



CatWatch

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

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Scientists find that a defective gene causes their black and white coats.

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IN THE NEWS ...

Trending at Shelters: Kitten Kindergartens

A growing number of animal shelters and veterinary clinics around the country are offering kitten kindergartens in an innovative way to socialize kittens and increase their adoptability. Australian veterinary behaviorist Dr. Kersti Seksel developed the program about a decade ago. The classes are intended for kittens between 8 and 15 weeks of age. To be eligible, kittens must have received their first round of vaccines and be cleared by a veterinarian.

In class, they're taught how to interact with other cats and people. Games teach proper play, with some using clicker training to mark a desired behavior. Kittens are handled and brushed to encourage their acceptance of physical touch. An extra benefit is that they become accustomed to being in carriers and riding in vehicles. The San Francisco SPCA, Atlanta Humane Society and Maryland SPCA are among shelters offering the classes. ♦

Is it Dementia or Normal Aging?

Clinical signs such as decreased mobility can be visible, while cognitive changes like disorientation are more subtle

Thanks to advances in veterinary medicine and more cats living safely indoors, a greater number are achieving senior and even geriatric status than a generation ago. It's no longer unusual for cats to reach the age of

20 — equivalent to a 96-year-old person — and beyond. But the added years can come with a price:

Some cats develop cognitive dysfunction syndrome (CDS), similar to Alzheimer's



An exam is a must for any change in behavior.

more often rather than accepting changes as 'just being old,' says Brian Glenn Collins, DVM, Section Chief of the Community Practice Service at Cornell University College of Veterinary Medicine.

disease in humans. One-third of cats 11 to 14 years old have CDS, with the incidence rising to 50 percent for those 15 years and older.

Early Recognition.

"We are trying to recognize cognitive dysfunction earlier and

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The Biggest Threat from Wildlife

Their bite wounds can result in serious infection, crushed tissues, organ damage and the potential for deadly rabies

While warm weather brings out some wildlife, most creatures that could injure your cat in his fenced yard remain year-round threats. Cats typically will not engage them, but bats can swoop indoors and coyotes in a search of a meal can jump fences.

Talk to your cat's veterinarian about the risks in your area. The list of other species that can harm your cat throughout the U.S. is extensive, ranging from venomous snakes, foxes, raccoons and skunks to Great Horned Owls.

Unapparent Effects. The biggest danger results from being bitten. "Any bite wound

needs to be seen immediately," says Gretchen L. Schoeffler, DVM, ACVECC, Section Chief of Critical Care at Cornell University College of Veterinary Medicine. "Some animals can appear fine, but tissue can be crushed, and the body's immune cells can't get to the area where the bite occurred. Some bites are punctures. Some are a grab and pull. What you see at the surface of a bite wound is much like what you see of an iceberg above the surface. What lies below is often much more impressive and worrisome."

First aid is not advised. "The only thing I would recommend is to apply

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CatWatch

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SHORT TAKES

How Tuxedo Cats Got Their Distinctive Coats

The existing theory about the
origin of piebald patches, the white
patterns in the coats of black and
white cats, was that pigment cells
moved too slowly in the embryo to
reach all parts of the body.

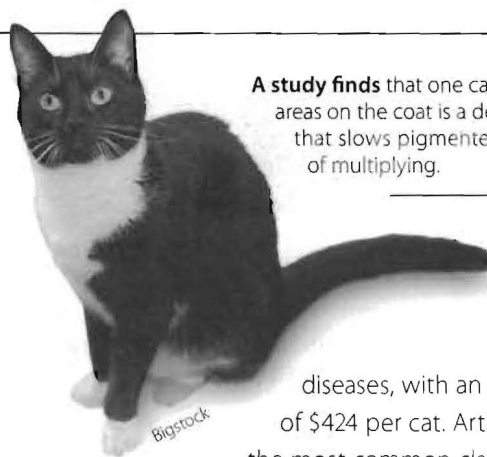
However, geneticists and
mathematicians at the Universities
of Bath and Edinburgh have discovered
that one cause of the unpigmented areas,
which are often seen on the abdomen, is
that a defective gene slows the cells' rate
of multiplying. Too few pigment cells are
available to populate the entire skin, and
as a result result, one of the scientists says,
"The animal has a white belly." The patterns
are also seen in horses, deer and mice,
among other animals.

