



# CatWatch

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



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## IN THE NEWS ...

### Anti-cancer Research Focuses on Vitamin B12

Scientists at the Bauer Research Foundation in Vero Beach, Fla., are evaluating whether a vitamin B12-based drug called nitrosylcobalamin (NO-Cbl) can be used to treat several types of feline cancer.

Researchers are testing a theory that NO-Cbl can travel to B12 receptors on the cancer cells and destroy them from within, leaving healthy cells unharmed.

Cancer affects 4 million cats annually in the U.S., accounting for nearly a third of disease-related feline deaths, says the Winn Feline Foundation, which supports the research. A similar study, funded by the American Kennel Club Canine Health Foundation, evaluated the potential use of NO-Cbl against various canine tumors.

The FDA has approved only two drugs for treating cancer in animals and they are both for dogs. Symptoms of cancer can include lumps, swelling, diarrhea or vomiting, weight loss, bad breath, sudden lameness, and listlessness. ♦

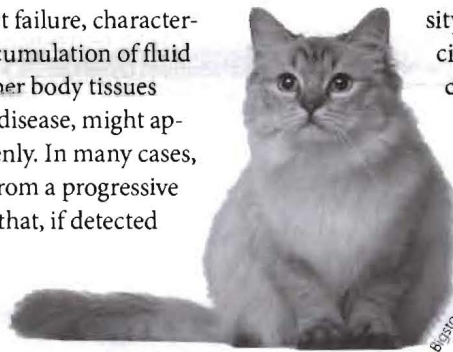
## A Promising New Test for Heart Failure

*The screening could provide earlier diagnosis of an underlying condition and help improve and extend life*

**C**ongestive heart failure, characterized by the accumulation of fluid in the lungs and other body tissues secondary to heart disease, might appear to strike suddenly. In many cases, however, it results from a progressive underlying disease that, if detected early, can be managed to improve and extend a cat's life.

"Very often, we can help pets," says cardiologist

Bruce G. Kornreich, DVM, Ph.D., Associate Director for Education and Outreach at the Feline Health Center at the Cornell Univer-



Predisposition to an underlying cardiac disease makes Ragdolls susceptible to CHF.

sity College of Veterinary Medicine. "There are medications that can decrease congestion in lungs, may decrease the likelihood of an animal developing blood clots and can improve oxygenation of the blood."

**Offering Hope.** Studies in several areas, including one on a promising diagnostic test, offer hope for cats with heart disease, as early diagnosis of underlying heart conditions is an important component of their management. Veterinary researchers are evaluating whether and how the concentration of a

(continued on page 6)

## How to Avoid Those Sharp Feline Bites

*No doubt they're painful, but deep puncture wounds pose the greater threat of serious bacterial infections*

**C**at bites don't get as much media coverage — or as much scientific attention — as dog bites because they tend to occur inside the home. Moreover, people mistakenly assume that, because cats are small, they can't do much damage. In fact, puncture wounds made by sharp feline teeth are not only painful, they can lead to serious infections. It's important to learn how to avoid them.

Although cats sometimes appear to attack out of the blue, they always have their reasons, says Katherine A. Houpt, VMD, Ph.D., emeritus professor at the Cornell University

College of Veterinary Medicine and diplomate of the American College of Veterinary Behaviorists. "Fear, predatory aggression, and pain top the list."

**Know the Signs.** Typically, fear aggression occurs when a cat feels threatened, especially by a situation that feels inescapable. Sounds, sudden movement or touch can all be triggers. "In many cases, the cat's hair will stand up and the tail will be all bristly or begin lashing," Dr. Houpt says. "If a cat is excited or fearful, the pupils of his eyes will dilate. You'll see only black instead

(continued on bottom of page 4)



# CatWatch

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## SHORT TAKES

### A Second Chance for Newborn Kittens

Volunteers at an animal adoption center in Los Angeles are keeping kittens alive with one simple act of kindness. They're feeding newborns in two-hour shifts around the clock. They view their effort as crucial: Among 13,000 healthy or treatable pets euthanized at Los Angeles City shelters last year, more than 6,000 were neonatal — or newborn — kittens.

