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Guidelines for Safe Pesticides Use in Cats

iCCare and ISFM release joint statement

International CatCare (iCCare) and the International Society of Feline Medicine (ISFM) have embraced the worldwide concerns being raised about parasiticides used on pets and how they can contaminate waterways. That, of course, has far-reaching implications for they may affect wildlife. In response to the waterway concerns, the organizations have released a joint statement with recommendations for the cat owner:

- ▶ Bathing cats is not necessary (unless for a specific medical problem).
- ▶ Apply topical parasiticides correctly.
- ▶ Where topical parasiticides are used, covering the cat's bedding with a disposable cover until the medication is dry reduces the risk of parasiticides getting into the wastewater when the bedding is washed.
- ▶ As some parasiticides may be excreted in the cat's urine or feces, dispose of litter appropriately in rubbish bins to avoid wastewater contamination. Providing outdoor toilet areas away from water courses in a garden also helps reduce the risk of contamination.
- ▶ Seek advice from a veterinarian to assess each cat's risk and need for parasite control rather than using over-the-counter products. ■

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Warning Signs Of Cancer

Early diagnosis means more effective treatment

While different cancers have varying warning signs, early symptoms can be general signs that something's wrong. Some signs might indicate other illnesses as well, but in any illness, the earlier it is caught and treated, the better the prognosis and the less the cost of treatment.

Behavior Changes: If your cat is hiding more, not interacting with you the way she normally does and is not soaking up the sun in her favorite afternoon nap spots, something may be wrong. There is similar reason to be concerned if she isn't as active as she once was or doesn't seem to want to put in the effort to play, even with that addictive feather toy.

Bleeding or Discharge: The only normal discharges are urine, feces, and in some cases, a clear watery discharge in unspayed female cats that are in estrus. Anything else warrants a veterinary visit.

Bloating: If your cat is suddenly looking fat when she never did before, she could have a bloated abdomen due to fluid buildup related to a cancer.

Breathing Difficulties: A cat who is less active and struggling to breathe or breathing rapidly (greater than 40 breaths per minute) may have lung cancer/disease or a cardiac condition.

Difficulty Defecating or Urinating: A too-clean litterbox is always a serious concern. In cancer, it could be a sign of blockage of the urinary or gastrointestinal (GI) tracts by tumors.

Jaundice: A yellow tinge to your cat's skin, inside her ears, on her gums, or on the "whites" of her eyes could indicate liver problems, including cancer.

Lack of Appetite: Cancerous growths may make it difficult for a cat to eat, interfere with the absorption of nutrients, or may secrete chemicals that decrease appetite.

Lameness: Cancers of the bones or joints can cause lameness.

Lumps and Bumps: We all pet our cats, but that's not the same as doing a monthly check for new lumps. Bumps could be benign fatty tumors or could be



Warning signs of cancer, like unusual hiding, can mean other illnesses, but the bottom line is that you should consult your veterinarian.

more aggressive cancers, and they should be closely monitored.

Matted Hair: A lack of feline hygiene is a sign your cat isn't feeling well. It could be arthritis or obesity making it difficult for her to self-groom, but she could also be weak or feeling poorly.

Mouth Abnormalities: Drooling, especially with blood, may be due to a mass in her mouth. Oral cancers are commonly associated with foul breath.

Non-Healing Sores or Scaly Skin: Sores that won't heal are problematic, especially if you have a white cat with sores on her face or ears.

Vomiting and/or Diarrhea: These are commonly observed in a variety of diseases, including cancers.

Weight Loss: Unintended weight loss should set off alarms. Cancer cells can decrease nutrient absorption and increase the metabolic demands of a cat, causing weight loss despite a good appetite. Weigh your cat monthly. It's difficult to judge weight change when you see your cat every day.

You are your cat's first line of defense when it comes to health care. Make sure you know her normal physical appearance so that you can recognize any changes. Caught early on, many cancers can be managed to give your cat more quality time with you. ■

Understanding Feeding Tube Basics

Owners can learn to feed their cats through feeding tubes

Feeding tubes are used to get nutrition, fluids, and medications into a cat who is too ill to take in these necessities himself. Some pets need a feeding tube for a short time to get over an illness. Others may require them for longer periods due to a chronic illness or injury. Dr. Johanna Heseltine, a clinical associate professor at the Texas A&M College of Veterinary Medicine & Biomedical Sciences, offers some advice for cat owners facing the use of a feeding tube.