The study, published in the journal
Nature Communications, also found that
the mutated cells called Kit cells move
randomly, so in animals without enough
pigment cells, color is distributed randomly.
The researchers say many other genes
can create piebald patterns and hope
their work, a mathematical model using
mice, may help advance studies of genetic
diseases in humans, such as holes in the
heart that may occur with faulty cell
production and movement.

Obesity-related Disorders

Obesity continues to be a health
problem in pets, judging by a recent report
from Nationwide. In 2014, its claims for
obesity-related disorders in pets increased
for the fifth straight year to \$54 million, a 10
percent increase over the past two years.

When the pet insurance company
reviewed its database of more than 550,000
insured pets to identify the cat and dog
conditions in which obesity was believed to
be a factor, bladder and urinary tract disease
led its top 10 list for cats. The company
logged more than 4,700 claims for these



A study finds that one cause of white
areas on the coat is a defective gene
that slows pigmented cells' rate
of multiplying.

diseases, with an average fee
of \$424 per cat. Arthritis was
the most common claim in dogs.
Feline lower urinary tract disease

(FLUTD) is a collection of conditions
affecting the bladder and urethra. It has
many possible causes, but cats generally
exhibit similar, recognizable signs, according
to the Cornell Feline Health Center. Affected
cats can have difficulty and/or pain when
urinating, increased frequency of urination,
and/or blood in the urine.

Affected cats are likely to be middle-
aged, overweight and on a dry diet. They will
often lick their genital area excessively and
sometimes urinate outside the litter box.

Other common obesity-related
conditions the insurance company found
in cats (in descending order of prevalence)
were: chronic kidney disease, diabetes,
liver disease, asthma, arthritis, high blood
pressure, heart failure, gallbladder disorders
and immobility of spine.

Feline Forever Stamps

The U.S.
Postal Service
will issue
booklets of
forever stamps
offering a
choice of 20
different pets
sometime
this year. The



**Cats are among the new animal
stamps** the postal service will
issue this year.

project "celebrates the animals in our lives,"
the USPS says. It points out that because pets
come in all shapes and sizes, the stamps will
include horses, rabbits, parrots, corn snakes,
hermit crabs, mice and chinchillas. ♦

Gallstones May Show No Signs

They're believed to be a rarity and have no ill effects unless a life-threatening blockage occurs

Cats don't develop gallstones the way we do. Ours are made from cholesterol. Cats' stones usually consist of calcium and a bile pigment called bilirubin. However, just as in people, cats can have gallstones without any symptoms or ill effects. Unless a cat has an X-ray or ultrasound for some reason, his owner might never know he had the disorder.

All the more important for owners to know that, although gallstones are believed to be rare in cats, "If an obstruction occurs, it can be severe and life threatening, requiring emergency surgery," says Meredith Miller, DVM, ACVIM, a lecturer in Small Animal Internal Medicine at Cornell University College of Veterinary Medicine.

Signs of an obstruction can include jaundice, with the eyes, skin and gums turning yellow. Cats will often become quite sick — weak, refusing food and vomiting severely. An obstruction that ruptures the bile duct or gallbladder, sending bile directly into the abdomen, can be fatal, even with aggressive surgery.

Unknown Incidence. "The true incidence of gallstones, called choleliths, isn't known because they are often silent and don't cause any clinical signs,"

Dr. Miller says. "It seems more common in middle-aged to older cats, and its significance can vary dramatically on a case by case basis."

The gallbladder, a small organ located between the two liver lobes, stores bile from the liver and sends it through the bile duct into the small intestine. It aids with digestion, the absorption of fats and the elimination of waste products.

Gallstones are not usually present at birth. Several breeds are believed to be prone to developing calcium oxalate stones,

including Burmese, Persians and Himalayans. The conditions that can predispose a cat to developing gallstones include:

- ◆ A high bilirubin level from pre-existing liver or gallbladder disease. Bilirubin, a brownish yellow substance in bile, is derived from red blood cells that the liver breaks down.
- ◆ An infection that allows the invasion of bacteria, cholecystitis, or inflammation of the bile ducts, can lead to failure of the bile to flow normally.
- ◆ Slow moving bile, which can also be a risk factor associated with hypothyroidism, diabetes mellitus and hyperadrenocorticism (Cushing's disease).
- ◆ Increases in cholesterol and triglycerides, a type of fat in the blood. A high calcium or high-fat diet can hasten their development

