



CatWatch

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



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Better known as stud tail, the condition develops when grooming diminishes.

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The cause of feline hypersensitivity syndrome is not clear at this time.

IN THE NEWS ...

Toward more accurate diagnoses of sarcomas

Researchers at North Carolina State University are hoping for a breakthrough in a study designed to distinguish spontaneous sarcomas from injection site-associated sarcomas (ISASs). Each year about 22,000 cats in the U.S. appear to develop sarcomas, or malignant tumors, at the site of a vaccination or other injection, according to the Morris Animal Foundation, which is funding the study.

The more aggressive ISASs often recur. Identifying a sarcoma in its early stages "could provide crucial information to help guide the owner and veterinarian as the best approach to treatment, and in the longer term, help us to understand why these tumors occur," says Rachael Thomas, Ph.D., leader of the research team. Members use a technique called array comparative genomic hybridization to compare the patterns of chromosome abnormalities in the sarcomas to DNA from healthy cats.

Research on cancer-associated gene defects as targets for treatment will also help advance the study of feline molecular oncology, the foundation says. ♦

When You Want to Adopt a Stray

Proceed cautiously, knowing that the priority is your safety because he may be frightened and try to scratch or bite

Your next cat may show up when you least expect it. You glance out the window and see a skinny cat with a dirt-smudged coat looking back at you. He doesn't rush to greet you like a lovable, lost Labrador Retriever. He sizes you up, determining if you're friend or foe.

You place bowls of food and water on the back porch to prevent him from starving or becoming dehydrated, but as the days pass and the cat moves closer to you and lets you pet him, you're smitten. You've made the transition from performing an act of kindness to wanting to provide a



safe, loving home. Your mind races with questions. Among them:

- ♦ What happened to cause him to be on his own?
- ♦ Is he feral or an abandoned stray?
- ♦ Does he belong to someone?
- ♦ Will he scratch or bite me?
- ♦ Does he have any diseases or injuries?

- ♦ How can I safely bring him inside?
- ♦ Should I keep him?

These are valid concerns, but don't expect to have complete answers, cautions Katherine A. Houpt, VMD, Ph.D., former president of the American College of Veterinary Behavior-

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You Can Prevent This Serious Disease

Diet, genetics and general health play a role in periodontitis, the most common disorder in cats

If you've resisted brushing your cat's teeth, knowing how strenuously he's likely to object, consider this: Periodontal disease, an often painful inflammation of the gums that can result in bone loss and destruction of oral tissue, is extremely common. In fact, it's the most prevalent disease in companion animals and can pose serious health threats.

"Periodontitis has been shown to play a role in such health problems as cardiovascular disease and diabetes," says dental specialist Santiago Peralta, DVM, a Lecturer in Dentistry and Oral Surgery at the Cornell University College of Veterinary Medicine. This disease is, however, entirely preventable, according to the American Veterinary

Dental College (AVDC). The best way to prevent periodontitis is by regular brushing and professional dental care.

Loss of Teeth. "If periodontitis, the most serious phase of periodontal disease, is left untreated, it will invariably result in the loss of teeth," Dr. Peralta says. Severe cases can result in a hole leading from the oral cavity into the nasal passages and/or a weakening of the jaw bone that can lead to fractures. Treatment of more advanced stages may require gum surgery and bone grafts.

The problem begins when plaque, the soft, sticky substance consisting of food debris and bacteria, accumulates under the gum line, or

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SHORT TAKES

How did the tabby and cheetah get their stripes?

Researchers gathered DNA and tissue samples from feral cats in Northern California. They also studied skin biopsies and blood samples from captive and wild South African and Namibian cheetahs, and in a study believed to be the first to identify a molecular basis of coat patterning in mammals, they made this discovery:

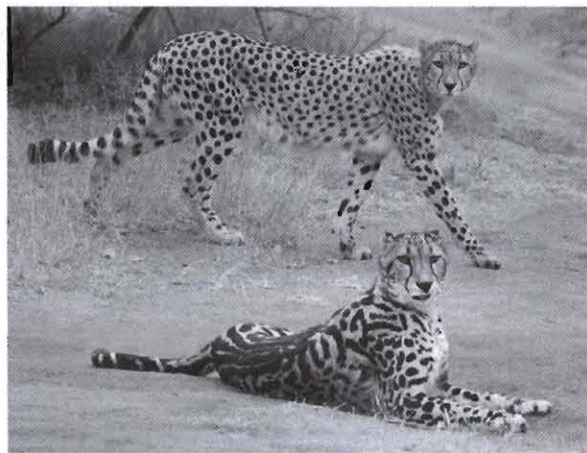
Tabby cats and rare king cheetahs share a gene responsible for the cats' stripes and the cheetahs' spots. However, when a mutation occurs, the tabby will develop patches of color rather than stripes, and the cheetah's spots and blotches turn into wide stripes down its back.