There are three basic types of feeding tubes. The smallest is the nasopharyngeal, or N tube. This tube gets threaded into your pet's nose and into the esophagus. This is for short-term use and is generally only used when your pet is hospitalized. Esophageal (E) tubes are placed directly into the esophagus via an incision in the neck, and gastrostomy (G) tubes are placed directly into the stomach through an incision in the abdominal wall. G tubes usually have the largest diameter, can take thicker fluids and more treatments into your pet, and can be left in long term.

Your pet may need to wear a cone or a body shirt to prevent him from pulling the tube out. Most pets tolerate feeding tubes very well.

Food, fluids, and medications are mixed together into slurries that pass through the tube into the cat's stomach. You connect a syringe with the mixture to one end of the tube and provide gentle pressure to pass the slurry into and through the tube. Flushing with some clear liquid at the end is important to keep it clean. This may sound challenging but, compared to trying to pill your cat multiple times a day, it's usually easy.

Anything that goes into the tube must be at room temperature or slightly warmer. If it's too cold, it can shock your pet's system, and if too hot, it might burn the GI tract. Once your pet is back to taking in normal nutrition for a week or so, the tube can usually be removed. Some pets start to eat on their own with the tube in place, which is fine. ■

<https://vetmed.tamu.edu/news/pet-talk/pet-feeding-tubes/>

When Your Cat Avoids the Litterbox

Put on your detective hat and start with medical issues

Cats who stop using the litterbox are often experiencing pain. It could be upon urination, caused by a bladder infection or urinary crystals/stones. If it hurts to urinate, your cat may associate the pain with the litter box and avoid it. Cats with bladder infections frequently switch to using the bathtub or a sink to eliminate, for reasons that are unclear. It could also be due to constipation or diarrhea that the cat may also associate with the litterbox. In all these cases, it's important to find the medical cause of your cat's problem and treat it.

A cat who has vision problems or arthritis may need the box moved to avoid having to use the stairs to reach it since they can be difficult to navigate to with eye and/or joint problems. Switching to a litterbox with an easier "step in" can help a cat with arthritic hips. Providing a nightlight may help your older cat, especially if your litterbox is tucked away in a closet or cubbyhole (senior cats usually don't see in the dark as well as younger ones).

"Medical reasons are certainly high on the list of reasons for avoiding litterboxes, but dirty litterboxes in a single cat household and social tensions in multi-cat households are frequent reasons for cats avoiding the litterbox," says Pamela Perry, DVM, PhD, behavior resident at Cornell University Hospital for Animals.

Sometimes a dominant cat will stake out a litterbox as "her" turf. She may hide nearby and rush out at any other cat trying to eliminate in the box. This could prevent a newly adopted cat or kitten from using the litterbox at all. For this reason, behaviorists recommend at least one litterbox per cat plus one additional one. That way, cats can vary which box they use and, if necessary, avoid the one with the stalker.

Dogs will sometimes take advantage of a cat in the litterbox and harass their feline housemate. Dogs should be blocked off from litterboxes anyway to avoid the consumption of feline stool and litter (especially clumping litter).

From your cat's point of view, any change might justify avoiding the litterbox.

(continues on page 8)

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



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Veterinary Medicine

For information on pet health, visit the Cornell
University College of Veterinary Medicine,
website at vet.cornell.edu

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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. 800-829-5574



Belvoir

CatWatch* (ISSN: 1098-2639) 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, Chief Content Officer; Philip L.
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Feline Seizures

The typical seizure cats have can be easy to miss

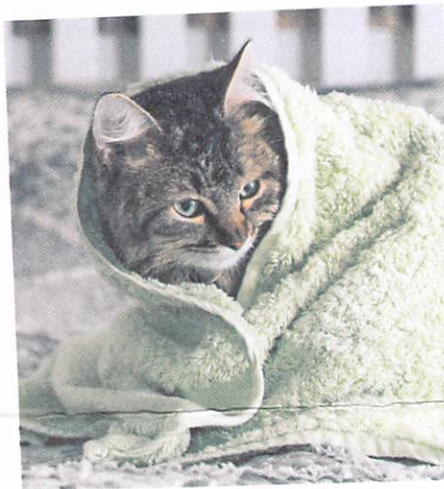
In a grand mal seizure, your cat collapses, loses consciousness, may roll or thrash, may urinate and/or defecate, and often vocalizes. Post seizure, there is usually a short period when she will be disoriented, and she will be exhausted once she totally recovers from the seizure. Fortunately, grand mal seizures are uncommon in cats.

