

DOGWatch

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

Vol. 18, No. 8 & August 2014

INSIDE

Jerky Treats Suspected in Deaths 2 FDA reports 1,000 dogs have died; 5,600

have become ill, along with 24 cats.

Pet Spending Continues to Rise 2 Owners are focusing on the health

and humanization of their animals.

Anatomy's Impact on Eyelids It can cause them to fold inward, with inflammation and discomfort.

Ask the Experts

A visiting Siberian Husky forages for food on the kitchen counter.

IN THE NEWS ...

A New Procedure Spurs Regrowth of the Jawbone

Two years ago, oral surgeons at UC Davis began using a revolutionary procedure to generate partial jawbone regrowth in two dozen dogs who suffered injury or removal of cancerous tumors. Now, they report that advances in their work, published in *Veterinary Surgery*, permit the regrowth to encompass much of the lower jaw.

The surgeons collaborated with university biomedical engineers to develop the new reconstruction used successfully on three dogs. They removed bone fragments or a full section of the jawbone and attached a titanium plate on remaining bone. Then they inserted "a sponge-like scaffolding material, soaked in a bone-growth promoter" called a bone morphogenetic protein where the bone was removed. It stimulated the remaining jawbone to grow new cells.

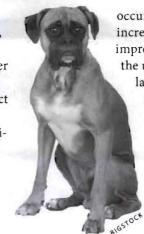
By four to six weeks, new bone filled most of the defect. By eight to 10 weeks, the new bone was fully formed and integrated with the original bone, forming one continuous jawbone. •

Difficult GI Diseases Under Scrutiny

Research at the Simpson Laboratory seeks better diagnosis and treatment for both dogs and people

In the midst of Cornell's sprawling 2,300-acre Ithaca, N.Y., campus, a small laboratory is working hard to uncover the causes of devastating gastrointestinal diseases that affect dogs, cats and humans.

Located in the Clinical Sciences Department at Cornell University College of Veterinary Medicine, the Simpson Laboratory has determined specific causes for GI diseases once considered simply immune-mediated or of unknown causes. One reason: Studying naturally



The lab found invasive E. coli as the cause of a rare form of IBD in Boxers.

occurring diseases of dogs and cats is increasingly recognized as a means of improving the well-being of animals and the understanding of human diseases, largely because those animals share

more genetic makeup and environmental exposure with humans than laboratory mice.

Similar Genetics. "Dog breeds, like human families, are very similar in their genetic makeup, and this can facilitate understanding of why disease happens," says Kenneth Simpson, BVM&S, Ph.D., a specialist in internal medicine and director of the

(continued on page 4)

The One-Eighth-Inch-Long Menace

Fleas' seasonality has vanished in some areas, while females continue laying 50 eggs a day

Summer brings blooming flowers, singing birds and — biting fleas. Warm weather awakens the fleas, if indeed they were ever asleep. Rising temperatures attributed to global warming are shortening the fleas' long winter naps — and in some areas, eliminating them entirely, making flea bites a year-round risk for dogs.

Dwight Bowman, M.S, Ph.D, a professor of parasitology at Cornell University College of Veterinary Medicine, has a simple explanation for fleas' abundance: "Each female flea can lay 50 eggs per day onto the host, which includes any warmblooded animal."

The eggs often roll off onto the dog's bedding, carpets, couches, blankets and other flea-friendly areas. Their ensuing development depends a good part on this: "the host's blood, previously consumed by female fleas, providing food in the form of flea dirt for the larvae when they hatch," Dr. Bowman says.

Jumping the Host. "The larvae crawl about on the ground or carpet and then fold in half and create a pupal case, a loose, sticky cocoon that may be camouflaged in green, purple or whatever bits of fabric are around them. When they emerge as adults, they immediately jump onto a host that provides them with

(continued on bottom of page 6)

DOG Watch

EDITOR IN CHIEF William H. Miller, Jr., VMD,
Dipl ACVD, Professor,
Clinical Sciences

EDITOR Betty Liddick

ART DIRECTOR Mary Francis McGavic

ADVISORY BOARD

James A. Flanders, DVM, Dipl ACVS, Associate Professor, Clinical Sciences

Katherine A. Houpt, VMD, PhD, Dipl ACVB, Emeritus Professor of Behavior Medicine

Joseph Wakshlag, MS, DVM, PhD, Dipl ACVN, Associate Professor, Clinical Nutrition

Marc S. Kraus, DVM, Dipl ACVIM, Lecturer, Clinical Sciences

Margaret C. McEntee, DVM, Dipl ACVIM, DACVR, Professor of Oncology

John Parker, BVMS, PhD, Associate Professor of Virology



Cornell University College of Veterinary Medicine

For information on pet health, visit the Cornell University College of Veterinary Medicine website at www.vet.cornell.edu.



