lead researcher. "This correlation, compared to normal-weight cats on a wet food diet, is a new and interesting finding that warrants further research."

Correlation versus causation is indeed an important element to pursue in studying dry food's effect, says Joseph Wakshlag, DVM, Ph.D., at Cornell University College of Veterinary Medicine and president of the American College of Veterinary Nutritionists. "I would have much more faith if the overweight and underweight cats showed the same thing — but it seemed obesity is the No. 1 factor and actually when looking at the data the investigator came very close to a significant increase in diabetes for wet food consumption in obese cats — very

confusing due to the lack of similar trends across groups."

The essential question to explore, Dr. Wakshlag says, is whether cats on dry food are fatter due to the nutrient density of dry versus wet. "When feeding equal calories and substrate in dry and wet in obese cats, studies have shown there is no difference in overall sugar absorption, but cats tend to eat less wet food calories when given the wet matrix versus dry in many situations. In that vein, wet food is usually higher in fat and protein, so the carbs are often higher in dry diets. Therefore, you may be more likely to catch diabetes in cats fed dry perhaps because they are easier to diagnose due to the spike in blood sugar."

Researchers used an online survey of owners of 1,369 diabetic cats and 5,363 control cats, asking about breed, age, sex, neutering status, body condition, housing, outdoor access, activity, diet, eating behavior, feeding routine, general health, stressful events, other household pets,

medications and vaccination status. They received responses of 35 percent from the diabetic group and 32 percent for the control.

In the final analysis, when the investigators looked at the data from a breed, gender and age matched examination of control versus diabetic cats, there were no associations between wet and dry food consumption and diabetes status. "It is not the dry vs. wet debate since we know nothing about intake, macronutrients in foods, etc.," Dr. Wakshlag says. "What is more important is preventing obesity because it appears to be the No. 1 driver of diabetes."

Research suggests switching to a high-protein diet and avoiding high- and moderate-carbohydrate foods can render some cats non-diabetic and no longer in need of insulin injections. ♦

The Lesser Delights of Summer

Skunks, bees and wasps can spray, sting and bite

With the arrival of warm weather, your cat's curiosity and need to tap his inner hunter could land him on the losing end in a confrontation with bees, wasps, skunks and other critters making their way onto your property or inside your home.

Don't try to train your indoor cat — who is hardwired to pursue prey — not to chase, swat or eat a wayward stinging insect. As for a skunk encounter, your indoor-outdoor cat may try to duel a hungry skunk over a bowl of kibble left on your porch. This can put your cat at risk of being bitten, sprayed in the face and exposed to rabies.

"The real issue is the number of stings the animal gets and whether he or she is allergic to the sting," says dermatologist William H. Miller, VMD, a director of the Companion Animal Hospital at Cornell University School of Veterinary Medicine. "The skunk can fight as well as spray and create significant damage. Depending on the region, the skunk may have rabies to add to that problem."

The Buzz on Bees

Honey bees are work-driven insects on pollinating missions. They are out in the heat of the day, flying from flowers and ground covers to collect pollen. They tend to sting only when protecting their hives or when cats aggressively stalk them.

However, killer bees can be provoked to swarm attack on cats. "Most bees don't leave their stingers in the skin of an animal, but if they do, you can carefully remove the venom sac so it does not rupture and spread the venom," says Dr. Miller.

Slide the edge of your driver's license or credit card against it to push it out. Monitor your cat, and if necessary, consult his veterinarian about a pet-safe antihistamine to reduce mild swelling.

It can take hours for an oral over-the-counter medication to be effective, Dr. Miller says. However, some cats can

have a severe allergic reaction to insect stings. If your cat's throat swells, cutting off his air supply, and he begins breathing rapidly, wheezes, vomits, trembles, displays pale gums or collapses, immediately take him to the veterinarian. He could be going into anaphylactic shock.

"An allergic animal who receives multiple stings can develop a life-threatening reaction," Dr. Miller says. "Be prepared to do CPR if necessary, especially with swelling around the throat that may block breathing. And get to the clinic as quickly as possible."

