

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

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Rehoming and Asthma

Chances are, Fluffy can stay

A study from the Nationwide Children's Hospital analyzed environmental exposures, like pets and secondhand smoke, to determine if they have a role in asthma control among children whose asthma is managed per National Asthma Education and Prevention Program (NAEPP) guidelines. Researchers found that, once asthma guidelines are followed, environmental exposures were not significant factors in overall asthma improvement over time.

Children at a pediatric asthma center were followed. At each visit, families answered questions on acute care needs and asthma/symptom control. Asthma in patients was evaluated at each visit.

Of the 395 children, ages 2 to 17, 25 percent were exposed to secondhand tobacco smoke and 55 percent were exposed to a cat or dog at home. Clinical outcomes improved over time in this cohort, and this improvement was independent of pet exposure. These findings suggest that asthma treatment is more important than certain types of environmental exposures. ■



Shahid Sheikh, Judy Pitts, Ann Salvator, Christopher Nemastil, Swaroop Pinto. *Impact of Environmental Exposures (Second Hand Smoking and/or Pets) on Long-Term Asthma Control in Children*. *Chest*, 2018; 154 (4): 738A DOI: 10.1016/j.chest.2018.08.666 (Science Daily)

The Power of Steroids

These drugs can make a huge difference in your cat's quality of life, but they are not without drawbacks

Steroids can be lifesaving drugs, but they can also have deleterious side effects. So, what do you do when the veterinarian suggests using a steroid? Well, first, you need to understand that these compounds occur naturally in your cat and are essential for health.

The adrenal gland is the primary producer of steroids, but other organs can produce certain steroids as well. Production in the adrenal glands occurs in response to the secretion of ACTH (adrenocorticotropic hormone) by the anterior pituitary gland. Steroids can also be manufactured synthetically and used to treat a variety of health conditions.

The term "corticosteroid" comes from the fact that most steroids are produced by the cortex of the adrenal glands. The three basic types are glucocorticoids, mineralocorticoids, and the "sex" steroids or hormones that fit the steroid chemical picture.

Types of Steroids

Glucocorticoids are important in modulating inflammatory responses. They can suppress the immune system, which is why they are helpful when added to a cat's treatment for immune-related diseases. Steroids that can help with an immune problem, however, can also lower your cat's resistance to pathogens.

Glucocorticoids also influence your cat's ability to manufacture and conserve glucose, which is used as an energy source by the tissues of the body. Most synthetic steroids used to treat cats are much more potent than the natural versions in effect and/or longevity of action.

Mineralocorticoids help to maintain electrolyte homeostasis. Regulating electrolytes, such as sodium and potassium, is important for the function and survival of virtually all cells in the body. Aldosterone is the primary mineralocorticoid in the cat and acts on the kidneys to conserve sodium and



Listen closely to your veterinarian's instructions about steroid use. They should not be stopped abruptly without veterinary consultation.

excrete potassium. Sodium balance is important for normal hydration and for the function of skeletal and heart muscle and the nervous system.

The primary sex steroids or hormones in cats are estrogen, progesterone, and testosterone. These compounds are important for the secondary sex characteristics in cats and for reproductive health and fertility. Depending on the breed, these characteristics may include body size, coat quality and color, and head size. These hormones can also influence behaviors such as urine marking and territoriality.

The most commonly used synthetic steroids for cats are glucocorticoids used for allergies, immune illnesses, and as anti-inflammatory agents. Steroids are one of the drugs your veterinarian may reach for if your cat presents with anaphylactic shock. More commonly, you will encounter glucocorticoids for a cat with allergic reactions.

"Pred"

Prednisone and prednisolone are the two most frequently prescribed corticosteroids. They are usually dispensed as pills. Initially, these medications are dosed daily (possibly

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No More Compounded Mirtazapine Ointment

FDA approval of Mirataz makes this prohibited

Compounded drugs are medications where bulk ingredients are mixed together by a pharmacist, as opposed to a commercial drug that is approved by the Food & Drug Administration (FDA) and manufactured under the FDA's monitoring. When an FDA-approved drug becomes available, the FDA forbids the same medication to be compounded. This is the case with Mirataz (mirtazapine transdermal ointment), which is applied to the inner surface of a cat's ear to manage undesired weight loss.



