Cornell University
College of Veterinary Medicine
Feline Health Center

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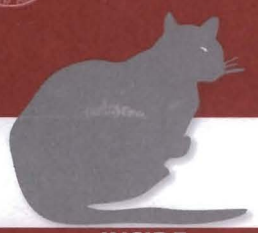
CatWatch®

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



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IN THE NEWS ...

Trial uses stem cells to treat kidney disease

Researchers at Colorado State University College of Veterinary Medicine are testing a new treatment for a common problem in aging cats. They're using stem cells in an effort to better manage chronic kidney disease.

"In our clinical trial, we are seeing if stem cells can improve renal function, decrease inflammation and scarring in the kidney, and improve levels of excess protein in the urine," says Jessica Quimby, DVM, who's working with a team of team of veterinarians and researchers at the school.

They're isolating stem cells from the fat of healthy young cats and injecting them into cats with kidney disease. Preliminary results suggest that the cells may stabilize the disease's progression.

Dr. Quimby's research, funded by the Morris Animal Foundation, includes a study of telomeres — protective structures at the ends of chromosomes — in the kidneys of older cats to understand their role in renal disease. ❖

A Commitment to Improving Well-being

Now in its 38th year, the Feline Health Center continues its support of outreach and groundbreaking research

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Imagine veterinarians being able to sterilize feral cats by vaccination instead of surgery. Or to identify the connection between a relatively benign form of feline coronavirus and feline infectious peritonitis, which is nearly always fatal, with the hope of finding ways to diagnose and combat it. Or discover how and why vaccine-associated sarcomas may trigger DNA damage in some cats and how this damage may be used to predict which cases of the sarcomas are amenable to chemotherapy.

These are just three of the many scientific studies funded by the Cornell Feline Health Center where, under the guidance of Director Colin Parrish, Ph.D., Professor of Virology, the goal of bettering the health of cats continues to be the focus and commitment, as it has been since the center opened its doors in 1974.

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When Aggression Has a Physical Basis

Its emergence in older cats calls for special concern because they typically mellow with age

Your cat is shy but generally sweet natured and affectionate. Imagine your shock, then, when you reach to pick him up and he tries to bite you — for no apparent reason. Did your cat's inner tiger emerge?

When the onset of feline aggression is sudden, there's a good chance that the source could be a health problem, and you need to make an appointment with your veterinarian.

"A medical cause for aggression in cats is relatively rare, but it must always be ruled out," says Katherine A. Houpt, VMD, Ph.D., diplomate of the American College of Veterinary Behaviorists and emeritus James Law Professor of Animal Behavior at Cornell University's College of Veterinary Medicine. "The primary cause of medically based aggression is pain, no matter what the source of that pain."

The emergence 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 will spend a good deal of time sleeping. Owners might think the cat is simply slowing down when, in fact, he's hurting.

Two painful diseases. Primary sources of undiagnosed pain in cats include periodontal disease — in the worst case, a receding or abscess of the gums that makes eating difficult — and arthritis. Dental work and medications such as corticosteroids, respectively, are usually effective in mitigating the problems.

Several diseases can also cause dramatic behavioral changes. The following are the most common:

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CatWatch

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For information on your cat's health, visit the Cornell University College of Veterinary Medicine, Cornell Feline Health Center website at www.vet.cornell.edu/fhc/.

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The Cat's Speedy Cousin

Biologists at the Royal Veterinary College in London may have discovered the reason for the cheetah's record as the fastest living land mammal. Researchers at the college's Structure and Motion Laboratory compared the cheetah's gait to that of racing Greyhounds, whose speed tops out at 37 miles per hour. The big cats have been clocked at 64 miles per hour.

"Cheetahs and Greyhounds are known to use a rotary gallop [in which the limbs fall in circular sequence around the body] and physically they are remarkably similar, yet there is this bewitching difference in maximum speed," says researcher Alan Wilson, Bsc., Ph.d.

His team videotaped cheetahs at a London zoo and a cheetah center in South Africa, using lures and embedded force plates, instruments that measure the forces generated by a body standing on or moving across them. They tested Greyhounds at the lab.

Among their findings, published in the Journal of Experimental Biology: Cheetahs used strides of 2.4 per second at low speed, increasing to 3.2 strides per second at high speed while Greyhounds used a constant 3.5 strides per second at all speeds. When they were at the same speed, however, the cheetahs' strides were slightly longer than the Greyhounds'.