Most cats have focal seizures, which are mild in comparison. "I think that seizures in cats can be missed, as they more commonly have focal, not generalized seizures," says Emma Davies, BVSc, MSc, associate clinical professor of neurology at the Cornell University Hospital for Animals.

Focal seizures involve a conscious cat, but other signs vary dramatically. Some cats simply show unusual twitching of their ears, eyelids, or whiskers. Others may exhibit wild, violent activity, running, crashing into things, and leaping in the air.

Seizures have a wide range of causes. Metabolic conditions such as a liver shunt or hypertension in older cats may contribute to seizures. Toxins are relatively common causes (see sidebar).

One study found that viral encephalitides (diseases caused by inflammation of the brain) like feline infectious peritonitis (FIP) are a common cause of seizures in cats under 3 years of age. In older cats, brain cancer is a common cause.



During a seizure, all you can do is try to keep the cat from hurting herself.

Diagnosis

Your veterinarian will do a complete physical exam and take a thorough history, including investigating access to potential toxins, from plants to chemicals. If your cat does not return to totally normal between seizures, causes like a brain tumor or metabolic problem become more likely. A neurologic exam may reveal slight deficits. Bloodwork can reveal low blood sugar or hyperthyroidism. For a definitive diagnosis, your veterinarian may refer you for an MRI or CT scan. Due to the cost, many owners will elect to try treatment without these tests.

Treatment

Each cat responds slightly differently to seizure medications. You will need to work with your veterinarian to find the dose and combination of medications that works best for your cat. Phenobarbital, levetiracetam, and zonisamide are common choices.

Infrequent seizures, such as once every six months, may not require medication. With frequent seizures, however, medications may be needed to break the seizure cycle. Think of a seizure as walking through a field of tall grass. The first time, it is difficult to walk through, but each seizure makes the path more obvious and easier for the next seizure to occur.

Bottom Line

Your cat's seizure may be an individual event that may or may not recur. A diagnosis of epilepsy means that your cat has recurring seizures. Decisions regarding treatment depend upon the frequency of your cat's seizures. Remember that a feline seizure can be as simple as an oddly twitching limb.

If you suspect a seizure, immediately start a seizure log in a notebook that lists the date, time of day, and length of seizure. Take a video so that your veterinarian and/or veterinary neurologist can observe the behavior. Write down all potential triggers for the seizure, even things that seem minor. Think of unusual foods or activities. Identifying triggers can help avoid additional episodes. Luckily, most cats who do experience seizures can be managed and live reasonable lives. ■

What You Should Do

What should you do if your cat has a seizure?

- ▶ **Keep her safe.** Try to safely wrap her up in a thick towel or blanket. You want to prevent her from banging her head, falling off a couch or down stairs, or getting stuck in a tight place.
- ▶ **Be careful.** Even the sweetest cat might bite or scratch during a seizure. Do not try to open her mouth. Cats can't swallow their tongues, and you may get bitten.
- ▶ **Head to the emergency clinic.** If a seizure goes on for five minutes or more, you need to head directly to an emergency veterinary facility, as this is a medical emergency that can cause potentially fatal brain and other organ damage.

Once the seizure has ended, let your cat rest quietly. Keep other pets away. Have water and food available, but realize that she may be too exhausted at first to eat, drink, or even move. Gently clean her up if she has eliminated on herself. *Immediately contact your veterinarian to see if they want you to bring her in for an exam and bloodwork.*

Canine Flea Meds Can Cause Cat Seizures

The most common toxic cause of seizures, according to the ASPCA Poison Control Center, is the flea-control medication permethrin. Some cats are so sensitive that if they lie next to a dog who has been treated with this medication or if the cat even lies on a pet bed after the treated dog has, she will react. Many veterinary clinics advise keeping cats and dogs separated for 72 hours after treatment. Note: If you think your cat has been exposed, get her to your veterinarian immediately. *If you see a spot on the*

cat, wash it off with dishwashing soap and go to the veterinarian

Detection of Heart Murmurs

Your cat can't tell you something's amiss with her heart, so it's up to you to be proactive

Kudos to all who faithfully bring their beloved feline companions to the veterinarian every year for a wellness check. This is the best way to detect heart murmurs early. As any dedicated cat owner knows, cats are experts at hiding signs of disease, and this is certainly true of cardiac disease. Cats may experience significant progression of their disease before they show any signs.

The Wellness Angle

If your veterinarian does hear a heart murmur at your cat's annual exam, it's time to act. Granted, the softer or quieter the murmur, the less likely it is associated with significant cardiac disease, but the only way to know is to look further. It's important to note that some cats with heart murmurs do not have heart disease.