Prior to the approval and availability of Mirataz, some veterinarians used a compounded drug. With Mirataz's approval, that can no longer be done, and veterinarians are required to prescribe the FDA-approved Mirataz, manufactured by Kindred Biosciences.

Compounded drugs can be a solution when a specific ingredient or medication is not available as an FDA-approved drug, but these medications are not "reviewed by the FDA for safety or effectiveness and may vary in quality and potency."

Tick Identification Service Available

National Center for Veterinary Parasitology offers new service

In an effort to identify the tick species in pets across the United States, the National Center for Veterinary Parasitology (NCVP) at Oklahoma State University is offering a free tick identification service. This service will also provide data to characterize the tick-borne disease agents carried by ticks in different geographic regions. The NCVP has identified over 1,000 individual ticks so far and plans to continue through the end of 2019. The NCVP will accept samples from anyone, although they are targeting veterinary practices. Go to showusyourticks.org for more information.



Steroids, continued from p. 1

even multiple times a day), but the goal is to gradually reduce the dose to the absolute minimum required to keep your cat comfortable.

These steroids may be used as part of a chemotherapy protocol, to aid a cat with severe arthritis, to help a cat with allergies get relief, or topically to treat small areas of skin reactions. They also can help in life-threatening immune conditions such as autoimmune hemolytic anemia (AIHA). These medications should only be used as needed while other therapies, potentially aimed at the cause of the health problem, are instituted. For example, prednisone can control itching due to a flea allergy and make the cat comfortable, but the flea infestation needs to be dealt with.

Side Effects

Side effects of steroid use include increased drinking (and urinating) along with an increase in appetite. You might notice your cat being more lethargic than usual. These short-term side effects will usually return to normal once the medication is stopped. Steroid treatments

should not be stopped abruptly unless told otherwise by your veterinarian. Your cat usually will need to be "weaned" off these medications, which means gradually tapering the dose down from the originally prescribed amount until the time the therapy is stopped.

Long-term usage can lead to more troubling problems. Loss of muscle and skin thickness along with hair loss is common. There is a risk of developing diabetes mellitus. In addition, your cat's immune system may be weakened, so he may be more susceptible to infections, including urinary tract and fungal infections. Long-term usage may also interfere with your cat's natural production of these compounds.

Anabolic steroids such as testosterone (made in the testes) can help with adding muscle mass to a debilitated cat and are sometimes used to treat cases of anemia.

For some cats, steroids may make the difference between life and death or may be essential for a cat to enjoy a good quality of life. These medications do come with some side effects, however, and should only be used under veterinary guidance. ■



CatWatch

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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

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Cries in the Night

Finding solutions to your cat's nighttime meows begins with understanding why she's so talkative

You love your cat, but you also love a good night's sleep, and her midnight acapella is not exactly the perfect lullaby. She may be meowing for attention, but it could also be because she needs or wants something, or an indication of a developing health problem.

Normal Behavior or a Problem?

Is nighttime meowing something that your cat has always done to one extent or another, or is it a new development? Sudden changes in a cat's behavior often indicate a health problem or that something else is causing stress.

A new cat or kitten may cry out out at night because she is in a new environment and/or misses the company of cats that she was with before she moved in with you. Give her a week or two to settle in and get acclimated. Facial pheromones, such as Feliway, can help to calm your new cat, and playing with and interacting with her throughout the day will help her to bond to you and develop a sense of home.

Play

Young cats often want to play in the middle of the night. A burst of energy may possess your cat to pounce on your feet under the covers, drop toys on your sleeping face, or call to you to join in the fun as she races through the house. As adorable as she may be, resist these invitations or she will be encouraged to continue that behavior in the future.

Plan several play sessions throughout the day, especially in the evening. Encourage your cat with favorite toys and play until she loses interest or seems tired. You also can provide toys, such as a fuzzy ball, in a room away from your room for your cat to play with at night.

For cats who enjoy the company of other felines, adding another cat to your family can take some of the playmate pressure off you. Depending on your new dynamic duo's play style, however, this plan could backfire and result in more noise at night as twice as many paws stomp around the house.