The volunteers' work is part of the Best Friends Animal Society Adoption Center's No-Kill Los Angeles initiative. The goal is to save 1,800 lives this year. Nearly 800 kittens and 49 nursing mothers have been spared so far.

The kittens — some weighing only 8½ ounces — are often abandoned or turned into shelters with little hope of thriving and being adopted until the neonatal nursery opened in February, the society says. With the help of the No-Kill Los Angeles coalition and Los Angeles Animal Services, "We have made significant inroads into saving the lives of these helpless kittens," says Marc Peralta, Executive Director of Best Friends Animal Society Los Angeles. "There just wasn't a safety net in place for these cats or enough resources to provide round-the-clock care before."

Says Nicole Swartzlander, Neonate Program Coordinator for the center, based in the city's Mission Hills area, "Without the



Best Friends Animal Society Adoption Center

**Volunteers at the Best Friends Animal Society Adoption Center** feed kittens in shifts around the clock.

volunteers, we couldn't save the numbers we have. They make the place run."

One reason for the growing cat population in Los Angeles and other cities nationwide is the length of the feline pregnancy. It lasts a scant 9 weeks, and cats can become pregnant again in only a month.

That's why spaying and neutering are crucial, Swartzlander says. The urban legend that two intact cats and their offspring can result in 420,000 cats in seven years was discredited several years ago. New estimates put the figure at 500 to 5,000 cats. In any event, Swartzlander says, surrounded by nearly 100 meowing kittens in cages at the neonatal nursery, "If our communities would make spay/neuter a priority, we wouldn't have all these kittens." ♦

### THE FELINE HEALTH CENTER LAUNCHES ITS NEW WEBSITE

Cornell's Feline Health Center, devoted to improving the welfare of all cats through research, education and outreach, has launched its new website, complete with expanded features designed to provide improved coverage of the latest advances in feline medicine and resources for owners, breeders and veterinarians.

"We are very excited about our new site, and we look forward to continuing to improve and expand it as a means of connecting with cat lovers worldwide," says Bruce Kornreich, DVM, Ph.D., Associate Director of the Center.

The site, at [www.vet.cornell.edu/fhc/](http://www.vet.cornell.edu/fhc/), features health topics from A (aging) to Z (zoonosis, the transmission of disease from animals to people). You will also find lighthearted sections on Fun Feline Facts, such as how fast cats can run, and hear cat songs, including Elton John's "Honky Cat." In addition, you can learn about center-supported research and the Camuti Consultation Service, which provides answers to individual questions about cats.



# What to Expect Pre- and Post-Surgery

*Innovative techniques offer greater success today, but some aspects like withholding food remain the same*

Chances are that your cat will face a surgical procedure at least once during his lifetime if he hasn't already. Happily, the nature of veterinary surgery is changing, which may mean that your cat's next encounter could differ considerably.

"Better anesthetic protocols, better postoperative pain relief and innovative surgical techniques have broadened the veterinarian's ability to successfully do surgery on a wider variety of animals, such as older animals, very ill animals and animals with multiple health problems," says James A. Flanders, DVM, DACVS, Medical Director of the Cornell University Hospital for Animals at the Cornell University College of Veterinary Medicine.

"Minimally invasive surgery is now available at some veterinary practices," he says. "Advances in imaging techniques allow veterinarians to have a better idea of the disease state of an animal prior to surgery, so they can have a more informed conversation with owners before surgery."

Despite such changes, certain aspects of surgery remain the same. Here's what you can expect before, during and after your cat undergoes a surgical procedure.

**First, the Consultation.** The process begins when the veterinarian confers with you. "I always recommend that the pet owner knows why we are recommending a particular procedure, and I want them to be fully informed about the expected outcome, potential complications and possible risks," Dr. Flanders says. "These parameters vary tremendously depending on the procedure and the condition of the pet. Each owner — and each animal — is unique."