"Unfortunately, in this study the team couldn't tempt the cheetahs to run any faster than the racing Greyhounds, with both species achieving top speeds of around 40 mph," the researchers say. "It is thought that this is due to a lack of motivation in the [captive] cheetahs rather than a lack of ability." They don't have to work for their food.

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Both species put a greater proportion of weight on their hind limbs at high speed rather than the forelimbs, as was generally believed. But cheetahs supported 70 percent of their body weight on hind limbs, compared to 62 percent in the Greyhounds. "This will enhance the cheetah's grip for acceleration and maneuvering using their powerful hind limbs," the researchers say.

The length of time the cheetahs' limbs remained in contact with the ground — called the stance — was also longer, perhaps imparting an advantage in their speed in the wild. Increased stance time reduces the peak load on the legs.

New Help for Pain Control

Novartis Animal Health has introduced Onsior (robenacoxib) tablets, a three-day non-steroidal anti-inflammatory drug for postoperative cats weighing 5½ pounds or more and at least 6 months old.

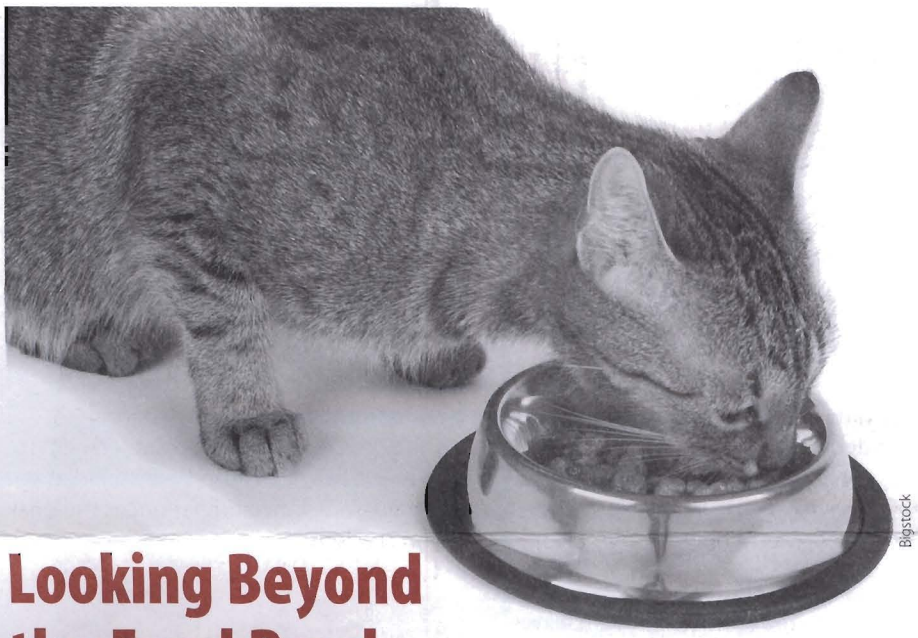
The drug is intended to control pain and inflammation after orthopedic surgery, ovariohysterectomy and castration. It's the first multidose oral NSAID approved for cats, Novartis says.

The drug is quickly eliminated from blood while persisting longer at the site of inflamed tissue, the company reports. Side effects in clinical trials and field tests included surgical site bleeding, infection, lethargy, vomiting and inappetence, although studies suggest that robenacoxib is generally safe in cats if used properly.

Taking a Pass on Sweets

A team of a dozen scientists from institutions ranging from Capital Medical University in Beijing to the University of Pennsylvania to the Waltham Centre for Pet Nutrition in the U.K. may have found why cats have no interest in sweets. They probably lack the gene to detect them.

A taste bud receptor consists of the products of two genes, but in cats one of the genes for the receptor that senses sweetness isn't functional and isn't expressed, the researchers say. "In contrast to most other mammals, both domestic cats and their wild cousins, the big cats, do not show a preference for and, most likely, cannot detect sweet-tasting compounds. Other than this …the cat's sense of taste is normal." ❖



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Mini-meals morning, afternoon and night can help maximize cats' metabolism and play to their preference for grazing.

Looking Beyond the Food Bowl

The environment — setting, frequency of feeding and presence of a food bully — can all impact nutrition

Bringing out the nutritional best in your cat goes beyond the food in the bowl. Frequency of meals, location, post-meal bowl cleaning and other environmental factors also influence his health.