DogWatch* (ISSN: 1098-2639) is published monthly for 539 per year by Belvoir Media Group, LLC, 800 Connecticut Ave., Norwalk, CT 06854-1631. Robert Englander,

Chairman and CEO; Timothy H. Cole, Executive Vice President, Editorial Director; Philip L. Penny, Chief Operating Officer, Greg King, Executive Vice President, Marketing Director; Ron Goldberg, Chief Financial Officer; Tom Canfield, Vice President, Circulation. ©2014 Belvoir Media Group, LLC.

Postmaster: Send address corrections to DogWatch, P.O. Box 8535, Big Sandy, TX 75755-8535

For Customer Service or Subscription information, visit www.dogwatchnewsletter.com/cs or call toll free: 800-829-5574.

Express written permission is required to reproduce, in any manner, the contents of this issue, either in full or in part. For more information, write to Permissions, DogWatch*, 800 Connecticut Ave., Norwalk, Connecticut 06854-1631.

SHORT TAKES

FDA Suspects Toxic Jerky Treats Caused Canine Deaths

More than 1,000 dogs have died in the past seven years, believed to be the result of eating toxic jerky treats, according to the latest update from the Food and Drug Administration. The agency has received 4,600 reports of illness in 5,600 dogs (many in multi-dog households), 24 cats and three people in cases it says may be related to consumption of chicken, duck and sweet potato jerky, almost all of them imported from China.

The FDA has worked with a network of laboratories to find contaminants in the treats without success. It has tested for *Salmonella*, arsenic, cadmium, irradiation levels, pesticides, antibiotics and mold, among other toxins.

It completed 26 post-mortem examinations on dogs suspected of having jerky treat-associated illness and found that, "In half the cases, dogs displayed evidence of other diseases, such as widespread cancer, Cushing's disease, abscess or internal bleeding secondary to trauma." In the remaining 13 dogs, however, "Jerky pet treats could not be ruled out as contributing to the illness."

The FDA has asked the Centers for Disease Control to conduct additional studies. Meanwhile, PetSmart says it will discontinue selling China-made treats by March 2015 and Petco will do the same by the end of this year.

Symptoms that may occur within hours or days of feeding the jerky treats are decreased appetite and activity, vomiting, diarrhea sometimes with blood or mucus, and increased water consumption and/or increased urination. Severe cases reported to the agency included pancreatitis, gastrointestinal bleeding, kidney failure and resemblance to the rare kidney-related illness Fanconi syndrome.

The FDA asks owners of pets who have experienced signs of illness to please report it at www.safetyreporting. hhs.gov. It also cautions that products labeled "Made in the USA" could still contain ingredients from China and other countries.

2

Where the Money Went

Spending on pets will reach \$59 billion this year, up 4.9 percent over 2013, the American Pet Products Association says. The category with the greatest proportion of growth last year: pet ser-



Spending on pets continued to rise last year as a result of owners' emphasis on the health and humanization of their animals.

vices such as boarding, training, pet sitting and grooming. It grew by 6 percent to \$4.4 billion.

The food category was first in spending at \$22 billion, up 4.5 percent, while veterinary care was second at \$14 billion, an increase of 5 percent. The forces driving the increases are owners' emphasis on pets' health and their humanization, the association says. "People are pampering their pets more than ever, and manufacturers and businesses are offering new products, services and opportunities to meet their needs and wants from interactive and innovative toys to pet-friendly hotels, restaurants and airlines," says APPA President Bob Vetere.

According to its 2013-2014 National Pet Owners Survey, dog owners' annual basic expenses include:

Surgical veterinary visits\$641
Routine veterinary care \$231
Food\$239
Food treats\$65
Boarding\$327
Vitamins\$64
Groomer/grooming aids \$61
Toys \$41

The association's report on the survey, a 558-page door stopper of a book, also found that among respondents:

- 83 percent had spayed or neutered their dogs.
- 28 percent had bought their dog from a breeder, 27 percent obtained them from a friend or relative, and 20 percent adopted them from a shelter.
- 42 percent also had a cat. *

DOGWatch AUGUST 2014

Anatomy's Impact on the Eyelids

A genetic condition can cause them to fold inward, bringing inflammation and considerable discomfort

If you notice your dog squinting or he has watery eyes, he may be suffering from entropion, a condition that causes the eyelid to fold inward and eyelashes to rub on the eyes' surface. It usually affects the lower eyelids but can also involve the upper lids, in either case causing considerable discomfort.

