

THIS JUST IN

Avian Flu in Cats

Three cats were infected

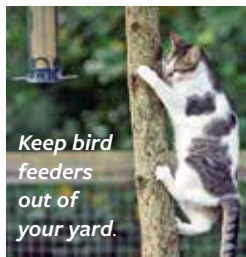
Avian influenza is still a factor in our lives, hence the high prices for eggs due to the outbreaks last year. Dogs and cats can contract avian (bird) flu.

Recently, a cat in Wyoming with no clinical signs was diagnosed with avian flu and two cats in Nebraska were found with neurologic signs of the disease. All three cats were outdoor cats and known to hunt. Sick and weakened birds are easy prey for cats.

Cats would need a high level of viral particles circulating in their bodies to be a risk factor for infecting people. It is possible, but not a high risk since they are not a primary host for the virus.

Outdoor cats with severe neurologic signs must be distinguished from rabid cats, which can be done via isolation. Cats with respiratory signs have a higher likelihood of having other respiratory infections such as calicivirus.

You can avoid avian flu by keeping your cat indoors. If she goes outdoors, minimize contact with birds by keeping feeders out of your yard. Don't have feeders, as they attract birds to your yard. Bells on collars just don't work. ■



Keep bird feeders out of your yard.

5 Things to Know about Whiskers

Whiskers detect movement, which is information

Whiskers are one of the things that make cats such agile, successful hunters. These thin hairs provide details about the environment.

1 Whiskers Are Long Hairs

Your cat's whiskers are big, specialized hairs. What makes them so special is the hair follicle that they grow from. Whisker follicles are deeper than your cat's regular hair follicles and are lined with lots of nerve endings. When a whisker is touched or moved by the wind, different nerves are stimulated based on how the whisker bends. The stimulated nerves then send information to your cat's brain. Most cats have straight or slightly curved whiskers, but cats with curly coats can have curly whiskers, too.

2 Pinpoint Prey

Whiskers are moved by even the tiniest air currents. Your cat interprets the way air is moving to tell if a person or animal is moving toward her or away and how fast. Cats use this talent to help detect prey and track its movements. You'll notice that when your cat is actively stalking something—be it a real mouse or a toy one—her whiskers are flared and a little forward. She is totally focused on tracking every motion of her prize. Once your cat has caught her prey, the whiskers on her face, jaw, and paws all help her to sense exactly how it is oriented in her grasp. This makes up for the fact that she can't see well up close. From this information, she can deliver the killing bite or just chomp on her toy.

3 Trimming Doesn't Hurt (but it's rude)

Because whiskers themselves are just hairs, they can be cut. The shaft of the whisker does not have any nerve endings, and it won't hurt. Plucking a whisker is another story. Whiskers are deeply rooted in the skin, which makes them harder to remove, and don't forget all those nerve endings. Plucking a whisker from your cat's face will hurt.



Cat whiskers aren't just beautiful, they're functional and deserve protection.

Even though trimming whiskers doesn't hurt, it's not a great thing to do. You probably know that one of the ways cats use their whiskers is to "measure" how big an opening is to tell if they will fit. If the whiskers are cut short, they no longer accurately represent your cat's body size.

Cutting your cat's whiskers can interfere with the rest of your cat's life as well. Her whiskers help her to navigate in the dark, as her movements create air currents that then bounce off walls and furniture and back to her.

4 Shedding Is Normal

Like all hairs, whiskers can shed and fall out on their own. Your cat won't lose all her whiskers at once, and they will grow back. Your cat's whiskers may change color as she ages, just like human hair turning gray. Except many cats' whiskers get darker as they age.

5 Whiskers on a Cat's Legs

Cats' facial whiskers are the most obvious, but they also have whiskers on the back of the front legs. These whiskers are shorter than facial whiskers, but still longer and thicker than normal fur. Your cat uses these whiskers to feel prey that she has caught and to aid in jumping and climbing. This helps her to land lightly and gracefully, even on narrow targets. ■

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Cat Friends for Over 10,000 Years

And they didn't have to do that

Unlike dogs who moved right into households right away and have been purposely bred for many generations, cats continue to be largely randomly bred. Cats are often considered semi domesticated since they can, and do, survive on their own in the wild. However, recent research has found their involvement in human history is over 10,000 years old.