Gallstones are often painful if they pass from the gallbladder through the bile duct into the intestine. Their size has been compared to small pebbles. The stones might cause signs of biliary colic — an ache caused by blocked flow of bile. Affected cats will be intermittently mildly lethargic

and suffer loss of appetite and mild vomiting. "I think cats show us signs more often than dogs because of their anatomy," Dr. Miller says. "Cats have a unique anatomical feature called an ampulla, an area where their bile duct and pancreatic duct join together before entering the small intestine. Issues with the bile duct can also cause pancreatic inflammation."

Dr. Miller cautions that cats don't always show their pain in an obvious way, and vague signs of being occasionally "off" might be all that is noticeable.

Although gallstones that remain in the gallbladder aren't painful, if they move into the bile ducts and become lodged, they can cause intense, sudden pain. As the stone moves, the pain typically goes away.

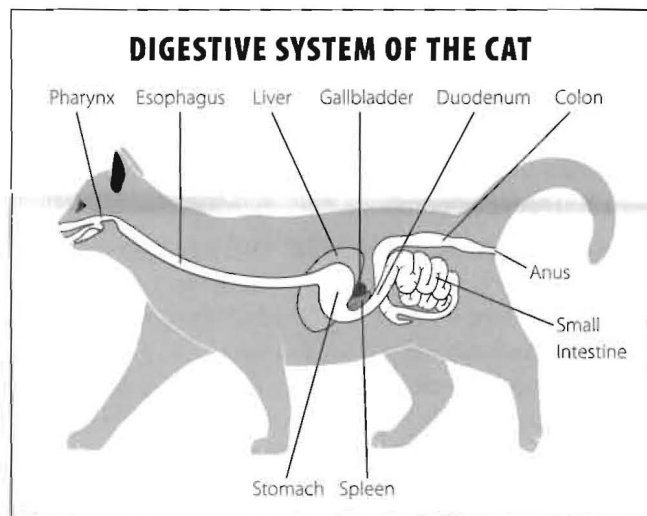
Visible on X-rays. A cat can have asymptomatic gallstones with no abnormalities on routine lab tests. They might be visible only on an X-ray or ultrasound while the veterinarian investigates another problem. When cats are obviously ill, signs may appear in blood tests, including increases in liver enzymes, bilirubin and cholesterol. However, these findings are not specific to gallstones. An infection of the gallbladder could cause similar findings.

Asymptomatic gallstones generally do not require treatment. "If there is an infection with gallstones, then we treat with broad spectrum antibiotics and often with ursodiol, a drug that helps keep bile flowing normally," Dr. Miller says.

Most stones don't dissolve with treatment. "If the cat has an obstruction or infection, surgical removal of the gallbladder is recommended because the stones tend to reform. Each time stones pass through the bile ducts, there's a risk of obstruction," Dr. Miller says.

The encouraging news is that a cat can easily function without a gallbladder. While some cats might require dietary changes or long-term medications, they can generally live a happy and pain-free life without a gallbladder. ♦

The gallbladder is between the two liver lobes and above the spleen.



AGING... (continued from cover)

How can you determine why your cat is slowing down? The only way to diagnose CDS is a post-mortem examination that demonstrates the presence of a protein called beta-amyloid that destroys brain cells.

"Signs of cognitive decline are often subtle in the early stages," says Pamela Perry, DVM, Ph.D., a resident

in animal behavior at Cornell. "Sensory decline occurs with aging, as does memory loss and reduced learning. However, these signs should not necessarily be dismissed by attributing them to 'normal aging.' Any change in a pet's behavior should prompt a veterinary examination to address the behavior and rule out any underlying medical causes."

One problem in distinguishing between aging and CDS is that many of its signs overlap with other medical conditions, says Leni Kaplan, MS, DVM, a lecturer in the Community Practice Service. "For example, some cats will start urinating outside the litter box. This could be because they are too painful to walk to the litter pan in the case of a medical condition such as

COMMON PROBLEMS AND CLEVER SOLUTIONS

No matter the cause of your aging cat's altered behavior, you can make life easier for him. Here are some common problems senior cats face and recommended adjustments:

1. INABILITY TO JUMP ON THE SOFA OR BED.

Solution: Position a pet ramp at the sofa and at the end of the bed. "Ramps or small stepping stools will help cats continue to socialize/interact with their family and environment as they did before arthritis or other physical ailments developed," Dr. Kaplan says.