A good screening test for an asymptomatic cat with a new heart murmur is called an N-terminal pro-brain natriuretic peptide (NT-proBNP) assay. NT-proBNP is a protein that is excreted into the blood by heart muscle when it is stretched, which is commonly the case with heart disease. If the test comes back normal, it's a pretty good indicator that your cat's heart is in good shape. If it comes back abnormally elevated, this may suggest heart disease, but don't panic, as false positives are known to occur. Cases in which elevated NT-proBNP are documented should be followed up with further testing.

"In cats with heart murmurs, measurement of NT-proBNP should be considered to help determine the best diagnostic and treatment options for your cat," says Cornell grad and board-certified veterinary cardiologist Eva Oxford, DVM, PhD, owner of The Heart Vet Cardiology Services for Animals (Ithaca, Syracuse, and Freeville, N.Y.). NT-pro-BNP can also be used as a screening test for early detection of cardiac disease in cats that are at increased risk of heart disease but don't have heart murmurs (i.e., certain breeds, like Maine Coon cats and Ragdolls), as murmurs can be transient in some cases.

The other primary use of NT-pro BNP in clinical feline practice is to distinguish



Murmurs in kittens suggest congenital heart disease. New murmurs in adult cats suggest possible acquired heart disease.

difficulty breathing caused by heart disease (i.e., congestive heart failure) from that caused by another disease process, such as pneumonia or asthma.

Dr. Oxford says, "NT-proBNP can be falsely elevated in cats with kidney disease. Therefore, it is recommended that the assay be submitted alongside a blood chemistry profile to evaluate kidney function at the same time."

This means that if your cat has a new heart murmur and is not showing any signs of disease, your veterinarian may suggest submitting both NT-pro-BNP and serum biochemistry tests. Alternatively, an NT-pro BNP may be submitted first, and if this is elevated, it may be followed up by a biochemistry test to rule out kidney disease as a potential cause of NT-pro BNP elevation.

"Echocardiography is the gold-standard test to evaluate cardiac structure and function in both humans and animals," says Dr. Oxford. "Echocardiographic imaging typically provides a specific diagnosis and allows the cardiologist to develop a customized treatment plan for your pet. If your cat develops a heart murmur, an echocardiogram should absolutely be considered as the single most important test to obtain."

Causes

Cats can be born with congenital heart defects, but these are not common. Most

murmurs in cats are acquired with time. Acquired murmurs can be persistent or transient (of short duration).

Not all murmurs are bad. Some are "innocent" or benign (not associated with disease). Innocent murmurs can be due to stress and a rapid heartbeat, things frequently associated with the feline physical exam. They can also be positional, depending on how a cat is situated on an exam table, and can be affected by the pressure applied to a stethoscope. Anemic cats can have murmurs called physiologic or flow murmurs that are not associated with cardiac disease and that resolve with resolution of the anemia.

Adult cats can develop a benign heart murmur from an apparently unique feline condition called dynamic right ventricular outflow tract obstruction (DRVOTO) that is diagnosed by echocardiography. "DRVOTO is thought to be the result of an altered compliance (decreased elasticity) of the right heart, which occurs naturally as cats age, and is commonly heard at higher heart rates, such as when a cat is stressed during a veterinary exam. DRVOTO is not necessarily an indication of cardiac disease," says Dr. Oxford.

What about murmurs associated with heart disease? "Hypertrophic cardiomyopathy (HCM) is the most common heart disease in adult cats," says Dr. Oxford, "and is therefore the most common pathologic cause of an acquired heart murmur."

According to Dr. Oxford, HCM can have life-altering consequences. While the prognosis is variable, depending on the stage at which it is discovered, it tends to be progressive and commonly leads to congestive heart failure. Medications, while not curative, can help cats with HCM live better, longer lives by treating congestive heart failure if it develops. They can help prevent aortic thromboembolism, a condition in which blood clots form in the heart and are ejected to the body (usually the hind limbs), resulting in blockage of blood flow and organ dysfunction (acute hind limb pain and paralysis in the case of thromboembolism to the hind limbs).

In summary, while some cats with heart murmurs do not have heart disease, most cats with heart disease do have murmurs, and murmurs should always be taken seriously and followed up with appropriate diagnostic testing as recommended by your veterinarian. ■

Diagnosing Diarrhea

With so many potential causes, your input can make a difference in choosing the right solution

“My cat has diarrhea.” Sounds simple, right? It’s not. With many different causes for diarrhea, it can be a painful process to get to a definitive diagnosis, treatment, and resolution. The first step is careful, thoughtful answers to all the questions your veterinarian asks you. You will be doing your part to help point the diagnostic process in the right direction.