Shutting your cat out of the bedroom



It may be difficult to resist playing when your cat presents you with a toy in the middle of the night, but you must! Otherwise, you may be invited to play every night.

will prevent physical assaults, and the door will also dampen the sound of your cat's play. You can encourage your cat to stay away from your bedroom door by laying down a material that she doesn't like, such as a vinyl carpet runner pointy-side-up or double-sided tape. Motion-activated items that make noise can also keep your kitty away, but may also wake you up or scare your cat too much. The latter strategies should only be used in extreme cases in which all other efforts to keep a kitty occupied at night have failed.

Hunger

If your cat wakes you up at night asking for food, try mixing up your feeding routine by giving her meal just before bedtime. This has the added benefit of encouraging your cat to go to sleep, because many cats nap after they eat.

Another option is to purchase an automatic feeder that dispenses food at preset times. This allows you to space out your cat's meals throughout the night and will teach her to wait by the feeder when she gets hungry rather than poking you.

Nocturnal by Nature

Your fluffy friend is a descendent of nocturnal hunters. While our domestic cats have adjusted pretty well to their humans' daylight-oriented lifestyles, cats are still often active at night. Your cat may get up several times throughout the night to eat, play, or just stroll through the house and make sure that everything is in order. This isn't an issue if your cat goes about her evening activities quietly, but she may want you to be involved.

Make sure you keep track of how much she eats so that she doesn't gain weight from extra meals.

Illness

If meowing at night is a new behavior, consider having her examined by your veterinarian, including at least basic bloodwork. Behavior changes in cats can indicate that something is wrong, and catching a developing problem early makes treatment easier. Bloodwork will evaluate kidney and liver function and can rule out other potential causes of this behavior, including hyperthyroidism.

Cognitive dysfunction syndrome, like human dementia, is common in senior cats, and meowing at night is a common symptom. Ask your veterinarian about cognitive dysfunction syndrome if nocturnal crying

is a new behavior in your senior cat. Playing with and training your cat on a regular basis will help to keep her mind sharp, and supplements such as omega-3 fatty acids, vitamin E, and antioxidants may help. Your veterinarian may also prescribe an anti-anxiety medication such as fluoxetine if necessary. See our February 2018 article "When Kitty Battles Dementia," which is available at catwatchnewsletter.com.

Stress

Think about any changes that may be causing your cat stress. Maybe you moved to a new apartment, or the upstairs neighbors got a dog who makes a lot of noise running around. Stress can cause your cat to become anxious, resulting in behavioral changes like meowing and pacing at night.

Try to address and minimize stress for your cat, and make sure that she is getting a balanced diet and plenty of exercise to encourage her to sleep through the night. She may also benefit from extra snuggle time and attention. ■



Oh No! Did You Really Eat That?

Sometimes, no matter how cat-proofed your house is, your kitty might help herself to the “wrong” snack

We can't watch our cats all the time nor can we predict with any degree of certainty what trouble they may seek out. Sometimes, you may not even realize that your cat ate something bad for him. You just have to be on the alert for signs of poisoning:

- ▶ Vomiting
- ▶ Diarrhea
- ▶ Seizures
- ▶ Blood in the stool/urine
- ▶ Drooling
- ▶ Lethargy
- ▶ Loss of appetite
- ▶ Bruising
- ▶ Nosebleeds
- ▶ Weakness or collapse
- ▶ Irregular heartbeat
- ▶ Inability to urinate
- ▶ Difficulty breathing

All of these signs can occur for other reasons as well, so consider the situation and any other health concerns that your cat might already be dealing with. For example, a male cat who is unable to urinate is more likely to be experiencing urinary blockage than suffering from poisoning (but both of these are veterinary emergencies!).

Lethargy and a poor appetite come along with many chronic health problems, such as liver or kidney failure. When in doubt, it never hurts to contact

What You Should Do

1. Call your veterinarian and/or poison helpline immediately—don't wait for symptoms
2. Bring the substance or the package label with you, if possible
3. Do not induce vomiting unless instructed to do so

your veterinarian with your concerns.

Depending on the poison involved, signs can develop quickly or may take some time. Regardless, if your cat is showing unexplained signs of illness, a veterinary visit is in order to make sure that the problems don't get worse.

Vomit or Not?

Whether or not vomiting should be induced to make your cat vomit up the illicit snacks depends on what she ate and how long ago. If the substance has had time to move past the stomach, vomiting will no longer be productive, and some substances (such as bleach and drain cleaners) can cause more harm coming back up the esophagus.