A paper from researchers at the University of Missouri sheds some light on the domestication of cats. Dr. Leslie A. Lyons, feline geneticist and Gilbreath-McLorn endowed professor of comparative medicine in the University of Missouri College of Veterinary Medicine, has studied feline DNA around the world.

Recently, she concentrated on samples from cats in the Fertile Crescent area, which is in the Middle East around the Tigris and Euphrates rivers. This area is important in human history, as humans who settled there about 10,000 years ago started to switch over to being farmers as opposed to hunter/gatherers who wandered. Putting down roots involved storing up grains and foods for the winter, which meant rodent control to avoid crop damage became important. Enter cats as the ideal pest-control managers.

As such, cats tended to migrate with humans, often on ships as ratters and wherever farming became a major occupation. Cats can now claim over a 10,000-year relationship with people. They clearly enjoy human company. ■

Nilson, S.M., et al. "Genetics of randomly bred cats support the cradle of cat domestication being in the Near East." Heredity 129, 346-355.



Almost everyone agrees that when it comes to rodent control, nothing beats a cat.

Technology Comes to Cat Treat Manufacturing

Cultured meat has been in the news lately for people, and now we learn that cell-cultured cat treats are on their way

Pet owners tend to be conservation oriented and want to do what is best for their pets. One company is relying on the new technology called "cultivated meat," or "cultured meat," to make a sustainable protein for their cat treats, according to PetIndustry.com.

CULT Food Science has a line of treats called Marina Cat. They are working with Umami Meats to provide a treat with tissue-cultured red snapper, which is a type of fish. Red snapper has been overfished and is vulnerable to extinction, but it is a popular human food as well as being used for pet foods.

The cultured red snapper is grown in a nutrient medium using some cells from one fish. Using specific conditions of nutrients and temperature, the cells grow, eventually creating muscle tissue that is then used as a rich and somewhat novel protein for pet foods and treats.

Questions remain as to whether cell-culture meats and proteins are truly good for the environment. The infrastructure required to house a laboratory suitable for growing the cultures is both expensive and energy intense at this time. Theoretically, habitat losses and pollution associated with large farms would be reduced by using the technology. Wild populations could recover due to less fishing pressure.

While this is a trend to watch, many questions remain about cultured protein versus natural protein sources that are farmed or caught. ■

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A Worrisome Hernia Injury

Diaphragmatic hernias can be an emergency

A hernia of the diaphragm can be life-threatening. A hernia is a gap in the tissues in the body, usually caused by blunt trauma, that allows organs or other body tissues to bulge out of place.

The diaphragm is a layer of muscle that separates a cat's chest from her abdomen. When there is a hernia of the diaphragm, organs may move through the tear into the chest cavity and can cause life-threatening conditions. The misplaced organs put pressure on the lungs and prevent a cat's lungs and heart from functioning normally.

Most of these hernias come from a traumatic incident, such as being hit by a car, falling from a great height, or blunt trauma to the body such from as a kick or blow. Many injured cats are brought to the veterinary clinic with multiple injuries, not just a diaphragmatic hernia.

Some cats will go for a while post trauma with no obvious signs, until the abdominal organs slide through the hernia. Injured cats with large holes in the diaphragm may experience intermittent signs as the stomach, liver, and intestines slide back and forth.

Signs of a Diaphragmatic Hernia

Respiratory difficulty is the most common sign of a diaphragmatic hernia. The cat may take rapid, shallow breaths, prefer to stand or stay down, and keep her head and neck extended to ease breathing. Some cats will show gastrointestinal signs due to the stomach, liver, or intestines being compressed and/or having their blood flow interrupted. You might notice some vomiting and a lack of appetite.

Diagnosis

On examination at the veterinary hospital, the abdomen may feel "empty" as organs that belong there are now in the chest cavity. Heart and respiratory sounds may be muffled. Coupled with a history of trauma, your veterinarian will move on to radiographs to evaluate the situation. About two-thirds of diaphragmatic hernias are evident on radiographs. Ultrasound can help see what's happening. In rare cases, your veterinarian may need to do a dye (barium) study to evaluate exactly what has happened.