Telltale signs may include:

- Closed or swollen eyelids
- Inflammation of the eye membranes (conjunctivitis)
- Excessive blinking
- Excessive tearing
- Sagging skin around the eye socket
- Mucus or pus discharge from the eyes
- Rubbing or pawing of the eyes

"Entropion is one of the most common eye conditions we see in dogs," says J. Seth Eaton, VMD, ACVO, an ophthalmology consultant and former staff ophthalmologist at Cornell University Veterinary Specialists in Stamford, Conn. It's most commonly a genetic condition in many breeds, including those with both short and long muzzles, and those with more facial skin like the Shar Pei.

Predisposition to entropion is mostly influenced by anatomy. The anatomy of some dogs' heads may put more strain on the ligaments of the eyelids, particularly adjacent to the nose or the outer parts of the eyelids closer to the ear. When a dog is full-grown, this tension can lead to entropion. Other anatomical problems like excessive eyelid length or large facial folds around the eyes can also contribute as a dog matures.

Veterinarians usually detect the condition within the first year of a dog's life during a routine physical examination. However, entropion can occur in any dog

at any age because of chronic diseases or other injuries to the eyes.

Also Age-related. "Although inherited predisposition is the most common cause, entropion can also develop as a result of improper eyelid healing after trauma, skin disease that affects the eyelid skin, or can develop in older dogs due to age-related changes involving tissues around the eyes," Dr. Eaton says.



Entropion of the lower lid caused a comeal ulcer, which is visible with dye staining.

Entropion is painful because the hairs that come into contact with the eye surface cause irritation and scratches or erosions of the cornea. The cornea is the clear window comprising the surface of the eyeball.

If untreated, entropion can cause scar tissue to buildup on the eye surface, decreased vision and even blindness if severe. The condition is not to be confused with ectropion, in which the eyelids droop and roll outward.

During an ocular exam, veterinarians will inspect each eye under normal light and then in dim light. They commonly will apply a flourescein dye to stain the eye to identify possible ulcers in the cornea or other damage to the eye.

Surgical Solution. Although topical ointments and artificial tears may

initially be prescribed to lubricate the affected eyes in early stages of entropion, medication is considered only a short-term solution. "Surgery to correct this condition is the most secure and best way to treat it," says Dr. Eaton. "Other non-surgical alternatives have been reported, but they are not yet proven to be as successful as surgery. Thankfully, the surgical techniques are very successful — at the rate of more than 90 percent."

While a dog is anesthetized, veterinarians often remove an elliptical piece of tissue directly under the eye and suture the two sides together, pulling the affected eyelid down. The surgical procedure usually takes 30 minutes to an hour. "There is a little bit of art to performing entropion surgery," says Dr. Eaton. "We try to determine how much tissue to take out to correct the problem yet not remove an excessive amount of tissue, as overcorrection of entropion can also cause problems."

To prevent a dog from pawing his eyes and sutures when he returns home, he'll be fitted with a rigid Elizabethan collar rather than a lightweight or inflatable one to prevent rubbing or pawing at the delicate stitches placed near the eyes. "I recommend a clear plastic version of the Elizabethan collar — not an opaque or colored one," Dr. Eaton says. Dogs can better see their surroundings.

Veterinarians may prescribe antibiotics to reduce the risk of infection after surgery. "The most common complication we see in entropion surgery is that the condition returns, and a second procedure is necessary," Dr. Eaton says. "There can be multiple patient-related factors that contribute to development of entropion in any patient and also lead to recurrence even after a routine surgery."

Veterinarians remove the stitches on the external surface of the eyelid skin 10 to 14 days after surgery. "While there may be some inflammation and swelling of the membranes lining the eyelids immediately after correction," Dr. Eaton says, "most dogs regain a normal appearance within one to two weeks after surgery." *

SIMPSON ...

(continued from the cover)

laboratory that bears his name. "For example, Irish Setters develop a form of inflammatory bowel disease that responds to removal of gluten from their diet. This seems similar to human celiac disease, though the scientific details of the two conditions are not identical."

The lab's research offers promise for improved diagnosis and treatment of often confusing and misunderstood GI conditions. Significant findings to date include:

- The discovery of invasive E. coli as the cause of granulomatous colitis in susceptible Boxers and French Bulldogs.
- The application of FISH analysis (see sidebar) to biopsy specimens to enable rapid and specific identification of bacteria in dogs and cats.
- Further defining the role of Heli-



Research technician Francis Davis receives, organizes and prepares samples for FISH (fluorescence in situ hybridization) analysis of obscure GI disorders. The whimsical stuffed toy on the window is a representation of E. coli bacteria, the subject of frequent research at the lab.

cobacter species in canine gastritis, the regional distribution of them in other parts of the digestive tract and their zoonotic potential from dogs and cats.

Prospective studies that help the management of various types of inflammatory bowel disease in dogs.