"One of the biggest problems is that far too many people overfeed their cats, and the cats become overweight and some even become obese," says nutritionist Joseph Wakshlag, DVM, Ph.D., Associate Professor of Clinical Nutrition at Cornell University College of Veterinary Medicine. "Dogs give you those begging eyes when you sit down to eat, but in most cases, you can get them to go into another room and leave you alone."

They excel at begging. "Cats, however, are aggressive beggars. They will keep purring and meowing. If you tell them to go away, they will just come right back and start meowing again. They are more persistent than dogs and far too often, the person gets frustrated and will get up and put more food in their bowls."

Dr. Wakshlag recommends owners work closely with their veterinarians to select quality diets that have adequate protein for cats, who are obligate carnivores, or meat eaters. "There is some concern about grains in cat foods, but carbohydrates are necessary to make cost-effective foods and grains are inexpensive," he says. "Cats do well on grains but not on all-grain diets. They don't metabolize as quickly to absorb the glucose."

To make mealtime more satisfying and safe for cats, Dr. Wakshlag offers this advice to improve their environment:

- Provide mini-meals rather than one big meal. In general, cats are grazers, unlike dogs, who tend to be gorgers. Mini-meals, say in the morning, when you return from work and before bedtime can also help maximize your cat's metabolism.
- Use a measuring cup. While suggested portions are often printed on the bags of dry and canned foods, Dr. Wakshlag says it's vital to measure the food precisely and work with your veterinarian to establish daily portions that meet your cat's age, health and activity.
- Separate cats at meal times — especially if you have a feline food bully or a cat on a therapeutic diet. Meal times should be calm, welcoming events so cats can properly digest their food. Stress created by other cats in the household trying to steal another's food can cause stress and possibly even gastrointestinal upset. Dr. Wakshlag recommends training the cats to eat in separate rooms where doors can be closed. "Cats like routine, and in time, they may even park themselves in front of their designated rooms at meal time waiting for you to feed them."
- Give the bowls a thorough soaking and cleaning after meals. They can be coated with salmonella. Dr. Wakshlag advises soaking them in a solution of one to two capfuls of bleach per gallon of water for 10 minutes minimally and then washing them in warm water with mild detergent. Thoroughly rinse and allow to air dry.
- Resist buying gigantic bags of food. You'll get more than you bargained for — increased risk of the food becoming stale and contaminated. Instead, Dr. Wakshlag suggests storing a small or medium-sized dry food bag inside an air-tight plastic food storage bin. "Emptying the food into a plastic container — even though it is air tight — can still cause food to go rancid. That's because there are fats sprayed on the food and they line the inside of the container. If you don't completely empty and clean the container before adding a new bag of food, it can cause the new food to go rancid quicker."

  Rinse the container, add the bleach solution and allow it to soak for 20 minutes, then rinse and dry it completely before adding a new batch of food. "If you just keep the food in the original bag and put it in the plastic bin, you don't have to worry about cleaning the bin," Dr. Wakshlag says. "Just throw the bag away."
- Pay heed to the contents of your floor-cleaning products. Dr. Wakshlag says cleaning products containing bleach are effective in killing viruses on the kitchen floor. However, cats have sensitive noses and some may be repelled by the odor of cleaners. He recommends not cleaning the floors immediately before meal times.

His final advice: "If you have two cats and one is more of a food bully to the other cat or to their owner, put some dry food in a food puzzle toy for this cat. This gives him something to do at meal time and he gets to burn a few extra calories hunting for his food." ❖

When to Worry About Tail Injuries

Simple fractures may heal on their own, but scrapes and heavy bleeding need medical care

A cat's tail can wave happily, swish angrily and wrap around him contentedly. But when the tail is injured, more may be at stake than the ability to communicate mood.

Injuries to the feline tail may be minor, causing a brief spasm of pain or a permanent crook, or they may damage the nerves so severely that bladder and sphincter control are affected temporarily or permanently. Common injuries include fractures, acute trauma that may involve damage to the skin or heavy bleeding, and what are known as avulsion injuries, caused by pulling, says board-certified surgeon James A. Flanders, DVM, Associate Professor at Cornell University's College of Veterinary Medicine. Tails can also be damaged if they are bitten in a fight with another animal.