In these instances, the best option is usually for your veterinarian to administer an antidote or something like activated charcoal to neutralize the dangerous chemical and prevent it from being absorbed.

A pet-poison helpline is generally the best resource to find out what your cat's case calls for. Your veterinarian will know what to do for common poisoning scenarios, such as antifreeze, but there are endless products and chemicals out there that are harmful to your cat, and it is impossible to keep up with the best protocols for all of them. Helplines are dedicated to handling pet poisoning cases, so they are often the best resource for the most up-to-date information.

Do not induce vomiting if your cat is already throwing up or showing clinical signs (such as weakness, ataxia, or unconsciousness).

While it may be appropriate to induce vomiting in a cat that has ingested certain toxins, and while recommendations for the use of orally administered hydrogen peroxide to induce vomiting in cats at home have been made in the past, current recommendations are to avoid this practice.

While hydrogen peroxide may induce vomiting in some cats (it works fairly well for this purpose in dogs), most cats will not vomit after ingesting hydrogen peroxide. In addition to this relative lack of effectiveness in inducing vomiting in cats, orally administered hydrogen peroxide may cause gastritis (irritation of the lining of the stomach) and, in some cases, hemorrhage of the gastrointestinal tract. There is also a risk that a cat may accidentally inhale orally administered hydrogen peroxide, which may lead to aspiration pneumonia.

For these reasons, having owners attempt to induce vomiting in a cat at home is not currently recommended. If a cat has ingested a toxin that requires induction of vomiting, this should be undertaken by a veterinarian, so any cat that is deemed to potentially benefit from inducing vomiting should be brought to a veterinarian immediately.

To the Hospital

Your veterinarian has relatively reliable options available to make your cat vomit if the situation requires.

The veterinarian may also administer an antidote if there is one for whatever your cat ate. For other substances, and

Keep the Holidays Happy

As we enjoy the holidays, it's important to think about the not-so-edible seasonal hazards that our kitties might be tempted by.

- ▶ **Poinsettias cause mild toxicity.** Your cat may seem nauseous, vomit, or have diarrhea, but he will most likely recover quickly, especially if he only consumes a little of the plant.
- ▶ **Broken ornaments result in sharp fragments.** If your cat swallows one of these pieces, it could potentially get lodged in or perforate his digestive tract. Keep fragile ornaments out of your cat's reach, and/or shut your cat out of the room with the tree.
- ▶ **Tinsel is tempting.** Cats love to play with it, but the strands are easily swallowed and can result in intestinal tears or blockage.
- ▶ **Electrical cords are not for biting.** Try to run extra cords through areas where your cat is less likely to play with them or put a cat-friendly toy near cords as a distraction.



Illustration by DepouPhotos



A veterinary checkup is always a good idea if you suspect your cat ate something she shouldn't have.

those that should not be vomited, it may be most appropriate to administer activated charcoal to bind to the chemical and prevent it from being absorbed through your cat's digestive tract.

Treatment for most poisoning cases will involve supportive care, such as fluid therapy, and bloodwork to monitor organ function. You should expect that your veterinarian will want to do a follow-up exam a day to a week after the event to make sure that your cat is healthy.

With any problem, the earlier your veterinarian can help, the better, but it's especially important with poisons. Once clinical signs indicate that absorption has occurred, and the more time between ingestion and treatment and the more severe the clinical signs get, the poorer the prognosis. ■

Poisoning Resources

The Pet Poison Helpline is available 24/7/365 at 855-289-0358. There is a \$59 fee per incident (which includes any follow-up), but it's well worth the price to have experts who specialize in pet poisonings on your team, if you are unable to reach your own veterinarian.

The ASPCA Animal Poison Control Center is available 24/7, 888-426-4435. There is a \$65 fee.

The Cornell Feline Health Center has a great fact sheet on household hazards at: <https://www2.vet.cornell.edu/sites/default/files/CatConLA-FactSheet1.pdf>

On the Alert for Liver Problems

A lack of appetite may be one of the first things you notice with a liver disorder

The liver is one of the busiest organs in your cat's body and is a real multitasker. While it does have amazing regenerative powers, once 75 percent of the healthy tissue is gone, clinical signs of illness usually will start to appear. By then it can be too late for treatment to help beyond palliative measures, so be alert for early signs.