Treatment

Surgery is the only treatment for these hernias. Other injuries may be more life-threatening, and the cat needs to be in the best possible condition to handle anesthesia and surgery. Treatment for shock is often required.

If the stomach has passed through the gap in the diaphragm and gets blocked so that it fills with gas, it can be an emergency due to the increased pressure that results in severe respiratory distress. In these cases, a large bore needle may be passed through the body wall to relieve the gas and shrink the stomach back down. Surgery will then be done as soon as your cat is stable.

The goal of surgery is to replace the abdominal organs back where they belong and suture the diaphragm closed.

If liver lobes or parts of the intestines or stomach are badly damaged, resection (removal of the damaged sections) may be required. Tubes may need to be placed in the chest to remove any free air interfering with breathing and for feeding if the gastrointestinal tract has been traumatized too.

Many veterinarians will choose to refer you to a board-certified veterinary

surgeon for this repair. Pain management and confinement with rest are important.

Bottom Line

Any hit-by-car cat should be seen by your veterinarian and then observed closely at home, even if she seems fine. Up to 25% of all diaphragmatic hernias are diagnosed weeks after the initial trauma.

An older study found that waiting 24 hours after trauma to improve a cat's initial status was beneficial, but a 2016 study published in *BMC Veterinary Research* refutes that. What veterinarians do agree on is that a better outcome is more likely if the cat can be stabilized before surgery.

Of course, if your cat is in severe respiratory distress, she may need immediate veterinary care and surgery. Cats who had trauma long before diagnosis may have adhesions between the misplaced organs and the chest wall. That surgery is more complicated, and prognosis can be guarded. ■



Most cats have no fear of falling.

Photo: iStockphoto

Non-Traumatic Diaphragmatic Hernias

While most diaphragmatic hernias are the result of trauma, a kitten can be born with a hernia of this type, although it is rare, due to a developmental defect in the feline fetus. These are often incidental findings during a cat's spay procedure. Himalayan cats may be predisposed to these hernias.

The most common type of congenital diaphragmatic hernia is at the center of the diaphragm and continues into the pericardial sac. It called a peritoneal-pericardial diaphragmatic hernia (PPDH).

James Flanders, DVM, emeritus associate professor, section of small animal surgery at the Cornell University's College of Veterinary Medicine, says if any abdominal organs pass through the hernia, they will rest next to the heart, inside the pericardial sac.

Cats with PPDH often show no clinical signs, surprisingly. Often these hernias are only diagnosed when a chest radiograph is taken for another reason and a very large pericardial shadow is seen because the pericardial sac may contain not only the heart, but also a liver lobe, the spleen, or some intestine. Often the displaced liver lobe or spleen is relatively happy in its new location and there are no clinical signs. Treatment is the same as for traumatic hernias.

Yes, Anesthesia Involves Risk

But this risk can usually be managed

Bringing your cat to the veterinary hospital for a procedure under general anesthesia is never fun. It's scary, and you leave hoping all goes well because no one can make any guarantees when it comes to anesthesia. Still, knowing what's involved in the process may relieve your angst and uncertainty about your cat having surgery.

"The risk of serious injury or death is extremely low if anesthesia is performed properly," says Dr. Jordyn Boesch, associate clinical professor, section of anesthesia and pain medicine, Cornell University's College of Veterinary Medicine. "We prepare for every possible emergency situation, but some factors are out of our control. For instance, a patient may suffer an unexpected adverse event after administration of a drug, and despite being ready to treat said reaction, the patient might fail to respond."

Young, healthy pets have the lowest risk. A preoperative health classification system created by the American Society of Anesthesiologists (ASA) for humans has been adapted for animals.

This system is frequently used by veterinarians to help determine a patient's individual risk factors and to formulate a specific anesthetic plan geared toward minimizing that patient's anesthetic risk. For example, the lowest risk is encountered in a young, healthy patient. The highest risk occurs in patients with advanced diseases like heart or kidney disease, and the surgical risk must be managed because the patient will not do well without surgery.