Cornell offers online Pet CPR training open to all. Information is at www.ecornell.com/courses/veterinary-courses/pet-cpr/. The fee for the one-hour course is \$45.

If a bee enters your home, shuttle your cat into a closed room and try to usher the bee out a door. Restrict access to popular bee areas: flowerbeds with pollen-producing plants and yards with clover.

The Word on Wasps

Unlike honey bees, members of the wasp family — including yellow jackets, paper wasps and hornets — tend to be aggressive attackers that repeatedly sting their targets. Heed the same care advice for bees.

Wasps tend to make nests in holes in the ground, eaves, porches, sheds and fencing. Regularly inspect these areas for signs of nests, especially in summer. Contact a pest control company if you find multiple nests or a large one. For a small nest, don long sleeves and pants, follow the instructions on the pesticide container and spray at night when wasps are less active and apt to be inside the nest.

The Story on Skunks

Bowls of kibble on porches attract both friendly feline strays and bold, hungry



To remove skunk odor, mix a quart of hydrogen peroxide, a quarter-cup of baking soda and a teaspoon of dishwashing soap, but don't put the mixture in a sealed container. It can release oxygen and explode.

wildlife like skunks. They will bite, claw and release their eye-stinging spray in fights with cats.

If your cat was sprayed but not bitten, remove the foul odor on him with the home remedy in the caption on this page. Put on rubber gloves and work this mixture into your cat's coat, being careful not to get it into his eyes. You may need to repeat this process a few times before the odor has mitigated and you can wash your cat with pet shampoo and towel dry.

"Normal skunks tend to be nocturnal, but if a skunk has rabies, its normal behaviors are altered," says Dr. Miller. "Contact your animal warden if you see a skunk in your yard acting funny, as it may have rabies." Normal skunks walk in a straight line and move away from pets or people. If the skunk is staggering like it's drunk or is heading toward you or your pet, leave the area immediately.

If the skunk bites your cat, aside from taking him for medical attention, contact the local health department immediately. Regulations regarding wild animal bites vary, especially if the cat is not up-to-date on his rabies vaccination. ♦

CANCER...*(continued from cover)*

goes wrong during that inflammatory response that triggers the cells in the area to become neoplastic [experience uncontrolled growth].”

A number of factors challenge researchers, Dr. Hume says. “It’s difficult to track cats over time and to account for interactions of multiple injections over a cat’s lifetime. There are also regional variations in epidemiology [the science concerned with the frequency and distribution of disease], underlying cat genetics and the multiple products implicated.”

All cats can be vulnerable to the disease, without regard to breed, age or sex. We do know that cats who experience an eye injury when they’re young have a higher risk of ocular sarcoma, Dr. Hume says. “There is something about the injection that ultimately triggers a change in the cells at that site to become cancerous.”

Researchers around the world are pursuing this perplexing cancer from different perspectives, Dr. Hume says. Interleukin-2, a drug used to treat cancer in human medicine, has shown promise. “IL-2 immunotherapy treatment is designed to stimulate the cat’s immune system to help kill cancer cells,” Dr. Hume says. “It’s recommended to give it at the time of surgical removal of FISS, injecting it in the area where the tumor was removed. It sounds odd that you’re giving an injection to treat something that was triggered by an injection, but preliminary results have prompted additional clinical trials.”

Evaluating Drugs. At Cornell, researchers are focusing their efforts on ways to improve chemotherapy efficacy and predict its success. “Other groups are looking into a new class of drugs called tyrosine kinase inhibitors that affect some of the self-signaling pathways present in the cancer cells,” Dr. Hume says, “and other groups are trying to understand more about the cat’s response to injections and why they’re getting the tumors in the first place.”

Ongoing research at Cornell, supported by the Cornell Feline Health Center and the Winn Feline Foundation, has



Researchers worldwide are pursuing greater understanding of Feline Injection Site Sarcoma, including new drugs, says oncologist Kelly Hume, DVM, ACVIM, at Cornell. She and her colleagues are studying ways to improve chemotherapy’s effectiveness.

revealed that DNA damage is a common attribute of FISS. “We found some tumors had significant DNA damage while others had very little,” Dr. Hume says.