Dr. Flanders also makes sure that owners understand the cost of the actual surgery and testing such as blood work and imaging; anesthesia, antibiotics and intravenous fluids; and post-surgical care such as pain medication and hospitalization.

**Next, Blood Tests.** For the veterinarian and clinic, pre-surgical work will likely focus on blood tests to identify any problems that might complicate the surgery, especially with respect to the anesthetic. The veterinarian may also order an X-ray or ultrasound.

The task for the owner is to withhold food and water from the cat for at least several hours before the procedure. "Sedatives and anesthetic drugs can make pets nauseous," Dr. Flanders says. "If the cat happens to vomit during the recovery from anesthesia, he may inhale the vomitus and get aspiration pneumonia, a very serious condition. If the stomach is empty, the chance of severe aspiration pneumonia is lessened."

**Afterward, Recovery.** A surgeon usually contacts the owner immediately after the procedure to explain how it went, but that's not always the case. "If I find something very unexpected during the surgery, and I feel the owner needs to know immediately in order to make a decision, I will scrub out of surgery and call them," says Dr. Flanders. One example: discovery of an advanced cancer.

If all has gone as expected, emphasis shifts to immediate and long-term recovery. "Depending on the type of anesthesia, condition of the patient and duration of the procedure, cats can take anywhere from five minutes to several hours to completely recover," says Dr. Flanders.



Some surgical patients require the specialized support that hospitalization provides, such as monitoring and intravenous fluids.

Reactions also vary. "Initially, a cat may be uncoordinated and may not recognize his surroundings or even his owners," Dr. Flanders says. "He may not gain his normal appetite or thirst until the next day. And he may not have a bowel movement for several days."

Age is another factor. "In general, young animals recover more rapidly than older animals," says Dr. Flanders. "Young pets have faster metabolic rates, so they metabolize drugs faster."

Still another variable is where recovery takes place. For most feline patients, home is usually the ideal best place — but not always. "Sometimes pets need to stay in the hospital to receive additional support such as special intravenous fluid therapy, post-operative catheterization, special drainage procedures, specialized bandage changes or continuous monitoring and support for a critical patient by a trained nursing staff," says Dr. Flanders.

In any case, managing post-surgical pain optimizes recovery. "The veterinarian now has many choices of anti-pain drugs specifically designed for pets that can be dispensed before, during and after surgery," says Dr. Flanders. "Many of these drugs are similar to human pain medications."

Modern veterinary medicine has helped reduce the risks and stress of cats' surgical treatments. Knowing what to expect can further lessen the stresses for owner and cat alike. ♦

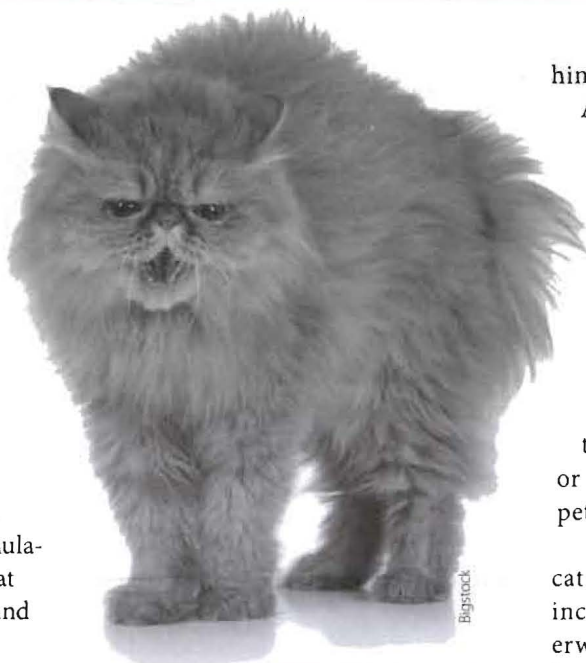


**BITES...** (continued from cover)

of whatever color the cat's eyes are." Other easily recognized signs are crouching with the ears laid back, hissing, growling or swatting.