Most often, diarrhea occurs when something interferes with the intestinal lining’s ability to reabsorb water, one of its critical functions. This is typically the result of intestinal inflammation, caused by one or more of the primary diseases known to cause diarrhea in cats. An exception to this “rule” is exocrine pancreatic insufficiency (EPI), which causes diarrhea due to maldigestion of nutrients, rather than intestinal inflammation. Intestinal inflammation alters intestinal mucosal absorption,



The more information you can give your veterinarian about what’s been happening and your cat’s history, the faster your cat can get relief and, because diagnostics are expensive, the less it will cost.

secretions, permeability, and motility. The result is diarrhea.

“The timing and duration of the diarrhea will dictate how involved of a workup will be needed to determine the underlying etiology (cause),” says Stephanie Maria Smith, DVM, resident in internal medicine at the Cornell University Hospital for Animals. “In acute cases, often minimal diagnostics are necessary, especially if appetite, energy levels, and weight are stable. Therapy is typically targeted toward supportive care. Once the history of diarrhea becomes chronic, a much more involved workup will be necessary.”

Diarrhea can be caused by inflammation, infection, disease, parasites, obstructions, stress, a random diet change, or another short-lived occurrence. To expediate diagnosis, be prepared to answer these questions when you bring your cat to the veterinarian:

Nutrition: What is your cat eating? Have there been any recent diet changes?

Lifestyle/environment: Is your cat an indoors-only citizen? Going outside opens the door (pun intended) to parasites, infectious disease, dietary indiscretion, and toxins. These are all less likely causes in cats kept indoors.

Acute vs. chronic: Did it start recently and suddenly (acute) or has it been going on for a while (chronic)? This impacts prognosis and prospects for a quick solution.

Nature of feces: Is it voluminous amounts of watery diarrhea (small bowel signs) or more frequent passing of smaller amounts of soft stool with mucous or blood (large bowel signs)? This information also helps direct the diagnostic process.

Physical symptoms: Have you noticed other changes? Small-bowel diarrhea is associated with decreased appetite, weight loss, gurgling stomach noises, abdominal discomfort, and failure to thrive (not gaining or maintaining weight as expected). Large-bowel diarrhea is associated with straining, defecation discomfort, and urge incontinence.

Treatment Options for Adult Cats

Compared to kittens (see sidebar on p 6), adult cats are more likely to have inflammatory, dietary, metabolic, or neoplastic (tumor-forming) disease underlying their diarrhea. The physical exam, fecal exam for parasites, and a course of metronidazole are still the usual first steps, but you’ll move pretty

Diarrhea Tidbits You Should Know

- ▶ **Prebiotics are short-chain carbohydrates classified as fiber.** They feed the “good” bacteria, which helps them outcompete the “bad” bacteria, resulting in a positive shift in the gut microbiome. Examples of prebiotics are inulin, lactulose, and several different oligosaccharides. Some foods include these (check the ingredient list), otherwise they can be given as supplements.
- ▶ **Probiotics are actual “good” bacteria given as supplements to outnumber and replace the “bad” bacteria.** The numbers and types of organisms in the probiotic matter, as does the reliability of the labelled ingredients, so be sure and talk to your veterinarian for advice on the best ones.
- ▶ **Omega fatty acids can help manage inflammatory conditions, such as GI inflammation.** Fish oil is the most popular way to supplement pets, but not all fish oil supplements are worth giving. Talk to your veterinarian for advice before choosing your fish oil supplement.
- ▶ **Dairy consumption could be the problem.** Some cats are lactose intolerant, so if your cat has diarrhea, discontinue any dairy.
- ▶ **Gluten sensitivity has not been identified in cats.** There is usually no need to consider gluten-free foods.
- ▶ **Grain-free diets may help.** Cats are obligate carnivores, so they have not evolved to digest plants. With this fact in mind, a grain-free diet may make sense.
- ▶ **Never assume that canned and dry formulas are the same.** Sometimes there are more differences between the canned and dry formulas of the same diet than just moisture content. Check the labels for ingredient differences if your cat tolerates one but not the other. They can vary quite a bit in digestibility too.

into bloodwork, imaging, and a with these guys. If everything is and/or any abnormalities found n corrected and the problem it's time for a diet trial.