Understanding the Liver

Many liver functions are tied to digestion, but this amazing organ also performs many other vital functions. Bile, which is stored in the gall bladder, is produced in the liver to help breakdown fats for digestion. Cholesterol and lipoproteins, which help transport fat to tissues where it is needed, are also produced by the liver. Glucose is turned into glycogen and stored in the liver for future use as needed. This glycogen can be converted back to glucose if needed to fuel many metabolic processes. Iron is also stored in the liver, along with blood as a backup to be released if there is blood loss.

Some proteins, such as albumin, are produced by the liver, along with proteins needed for blood clotting. In addition, some immune factors are produced here. Given its many vital functions, it makes sense that when the liver is injured beyond the point of healing, an affected cat may be in serious trouble.

When a cat develops a liver problem, the signs can be nonspecific, and the

What You Should Know

Early symptoms of a liver problem may include:

- ➔ Diarrhea
- ➔ Vomiting
- ➔ Drooling
- ➔ Increased Thirst
- ➔ Jaundice
- ➔ Lack of Appetite
- ➔ Lethargy

cause initially unclear. The cat may lose interest in eating but drool excessively and drink more than usual. There may be gastrointestinal signs, such as vomiting or diarrhea. With a buildup of the toxins that the liver normally helps to detoxify and filter out, neurologic signs may become evident. A big clue to the possibility of liver disease is the buildup of the yellow pigment called bilirubin (which is normally filtered from the blood by the liver) in the skin, the gums, the cornea of the eyes, and the inside of a cat's ears. This syndrome can also occur with inappropriate break down of red blood cells.

Common causes of liver problems

Genetic Liver Defects in Siamese and Abyssinians

Cats can be born with liver defects that eventually lead to liver failure. Abyssinian and Siamese cats can have an inherited condition called hepatic amyloidosis. With this condition, abnormal proteins are deposited in the liver and interfere with normal liver functions. Unfortunately, there is no good treatment for amyloidosis, although it can be controlled for a period of time.

The elegant Abyssinian is known for its ticked coat, which has bands of color on each individual hair, producing a tabby-like appearance. The muscular Abyssinian is smart and loyal.



in cats include toxins, cancers such as lymphoma, FIP (Feline Infectious Peritonitis), cholangiohepatitis, and hepatic lipidosis. Cholangiohepatitis and hepatic lipidosis are the most common feline liver diseases.

Cholangiohepatitis

Cholangiohepatitis means inflammation of the liver and the biliary system (which stores and delivers bile to the GI tract). This might be due to an infection with bacteria, or it could be an immune-related illness. Bacteria can get into the liver and gallbladder by traveling up bile ducts from the intestines. Luckily, this type of liver problem is often responsive to appropriate antibiotic therapy if caught early.

Immune inflammation is more common than bacterial infections. It's treated with steroids or other immunosuppressive medications. Diagnosed early, this type of cholangiohepatitis may go into remission, but cat owners need to be prepared for possible long-term therapy.

A diagnosis of cholangiohepatitis will require standard blood chemistry workup, along with urinalysis and often bile acid studies (which also involve bloodwork). An ultrasound or radiographs may be suggested to further identify the extent of liver damage. A liver biopsy is often recommended so the cause of the hepatitis can be narrowed down. This may mean surgery to obtain the sample, or the biopsy might be done via ultrasound-guided needle biopsy.

The advantage of a surgical biopsy

is that your veterinarian can be sure to take a section of damaged tissue for histopathological evaluation. A needle biopsy might miss abnormal tissue and give you a false negative result. Using ultrasound to guide the needle biopsy increases the chances of a useful sample. A biopsy can help to differentiate infectious versus immune cholangiohepatitis and aid in making a treatment plan for your cat. Biopsies must be done with care, as clotting mechanisms may be defective in patients with liver disease.

Hepatic Lipidosis

Hepatic lipidosis is a serious liver condition in cats. "For some unknown reason," explains Sharon Center, DVM, professor of medicine at Cornell University College of Veterinary Medicine, "cats have a notable tendency to accumulate triglycerides (fats) in their hepatocytes (liver cells), and when these cells become filled with fat, the liver is unable to function properly. If not rescued promptly from the disease, affected cats don't just end up with deformed livers—they die."