"Mutation of a single gene causes stripes to become blotches, and spots to become stripes," says Greg Barsh, MD, Ph.D., emeritus professor of genetics and pediatrics at Stanford University and an investigator at the HudsonAlpha Institute. "We were motivated by a basic question. How do periodic patterns like stripes and spots in mammals arise? What generates them? How are they maintained? What is their biological and evolutionary significance? It's kind of surprising how little is known. Until now, there's been no obvious biological explanation for cheetah spots or the stripes on tigers, zebras or even the ordinary house cat."

In addition to the Stanford University School of Medicine, other participants in the study included the National Cancer Institute and HudsonAlpha Institute for Biotechnology in Huntsville, Ala.

Their research on the gene, known as *Taqpep*, was published in *Science* magazine. The study, made possible by the completion of the whole-genome sequence (the entirety of an organism's hereditary information) of the domestic cat, has implications beyond coat patterns.

"The Laboratory of Genomic Diversity at the National Cancer Institute has long championed the cat as an animal model of human disease," says Marilyn Menotti-Raymond, Ph.D., at the institute. "Studying color variation in cats provides the



The Ann van Dyk Cheetah Centre, www.devildt.co.za

A gene mutation turns the cheetah's spots into wide stripes down his back.



Bigstock

The same gene in the tabby will turn his stripes into patches of color.

opportunity to uncover new principles of gene action and interaction that may have unexpected applications to understanding developmental and morphologic variation in natural populations, including humans."

Mapping the Sphynx

Research is under way to identify the gene and its mutation that cause feline hypertrophic cardiomyopathy (FHC) in Sphynx cats. The disease, in which areas of heart muscle become thickened, is the most common heart disease in cats. It's been established that Maine Coon and Ragdoll breeds can inherit the disorder.

A genome study has identified a chromosomal area as a "region of interest" in FHC. Kathryn Mears, DVM, Ph.D., DACVIM, at North Carolina State University of Veterinary Medicine, will evaluate the region in an effort to identify the gene and the mutation. "Ultimately, the identification of a genetic cause for HCM in the Sphynx can be used to reduce the prevalence of the disease in this breed and provide information ... in many other cats as well," says the Winn Feline Foundation, which is sponsoring the research, funded in part by Sphynx breeders and owners. ♦

Be Patient but Purposeful When Giving Medicine

Administering it with a pill gun and following up with a syringe of canned tuna juice or a treat will help

You sigh with relief after the veterinarian examines your ailing cat and tells you that he'll make a complete recovery. But then the veterinarian brings out a bottle of pills and begins giving you instructions on administering the right dose each day. Suddenly, you panic as you envision a struggle between you and your cat about pills or potions.

It doesn't have to be that way. Giving medicine can be easily accomplished by performing the correct steps in the right sequence; and here to help you master that procedure are Margaret Schnellinger, Licensed Veterinary Technician and LVT Team Leader at the Cornell University Hospital for Animals, and behaviorist Sophia Yin, DVM, in private practice in Davis, Calif. Dr. Yin is also the author of "Low Stress: Handling, Restraint and Behavior Modification of Dogs & Cats" (CattleDog Publishing), a resource with more than 1,600 how-to photographs for veterinarians and veterinary technicians.

"There's a reason a given medication is prescribed for a certain amount of time," Schnellinger says. "Depending on the medication, it takes a certain amount of time for the drug to establish certain levels in the bloodstream to do its job and to stay at that level

long enough to make sure the problem doesn't recur. If treatment is shortened because owners may think that their cat is doing better, they may risk the problem not resolving or recurring."

The first step when giving medicine is being in the right mindset. Remind yourself that you're a vital player in your cat's recovery. Before reaching for the medicine bottle, put yourself in a patient but purposeful frame of mind. This is important because your cat can read — and respond — to your emotional state.

Don't Force it. "The idea of trying to force a pill into your cat's mouth is not always comfortable for either you or your cat," Dr. Yin says. "Some cats are difficult to 'pill' because they don't like being restrained or having their mouths opened, or the pill does not taste good to them. Also, cats have shorter faces than dogs, so you can't control them by holding their muzzles."

Depending on the medicine, you may have options. Ask your cat's veterinarian if the three-times-a-day dose can be converted to one time a day or if you can split the pill for easier swallowing, or use a pill gun or pulverize the pill without compromising its effectiveness.

(continued on bottom of page 4)



Step 1 Place your fourth and fifth fingers behind your cat's head to prevent him from moving it backward



Step 2 Tilt his head back and open his mouth to insert the pill gun. Deposit the pill at the back of the tongue.



Step 3 Remove the pill gun, close your cat's mouth while still holding his head up and gently massage his throat.