Pet Classics

2. FAILURE TO USE THE LITTER BOX.

Solution: Replace standard size litter boxes with low-level litter boxes and position them on each level of your home.

3. BUMPING INTO FURNITURE OR GETTING LOST IN A ROOM, ESPECIALLY AT NIGHT.

Solution: Install nightlights to provide enough illumination to find the kitchen, bathroom and your bedroom.

4. UNABLE TO NAVIGATE WOODEN OR TILE FLOORS WITHOUT SLIPPING.

Solution: Provide traction in high-traffic areas your

cat frequents by placing carpet runners or even yoga mats. "This keeps cats more active and stimulated rather than having them sit in one area for fear of falling or injuring themselves or feeling unsteady," Dr. Kaplan says.

5. NOT SPENDING AS MUCH TIME WITH YOU, HIDING UNDER BEDS OR IN CLOSETS.

Solution: Seek out your secluded senior cat and gently brush his coat, treat him to a five-minute head-to-tail massage and speak in a soothing manner. "It is good to include some stimulation in the form of new toys or rotating toys from time to time," Dr. Collins says.

6. VOCALIZING AND NOT SLEEPING SOUNDLY.

Solution: Provide comfortable places to sleep in different rooms. Consider pet-safe warming discs or blankets for older cats with thinner coats and skin to help them stay warm. "I don't recommend medication for sleep per se," Dr. Kaplan says. "I recommend that the pet be examined by a veterinarian to rule out medical causes of poor sleeping such as pain or discomfort. If older cats are having anxiety or cognitive dysfunction syndrome and not sleeping well, we may try an anti-anxiety medication that will help them relax and hopefully sleep restfully."



GraphicStock

7. DECREASED GROOMING.

Solution: Comb and brush your cat daily to keep his coat shiny and mat-free.

It's also vital to maintain a regular household routine. "It is not ideal to change things in the home too much," says Dr. Collins. "Try to keep furniture in familiar places."

Aging cats tend to feel less stressed when they can count on meals served at specific times. If you can't be home at breakfast or dinner, a pet food dispenser can dole out meals at specific times.

arthritis, or it could be due to cognitive dysfunction.”

However, a consensus among key veterinary associations, including the American Veterinary Medical Association and the American Association of Feline Practitioners, has emerged about a collection of clinical signs known as DISHA. Here’s what the acronym means and the impact on cats with CDS:

D is for *disorientation*. Your cat appears to be lost in the corners of the living room, staring before slowly moving away.

I is for *altered interactions with people and/or other animals*. Your cat may withdraw from you or no longer rush to greet houseguests. On the other hand, Dr. Perry points out, some older cats become more affectionate.

S is for *sleep-wake cycle changes*. Your cat who used to sleep peacefully at the foot of your bed is now awake at night, wandering, pacing and howling. Some cats may sleep longer in the day.

H is for *house soiling*. Your cat who used the litter box 100 percent of the time now defecates or urinates outside it or on rugs or in open boxes in your closet. Memory problems may play a role.

A is for *changes in activity*. Your cat no longer displays kitten-like energy or interest in chasing a favorite feather wand down the hallway.

Other telltale signs of CDS are increased irritability, aggression and diminished appetite. Normal signs of aging generally include more easily recognizable physical signs, such as diminished hearing or vision, pain and decreased mobility due to osteoarthritis, loss of muscle mass, thinning hair, more fragile skin, constipation and urinary or fecal incontinence. You may notice a clouding of the lens (known as nuclear sclerosis) or cataracts in your cat’s eyes.