The seriousness of this condition emphasizes how important it is to be sure your cat is eating daily, as hepatic lipidosis can be induced by a failure to take in appropriate amounts of food. This can be tricky in multi-cat households, especially if you free feed. It may help to routinely give a special treat to each cat daily to verify that all the individuals are eating.

Hepatic lipidosis usually occurs

secondary to an initiating cause, which could range from obesity to diabetes to cancer. The key here is that the cat suddenly stops eating. In anorexic cats, fat moves from storage areas throughout the body to the liver. The liver gets overwhelmed and can't keep up with metabolizing all the extra fat. In addition, the liver now can't fulfill its other normal functions.

Diagnosis is similar to that of any feline liver problem, including all of the necessary bloodwork. In this case, radiographs and ultrasound may indicate an enlarged, fatty liver. Once again, a biopsy can help distinguish this problem from other liver conditions.

Treatment for hepatic lipidosis involves getting nutrition into your cat. Affected cats may not eat on their own and often avoid their food bowls and resist even their favorite treats. It may be necessary to hospitalize them initially and provide intravenous feedings, followed by the placement of a feeding tube directly into the stomach. Owners can be trained how to use and care for the feeding tube so that cats may receive much of their care at home. The feeding tube is often left in place for a month or more. Again, not surprisingly, prognosis is better if this problem is caught early.

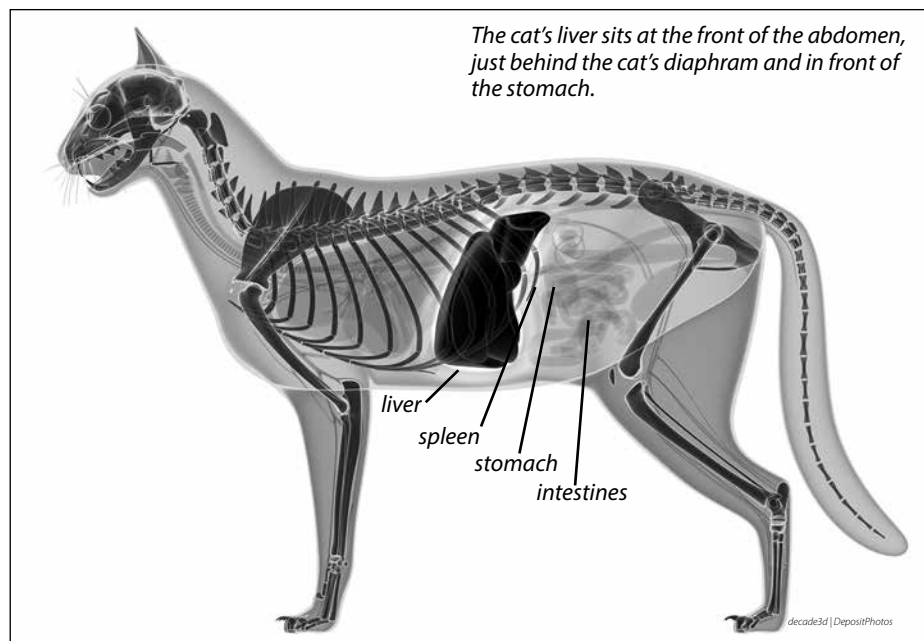
Diagnosing liver problems in cats, and treating them, can be challenging. While the liver has remarkable regenerative powers, it does take time. Your cat's best chance for a favorable outcome is an early diagnosis. ■

Metabolizing Drugs

Cats' metabolism is unique in many ways, and they lack certain enzymes that help to metabolize drugs, making them prone to intoxication by some drugs that are well tolerated by other species (such as acetaminophen).

Bilirubin and Jaundice

Bilirubin is a breakdown product of hemoglobin, which is found in red blood cells. When old red blood cells are broken down (which is a normal process in most cases), bilirubin is bound to albumin, transported to the liver and then removed from the bloodstream and eventually secreted into the intestinal tract where it aids in digestion. When it builds up in the circulation due to liver damage, your cat may develop jaundice.