A cat's tail can break when accidentally slammed in a door, crunched underfoot or beneath a rocking chair, or run over by a car. Simple fractures, especially those toward the end of the tail, heal on their own and may leave no more evidence of the injury than a crook in the tail. That's because it's not possible to splint or put a cast on the tail to hold the bones in place until they heal. The motion of the tail can cause the fracture to heal in an unusual direction. The tail is otherwise fully functional, Dr. Flanders says.

Using Ointment at Home. You can treat minor abrasions or hair loss on the tail at home with antibiotic ointment, but when serious injuries like being mangled in a car engine or other accident leaves the tail scraped and bleeding, a veterinary exam is a must.

With severe damage to the skin, if healing seems prolonged or unlikely, sometimes it's easier simply to shorten the tail by amputation, which is a simple surgical procedure. Depending on the location of the injury, the cat may lose as little as the last third of the tail or almost the entire tail. Fortunately, despite the tail's role in communication and balance, cats can get along fine without one.

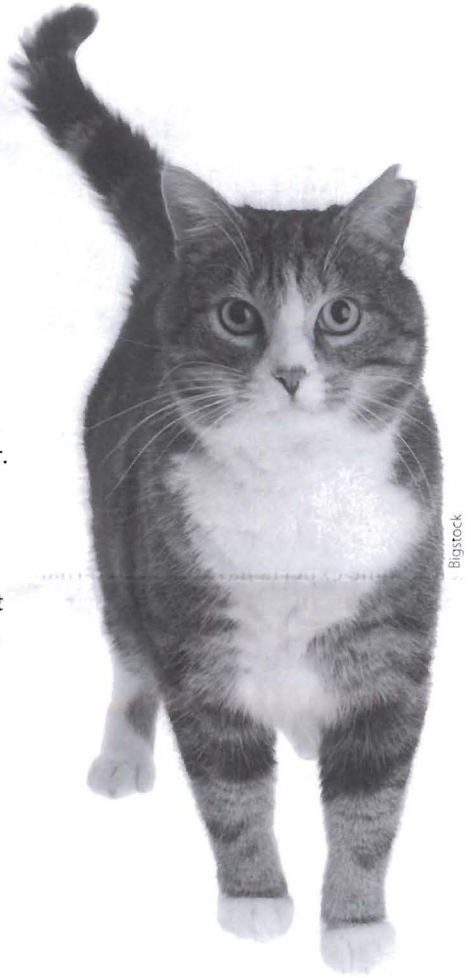
The most common and potentially most serious type of injury to the tail is an avulsion injury, one caused by pulling. An avulsion injury is often the result of a car accident. "What we think happens is the tail gets caught underneath the tire of a moving car and it pulls the tail," Dr. Flanders says.

This can damage both the nerves controlling muscles that move the tail — causing it hang straight down like a drooping flag (known as denervation) — and the nerves that control the bladder and the anus. Depending on the extent of the injury, the cat may be unable to urinate and/or defecate on his own.

Anus or Bladder Affected. A gamut of injuries can occur, Dr. Flanders says. "Only the tail may be affected, or only the tail and the anus, or only the tail and the bladder. It all depends on how much trauma there was to the tail at the time of the injury and whether the injury extended up into the sacrum," Dr. Flanders says. "It's all somewhat attached together, and by pulling on the tail, you actually pull on nerves that are much further up in the body."

Nerve function may or may not return with time. Sometimes it can take a month or more before the cat regains control of the bladder or anus. For cats who are fecally incontinent, a veterinary neurologist can perform a test called an electromyogram that can predict with reasonable accuracy whether the muscle tone of the anus will eventually improve. If a cat is unable to urinate on his own, owners must express the urine from the bladder three or four times daily to ensure that the balloon-like organ doesn't become stretched out.

Outdoor cats run the highest risk of tail injuries, but even indoor cats can suffer a tail break if they land wrong after a fall, for instance. A cat without a tail is unusual, to be sure, Dr. Flanders says, but he's still a fully functional feline. ❖



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In cases of severe damage, surgeons may have to shorten the tail by amputation. Despite the tail's role in communication and balance, cats can get along fine without one.

TAIL ANATOMY 101

The feline tail is an extension of the spine, consisting of what are known as coccygeal, or caudal, vertebrae. The first tailbone is connected to the sacrum, a wedge-like bone at the base of the spine. The next caudal vertebrae become smaller along the length of the tail. Between them are tiny joints and disc pads, much like those that cushion the spine. The tail, however, is more mobile than the spine, able to bend and flex more easily. Muscles, blood vessels and nerves are also part of the tail's anatomy.