Medications and supplements used to treat CDS include S-Adenosylmethionine (SAM-e), known for anti-aging properties in humans; phosphatidylserine, used in human medicine for atten-

KEEPING THEM LEAN, WARM AND LOVED

All three Cornell experts on aging used the same word — blessed — to describe being able to share their homes with pets who have lived to be geriatric. Brian Glenn Collins, DVM, Section Chief of the Community Practice Service, does his best to keep his senior pets active and lean. Leni Kaplan, MS, DVM, places carpet runners in every room to prevent her senior pets from slipping. And behaviorist Pamela Perry, DVM, Ph.D., shares how she helps her 18-year-old Nellie age gracefully:

“Because she has lost weight and muscle mass, I have provided her with three soft, cushiony heated beds, installed steps and stairs in various parts of the house so that she can access her favorite areas more easily. I also brush her every day — which she loves — because she is unable to groom herself as well as she did when she was younger. She also has lost a lot of her hearing, so I try not to startle her when I need to wake her. Furthermore, I make sure we have time every day to bond, which entails her lying on my lap for as long as she desires — certainly my favorite part of the day!”



Dr. Pamela Perry, Cornell

Eighteen-year-old Nellie has the choice of three heated beds at home with behaviorist Pamela Perry, DVM, Ph.D.

tion deficit hyperactivity, Alzheimer’s and depression; B vitamins; ginkgo biloba and resveratrol, plant compounds thought to have antioxidant properties. Be sure to check with your cat’s veterinarian before giving any supplements.

Drugs to Avoid. Veterinarians may also recommend supplements containing

apoeaquorin, a natural calcium-binding protein, and therapeutic diets that contain antioxidants. “But there are certain drugs to avoid, such as some pain medications, anesthetic drugs and perhaps even supplements containing iron,” says Dr. Collins. “Iron is an oxidant and can cause constipation.”

Veterinary schools and practicing veterinarians today are devoting more attention to aging in pets. “Their caregivers are interested in providing as much as they can to make their time together longer and of higher quality,” Dr. Collins says. “We are focusing more on primary care and preventive medicine, with a larger amount of this effort being dedicated to our older pets.”

Owners can do their part by booking twice-yearly rather than annual wellness exams for their cats when they reach the age of 7. “A year is a large percentage of a cat’s lifespan, and a lot can change from one year to the next,” Dr. Collins says. “Earlier detection of disease and early intervention can result in a better prognosis and a longer lifespan for an aging pet.” ❖

FOR MORE INFORMATION

To learn more about cognitive dysfunction:

The Cornell Feline Health Center:
www.vet.cornell.edu/fhc/Health_Information/CognitiveDysfunction.cfm

The Feline Life Stage Guidelines from the American Association of Feline Practitioners and the American Animal Hospital Association: www.aaha.org/public_documents/professional/guidelines/felinelifestagelguidelines.pdf

BITES... *(continued from cover)*

pressure with a clean dry cloth if the wound is actively bleeding and if this can be done safely, given that the wound would be expected to be painful," Dr. Schoeffler says. "I also recommend not giving any over-the-counter or leftover medications but rather wait until the veterinarian has a chance to make an assessment and discuss treatment options."

Even wounds that appear to be relatively insignificant will benefit from veterinary attention. A bite wound will need to be cleaned and may be surgically explored, especially when the bite is over the neck, chest or abdomen. Underlying vital structures such as large blood vessels, nerves, the trachea, lungs and the abdominal organs are all vulnerable.

For example, "If a coyote grabs a cat around the abdomen, there is much



Cats behind a backyard fence can be vulnerable to wildlife that can swoop and slither in.

more concern because the cat's liver, spleen or intestines can be damaged," Dr. Schoeffler says. "The sooner I can deal with it, the better the overall prognosis is for the cat."

IF A CAT IS BITTEN AND ISN'T CURRENT ON HIS RABIES VACCINE, HE MAY BE QUARANTINED

The biggest concern about bites from a wild animal is rabies. The majority of rabies cases reported to the Centers for Disease Control and Prevention occur in wild animals like raccoons, skunks, bats and foxes.

If your cat is current on his rabies vaccination, the veterinarian will address the wound and in most jurisdictions is required to give a booster, says Dr. Schoeffler. If there is human exposure and the cat is not up to date on his rabies vaccine, he may be placed in quarantine either at home or a veterinary facility for up to six months at the owner's expense.

"If your cat isn't current on a rabies vaccine and is bitten by a wild animal and subsequently bites a person, the health department will be actively involved," says Dr. Schoeffler. It may require that your cat be tested for rabies, which can only be done postmortem.

Most states require rabies vaccinations for domesticated animals including dogs, cats and ferrets. Some states are beginning to provide exemptions for vaccination requirements if medically necessary as determined by a veterinarian, says the American Veterinary Medical Association.