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ly digestible. These are usually low in fiber, manufactured using/processing methods to maximize ease of nutrient absorption. Hill's I/D and Royal Canin Gastrointestinal are two examples.

igh fiber. These are usually low in fat, high in fiber and work better for large bowel diarrhea. Examples include Hill's W/D and Royal Canin Gastrointestinal Fiber Response.

Limited ingredient (LID) or hydrolyzed protein (HP). These types of diets are considered hypoallergenic so are used to rule out food allergy as an underlying cause of the diarrhea.

LIDs should have one protein source, which is hopefully something "novel," which means your cat's GI tract has never been exposed to it before (e.g., rabbit, duck, kangaroo), and one carbohydrate source (e.g., rice, barley, potato, pea). Everything else on the ingredient list should look like vitamins and minerals. Hill's and Royal Canin offer several varieties. Natural Balance is non-prescription and has several choices.

HP diets are prescription diets you get through your veterinarian. It is thought that the large size of protein particles is what sets off the immune

response in a food allergy. Most HP diets are chicken-based, but the chicken protein is processed to reduce the size of the naturally large protein particle into smaller amino acid sequences not recognized by the body as foreign.

Diet trials for food allergy resulting in GI distress only need to be carried out for two weeks to get your answer. (For skin allergy, diet trials should be carried out for at least eight weeks.) If the first one you choose works, stick with it. If not, try another. It could take a few tries to hit on the right diet, so be patient. It will be worth it in the end if your cat can be healthy and comfortable just by eating the right food.

Next On the List

If you've done all of this and your cat still has diarrhea, it's time to consider intestinal biopsies to rule out inflammatory bowel disease (IBD) and cancer. IBD may require steroid/immunosuppressive therapy. Some cancers can be treated, but many carry a guarded-to-poor prognosis. At this point, consultation with an internal medicine specialist, board-certified veterinary surgeon, and/or veterinary oncologist is usually recommended.

A fecal transplant is usually a last-resort option for chronic, non-responsive diarrhea. Its purpose is to reset the intestinal microbiome with normal GI flora by using a specially chosen and screened donor cat to obtain the feces from. This procedure is best performed by a specialist and not done frequently. There is little published data regarding its efficacy, but anecdotal reports of success exist.

Bottom Line

If diarrhea resolves on its own within a day or two, your cat is likely OK (except with kittens, for which you should seek help immediately). You can try diet changes and feeding prebiotics/probiotics before heading to the veterinarian. Sometimes Mother Nature, with a tincture of time, will heal these short-term upsets.

Don't let it go on too long, though. Two weeks is chronic, and at this point diarrhea is unlikely to get better on its own. Long-term, unresolved intestinal inflammation has devastating effects on your cat's health and may even become irreversible. Don't let this happen. Let your veterinarian help you help your cat get back to good health. ■

Don't Wait on Veterinary Help for Kittens

Young kittens can become dehydrated and weak from diarrhea quickly, so it's best to not wait to see your veterinarian for these guys. Bring a fresh fecal sample with you. Because parasites are high on the list of suspects in kittens, initial treatment typically entails broad-spectrum deworming. This should be done even if a fecal sample comes back negative for parasites, as there may be hidden parasitism.

If your kitten is already dehydrated, your veterinarian will rehydrate him with fluids and electrolytes administered subcutaneously (under the skin). This can usually be performed on an out-patient basis.

Feeding an appropriate diet is an important part of treatment for these little ones. A highly digestible kitten diet containing prebiotics that help reset the intestinal biome (easily disrupted in kittens) may be recommended, as such a diet can help address the diarrhea and is appropriate for growth.

Your veterinarian may or may not prescribe medications, but the antibiotic metronidazole is frequently used. Metronidazole is known to have anti-inflammatory effects on the intestinal mucosa, so regardless of what is causing the intestinal inflammation, metronidazole will typically help cool the flame. Metronidazole has been a popular first-line treatment for non-specific diarrhea in cats and dogs for decades.

If this initial plan does not resolve the diarrhea, next steps include repeating multiple fecal exams, as intestinal parasite eggs are sometimes only shed intermittently (resulting in false negatives), repeating broad spectrum deworming every two to three weeks to break parasite life cycles, empirically treating for coccidia (a common protozoan parasite in kittens that can sometimes be missed on a single fecal exam), and adding a probiotic. Your kitten should be tested for feline immunodeficiency virus (FIV) and feline leukemia virus (FeLV), as these viruses can cause gastrointestinal (GI) signs.