Avoid handling a cat showing any of these signs of fear, Dr. Houpt advises. If you're petting your apparently contented kitty and he suddenly takes a nip at your finger, it's possible that he dozed off and woke up feeling disoriented and trapped by your hands. Alternatively, prolonged petting can cause overstimulation in some cats. "I tell my clients that when they see the tail lashing, just stand up and let the cat drop on the floor," Dr. Houpt says. "He's indicating that he doesn't want to be petted any more." (Cats' flexible spines will prevent injury — please see the facing page.)

Another common source of bites is predatory aggression. Most cat play is predatory play, Dr. Houpt explains. "When you see your cat slinking across the room and he bites you as you pass by, that's play — but it still hurts." To avoid these predatory attacks when you walk across the room, try dangling something, such as feather, for your cat



**Aggression occurs when a cat feels threatened**, especially by a situation that feels inescapable. Sounds, sudden movement or touch can all be triggers.

to play with. Better yet, be sure to have scheduled play times with fishing-pole type toys.

**Rules for Play.** Dr. Houpt urges owners to play with their cats often and set the rules for play early on. "When you get a kitten and you want to play with

him, don't let him bite your hand.

Always use toys, not your limbs, to interact with a cat."

Redirected aggression, sometimes called displaced aggression, is more dangerous because the attack isn't playful. It might occur, for example, if your cat is looking out the window and spots another cat outside that he can't chase. He attacks the first creature that is nearby or approaches, which could be another pet in your household — or you.

Never try to approach or pick up a cat exhibiting signs of arousal, which include loud hissing, growling or caterwauling. In the long term, it might be necessary to eliminate the source of stimulation, perhaps by keeping the shade down so your cat can't see outdoors.

If your cat's personality suddenly seems to change from docile to hostile, it's a wise idea to pay a visit to his veterinarian. "A medical cause for aggression in cats is relatively rare, but it must always be ruled out," says Dr. Houpt. "The primary cause of medically based aggression is pain, no matter what the source of that pain."

## THE BACTERIA THAT INFECT 40 PERCENT OF CATS

Cat bites can be more dangerous than dog bites, according to animal behaviorist Katherine A. Houpt, VMD, Ph.D., at Cornell because they create puncture wounds. "The wound heals over and bacteria are trapped inside," she says.

Best known is the condition caused by *Bartonella henselae* bacteria, one more strongly associated with transmission by feline claws: cat scratch disease, also called cat scratch fever. Some 40 percent of cats are carriers, according to the Centers for Disease Control, but few show signs of the illness. Humans, on the other hand, can develop skin lesions, fever, fatigue or, in severe cases, systemic infections.

The CDC recommends washing cat bites and scratches immediately and thoroughly with running water and soap. It also advises that those who see swelling or pus at the site of the scratch or bite, or who develop fever, headache, swollen lymph nodes or fatigue, contact a physician.

Dr. Houpt suggests that anyone who is old or immuno-compromised see a doctor immediately if they are bitten because of the danger of bacterial infection.

**Geriatric Concerns.** The appearance of aggression in older animals is a particular cause for concern, Dr. Houpt says, because cats tend to mellow with age. Moreover, pain is easy to miss in geriatric felines, who tend to spend a good deal of time sleeping. You might think that your cat is simply slowing down when, in fact, he's hurting. When the cause of your cat's pain, such as arthritis or periodontal disease, is treated, the aggressive behavior should abate.