The researchers grew tumor cells in the lab and learned that tumors with a higher level of DNA damage

Even with surgery and radiation, there’s still a relatively high risk of recurrence.

seemed to be less responsive to the chemotherapy drug carboplatin. When DNA damage was low, however, the tumor cells were more likely to respond to carboplatin. The response to doxorubicin, another chemotherapy drug, was much more variable.

“However, we learned that if we used the drug salinomycin in combination with doxorubicin, we could overcome resistance to doxorubicin alone,” Dr. Hume says. “With the combination, we saw the cells start to die, making the doxorubicin more effective. Now we’re trying to figure out why that might be and how to try and evaluate that in cats.”

Veterinarians diagnose FISS by taking a biopsy. Treatment may consist of surgery, and/or radiation and chemotherapy, depending the tumor’s location and other features. The efficacy of chemotherapy for FISS remains unclear. In some cases, it has been the only option when tumor size or location has meant surgery or surgery combined with radiation wasn’t feasible. “Sometimes the tumor shrinks with chemotherapy and sometimes it doesn’t,” Dr. Hume says.

Risk of Recurrence. In other cases, oncologists will use chemotherapy after surgery if the patient has a high risk of the disease spreading. “This particular cancer in cats has what’s considered a relatively low metastatic rate of around 25 percent or so, whereas a high rate is considered upward of 50 percent to 90 percent,” Dr. Hume says. “Sometimes even if you do surgery and radiation, there’s still a relatively high risk of recurrence, so we add chemotherapy in an attempt to prevent or slow the recurrence.”

In studies of cats who received various combinations of therapies, the patients who were treated with chemotherapy did not always do better, Dr. Hume says. “We would love to say, ‘Your cat is going



Treatment for Feline Injection Site Sarcoma involves surgery, and/or radiation and chemotherapy, depending on the tumor's location and other factors.

to benefit from chemotherapy.' However, if the response rate is only 30 percent, we don't want to put a cat through treatment that's not going to help."

Injection site sarcoma cases have been reported most often in cats but also in other species, including rabbits, ferrets and less often in dogs. The tumors are estimated to occur in about one case per 10,000 to 30,000 vaccinations, according to the American Veterinary Medical Association. While the true incidence is unknown, Dr. Hume averages the rate at around 8 in 10,000, which she acknowledges sounds low until you consider that the U.S. cat population is 70 to 80 million.

In the late 1980 to early 1990s, veterinarians noticed an increase in the frequency of tumors in cats associated with vaccination sites, often between the shoulder blades. The increased incidence also correlated with the increased use of rabies and feline leukemia vaccinations. The occurrences coincided with laws requiring rabies vaccinations and the use of "killed" vaccine products containing adjuvants (a substance added to vaccines to increase their effectiveness).

In 1996 the Vaccine Associated Feline Sarcoma Task Force was created to study the correlation between vaccinations and sarcomas in cats. It recommended

shifting vaccines from the shoulder blade area to other locations, such as the hip and rear legs to help better track or identify what product might be implicated, Dr. Hume says. A follow-up study showed a shift in the distribution of the tumors to these other injection sites recommended by the task force.

Subsequent studies have shown that FISS is less frequent with non-adjuvanted or recombinant vaccines (i.e., those that use artificially produced proteins to induce an immune response). Not zero, but less, says Dr. Hume. "Other injections that have also been implicated include long-acting antibiotics, long-acting steroids, the non-steroidal anti-inflammatory drug meloxicam, non-absorbable sutures and, in some rare cases, microchips.

Early Signs. The most common sign owners will notice in their cats is a swelling, small growth or lump at an injection site. Dr. Hume recommends keeping track of the injection location and checking the site periodically, paying close attention to shoulder and hip areas.