Why Do They ... Head Bump?

They're imparting their scent or offering a friendly greeting

Bonnie Baker

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@cornell.edu.

Novice cat owners may be surprised when their cat presses and rubs his head against them. Is it a greeting? A sign of a physical problem? Some experts have suggested that cats are marking the owners as their own, but how would they know that?

A more plausible explanation, from Pam J. Perry, DVM, Ph.D., a graduate of Cornell University's College of Veterinary Medicine who has lectured on small animal behavior at the school:

"Head rubbing, also called bunting, is a common normal behavior in cats and is believed to be a form of olfactory communication. When cats rub against objects, other cats, dogs or people, they deposit secretions from specialized skin glands on their head — submandibular glands beneath the chin and perioral glands near the corners of the mouth."

Glands at the tail base. They also have sebaceous glands at the base of the tail, which explains why cats wrap their tails around our legs. That and the fact that they typically rub against objects or body parts within reach, Dr. Perry says. Cats who live together amicably often rub heads — a behavior called allorubbing — to share a common odor.

"Cats will also rub their lips, chin and tails against objects, particularly if those areas have been rubbed by other cats or if the object is new such as a cardboard box — a favorite in my household," Dr. Perry says. "This may be a way of depositing their scent on those objects and communicating information to other cats."

And, yes, head rubbing can be a greeting. "If you stick a finger out to a cat, he often will sniff and rub his head against it," Dr. Perry says. "It is an affiliative gesture — a friendly one — and may be a way of imparting their scent on you."

Cats also perform head bunting as an attention-seeking behavior. They want to be petted, and what owner can resist? ❖

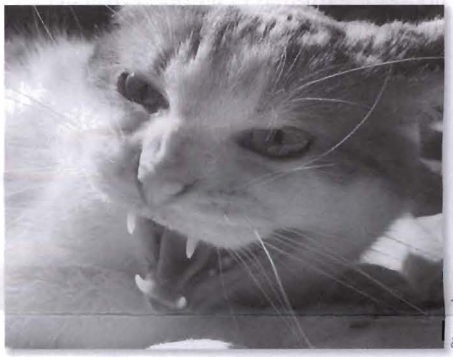
AGGRESSION... *(continued from cover)*

◆ *Hyperthyroidism.* Caused by an excess of thyroid hormone, hyperthyroidism occurs quite often in middle age and older cats. Signs include weight loss and increased appetite. The disease is easily diagnosed with a blood test and successfully treated with medication, radioactive iodine or surgery.

◆ *Rabies.* Outdoor cats who haven't been vaccinated for rabies may develop this usually fatal disease as a result of a bite from carriers such as bats, skunks, foxes or raccoons. Any unvaccinated cat who comes home with deep scratches should be taken to the veterinarian immediately for possible quarantine.

◆ *Feline ischemic encephalopathy.* In summer, outdoor cats in the Northeast United States and Southeast Canada may pick up a parasite called a cuterebra, which lays its eggs on the host's skin. If the larvae migrate to the cat's brain, this can cause aggression. The disease is difficult to treat unless antiparasite medication is administered during the first week, but signs such as epilepsy can be controlled.

◆ *Meningiomas.* Magnetic resonance imaging can diagnose these benign tumors of the meninges — thin membranes that cover the brain and spinal cord. They're the most common type of brain tumors in cats, but because they occur on the surface of the brain, they can often be removed surgically with complete success.



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The pain of arthritis and periodontal disease can cause aggression.

Aggression isn't generally a problem in cats, Dr. Houpt says. "People tend to be more respectful of a cat's need for space, but if we have an animal that presents for aggression with no known cause, we always perform at least a good physical exam, a chemistry screen and a complete blood count to rule out medical causes."

In most cases, veterinarians can treat medical causes of aggression and you'll have your happy, friendly cat again. ❖