The Cornerstone of Bloodwork

The amount of information your veterinarian can obtain from a simple CBC is astounding

It requires just a little blood, but the CBC, or complete blood count, can reveal important information about your cat's health. It's usually part of a senior wellness panel, diagnostic bloodwork for an ill cat, and as part of a pre-operative workup. It may also be used to evaluate your cat's response to a medication or its possible side effects.

A blood sample is drawn from a vein in the forelimb, a hindlimb, or the jugular vein. It's usually obtained quickly, minimum restraint and discomfort.

The blood is placed in a special tube that keeps the blood from clotting. From there, it may be used in different ways. For example, a tiny sample can be placed in a hematocrit tube or spread out on a slide and stained so that cells can be differentiated. Most clinics now use an automated analyzer to do basic cell counts, like red cells and white cells.

A full CBC includes stains for



Including a complete blood count (CBC) at a veterinary checkup may tell you why your cat isn't quite herself anymore.

evaluation under a microscope, which allows separate counts of different types of white blood cells and to evaluate the health and age of the red blood cells.

The laboratory report for a CBC provides numerical results. Your veterinarian uses this information to make decisions for further testing. For

example, a low hematocrit may mean the cat has suffered blood loss, is not producing enough red blood cells, or that red blood cells are being inappropriately destroyed in the bloodstream.

Mature red blood cells are smaller than young/new red blood cells and stain differently. A count for immature red blood cells is a reticulocyte count. If your cat is anemic, a high reticulocyte count is a good sign, since it suggests that your cat is responding to the low red blood cell population by producing more cells in the bone marrow and spleen.

An increase in your cat's white blood cell count could mean a response to infection, an immune system problem, or cancer. White blood cells are part of your cat's immune or defense system. Different types of cells get activated to combat different threats.

If your cat's levels are at or near the high or low range, they may still be considered normal. Remember, the CBC is a gauge of your cat's health. If the levels are out of range, your veterinarian may suggest additional testing or a follow-up blood test, based on the full results and any clinical symptoms your cat may be showing. ■

Cornell University Animal Health Diagnostic Center CBC Normal Ranges

	Test	Definition	Units of Measure	Normal
Red blood cells	HCT (hematocrit)	volume of blood occupied by red blood cells	Percentage	31 - 48
	RBC (red blood cells)	carry oxygen to cells in the body; low count is anemia	x106/ μ L (microliter)	6.9 - 10.1
	Hgb (hemoglobin)	binds oxygen for transport to cells	Grams per liter (g/dl)	10.9 - 15.7
	MCV (mean corpuscular volume)	average size of red blood cells	Femtoliters (fL)	40 - 52
	MCH (mean corpuscular hemoglobin)	average amount of hemoglobin in red blood cells	Picogram (pg)	13 - 17
	MCHC (MCH concentration)	concentration of hemoglobin in red blood cells	Grams per liter (g/dL)	32 - 35
	RDW (red blood cell distribution width)	range of variation of the size red blood cells	Percentage	13.2 - 17.5
	NRBC (nucleated red blood cells)	immature red blood cells that still contain a nucleus	/100 WBC	0-1
	Retic (reticulocyte)	new, immature red blood cells	Percentage	0.1 - 0.7
	Retic (reticulocyte)	new, immature red blood cells	x 109/ μ L (microliter)	9 - 61
White blood cells	PCV (packed cell volume)	percentage of blood volume that is occupied by RBCs	Percentage	31 - 48
	WBC (white blood cells)	immune system cells	x103/ μ L (microliter)	5.1 - 16.2
	Neuts (neutrophils)	"defenders" that swallow up pathogens, mostly bacteria	x103/ μ L (microliter)	2.3 - 11.6
	Bands (band neutrophils)	immature neutrophils	x103/ μ L (microliter)	0 - 0.1
	Lymphs (lymphocytes)	increase may be due to foreign substances (virus, bacteria)	x103/ μ L (microliter)	0.9 - 6
	Monos (monocytes)	increase may be due to foreign substances (virus, bacteria)	x103/ μ L (microliter)	0 - 0.7
	Eos (eosinophils)	increase may be due to allergic reactions, parasite infestations	x103/ μ L (microliter)	0.1 - 1.8
	Basos (basophils)	increase may be due to allergic reactions, parasite infestations	x103/ μ L (microliter)	0 - 0.2
	PLT (platelets)	form blood clots to stop bleeding	x103/ μ L (microliter)	195 - 624

Cat-Friendly Veterinary Hospitals

The specialized training can help reduce your cat's stress

Q My 10-year-old female domestic short-haired cat has always been very nervous when I bring her to the veterinarian, to the point that her stress makes me hesitant to bring her for her regular check-ups. A friend of mine recently told me about veterinary practices that specialize in being cat-friendly, and I am hopeful that going to such a practice may make things easier on my girl. Can you tell me a bit about these practices, and where I can find one?