"Treatment for FISS is aggressive — a thorough surgical resection with very wide margins, even if the tumor is small, to make sure you get all of the cancer cells in the area," says Dr. Hume. "If there's not a surgical possibility, the chance of being able to control it long term is very low. Chemotherapy and radiation by themselves can help slow the progression but not make it go away."

Life expectancy is highly variable, from many months to many years. "The best prognosis for the patient occurs when we catch the tumor when it is very small and can do an aggressive surgery like an amputation," Dr. Hume says.

Prevention is three-fold: Give vaccines as low on the leg as possible, so that aggressive surgery (if needed), including amputation, could offer the best prognosis; opt for oral or nasal products if possible — they do not protect against all significant feline diseases — and vaccinate only as frequently as is necessary.

"The common goal is for all cats to live longer, healthier lives," Dr. Hume says. ♦

CONSIDERATIONS IN A VACCINATION PLAN

Vaccines help strengthen the immune system to protect from diseases and infections whose occurrence far outweighs the rare risk of injection site tumors. It's important to work with your cat's veterinarian to develop a vaccination plan best suited to your individual cat's needs.

"The veterinarian should undertake a clinical risk/benefit assessment for each animal and discuss recommended vaccination schedules with the owners so that they can make an informed choice," say the American Association of Feline Practitioners' vaccination guidelines covering risk-benefits.

The extensive assessment is tailored for each individual cat's needs based on factors such as age, health, likelihood of exposure to disease, environment (indoors, outdoors, boarding, breeding and other considerations) and type of vaccine, the guidelines say.

STRAY... (continued from cover)

Be aware that it may not be all smooth sailing in deciding to adopt a cat who has been living on the streets. He could become aggressive with you or your other pets. He could take weeks, even months to stop hiding under beds or being skittish, unwilling to be petted. He may boycott the litter box or attempt to shred your sofa. He may even try to find a way to escape back outside.

Most kittens and cats — about 46 percent — are adopted from animal shelters or rescue groups, according to the latest pet ownership survey by the American Pet Products Association. About 27 percent are taken in as strays, 28 percent come from friends or relatives and about five percent are purchased from a professional breeder or pet store. While their pasts may remain a mystery, adopters can safely observe shelter cats. The cats receive thorough veterinary exams, vaccinations and temperament testing before being made available for adoption.

Dr. Houpt shares her home with Garth, a purebred Persian believed to be about 18 years old. Garth was found about six years ago on the streets of Buffalo, N.Y. No one knows how long he was outside, but all but one of his teeth had to be pulled and his severely matted coat had to be shaved," says Dr. Houpt. "He must have been fending for himself for a while, but he clearly liked

being inside when my son, Chuck, adopted him. The overwhelming reason cats are abandoned by owners — whether taken to a shelter or let out the door — is not using the litter box. Garth was that way in the beginning."

If you're considering bringing a homeless cat into your home, Dr. Houpt offers these tips in this order:

Study the Cat for Clues

If he shows up on your doorstep or back porch, observe his manner and analyze his appearance for clues to determine if he is feral, stray or a beloved pet who is simply lost. A feral cat, by definition, has had little to no human contact and lives on his own or in a feral cat colony. Feral cats will accept food but on their terms. They will wait to eat until after you're back in the house and they assess the surroundings to make sure no predators are lurking around. Look for a notched ear tip that indicates this is a feral cat who lives in a colony and has been spayed or neutered to prevent overpopulation of feral cats in the neighborhood.

A stray or abandoned cat who previously lived in a home may be friendlier but still leery of your approach or touch. If he is not skilled at living outside, his coat may be matted and he may be skinny. An indoor-



Garth, a Persian believed to be about 18, was discovered on the streets, matted and suffering from dental disease. Today in his new home, he's a devoted lap sitter and frequent visitor at his enclosed catio.

outdoor cat belonging to a neighbor may be more confident, boldly waiting for you to put down the food bowl and accepting the presence of other pets while eating. His coat will be well-groomed and he even may sport a belly.