Managing a Cat Under Anesthesia

The big things your veterinarian and licensed veterinary technician (LVT) are monitoring and managing while your cat is under anesthesia are:

- ▶ Airway integrity
- ▶ Breathing and oxygen levels
- ▶ Heart rate and rhythm
- ▶ Blood pressure
- ▶ Body temperature
- ▶ Depth of anesthesia

There are many modern gadgets available to veterinarians for monitoring and managing anesthetized patients. These include continuous electrocardiography (ECG), digital



Veterinary anesthesia is similar to human surgery, with constant surveillance.

respiratory and blood pressure monitors, oxygen and carbon dioxide level monitors, and intravenous (IV) pumps for metered fluid and drug administration. Gadgets that aid in maintaining normal body temperature include heated surgical tables, warm blankets, warm-water circulating pads, IV fluid warmers, and warmers for inhaled oxygen.

During a procedure requiring anesthesia, a well-trained, experienced LVT usually monitors the cat while the veterinarian performs the procedure. The LVT continually ensures that your cat remains properly under anesthesia, called "anesthetic depth," and makes any necessary adjustments, with the veterinarian's guidance. The LVT also monitors the cat's body temperature, heating or cooling the cat as needed. In many veterinary hospitals, the same LVT remains dedicated to your cat's care all the way through recovery until it's time for the cat to go home.

Cats Present Unique Challenges

"Cats are not small dogs!" says Dr. Boesch. "They have a limited capacity to metabolize certain drugs compared to dogs. They develop adverse effects from some drugs more commonly than

dogs; for instance, opioids can cause hyperthermia, or high body temperature. On the opposite side, because they are small, they are more prone to hypothermia, or low body temperature, during general anesthesia."

The cat's trachea, or "windpipe," is tiny and easily damaged if not carefully managed. Endotracheal breathing tubes have air cuffs that are inflated to create a firm seal to prevent aspiration while under anesthesia. If this cuff is inadvertently overinflated, tracheal rupture can occur in cats. "Simply changing a cat's body position during anesthesia without disconnecting the endotracheal tube from the anesthesia machine can damage the trachea," says Dr. Boesch.

IV fluid administration is more difficult with cats than dogs. IV fluids are given during anesthesia to help maintain blood pressure. Because cats are so tiny and their blood volume so small, overzealous administration of IV fluids can overwhelm the heart and lungs, resulting in fluid congestion in the lungs.

Having a well-trained, experienced LVT dedicated to your cat obviously minimizes most of these concerns; but they are real, especially in cats.

Prior to Anesthesia

Many hospitals ask you to bring your cat in for preanesthetic bloodwork prior to the day of the procedure. At this time, they will assess the cat for any issues that should be addressed prior to surgery and assess the cat's stress level. Because stress wreaks havoc on blood pressure and heart rate, pre-medications meant to minimize stress, among other things, will often be dispensed at this visit.

"Anesthesia begins at home," says Dr. Boesch. "I recommend that veterinarians send home certain drugs with owners to be given the night before to prepare their cat for admission the next morning. An anti-emetic, or anti-nausea drug is important, as many cats are nauseated by car rides and by anesthetic drugs.

Jordyn Boesch, DVM, PhD, DACVAA, focuses her research on pain and its management. Her interest in anesthesia and pain management applies to all species.





This cat is receiving pre-oxygenation via face mask and propofol intravenously to softly induce anesthesia.

which helps maintain blood pressure. It also allows quick, easy access for administration of drugs, which is especially important should the cat require emergency treatment while under anesthesia. Injectable medications will be administered for sedation and preemptive pain management.

When it's time for the procedure, the cat receives pre-oxygenation via face mask and a short-acting anesthetic drug like propofol intravenously to softly induce anesthesia (unconsciousness). Next, an endotracheal tube will be placed, and an inhalant gas anesthetic like isoflurane or sevoflurane will be administered. Inhalant anesthetics are most frequently used for maintenance of anesthesia during procedures, as they can be adjusted to the lowest dose necessary to maintain unconsciousness.

After the Procedure

Once the procedure is complete, whether it be surgery, dentistry, radiation therapy, or advanced imaging like CT or MRI, the cat will be allowed to wake up while still intubated. Intubation refers to the breathing tube that was inserted so the cat can breathe while anesthetized.