Dr. Houpt dispels one myth about the source of cat bites: That it is caused by declawing. Several recent studies have shown that this does not happen. "That's not to suggest you should declaw your cat," she says, "only that he will not be any more inclined to bite. He may just learn to hate the veterinarian." ❖



# WHY DO THEY... (Almost) Always Land on Their Feet?

*Supple spines allow cats to right themselves in free fall, but serious injuries can occur*

*This occasional series explores the reasons for cats' often intriguing behavior. If you would like to suggest a topic, please write CatWatch Editor, 800 Connecticut Ave., Norwalk, CT 06854, or email [catwatcheditor@tufts.edu](mailto:catwatcheditor@tufts.edu).*

You cringe as your acrobatic cat maneuvers through an open window and accidentally falls or jumps to freedom in the great outdoors, landing feet first. While it seems as if cats almost always land on their feet, the truth is that they don't always land safely. Internal injuries can occur and owners can sometimes overlook them.

"Most cats do land on their feet when they have had time to reorient themselves," says Andrea Johnston, DVM, a specialist in internal medical and Clinical Instructor in Small Animal medicine at the Cornell University College of Veterinary Medicine.

A study backs her up: Ninety percent of 132 cats seen at the Animal Medical Center in New York

survived after falling from sometimes great heights, though most needed treatment, according to a study published in the Journal of the American Veterinary Medical Association.

Cats in free fall immediately go about righting themselves in a race against the clock. It's as if a universal joint sat at the core of their bodies. The cats right themselves from front to back, righting the head and front feet, followed by the back feet.

**Cushioned Disks.** The late James R. Richards, DVM, Director of the Feline Health Center, explained the possible reason in a column for the Cornell Center for Materials Research: "Cats are able to rotate their supple spines more than many other animals and can twist their bodies to a much greater extent. Cats' vertebrae — the spools-on-a-string-like bones in the back — are very flexibly connected and have especially elastic cushioning disks between them. This limber spine allows cats to perform their elegant and graceful acrobatic feats."

Surviving a fall is one thing, but thriving is another if treatment isn't sought. That New York study found that 90 percent of cats studied suffered chest trauma. About seven out of 10 cats had

bruises in their lungs, resulting in their lung tissue being filled with blood and other fluids. Nearly as many had a collapsed lung, causing air to collect abnormally in the space between the lung and chest wall.

Some cats suffered facial trauma (57 percent), broken limbs (39 percent) and dental fractures (17 percent), among other injuries. Nearly four in 10 needed emergency life-sustaining treatment. Only 30 percent of cats in this study didn't need treatment after a veterinary examination.

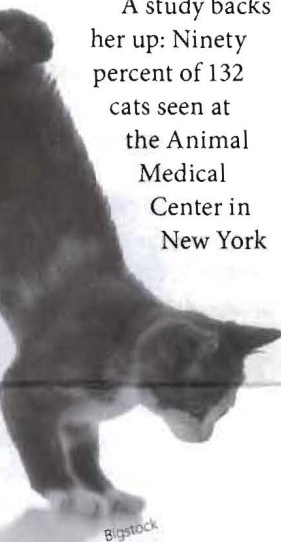
So the myth of the cat landing safely on his feet is often just that — a myth. Oddly enough, falling from a second floor or other lower stories isn't necessarily safer. Pets who fell from higher floors did better than those who fell from between five and nine stories.

"Perhaps it's because cats falling from greater distances have more time to right themselves," says Joel Weltman, DVM, a Cornell third-year small animal emergency and critical care resident who completed his internship at the Animal Medical Center.

When cats fall from heights of at least two stories, it is called "high-rise syndrome" and it isn't unusual in an environment like New York City," Dr. Johnston says. The 132 studied cats in New York all arrived at the AMC clinic in a period of five months. Meanwhile, ASPCA.org notes that Bergh Memorial Animal Hospital in New York sees about three to five high-rise syndrome cats a week in warmer months, when people leave windows open.

If your cat suffers a fall, seek immediate help. "This is a case where you should always seek veterinary care," Dr. Johnston says, adding that injuries like bruises on the lungs may go unnoticed initially, but then become life-threatening in a matter of hours. ♦

Cats can twist their bodies to a greater extent than other animals, enabling them to perform elegant and graceful acrobatic feats.