Photos by Dr. Sophia Yin

ALTERNATIVE PROCEDURES FOR FRIGHTENED FELINES

- ◆ Consider wrapping your cat in a large bath towel. The towel can also help protect you from being bitten or scratched. "Cats' teeth are sharper than dogs' teeth and their incisors can easily puncture your skin," Dr. Yin says. "The purpose of towel wrapping is to make cats feel secure and relaxed and prevent them from struggling."
- ◆ If your cat is afraid of syringes, create a positive association by placing his favorite treats, such as canned tuna, on the syringe tip for him to lick off.
- ◆ Try first loading the syringe with tuna juice for your cat to swallow. Hold his head when presenting the tuna-laden syringe to get him to accept being slightly restrained. Follow up immediately with the medicine-filled syringe. Finish by giving a small treat as a reward, opening the bathroom door and allowing your cat to exit on his own.
- ◆ Try Feline Greenies Pill Pockets. The treats have a built-in pouch for concealing a tablet, capsule or liquid medication.
- ◆ Remember that you have a vital ally in the veterinarian, so don't hesitate to ask for additional tips to ensure that your cat receives all the medicine he needs to return to good health.



Elizabeth

Elizabeth is thankful for the assistance of **Bruce G. Kornreich, DVM, Ph.D., DACVM**, 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 ...

- ❖ WEIGHT LOSS
- ❖ EPILEPSY
- ❖ A HEALTHY COAT
- ❖ LITTER BOX BEHAVIOR

Q I am an 11½-year-old neutered domestic gray tabby. My vet said that I have hyperesthesia. This was my first attack. I see my vet every six months (or more), am an indoor cat, and I have an excellent diet and much loving attention. My human mom rescued me as a kitten in the wild.

What causes hyperesthesia? Is there effective treatment or a cure? How serious is it? Thank you for any help you can offer.

Sincerely,
Sammy

A As you know, we cats are very sensitive creatures, but in your case, as with other cats with feline hypersensitivity syndrome (FHS), this sensitivity seems to be ratcheted up to varying degrees. FHS is a recognized syndrome in the feline world, although the definitive cause is not clear at this time.

While it is not, in and of itself, believed to be serious with respect to its effect on overall health or longevity, a few important points regarding this unusual behavioral syndrome are worth making, especially for our human friends who are commonly puzzled by its manifestations.

FHS, also variably referred to as rolling skin syndrome and atypical neurodermatitis, is characterized by dramatic twitching or rippling of the skin, most commonly on the back between the middle of the spine and the base of the tail or in the flank region, with intermittent jerking of the body and exaggerated tail movements.

Affected cats may vocalize or dart about wildly, and they often appear agitated and may obsessively chew at their back, the base of their tail, or their flank. They are often very sensitive to touch during episodes. In extreme cases, they may appear stuporous or depressed, may become overly aggressive or affectionate, may appear to be seeing things that aren't there, or they may stare off into space during episodes.

Cats with FHS may demonstrate dilated pupils during episodes, and the obsessive grooming or chewing that may be observed in affected cats may lead to loss of fur or to abrasion of the skin with secondary bacterial infection. In very advanced cases, episodes may be followed by grand mal seizures

characterized by paddling of the feet, urination and/or defecation and salivation.

A definitive cause for FHS has not been identified, although a number of causes have been proposed. These include persistent flea-bite dermatitis (a hypersensitivity to the saliva of fleas), allergies to other substances including food or inhaled allergens, small scale seizure-like activity, feline obsessive-compulsive disorder, and abnormalities in the muscles along the spine.

It is important that veterinarians rule out a number of conditions, including flea infestation, allergies, spinal cord injuries, hyperthyroidism (which may cause hyperactivity) and central nervous system abnormalities before arriving at a presumptive diagnosis of FHS.

Behavioral therapy for FHS is usually geared toward minimizing stress, providing exercise and play activities, and enhancing the environment to make it more interesting to the affected kitty. This may involve providing toys, scratching posts, multiple levels for the kitty to enjoy (i.e., a kitty condo) or a fish tank. Many behaviorists think that it is important to focus on spending quality time with cats with FHS. If these measures are not successful, cats with FHS may benefit from anti-convulsive and/or antidepressant drug therapy, although the response to these drugs is variable and may take some time to assess.

While most cats with FHS are not completely cured of their condition, appropriate behavioral and/or drug therapy can help them live relatively normal lives. Although often manageable, cats with FHS may require lifelong therapy to control the severity of their symptoms, and owners (and affected kitties) may have to be patient while optimizing the combination of behavioral and pharmacologic therapy to control signs of FHS. Patience is a virtue, though, so please hang in there.

I hope that this is helpful, Sammy. It sounds like you have a great mom who loves you, so please try to remember this if you start feeling stressed! I am sure that with her love and support (and your veterinarian's assistance), you can live a long and happy life together.

Please drop me a line to let me know how things are going when you have the chance. ❖

Best regards,
Elizabeth

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