Further steps may include running a diarrhea panel on feces, which helps rule in or out many infectious causes of diarrhea, including viruses. Treatment for viruses is typically supportive (maintaining hydration, bolstering intestinal biome, nutritional support) while the virus runs its course.

If the problem persists after all this, a fasting GI panel can be run, and other diets can be tried. Be sure to deworm all cats in the household just in case and repeat FeLV/FIV test 60 days after the initial test. If all else fails, consider fecal transplant.

Has My Cat Ingested Poison?

Signs of toxicity and common feline toxins

Your cat is acting weird, and there are some knocked-over jugs in your garage. Could she have eaten something she shouldn't have consumed?

If your cat has a potentially toxic substance on her skin or coat, she can be bathed with liquid dishwashing detergent, says Renee Schmid, DVM, board-certified toxicologist and senior veterinary toxicologist at the Pet Poison Helpline. But if there is any chance your cat has ingested something toxic, she needs immediate veterinary attention to figure out what she might have eaten and the safest way to protect her.

Common Toxins Inside and Out

"Plants are a common household and outdoor toxin, with plants in the Liliaceae [genus] being the most common call we receive regarding cats," says Dr. Schmid. Anytime you add a new houseplant, remember to check with resources such as the Pet Poison Helpline or ASPCA Animal Poison Control Center to see if that plant is safe for your cat to munch on.

"Other indoor toxins include chocolate, human medications including vitamin D3, ibuprofen, and stimulants like Adderall, Vyvanse, etc.," says Dr. Schmid. "Getting into dog medications makes the list as well, with carprofen and permethrin topical products being the most common." Pill bottles are often the same size as many cat toys, and your cat may like the rattling of the pills. If the bottle opens, she might end up eating

some of the medications.

Cats who go outside can be exposed to additional toxins. "Outdoor toxins are most commonly a variety of plants as well as product for vehicles including antifreeze and windshield washer fluid," says Dr. Schmid. "Rodenticides and onions are also a concern for both indoor and outdoor toxins, depending on where the product is placed or how it was ingested." Cats may be less likely to lap up spilled chemicals than dogs, but if your cat walks through a spill she will likely ingest some of the substance when she next grooms herself.

While many poisonings in cats are accidental, some cases can be more sinister. Outdoor cats can be the target of intentional poisonings with spiked meatballs or contaminated water.

Signs of Poisoning

While your cat can't tell you that she ate something she shouldn't have and doesn't feel well, there are some common red flags that can indicate toxicity. "Cats will tend to hide if they are not feeling well, so a common thing pet owners may notice is their pet hiding when they are usually more social," says Dr. Schmid. "Another sign may be a lack of appetite or energy. Depending on what the cat was exposed to, neurologic signs including difficulty walking or body tremors."

What to Do

If you know or suspect that your cat was exposed to something toxic, take action.

What You Should Do

- ▶ Make sure plants in your house and your yard are nontoxic to cats.
- ▶ Prevent access to toxic plants with physical barriers.
- ▶ Keep all medications stored in sealed containers and a cabinet.
- ▶ Never use flea/tick products intended for dogs on your cat, as many are extremely toxic to cats.
- ▶ Don't use human toothpaste when brushing your cat's teeth.
- ▶ Only give your cat over-the-counter medications if your vet tells you to.
- ▶ Clean up spills (cleaning products, antifreeze, etc.) promptly in both your house and garage so your cat doesn't step in them and then lick her paws.
- ▶ Keep your cat indoors or walk her on a leash and harness to prevent access to dangerous substances.
- ▶ Put these phone numbers in a visible spot: Pet Poison Helpline 855-764-7661; ASPCA Animal Poison Control Center 888-426-4435

"If a cat has been exposed to a product on their skin or haircoat, they can be bathed at home using a liquid dishwashing detergent," says Dr. Schmid. Otherwise, there aren't many other treatments you can try at home. Care with a veterinarian is usually needed.

Call your veterinarian immediately to let them know what is going on, even if your cat is acting fine. Cats are usually much more sensitive to toxic substances than humans or dogs, and it is better to start treatment before your cat shows signs of illness.

Your vet may recommend you contact a poison hotline, such as the Pet Poison Helpline or ASPCA Animal Poison Control Center. These resources do charge a fee, but they are available 24/7 and have the most information on toxic substances, antidotes, and treatment plans. Talking to someone who specializes in pet toxicity is the best way to quickly determine if your cat is in danger, and to choose the right treatment plan the first time. ■



It's important to be able to properly identify your houseplants and know if they're toxic to cats or not. If they are, seriously consider replacing them with a safe plant.