Once it is determined by the veterinary staff that the cat is awake enough to swallow and thereby naturally protect its own airway, the endotracheal tube will be removed. Your cat will be moved to a recovery area, where he or she will continue to be carefully monitored by your LVT until fully awake and ready to go home.

Post-operative pain management is an important aspect of any potentially painful procedure. "After anesthesia," says Dr. Boesch, "if the cat is stable, we will administer an anti-inflammatory drug for pain relief, and possibly more opioids. All cats should go home with at least three days of an analgesic drug after a painful procedure like spay, neuter, tooth extraction, etc." If you aren't given one, Dr. Boesch suggests asking for it.

Is It Worth It?

While there is always risk associated with anesthesia, thanks to modern day medicine and advanced technology, that risk can be minimized.

A good model to use when deciding whether it's worth the risk to have your cat undergo anesthesia for a procedure is the risk:benefit ratio. If the benefit of the procedure for your cat outweighs the perceived risk, then the answer is yes.

What You Can Do

Dr. Boesch offers some pearls of wisdom for cat owners worried about general anesthesia:

- ▶ Ask a lot of specific questions about anything you don't understand. These might include:
 - ▶ What equipment will be used to monitor my cat under anesthesia?
 - ▶ Will IV fluids be administered?
 - ▶ What will be administered for pain relief in-hospital, and what will I be given to administer at home for pain?

If you're still worried, you can call the Cornell University Hospital for Animals and ask to speak with a board-certified anesthesiologist about your cat's anesthetic protocol (there may be a fee for this), or ask your veterinarian to consult with one of these specialists.

But, if the risk of anesthesia for your cat, based on your cat's unique health status, outweighs the benefit of the procedure, you might want to rethink things. In these cases, discuss an alternative plan with your veterinarian.

Some cases are easy to determine that the benefit outweighs the risk:

- ▶ An 8-month-old apparently healthy female kitten for spay
- ▶ A 5-year-old otherwise healthy cat with severe, chronic, painful dental disease for dental work
- ▶ A queen having difficulty or inability to birth kittens, because without surgery mom and babies may die
- ▶ A young, otherwise healthy cat with intestinal blockage for abdominal surgery

Cases in which the risk may be higher than the benefit include a geriatric cat with untreated hyperthyroidism and a non-painful mouth in for a routine dental cleaning or a senior cat with heart disease going under full anesthesia for a grooming procedure.

There will always be scenarios in which the decision making is less clear cut. These more difficult cases require in-depth conversation with your trusted veterinarian. ■

A sedative like gabapentin will relax a nervous cat for the car ride and admission to the hospital, both of which can be extremely stressful. Neither of these drugs will interfere with the anesthetic protocol nor with the procedure to be performed and can really change a cat's veterinary experience for the better."

Dr. Boesch advises that every cat should have at least some bloodwork performed before anesthesia. "Even in young, apparently healthy cats, we check to make sure they aren't anemic, have normal concentrations of protein and glucose in their bloodstream, and normal kidneys," she says.

"As cats age," says Dr. Boesch, "the risk of various diseases becomes greater, so we perform more comprehensive bloodwork after about the age of 7 or so to evaluate their kidneys, liver, and many other variables in greater detail." Older cats should have thyroid levels checked prior to anesthesia, and cats with heart murmurs should have additional diagnostics performed like chest x-ray, ECG, and/or an echocardiogram prior to considering anesthesia.

On the Day of the Procedure

Once the cat has been admitted to the hospital, the veterinarian performs a preanesthetic physical exam, making sure that all is well prior to inducing anesthesia. An anesthetic plan including dosages will be made, and drug dosages for emergency intervention, should it become necessary, will be calculated in advance and kept at hand.

The LVT will place an intravenous catheter. This allows fluid support to be administered during the procedure,

Heads Up on Ringworm

This fungus can be difficult to eliminate if it becomes established, so it's smart to know how to recognize it

The fungal infection called ringworm is spread via direct contact with fungal spores. Contact could be from an animal with an infection, combs or bedding, or anywhere in the environment in which spores have been shed, including on furniture and carpets. Unfortunately, ringworm can be difficult to eliminate once it gets established in a kennel, home, cattery, or shelter, as spores can survive in the environment for up to 18 months.