"A cat who may be missing or abandoned and wants to be inside will try to push his way inside your house," says Dr. Houpt. "The neighborhood moocher will be friendly but just wants the food on your porch because he prefers being in his own home."

Build Trust Slowly

Even if the cat appears friendly, protect yourself. Do not reach down and stroke his coat or, worse, attempt to pick him up. Cats have flexible spines, sharp teeth and claws and can lash out at you, causing severe bite and scratch wounds. You could develop cat scratch disease, caused by the bacteria, *Bartonella henselae*, which can cause blisters, swelling, low-grade fever, headaches, fatigue and require hospitalization and antibiotic treatment.



Let a stray cat make the first move. Wear thick gloves and slowly extend your hand for him to sniff. Avoid direct eye contact, which can be challenging or frightening to him.

"With cats you don't know, you need to build trust," says Dr. Houpt. "It is important for them to make the first move and come to you." If the cat willingly approaches you, initially put on thick gloves and slowly extend your hand for the cat to sniff and even rub. "Move slow and steady and avoid direct eye contact as these can be challenging or frightening to a cat."

Check his Physical Appearance

Look for signs of ill health, including watery eyes or mucous discharge, dirty ears, runny nose, wheezing and itching, suggesting the possible presence of fleas or a skin condition. Cats can spread a number of diseases to people, including rabies and the parasitic infection toxoplasmosis. Diseases that cats can transmit to other cats, including your resident cats, include feline leukemia virus, feline immunodeficiency virus and feline panleukopenia. Always thoroughly wash your hands with disinfectant soap after handling an outdoor cat of unknown status and before you touch any pets living with you.

Contact Neighbors and Shelters

Post "Found Cat" posters in your neighborhood if this seems to be an indoor cat. Provide photos of him and information about when he first showed up.

Cat-proof Your Home

Before adopting the cat, make sure you do a room-by-room inspection to protect him from harm. Store medications in drawers to prevent accidental toxicity; remove poisonous plants such as lilies and have necessities — litter box, water and food bowls, several toys and a sturdy scratching post in place.

Encourage a Sense of Security

Initially keep the cat in a closed room. If possible, give him access to a window perch to view outdoor activities. When he is released from his room, let him explore the kitchen and living room and only gradually give access to the rest of the house. During your visits with him, sit on the floor to appear less threatening and let the cat come to you.

Time for a Vet Visit

Once the cat allows you to handle him, put him in a pet carrier — after feeding him in the carrier for a few days — and take him to the veterinarian for a complete physical examination, spaying or neutering and vaccinations.

Meeting the Others

Offer slow, supervised introductions. Some cats prefer to be the only cat in

the house, Dr. Houpt says. A new cat can provoke aggression in your resident cat if you force an introduction too hastily. "It is important to consider the wants of your current cat," she says. "Just because you would like another cat, doesn't mean your cat does."

For at least a week, separate the two cats physically. Let them sniff one another under a closed door. Rub the same towel on both cats to exchange scents. At mealtime, have the new cat eat in a closed carrier in the presence of your resident cat. The goal is to create a positive association with the presence of the new cat during the pleasant experience of mealtime.

Once the new cat starts to feel safe and develops a friendship with you, his full personality will emerge. You may discover that this once-quiet cat is now quite chatty or athletic or a happy cuddler.

"Garth may be about 18, but he is now very demanding," says Dr. Houpt with a laugh. "He eats eight small meals a day and when you sit down, he wants to sit on your lap for about 10 minutes at a time. He meows for us to come to him and to let him out into the catio [enclosed cat patio]. We will never know his true past but are glad we adopted him." ♦

THE STATS ON SHELTER CATS

About 13,600 community animal shelters operate in the U.S. While no federal agency or national animal group is mandated to compile national statistics on cats in shelters or identified as strays, the American Pet Products Association reports these findings:

- ◆ About 1.3 million cats are adopted from shelters each year.
- ◆ Of cats entering shelters, about 37 percent are adopted and 41 percent are euthanized.
- ◆ Less than five percent of cats brought in as strays to shelters (or about 100,000) are reunited with their owners each year.
- ◆ The most common reasons cats are surrendered to shelters are allergies and regulations against cat ownership in residences. Other surveys have cited litter box problems as a compelling reason.