"I know of a cat found in the garage fighting a fox, and the owner killed the fox with a shovel and brought it in with the cat," Dr. Schoeffler says. "The cat was unvaccinated because it was indoors only. The fox tested positive for rabies, so the local health department demanded the cat be euthanized. The risk the cat presented to humans was deemed to be too high."

A sad story, Dr. Schoeffler says, "but the reality is that rabies is almost uniformly fatal to any human or animal that contracts it."

Surgery may simply involve cleaning and closing the wound over a drain or may be extensive when multiple organs have been affected or significant blood loss has occurred. At the very least, your cat's hair will be clipped to allow for thorough examination, and the veterinarian will most likely prescribe antibiotics even if your cat seems fine.

"Bite wounds are much more likely to become infected," Dr. Schoeffler says. "In addition to a bite creating a wound that is by definition contaminated — think about the teeth with saliva compared to a wound created by relatively clean scissors during grooming — bites always come with crushing and tearing of the tissues," Dr. Schoeffler says. "Crushed tissue may no longer have a good blood supply necessary for speeding healing. Its absence makes the injured tissue much more prone to infection."

If treatment is delayed and the wound becomes infected, the prognosis is uncertain. While infection can set in even with immediate treatment, the earlier antibiotics are started, the better the outcome for the cat.

Coyotes at Dawn and Dusk

Today coyotes can be found in every state except Hawaii. They're omnivores, scavenging for livestock, rabbits, rodents, birds, carrion and — as suburbia



Coyotes are found in every mainland state.

moves into their territory — pet cats and dogs, according to the USDA's Animal and Plant Inspection Service. "Coyotes have learned that small dogs and cats are easy prey."

Coyotes are most often seen at sunrise and sunset and have no fear of approaching a house for food. The USDA's advice: Feed pets inside and eliminate sources of water.

Toads in the West and South

Toad toxicity is rare but can happen when a cat pounces and takes a bite of one. Most toads taste bitter, and even cats who mouth non-toxic toads will have excessive drooling, possible pawing at the face and an episode or two of vomiting, Dr. Schoeffler says.

At least two toads are toxic, and if ingested and not immediately treated, can be fatal. The Colorado River (Sonoran) toad is found near the river and its large streams from Arizona to Southern California. The Giant Marine toad is endemic to South Texas and Florida. Signs of ingestion of either toad include



The poisonous Colorado River Toad.

crying, pawing at the mouth or eyes, drooling, respiratory distress, unsteady movements, seizures, fever and collapse. Wash the poison from the mouth with water and get veterinary care. It takes only half an hour for toxins to get into the system.

The poisons can cause irregular heartbeats, and monitoring and medications may be needed. The prognosis is poor but some cats survive.

Seasonal Snakebites

Pit vipers inflict the most venomous snakebites in North America. In the Southeast, they include rattlesnakes, water moccasins (cottonmouth) and copperheads. Coral snakes are in the cobra family.

Snakebites tend to be seasonal and regional, usually occurring in warm weather from spring through autumn. The incidence is highest in the Southeast and West and most common among cats exploring their backyard. The effects of a coral snakebite might

not be seen for hours, but most victims of pit vipers show signs within half an hour. Signs of poisoning include shock, listlessness, muscle tremors, nausea, vomiting and difficulty breathing.

"Try to identify the snake because a lot of snakes that look like venomous ones are beneficial snakes," Dr. Schoeffler says. "Get a photo on your cell phone if you can. If you kill the snake, take a picture or bring it in, but only if you can do so safely."

Antivenin is expensive and its availability limited because the venom must be milked from live snakes. Treatment may involve blood transfusions and supportive care with intravenous fluids. The prognosis depends on the species, the amount of venom injected, the cat's overall health and the bite's location.

Dr. Schoeffler's parting advice: "Know your environment. If you've relocated, discuss potential local dangers with your cat's new veterinarian. Immediate care is crucial in optimizing outcome." ♦

'TIGERS OF THE NIGHT'

Reports of attacks by the Great Horned Owl on cats are dramatic but rare. Thankfully, "Great Horned Owl vs. Tiny the Cat" on YouTube has a happy ending. A window separates the species.