While ringworm itself is not life threatening, it can spread to family members (making it a zoonotic disease) and other pets. Areas of damaged skin are susceptible to bacterial infections.

Ringworm—medically known as dermatophytosis—is caused by a fungus of the group dermatophytes. Ringworm got its name from the red ring it causes around a hairless area, not because it is caused by a worm or parasite. Ringworm is one of the more common skin problems seen in cats, and *Microsporum canis* is the most common fungus involved.

Signs of Ringworm

The face, ear tips, tail, and feet are common areas for ringworm to occur. Cats with ringworm will have scaly areas, often with hair loss, that may occur in a circular pattern, but not always. Kittens are more susceptible than healthy adult cats due to their immature immune systems. Some infected cats, especially



Ringworm will usually appear in a circular pattern with hair loss and scaly areas.

longhairs, may not show any signs at all, but can still be carriers.

Family members may develop the characteristic red rings. Alopecia (hair loss) is most commonly due to hair shafts that are weakened by the fungus as opposed to intense chewing or itching. Secondary bacterial infections may cause redness, inflammation, and erosions. Nail bed infections can cause soreness and are difficult to eradicate.

Diagnosis can usually be achieved at your veterinary clinic. Your veterinarian will do a full physical exam. Then, your cat will be checked out with a Wood's lamp, which is an ultraviolet light under which fungus-coated hair will glow with a bright neon green color. Individual hairs from areas that fluoresce may be looked at under the microscope for spores. If there is any question, some hairs from the affected areas will be placed on special media and cultured to determine if the fungus is present.

Treatment

A healthy adult cat exposed to this dermatophyte may be able to fend it off right from the start or clear the infection on her own with a healthy immune system. That can take from nine to 12 months, however, and during that time, infectious spores can infect other pets and people in the family, and can leave the environment as a source of repeated infections.

Treatment usually starts with a topical therapy, such as a lime sulfur dip or shampoo. This should be repeated twice a week for a minimum of four to six weeks. Ideally, your cat should have two negative fungal cultures two weeks apart to be considered clear. Currently, most veterinarians dispense an oral antifungal medication such as itraconazole plus the topical treatments. Many cats require weeks if not months of treatment to truly be clear of the infection.

If you own multiple pets, you can try separating any obviously infected animals from uninfected ones and hope for the best, but it's often simplest to just treat all your pets. Young children and anyone who is immunocompromised should avoid contact with infected pets.

Home Environment

While treating any infected animals, you also need to wage a full-scale cleaning war on the environment, which means any room that your cat has been in. Start by wiping off hard surfaces such as counters and floors with a dilute bleach solution. Many household cleaners won't kill the spores, so stick to bleach. You need to do this weekly at a minimum until your cat is declared ringworm-free.

Meanwhile, you need to vacuum thoroughly, cleaning out cracks by the wall and under furniture. The vacuum bag should be thrown out or the bagless dirt cup washed. Steam cleaning carpets can help to pick up spores but won't kill them. Wash curtains, bedding, pet beds, etc. on a hot cycle with added bleach, if you can. Use the hot setting on the dryer too. If things can't be cleaned, discard them. Replace furnace and air conditioner filters weekly. If it is warm and you have fans running, aim them outside to help remove any spores that get in the air.

Prevention

How can you avoid ringworm? If you are adding a cat or kitten to your home, have her screened for ringworm using a Woods lamp or cultures if there are lesions before bringing her home. If one of your feline family members is diagnosed with ringworm, confine her to a single room. Have any other pets checked and quarantine and treat them as needed. Follow through with a complete treatment plan until you have two negative tests two weeks apart. Be sure that your house has been thoroughly cleaned, as described earlier. ■

What You Should Know

- ▶ Ringworm can live up to 18 months in the environment
- ▶ The earlier it is caught and treated, the easier it is to cure
- ▶ Ringworm can spread to other pets and family members
- ▶ The fungus can take months to get under control
- ▶ Fortunately, many cats with a healthy immune system can fend off the infection

Signs a Cat Is Going to Attack

If you know the signs, you can avoid the drama

Cats aren't always friendly and cuddly. Whether it is your trusty cat having a bad day, a teenage kitten playing too rough, or a stray cat defending its territory, knowing the signs a cat might attack will help you avoid a bad bite.