Less than five percent of shelter cats brought in as strays, or about 100,000, are reunited with their owners each year.



Elizabeth

Elizabeth is thankful for the assistance of the Cornell Feline Health Center in providing the answer on this page.

Dealing with Max the Cat's Inappropriate Elimination

Q *Max is an overweight domestic shorthaired cat who is 10½ years of age. About a year ago, he started to leave feces in non-litter box areas. While he still used the litter box, he would also leave feces right next to the box and also in an area by the front door. Any idea what started this behavior?*

A Thanks for getting in touch, and I am sorry to hear that Max has been having this problem, which is, unfortunately, not uncommon. Inappropriate elimination can be caused by a number of factors, so perhaps a brief discussion of these would be helpful.

The first thing to rule out is a medical condition. Taking your cat to a veterinarian is an important first step toward figuring out what's going on. Whether a medical issue is causing an abnormality in the frequency, consistency and/or urgency of defecation is a vital piece of information.

In some cases, conditions that cause discomfort while defecating, such as constipation or arthritis (which may cause pain when a kitty postures to defecate), can cause a cat to develop a negative association between the litter box where he normally defecates and the discomfort experienced during defecation, and this may drive him to avoid the litter box in an effort to avoid the discomfort.

Arthritic cats may also have a problem stepping over high-walled litter boxes that were not a problem when they were younger and not experiencing pain from arthritis. Your cat's veterinarian will likely ask you questions about the consistency of your kitty's stool, the frequency of defecation and whether you have observed any blood in the stool. Testing your cat's stool for parasites such as intestinal worms may also be a good idea, and the veterinarian may ask you to bring a stool sample to facilitate this.

Once a medical condition has been ruled out, other behavioral causes can be investigated. Cats can develop aversions to their litter boxes for a

variety of reasons, including owners not keeping the litter boxes clean enough to a cat's liking, a dislike of a particular type of litter or litter box, competition for litter boxes by other cats in the household and the location of the litter box, which may be too exposed (perhaps making a cat vulnerable to attack by another animal in the house during or after defecation) not exposed enough, too cold/hot, or too dark and dingy.

In contrast to the development of aversions to litter boxes, cats may also develop inappropriate preferences for eliminating on certain types of surfaces (hard versus soft surfaces, for example). Some cats prefer to eliminate on soft surfaces, while others may prefer hard/smooth surfaces. Determining these substrate preferences can be challenging, but once this is done, this preference can be used to gradually retrain a cat to eliminate appropriately in his litter box.

Another potential cause of inappropriate defecation in elderly cats is cognitive dysfunction, similar to senility seen in elderly people. Cats with this condition may demonstrate a number of other behavioral changes, including increased vocalization, changes in sleeping patterns, and an increased or decreased desire for attention.

If no medical problem has been identified, the next step is to figure out if one of these other factors may be contributing to your kitty's inappropriate defecation. If necessary, you can consult a veterinary behaviorist to find the root of the problem and to develop strategies to retrain your boy.

In most cases, this issue can be corrected with patience and appropriate consultation. I know that this must be very frustrating, but hang in there and seek the right help. I know that you and Max can solve this problem.

For more information on how to address inappropriate elimination in cats, visit the Cornell Feline Health Center's website at: www.vet.cornell.edu/FHC/health_information/brochure_housesoiling.cfm.

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

—Sincerely, Elizabeth

PLEASE SHARE YOUR QUESTIONS

We welcome questions on health, medicine and behavior, but regret that we cannot comment on prior diagnoses and specific products. Please write CatWatch Editor, 535 Connecticut Ave., Norwalk, CT 06854-1713 or email catwatcheditor@cornell.edu.

COMING UP ...

❖
KIDNEY
DISEASE

❖
RINGWORM

❖
DISASTER
PLANS

❖
PHOBIAS

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