A Thanks for getting in touch, and it is true that going to the veterinarian can be quite stressful on us kitties. This is believed to be one of the reasons for the recent finding by the American Veterinary Medical Association that owners bring their cats to the veterinarian for routine examinations much less frequently than they do their dogs. While there are likely many reasons for this, negative experiences with respect to the stress that cats experience when they visit veterinarians certainly play a role.

To address this issue, and to improve the quality of feline veterinary care, The American Association of Feline Practitioners has embarked upon their Cat Friendly Practice initiative, which



A certified Cat-Friendly Practice strives to make your cat's visit as stress-free as possible.

is geared toward minimizing veterinary visit-associated stress to cats and their owners and educating veterinary professionals in a number of key areas, including feline-friendly approaches to handling, housing, diagnosing, treating, and preventing disease in us kitties.

By taking such steps as providing feline-only waiting and exam rooms, educating practitioners and their staff about stress-free ways to handle cats, providing guidance in improving client communication, and improving understanding of feline behavior, practices taking part in this program can minimize stress to both cats and their owners, improve owner satisfaction with their veterinary experiences, and improve the health care that they provide to cats.

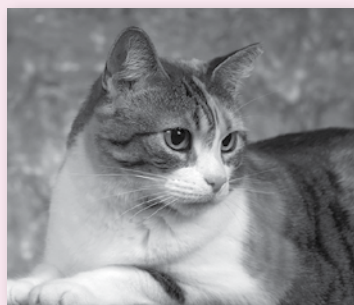
Veterinary practices taking part in the Cat Friendly Practice program receive certification from the American Association of Feline Practitioners, and they can display such certification to the public (usually in their waiting rooms or the entrances to their practices) so that cat owners know that their practice is taking this extra (and very important) step to make sure that cats and their owners have a good experience while visiting the veterinarian and that they provide high quality veterinary care that is focused specifically on cats.

Given the fact that your girl is now 10 years old, it would be ideal for you to bring her for regular checkups at your veterinarian twice yearly. There are a number of diseases that occur more commonly in cats as they enter their senior years, and screening for these conditions, even before a cat begins to show any signs of a problem, improves the likelihood that they will be detected earlier. Early detection is key to improved outcomes with virtually every disease, so being proactive about wellness exams in kitties is almost certain to improve their quality of life and lifespan.

This new initiative makes it easier for owners to provide this proactive care for their cats, and the response to its institution has been routinely very positive, to us kitties, their owners, and the veterinarians charged with taking care of them!

You can find out more about this unique and innovative program and where you can find certified Cat Friendly practices by visiting the American Association of Feline Practitioners website at catvets.com/cfp/cfp.

All my best,
Elizabeth



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

Coming Up ...

- ▶ *When the Pregnant Stray Shows Up*
- ▶ *Coping With Feline Blindness*
- ▶ *Could Your Kitty be Cold?*
- ▶ *Continuing Our Series on Blood Tests*

© HAPPENING NOW...

New California Divorce Law - Effective January 1, in a divorce, the judge has specific criteria to use when deciding who gets the cat (or dog). It is to be based on "who feeds them, who takes them to the vet and on walks, and who protects them," according to news outlets.

What the Cat Dragged In - A cat in Great Britain brought home a bag of illegal drugs, which the owner turned in to the police. "The Avon and Somerset Police Department jokingly remarked (about the cat's

find), saying: 'Forget police dogs, we should start training up cats,'" reports The Good News Network. It is not known where the drugs came from.

100 Cats - News 5 in Cleveland, Ohio, reports that police received multiple calls about multiple cats in a man's home. The man founded a cat rescue in his home 15 years ago and each of the three floors had 40 to 60 cats. It is not clear how many cats were seized, but about 22 were sick and in cages so they could be treated. ■