"Cats may attack their owners for various reasons, including fear, irritability, pain, or to solicit play or attention," says Pamela J. Perry, DVM, PhD, behavior resident at Cornell University's College of Veterinary Medicine. "Some cats also redirect their aggression from their intended target, like an outdoor cat, to the owner."

Aggressive Attacks

A cat who is attacking out of aggression is likely to bite—and hard. These cats are obvious with their body language if you know what to look for.

"An aggressive cat walks with his head slightly lowered and his back legs straightened so that the back slants downward from rump to head. His pupils may be constricted, and his ears are typically erect but rotated so that the openings are facing towards the back," says Dr. Perry.

The overall impression of an aggressive cat is tightly wound—these cats are tense and stiff, not loose and relaxed. Their movements are sharp, maybe striking with a paw, with claws out, or lashing the tail back and forth quickly. That wagging tail is not friendly.

Aggressive cats may hiss, but they often growl. Feline growls are a sustained yowl, like a blender on high.

Signs of aggression can be quieter, too, especially in disputes between

cats in the household. One cat may stare another down, particularly when blocking the other cat from accessing a resource such as food or prime perches. The aggressor or bully will be tense and upright, often oriented toward the other cat, while the victim will be hunched in on herself, leaning or looking away. If both cats are showing aggressive body language, a fight may be in store.

If a cat looks like it is going to attack you, get out of there. "Try to alleviate the situation by walking away/ignoring him or by distracting him. Some possible distractions include tossing a toy or empty plastic bottle near (not at!) him to redirect his focus or making a loud, strange sound," says Dr. Perry. If possible, get a solid barrier between you and the aggressive cat. Never try to punish an aggressive cat. It will most likely make the situation worse.

Redirected Aggression

Not all cat attacks are truly about the victim. Instead, sometimes cats who are unable to attack the true source of their irritation turn on the nearest being.

A common scenario is when your cat sees another cat outside a window or sliding door. Your cat may not be thrilled about this trespasser and may try to threaten it. Being unable to get to the interloper leads to frustration. Depending how wound up your cat is, he might turn on you or another pet in the household if you wander too close.

Cats displaying redirected aggression will show the same behaviors as a truly aggressive cat, but the initial displays are oriented toward the source, i.e., a cat

outside or a resource that the cat is trying to get but can't access. The attack often comes when an unsuspecting victim either brushes against the angry cat or walks too close and startles them.

Do not touch your cat if she is showing signs of aggression, even if they aren't directed at you. She could bite you by accident. Instead, redirect her with a toy or by making a loud noise to break her focus. Then plan how to prevent the situation from occurring again, such as putting up window clings to block your cat's view or deterring strange cats from hanging out in your yard.

Play Attacks

"Stalking, chasing, pouncing, and biting are typically seen in kittens and young cats because they engage in play more frequently, but these also can be displayed by older cats," says Dr. Perry.

Cats launching play attacks show slightly different behavior than truly aggressive cats. They usually hunker down in a "hiding" spot so they can jump out and launch a sneak attack. Popular spots include under coffee tables, behind curtains, or behind other furniture.

While cats plotting a play attack will be tense and focused, their body posture isn't usually quite as stiff as an aggressive cat. The cat will crouch down to stalk, and the tail may wave back and forth, often with more curve to it than the lashing of an angry cat. These cats typically do not hiss or growl.

Even though your cat is playing, she could bite and break the skin. It is important to discourage these play attacks and provide your cat with appropriate outlets for her energy and hunting instincts. Play with her at least once a day, engaging her with toys to burn off some steam. Never wrestle with your cat with your hands, as this can encourage play biting.

Prevent access to her attack hiding spots, and toss toys ahead to lure her out if you think she is waiting for you. ■

What You Should Know

Signs That an Attack Is Coming



- ▶ Hard stare
- ▶ Ears turned back
- ▶ Tense posture
- ▶ Lashing tail
- ▶ Growl
- ▶ Crouched in a "hiding" spot
- ▶ Stalking
- ▶ Dilated pupils



Pamela Perry, DVM, is a behavior consultant for the Camuti Consultation Service at Cornell and senior veterinary behavior resident.