ACCIDENTS EXACT A TOLL, TOO

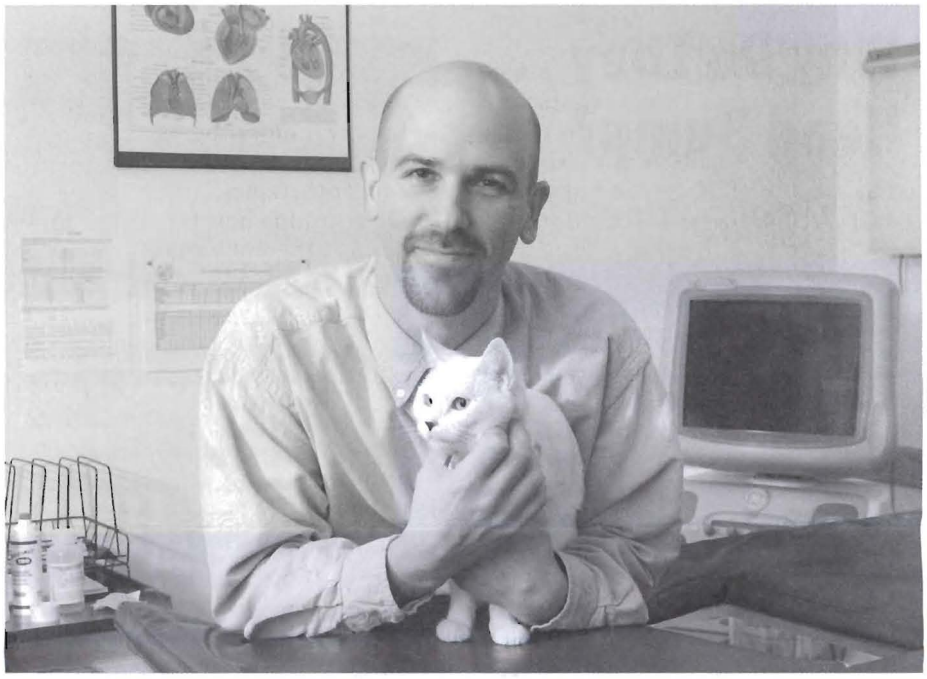
Cats with no apparent signs may be experiencing pain as the result of being injured in an accident. Katherine A. Houpt, VMD, Ph.D., remembers a student who brought in a cat for a behavior problem. The formerly friendly cat had disappeared for a few days but when he returned home, he began to scratch the young woman and her roommates. After Dr. Houpt calmed the cat enough to pet him, all was well — until she tried to get near his leg. The diagnosis: An unhealed fracture of the femur. Once the break was set and healed, the cat reclaimed his calm personality.

HEALTH CENTER

(continued from cover)

"Our mission has and always will be to improve the health and well being of cats worldwide," says cardiologist Bruce G. Kornreich, DVM, Ph.D., DACVIM, who was appointed Associate Director for Education and Outreach for the center in March. "We do this by networking with and disseminating information to veterinarians, owners, breeders and cat lovers; and also by funding research into important feline health issues."

Dr. Kornreich credits Fred Scott, DVM, Ph.D, the center's founder, with the foresight and persistence to focus on feline health nearly four decades ago, when dogs outnumbered cats in American households. Today, cats outnumber dogs as pets — 86 million versus 78 million.



In addition to supporting research, the Feline Health Center disseminates information to veterinarians, owners, breeders and cat lovers, says Associate Director Bruce G. Kornreich, DVM, Ph.D., DACVIM.

Independently Funded. The center, which is independently funded and has two full-time faculty and four full-time staff members, is located within the Baker Institute for Animal Health at Cornell University. It has played a major part in feline health milestones such as:

- Establishing vaccine recommendations for respiratory viral diseases and feline panleukopenia, a highly contagious, sometimes fatal viral disease.
- Developing the ELISA test (enzyme-linked immunosorbent assay) to detect coronavirus antibodies.
- Identifying feline immunodeficiency virus in non-domestic cats.

In his role as Associate Director, Dr. Kornreich develops multi-media informational platforms for educational outreach, oversees conferences and research grant programs and serves as a liaison between the Feline Health Center and the Cornell University Hospital for Animals. He also teaches and sees patients in the cardiology unit at the hospital. The position allows him to maximize his natural teaching talents. "My entire career has been all about education and outreach to the veterinary community and the public," he says. "The time is right for me to be part of the center's important work."

In July, the center held its 24th annual Fred Scott Feline Symposium at the university's Veterinary Education Center. The three-day conference focused on feline infectious diseases and cutting-edge research presented by feline practitioners and researchers from Cornell and the University of Tennessee. Speakers also provided updates on anesthesia, cardiology, dentistry, neurology, nutrition, clinical pathology and ophthalmology. An exciting addition to this year's program was the inclusion of lectures addressing health and conservation issues in non-domestic cats.