## WHAT YOU SHOULD KNOW

To help ensure that your cat doesn't become a "high-rise syndrome" victim:

- ◆ Don't let your cat out on the balcony.
- ◆ Keep windows securely closed.
- ◆ Install snug, sturdy window screens if you want to open windows. Tightly wedge adjustable screens into window frames.
- ◆ Don't rely on childproof window guards to protect pets; cats can easily slip through them.



## HEART...

*(continued from cover)*

molecule called brain natriuretic peptide (BNP) in the blood can be used to screen for feline hypertrophic cardiomyopathy, which can lead to heart failure. BNP is a compound released in the body when parts of the heart are dilated or stretched, as they may be in feline hypertrophic cardiomyopathy.

Studies at a number of U.S. and international institutions suggest that BNP can be used as an initial screening tool for feline hypertrophic cardiomyopathy although there is some controversy regarding the appropriate application of this test in terms of grading disease severity and monitoring disease progression over time.

Another advantage of this test as a screening tool is the fact that it is relatively inexpensive. It is important to point out, however, that BNP concentrations are best used in conjunction with other diagnostic tests, including echocardiography and X-ray, in the diagnosis and management of cats with heart disease.

Owners should be aware of CHF's early warning signs and call their cat's veterinarian if they see them. The most common signs are difficulty breathing, lethargy and loss of appetite.

**The Most Common.** Feline hypertrophic cardiomyopathy (HCM) is by far the most common heart disease in cats. The condition is characterized by thickening of the muscle of the left ventricle. The thickening interferes with the heart's ability to pump blood properly. (Please see sidebar.) Two less common types of cardiomyopathy that can also lead to congestive heart failure are restrictive cardiomyopathy, caused by the excessive buildup of fibrous tissue in the ventricles, and dilated cardiomyopathy, which is characterized by a dilated and thin-walled, poorly contracting left ventricle.

Most conditions leading to CHF are considered "acquired" diseases, in that they develop during the course of a cat's life. Congenital defects in the heart — ones present at birth — can also result in CHF. Because hypertrophic cardio-

## THE EARLY WARNING SIGNS

Owners who witness any of the early warning signs of congestive heart failure should call their cat's veterinary clinic promptly for an appointment. The signs include:

- ◆ Rapid and/or labored breathing
- ◆ Lethargy/weakness
- ◆ Weight loss
- ◆ Loss of appetite
- ◆ Paralysis of limbs or general difficulty moving

myopathy is the leading cause of CHF in cats, this discussion will focus on the diagnosis and treatment of this disease.

Although HCM can develop in cats of any gender, age or breed, certain cats are at greater risk. The disease most frequently affects males and, although it has been diagnosed in cats as young as 4 months of age, it is most commonly diagnosed in middle-aged cats. Certain breeds, including Maine Coons, Ragdolls and American Shorthairs, are predisposed to HCM, suggesting a genetic mechanism. Studies have thus far identified a number of mutations in cardiac proteins in feline HCM, although the definitive mechanism of this disease is still not known.

Hypertrophic cardiomyopathy is sometimes not diagnosed until cats have gone into congestive heart failure and display the aforementioned difficulty breathing and lethargy, Dr. Kornreich says. In many cases, however, HCM is diagnosed after the identification of physical examination abnormalities during a routine checkup, before outward signs appear. In these cases, veterinarians might hear a murmur or irregular heart sounds and order further tests.

"We definitely see a spectrum of cases," Dr. Kornreich says. "The disease might progress to heart failure, and the owner thinks, 'Oh my goodness, this just happened.' But in most

**Echocardiography, a test using sound waves** to create images of the heart, is among the tools that veterinarians use to diagnose heart disease.



Cornell



cases, the disease has been progressing for a while."