Hyperthyroid Cat's Appetite

Despite eating well, she's losing weight

Q We have a 14-year-old female Russian Blue cat who has been recently diagnosed with hyperthyroidism. She has a ravenous appetite and continues to lose weight despite this.

What is the best treatment for this condition in an older cat?

A Thank you for getting in touch about this common disease in cats, and given the fact that there are several options for treatment, we are frequently asked this question. Perhaps a quick review of treatment options for feline hyperthyroidism would be helpful.

Hyperthyroidism in cats most commonly results from benign tumors of the thyroid gland (found near the “voice box”, or larynx, in the neck) that cause the gland to produce too much thyroid hormone. Iodine is vital for the thyroid gland’s production of thyroid hormone, and, for this reason, thyroid glands attract and concentrate iodine within them as part of their normal (and abnormal, in this case) physiology.

These are treatment options available to treat feline hyperthyroidism:

I 131 Radioiodine Therapy

(RAIT): This involves the injection of a radioactive form of iodine into an affected cat. The thyroid gland attracts this molecule and concentrates it in its structure, and the radioactivity of the molecule destroys the overactive thyroid tumor tissue. This therapy is effective about 95% of the time, and when it works, cats are effectively cured. The primary risk of RAIT is destroying too much normal thyroid tissue, resulting in an underactive thyroid gland (hypothyroidism), which may require thyroid hormone supplementation. Treated cats must usually be quarantined for between 3 and 5 days until the radioactivity of their waste (urine and feces) drops below acceptable levels.



The Russian Blue is known for its bright green eyes, silver-blue coat, and sweet personality.

While RAIT requires a relatively large investment up front, comparison with the long-term cost of other therapies often reveals that RAIT is comparatively cost-effective. An important consideration is that cats that have other diseases that require daily therapy may not be good candidates due to the need for post-treatment quarantine. Most veterinarians consider RAIT to be the treatment of choice in cats that are otherwise healthy and can be quarantined safely.

Anti-thyroid medications: These drugs, which can be administered orally or transdermally, decrease thyroid hormone production by the thyroid gland. They must be given daily for life, and if they are discontinued, an affected

cat will revert to a hyperthyroid state. Some cats have adverse reactions to these drugs, some of which can be serious, but most resolve with discontinuation of therapy. Regular health checks and bloodwork, including measurement of thyroid hormone levels, are required for cats receiving these drugs.

Iodine-restricted diet: Restricting dietary iodine concentrations decreases thyroid hormone production, but cats treated in this manner must receive ONLY such a diet for the duration of their lives. This can be difficult in a household that has more than one cat, and the long-term health effects of an iodine restricted diet have yet to be well-established in cats.

Surgical removal of the thyroid gland: While this used to be a mainstay of treatment, it is rarely pursued these days, as there are other effective options that do not incur the risks of surgery, including anesthetic risks, infection, and the inadvertent removal of the parathyroid gland, which is vital for normal calcium metabolism.

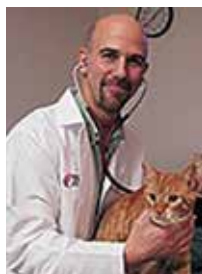
Please discuss these options carefully with your veterinarian. If your cat is otherwise healthy, I would strongly suggest that you consider RAIT if this is feasible for you. Best of luck, and please send us an update when you can. ■

Signs of Hyperthyroidism

- ▶ unexplained weight loss
- ▶ increased appetite
- ▶ increased drinking and urination
- ▶ unkempt coat
- ▶ lump under chin near the thyroid
- ▶ hyperactivity/increased vocalization

Tips for Feeding y/d Diet

If you have opted to treat your hyperthyroid cat with the limited-iodine prescription diet Hills y/d, going off-diet is not allowed. Any treats or foods stolen from other pets can contain enough iodine to increase your cat’s iodine levels, leading to increased thyroid hormone production. You also should be careful with well water, which can include levels of iodine that might be too much for your cat’s restricted iodine diet. Even bowls used for other foods or shared with pets eating other foods can be a source of contamination.



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.

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- ▶ What You Need to Know: Custom Pharmacies
- ▶ Do Cats Have to Eat Wet Food?