Filtered Water, Pesticides, and Kidney Disease

Could these changes help avoid kidney failure?

Q We are a multi cat household that has housed as many as 23 cats over the years, and we currently have 12 strictly indoor cats.

For the first 15 years or so, we were frequently losing cats to renal failure, and we decided to make two changes to try to prevent the problem: First, giving them filtered water and, second, ceasing to use the services of pest exterminators within our home. We did not alter their diet or make any other changes. Since we made these changes, we have not had a cat develop kidney failure.

We are convinced that either the unfiltered water or the pesticides or both contributed to the high frequency of kidney failure before we made the management changes. In the reading I've done, however, there is no mention of this association in any literature.

Can you please give me your thoughts



Cats vary widely in their water preferences. Many prefer running water, if possible, while others are happy to sip anywhere.

on this issue? If there is indeed a potential link between the type of water supply and/or pesticides and renal failure in cats, I think it's important that all cat owners are made aware of this.

(litterbox, continued from page 2)

Scented litters may be overwhelming. Changing texture, from clumping to regular to pelleted, may not go over well. Even changing brands may put your cat off.

Most cats want the same litter, the same location, the same litterbox style, and the same schedule for cleaning. If you need to make changes, do so in increments. For example, if you need or want to move the location, move the box a few inches at a time. If you need to change litters, do it like you would introduce a diet change—25% new with 75% old for a few days, then 50/50, then 75/25, then the totally new option.

Litter that is too deep or shallow can upset some cats. Consistency is important. Feces should be removed daily, and periodic thorough cleanings help, totally emptying and scrubbing (or replacing) the litterbox and putting in all new, clean litter.

While cleanliness can be easy to fix, behavior problems and illnesses may take longer. Be patient. Behavior problems can vary from acute and minor, such as a longhair cat who panics when she gets poop caught on her fur, to cats who have had a serious scare at or near the litterbox. Multi-cat and multi-pet problems can cause litterbox avoidance.

It's important to react promptly when your cat stops using the litterbox. It could be far more than concern over a mess. Litterbox avoidance can well be a call to you that your cat doesn't feel well, is unhappy, or is being bullied by other family members. It pays to do some detective work and get to the bottom of the problem. ■

A Thanks for getting in touch and for your obvious care of and concern for the well-being of the many cats that have been fortunate enough to find you. I am very happy to hear that you have not had any recent cases of kidney disease, as this is a very common problem in cats.

Feline kidney disease can be generally divided into acute (AKD, rapid onset, potentially reversible, but not always) and chronic (CKD, slow onset, usually not reversible) types. AKD is most commonly caused by decreases in blood flow to the kidneys, intoxications, the effects of various drugs, and other diseases like bacterial infections, trauma, and urinary tract obstruction. The cause of CKD, which is extremely common in cats, particularly as they age (found in up to 80% of geriatric cats) is currently unknown. Although a number of potential causes of feline CKD have been proposed, none of these has been proven.

While I cannot be certain, I don't think it is likely that the switch to filtered water is responsible for a decrease in incidence of kidney disease among your cats, as I am not aware of any published data that would support this notion.

The issue of the effects of pesticides also is also not something that I can address with confidence, but it is true that there is some correlative evidence in people that long-term exposure to some pesticides may be associated with an increased risk for the development of CKD. This data is only correlative and does not prove that these pesticides cause CKD in people. More research is necessary to determine whether this is the case.

Of course, it may be just a matter of good luck that you have experienced this fortunate decrease in incidence of kidney disease in your cats, but either way, I am very happy that this is the case. I sincerely hope this continues for you and your cats.

We will inform the public of any advances we learn regarding this issue. Best regards from all of us here at the Cornell Feline Health Center. ■



Do You Have a Health Concern?

Send your health questions to Bruce Kornreich, DVM, PhD, DACVIM, Director of the Cornell Feline Health Center and Editor-in-Chief of CatWatch. Email to catwatcheditor@cornell.edu or send by regular mail to CatWatch, 535 Connecticut Ave., Norwalk, CT 06854-1713.



Scan this code for more information on the Cornell Feline Health Center.

Coming Up ...

- ▶ Insulin Testing at Home
- ▶ Probiotics: Can They Help With Digestion?
- ▶ Understanding Cardiomyopathy in Cats
- ▶ Making Important Vaccination Choices
- ▶ How Cats Usually Land on Their Feet