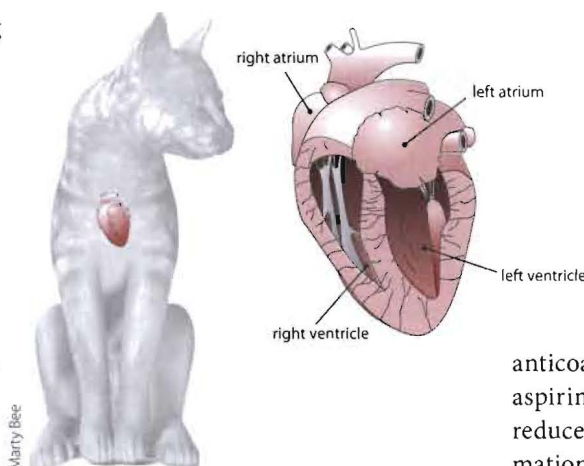
**Reduced Blood Flow.** In cases of HCM, the thickening of the heart wall reduces blood flow and oxygenation of tissues and organs throughout the body. Fluid often accumulates in the lungs, which causes breathing difficulty.

HCM can also result in the formation of blood clots within the heart. These clots can travel to other parts of the body, such as the arteries that lead to the rear legs. As a result, Dr. Kornreich says a cat's hind limbs might appear to be paralyzed and the cat may vocalize and appear very uncomfortable. "This is a very devastating thing to see," he says. "In cases where a blood clot has formed, the prognosis becomes much less favorable."

If a cat doesn't display overt symptoms of heart disease, but a veterinarian detects an abnormality during a checkup, additional tests will often be recommended.

X-rays may be taken to rule out CHF, and sometimes an electrocardiogram or a blood test to identify heart muscle damage will be done. However, the gold standard for identifying HCM is echocardiography, which is an advanced method of imaging the heart that uses high frequency sound waves. The test can be expensive, says Dr. Kornreich, who estimates that it can cost as much as \$500.

**Therapy Options.** Treatment of cats with hypertrophic cardiomyopathy



**Congestive heart failure** is suspected when the left atrium becomes dilated.

varies depending on the individual case. If a cat has progressed to congestive heart failure, veterinarians usually prescribe a diuretic to remove excess fluid from the lungs and other body tissues. They may also give medications called angiotensin-converting enzyme inhibitors, which may improve the heart's ability to pump blood and may decrease the degree of thickening of the heart, although this is controversial.

A major goal in the treatment of HCM is to control the heart rate, which is commonly elevated in cats with the disease. One way to do this is to administer beta blockers. These drugs block the effects of the hormone norepinephrine, resulting in slower, less forceful heart beats. Studies investigating the

effectiveness of beta blockers and of other classes of drugs in controlling the heart rate in cats with HCM are ongoing at several institutions.

Cats with HCM, including those who survive congestive heart failure, will likely be on medication for life. Veterinarians will often prescribe anticoagulant medications, including aspirin and/or clopidogrel (Plavix), to reduce the likelihood of blood clot formation in these patients.

"It's important to understand that we're not curing these cats," Dr. Kornreich says. "Rather, we are managing their disease and decreasing the severity of their clinical signs." One important clinical sign, or symptom, of HCM is an elevated respiratory rate. The veterinarian will often instruct owners to monitor their cat's resting respiratory rate at home.

**Monitoring Respiration.** While guidelines vary slightly, healthy cats typically breathe between 20 and 30 times per minute. If owners notice the rate increasing — particularly a steady increase over the course of several days — it might warrant a call the veterinarian. If the respiratory rate rises over 40, it's important to promptly contact a veterinarian.

The prognosis for cats with hypertrophic cardiomyopathy depends on the severity of symptoms. Some cats can live for years on medications to control the condition. However, those who go into congestive heart failure and/or develop blood clots have a more guarded outlook.