Keynote speaker Gary Whittaker, Ph.D., Professor of Virology in the Department of Microbiology and Immunology at Cornell, discussed his ongoing study of the molecular mechanism of the transformation of the enteric *form of feline* coronavirus, a relatively benign virus that is usually tolerated by cats, to the highly virulent FIP form of the virus, which is nearly always fatal.

Improving Treatment. "FIP is a tough disease to diagnose and extremely difficult if not impossible to treat," Dr. Kornreich says. "Dr. Whittaker has been conducting groundbreaking research on this problem for several years and we're hopeful that his studies will provide us with a better understanding of the pathogenesis of this disease and ultimately

HELP IS A PHONE CALL AWAY

Do you have more questions than answers about your cat? Are you looking for expert advice? The Cornell Feline Health Center operates the Dr. Louis J. Camuti Memorial Feline Consultation and Diagnostic Service.

You can call the Camuti Consultation Service at 800-548-8937, between 9 a.m. and noon and between 2 and 4 p.m. EST on Mondays, Wednesdays and Fridays. Expect detailed replies from veterinary consultants within 48 hours. The fee for this service, payable by credit card, ranges from $55 for information on many feline diseases, to $75 for oncology issues and $115 for behavior issues. ❖

to improvements in the diagnosis and treatment of FIP."

Meanwhile, progress continues on studies to develop a vaccine to sterilize feral cats and to investigate how the molecular abnormalities in vaccine-associated sarcomas can be exploited to tailor chemotherapy and improve the prognosis for this devastating disease.

Vicki Meyers-Wallen, VMD, Ph.D., Associate Professor of Genetics and Reproduction at Cornell's Baker Institute for Animal Health, is conducting the feral cat research. The goal: Find a time-saving, cost-saving, and effective way to sterilize cat colonies other than surgery.

"We don't expect immediate application of this principle, as a number of obstacles to practical application exist, but Dr. Meyers-Wallen has made significant strides in this area of research," Dr. Kornreich says. "Trapping, neutering and releasing feral cats back to their colonies is an admirable and major undertaking that, while benefitting many cats, may not achieve the reduction in feral cat population that we would prefer. The concept of vaccine based sterilization, or immunosterilization, that Dr. Meyers-Wallen is investigating holds promise of an easier and more effective way to control feral cat populations."

Studying Sarcomas. Oncologist Kelly Hume, DVM, Assistant Professor in the Department of Clinical Sciences, is studying why some cats fare better with chemotherapy for vaccine-associated sarcomas than other cats. Among her research interests are:

- Determining how checkpoint proteins, special proteins that assess DNA damage, impact tumor progression and resistance to cancer therapies.
- Determining how targeting different signaling pathways within neoplastic (tumor) cells can be combined with cytotoxic therapies, such as chemotherapy and radiation therapy used to kill cells, to improve responsiveness of certain tumors.

Vicki Meyers-Wallen, VMD, Ph.D., at Cornell is conducting research on vaccine-based sterilization of cats.

"A major goal of Dr. Hume's research is to determine if VAS-associated alterations in the DNA may predict chemotherapy sensitivities," Dr. Kornreich says.

The goal of the study, like the goal of the center, is to discover and share medical information so cats enjoy long, happy lives. ❖

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Excessive licking is among the topics covered on the Feline Health Center's website.

THE STAR OF THE HEALTH CENTER WEBSITE: TOOTH BRUSHING

The Cornell Feline Health Center's website (www.vet.cornell.edu/FHC) is consistently updated to provide a virtual library of articles and short videos for owners. A four-part video on brushing your cat's teeth ranks among the most viewed by visitors to the site.

Four out of five cats after age 3 have some form of periodontal disease if owners don't provide at-home dental care. The video offers a four-week training program to introducing tooth brushing to your cat.

To access the health topics for printed articles and videos, go to Feline Health Center on the Cornell website and search for "health." You can obtain information on topics from the latest medical treatments for feline diabetes to how to handle hairballs.

Here is a sampling of medical information you can obtain at the click of the computer mouse:

- **Cognitive dysfunction in senior cats.** Signs of dementia can be noticed in cats who are typically 10 years or older. Among the signs: excessive sleeping, altered cycles of sleep and wakefulness, long periods of staring blankly at the wall and loud vocalizing, especially at night.
- **Pinpointing the cause of excessive licking.** Cats are noted for keeping their coats groomed, spending about 30 to 50 percent of their waking hours tending to their coats. Excessive licking can be triggered by many causes, such as response to stress, presence of parasites such as fleas, or an underlying medical condition.
- **A five-part video on kidney disease.** Presentation features expert advice from three Cornell veterinarians. Viewers learn about the diagnosis of kidney disease, its impact on a cat's health, dietary and medical therapies, treatment with subcutaneous fluid therapy and more. ❖

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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

COMING UP ...