The Great Horned Owl is a formidable predator, stalking from high above or walking nimbly around backyard bushes. It can take down birds and mammals larger than itself — males average about three pounds — and it can ingest what the Cornell Lab of Ornithology describes as "an exceptionally wide variety of prey."

The remarkable list includes raccoons, rabbits, squirrels, falcons, other owls and skunks. *National Geographic* adds that the owl has "even been known to prey upon unlucky cats and dogs."

Great Horned Owls are mostly nocturnal, earning the nickname "Tigers of the Night," though some do hunt in daylight. Their young begin hunting in spring and summer. The best advice for owners: Don't let your cat out in his fenced yard at sunset and sunrise. Better yet, keep your cat indoors at all times to minimize risk to him and to native species such as birds and small mammals that he may seek as prey.



The Great Horned Owls' yellow eyes are often compared to a cat's. They're amplified by an orange facial disk outlined in black. Their wingspan can reach an impressive five feet.



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, 535 Connecticut Ave., Norwalk, CT 06854-1713 or email catwatcheditor@cornell.edu.

COMING UP ...

❖
**CONGENITAL
DEAFNESS**

❖
**HEARTWORM
DISEASE**

❖
SHY CATS

❖
**COMPOUNDED
MEDICINE**

No Studies Support a Cure for Feline Leukemia Virus

Q My cat was recently diagnosed with feline leukemia virus (FeLV), and I was devastated to hear this news. He is currently doing well, but I am, of course, very concerned. A friend of mine recently told me about a new treatment called lymphocyte immunomodulator (LCTI) that she says can cure FeLV. Can you tell me about this drug and whether it is an effective treatment?

A Thank you for contacting us, and I am very sorry to hear about your kitty's diagnosis. FeLV is a very common viral infection in cats, and while it is true that it often shortens the lifespan of infected cats (the average lifespan after diagnosis is approximately two-and-a-half years), it is important to note that infected cats can have a high quality of life for prolonged periods of time if they are managed appropriately.

Given the ubiquitous nature of this virus and the significant effects it has on feline health, there has been a lot of research focused on identifying an effective treatment option for infected cats. LCTI has been promoted as a potential therapy for FeLV in cats, and perhaps a brief description of the rationale for the investigation of this drug may be helpful as a first step in answering your question.

A vital component of the immune system is the activity of a variety of white blood cells (WBC), which respond to invasion of the body by foreign organisms and viruses by directly attacking these invaders and/or by producing proteins (such as antibodies) that ultimately result in their neutralization and removal.

One type of white blood cell called a T cell (because it matures in an organ called the thymus) has receptors on its surface that recognize foreign (non-self) organisms and either directly attack the offender or assist in mounting a response by producing chemicals that attract other WBCs or by presenting the offending organism to other components of

the immune system for identification as a foreign entity to be destroyed.

Compounds produced by WBCs to communicate with and/or activate other WBCs are called cytokines. LCTI is a cytokine in the class of what are termed "immune modulators" that some manufacturers have claimed activates a type of white blood cell called a CD8 cytotoxic (cell killing) T cell, inducing it to attack and destroy FeLV-infected cells. There have also been claims that LCTI leads to clinical improvement in FeLV-infected cats. These claims have not, to my knowledge, been substantiated by rigorous scientific, peer-reviewed studies. For these reasons, we do not consider LCTI to be an efficacious means of treating cats with FeLV infection.

While there is currently no proven cure for FeLV infection in cats, it is important to reiterate that cats with FeLV infection can often be managed for long periods of time by taking preventive measures such as appropriate prophylaxis against intestinal parasites and biannual visits to the veterinarian and by addressing problems such as secondary bacterial infections and anemia that may arise aggressively.

Of course, it is important to protect the health of other cats by taking appropriate measures such as isolation of FeLV cats (or cats of unknown FeLV status) from non-vaccinated FeLV negative cats, by vaccinating cats at risk for FeLV infection, and by keeping cats indoors so that they do not infect other outdoor cats. Please speak with your veterinarian about the means by which you can prolong the lives of cats infected with FeLV while protecting other cats from being infected.

I hope that this is helpful, and that this note finds you and your kitty well. Best regards, and please keep in touch.

—Sincerely, Elizabeth ❖

FOR MORE INFORMATION

Please visit the Cornell Feline Health Center's Health Topics page at www.vet.cornell.edu/FHC/health_information/brochure_felv.cfm.

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