The challenge for owners and veterinarians alike is detecting feline heart conditions before they progress to congestive heart failure, and working together to optimally manage heart disease if and when it is diagnosed. With continued research into the mechanism of HCM and other cardiac diseases in cats, there is hope for improved prognosis and perhaps definitive curative therapy for these conditions in the future. ♦

## HOW THE CONGESTION DEVELOPS

Hypertrophic cardiomyopathy, the most common cause of congestive heart failure in cats, is characterized by thickening of the muscle of primarily the left ventricle. This results in a decreased ventricular chamber volume and an abnormality of ventricular relaxation. Since ventricular relaxation is an important determinant of ventricular filling, cats with HCM have difficulty filling their ventricles between contractions of the heart.

Because the ventricle can't fill properly and the ventricular volume is decreased, the amount of blood it can pump to the rest of the body decreases, and blood tends to pool in the blood vessels bringing blood from the lungs to the left side of the heart. This may lead to fluid backing up, or congestion, most often into the lungs. This congestion of the lung tissue makes breathing difficult.





Elizabeth

Elizabeth is thankful for the assistance of **Bruce G. Kornreich, DVM, Ph.D., DACVIM**, Associate Director of the Cornell Feline Health Center, in providing the answer on this page.

**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, 800 Connecticut Ave., Norwalk, CT, 06854 or email [catwatcheditor@cornell.edu](mailto:catwatcheditor@cornell.edu).

**COMING UP ...**

❖  
**LOW-LEVEL  
LASER THERAPY**

❖  
**HOLIDAY  
HAZARDS**

❖  
**URINARY TRACT  
INFECTIONS**

❖  
**NEW  
PROCEDURE  
FOR CRP**

## The Secret of Catnip's Appeal to Certain Kitties

**Q** We have two young male domestic short-haired cats we love dearly, and we are always trying to find ways to make them happy and keep them occupied. We recently brought some catnip home, thinking that this would be a great way for them (and us) to have fun. One of the cats goes crazy for the stuff, while the other seems completely unimpressed. Is this normal?

**A** I understand your curiosity about the variation in response to catnip that you are seeing with your boys. I personally love it and have always wondered why some (albeit few) of my feline friends can just stand there watching while I roll around like a lunatic in the stuff. It turns out, though, that not all cats respond to catnip by doing the funky chicken. While the mechanism of this variable response is not completely clear, we do know a few things about this interesting plant.

*Nepeta cataria*, commonly known as catnip or catmint, is a perennial plant that resembles mint. The active ingredient that makes us kitties (well, some of us kitties) crazy is called nepetalactone, and when the plant is crushed or bruised, this volatile oil is released. Interestingly, the chemical structure of nepetalactone resembles some of the sedative components found in valerian root as well as some of the pheromones in tomcat urine, which produces similar behavioral effects to those seen with exposure to catnip in many cats.

When domestic cats (and some wild feline species) inhale nepetalactone, it binds to olfactory (scent) receptors and activates pathways in the

brain that remove inhibitions, much in the same way that some hallucinogenics do in people. This behavioral disinhibition promotes the behaviors that are commonly observed in cats that respond to catnip: rolling, purring, leaping around, drooling, and in some cases, aggressive behaviors like growling or hissing.

Interestingly, the response to catnip is hereditary, probably because expression of the olfactory receptors that are involved in the response to catnip is genetically mediated. This means that some cats inherit these receptors and some cats do not. Those cats who inherit these receptors (approximately two-thirds of cats) will respond to catnip in the characteristic disinhibited fashion, while those that

don't do not respond to it. It seems that you have one of each. While there is certainly no tragedy in not inheriting these nepetalactone receptors, I feel badly for kitties that do not!! ☺

Another interesting and potentially useful property of catnip that many people are not aware of is that it is an excellent insect repellent, repelling a wide variety of insects, including mosquitoes, cockroaches, aphids and termites.

My owners are very excited about these properties as alternatives to chemical insect repellents. I think this is great ... more for me roll around in!!

Anyway, I hope this is helpful in explaining the variable response that you are seeing with your kitties, and while it's too bad that they don't both respond, at least the one who does can make a really funny show for everyone else in the house!

If you have the time, please send me a picture of your responder during one of his catnip sessions ... they are always hysterical. ❖

—Best regards, Elizabeth



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