❖ HEALING FOOD ❖ VOCALIZATIONS ❖ HAIR LOSS ❖ ASTHMA ❖ STRESS-FREE HOLDAYS ❖

Q Dear Elizabeth: I work at a large no-kill animal sanctuary with special-needs cats. Often when one becomes ill and stops eating, we tempt him or her with people food like baby food or boiled chicken.

I have heard a lot of conflicting things about feeding cats baby food or straight meat. Someone recently told me that a good all-meat baby food and straight chicken are nutritionally complete, but I have read in a few places that cats need other nutrients like taurine and vitamins A and D or they will get very sick. Does straight meat provide full nutrition for cats? In the wild, how do cats get full nutrition if meat does not provide it all? What is the best kind of food for our dear kitties? Thank you for considering these questions!

A First, let me say thank you for your kind and generous dedication to my feline brethren in your work at the sanctuary. People like you make the world a better place for kitties ... which we all know makes the world a better place!

In terms of optimal food for my brothers and sisters in your shelter, my best recommendation would be to provide a commercial diet that is specifically formulated to provide all of a cat's nutritional requirements as soon as is possible. Bruce G. Kornreich, DVM, Ph.D., DACVIM, Associate Director of the Cornell Feline Health Center, agrees. Commercial diets that are nutritionally balanced for cats will carry a statement from the Association of American Feed Control Officials indicating that they fulfill established nutritional requirements for cats. Cats require a balance of a number of nutrients in their diet, including amino acids, fatty acids, carbohydrates, vitamins, minerals and water, to survive. Some of these nutrients can be produced by the cat's own metabolism, provided that the appropriate precursors are provided, while others must be provided in the diet.

Nutrients that must be provided in the diet are termed "essential" nutrients. For example, there are 10 amino acids, the building blocks from which proteins are produced, that cats cannot synthesize on their own, and that must be provided for them in the diet. Taurine is one of these essential amino acids, and if it is not provided in the diet, serious heart, eye and/or immune system problems may occur.

Arginine is another essential amino acid for cats, and if sufficient arginine is not provided, toxic levels of ammonia may build up in the blood. Vitamins are necessary for many metabolic processes and deficiencies may result in a number of health problems for cats. Vitamin A deficiency, for example, may cause problems with vision and bone development and density, while a diet low in vitamin K may predispose cats to bleeding disorders.

Minerals are important as well. Calcium, for example, is vital for normal bone development, muscle contraction, blood clotting and transmission of electrical signals through the heart and nervous system. Fatty acids provide crucial building blocks for the production and maintenance of cell membranes throughout a cat's body, and diets deficient in fatty acids may result in significant health problems for cats. Also understand that while deficiencies of various nutrients may be unhealthy for cats, diets that are too high in certain nutrients may also cause illness.

The problem with feeding cats diets of only meat is that they do not provide all nutrients necessary to maintain good health. Cats in the wild fulfill their nutritional requirements by eating not only the meat (muscles) of their prey but also the entrails and bones of prey species. These non-muscle components of prey provide the additional nutrients that muscles lack, thereby balancing the diet. It's amazing to think that to a cat, a mouse is a perfectly balanced diet; and since we cats are so smart, we know what's good for us!

This is why we were domesticated in the first place, to eat our perfect diet (i.e., mice and other vermin) and to protect our human's diet (grain) that the vermin like to feed on at the same time! Nature is just fascinating, isn't it? It's OK to use meat or meat based products (like baby food) to entice cats to eat, but these products should not take the place of a well balanced diet for extended periods of time.

Another important point is that if you are dealing with sick cats, their caloric requirement may be increased, sometimes significantly. Feeding the amount of food that you would feed to a healthy cat to a sick kitty may result in weight loss and deterioration of physical well-being.

Thank you again for all of your great work on behalf of the feline contingency. If you need further advice and specifics, I recommend that you consult with your veterinarian and/or a veterinary nutritionist. The website for the American Academy of Veterinary Nutrition (aavn.org) is a great source of information and contacts. ❖

Best regards, Elizabeth

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