In recent years, the lab's studies have broadened and deepened to study the genetic basis of host-bacterial interactions in dogs and people. Currently, research focuses primarily on inflammatory bowel disease (IBD), a disorder in which inflammatory cells infiltrate one or more sections of the gastrointestinal tract, leading to clinical signs such as

chronic diarrhea and weight loss.

IBD affects as many as 1.4 million people in the U.S. and 2.2 million in Europe. Its prevalence in dogs has not been determined. In people, a wide range of genetic and environmental risk factors is associated with its development.

MOVING BEYOND THE MICROSCOPE

The Simpson Laboratory's ability to identify and understand the role bacteria plays in various inflammatory bowel diseases hinges on an integrated approach combining traditional and contemporary methods. FISH (fluorescence in situ hybridization) is particularly useful because it enables researchers to identify the presence and distribution of bacteria within routinely processed tissue samples such as the lining of the intestines. The technique uses a fluorescent probe that binds to bacteria and acts like a bar code for identifying various bacteria.

Traditional microscopic evaluation of intestinal samples can identify changes consistent with a bacterial infection, but often the culprits themselves are difficult to detect with conventional methods, Dr. Simpson says. "FISH can be very helpful in cases where bacterial involvement is suspected based on clinical or histological [tissue] evidence." In some cases, the analysis can help guide antimicrobial therapy, which can be curative in dogs with sensitive bacteria.

The Simpson Lab is the only laboratory in the U.S. that offers FISH analysis as a commercial service. Its FISH samples come from referral clinics all over the world, many from Italy, the U.K. and Canada.

"Knowledge of FISH's utility in diagnosing more obscure GI disorders - particularly those involving granulomatous inflammation - has spread, greatly increasing the number of samples we receive monthly," Dr. Simpson says. The technique is routinely used to evaluate samples from dogs and

Studies of interactions between intestinal bacteria and their host, and the genetic makeup of affected canines can shed light on comparable processes in humans, says Dr. Kenneth Simpson.

cats with inflammatory diseases dominated by macrophages (immune system cells formed in response to an infection or damaged or dead cells) and Europhiles (a type of white blood cell) such as feline and canine inflammatory liver disease.

AUGUST 2014

DOG Watch

The two most common IBD subtypes in humans — Crohn's disease and ulcerative colitis, along with celiac disease — share features with different types of canine IBD. "By studying the immunological response of the host, the interactions between intestinal bacteria and the host, and the genetic makeup of affected canines, we can shed light on analogous processes in humans," Dr. Simpson says.

Screening Tests. The Simpson Lab is also pursuing the development of genetic screening tests for GI disease in dogs that could help in breeding decisions and minimize the incidence of such diseases. "Understanding the genetic causes of

these conditions also has therapeutic implications," says Dr. Simpson. "Our current treatments for IBD tend to be nonspecific and symptomatic. They are thus unlikely to produce a cure and rather are designed to minimize clinical signs."

Some of the most important findings at the Simpson Lab have centered on a rare but severe — and often fatal — form of IBD called granulomatous colitis (GC). The disease, most commonly seen in Boxers and French Bulldogs, is characterized by persistent bloody diarrhea, weight loss,



French Bulldogs are among purebreds the Simpson Laboratory is seeking for research on gastrointestinal disease.

PUREBREDS SOUGHT FOR RESEARCH

The Simpson Laboratory at Cornell is seeking blood and tissue samples from certain purebred dogs predisposed to developing various forms of inflammatory bowel disease. The samples will be used in research to shed light on the genetic basis of the diseases and hopefully enable the development of screening tests.

The needed candidates are:

- Boxers and French Bulldogs with biopsyconfirmed granulomatous colitis (GC) or histolytic ulcerative colitis.
- Yorkshire Terriers diagnosed with protein-losing enteropathy and/or lymphangiectasia, a disease of the lymphatic vessels characterized by chronic diarrhea.
- Healthy Boxers and French Bulldogs over 8 years old with no history of persistent diarrhea, bloody stool or weight loss.
- Healthy Yorkshire Terriers, over 10 years old, with no history of persistent vomiting, low protein levels or fluid accumulation in the body.

Blood samples can be collected at any routine veterinary visit from patients whose owners have given consent. This project has been approved by the Cornell Institutional Animal Care and Use Committee. The lab requests a consent form, medical history and pedigree, if available. FISH analysis will be performed on intestinal biopsies, free of charge, for GC-affected Boxers and French Bulldogs whose owners submit both intestinal biopsies and blood samples.

For more information, please contact simpsonlab@gmail.com, attention Francis Davis and Alison Manchester.



Shiying Zhang, Ph.D, extracts metabolites, the products produced during metabolism, from cultured inflammatory bowel diseaseassociated E. coli at the lab.

anemia, low protein and chronic debilitation. Although GC was once considered an idiopathic disease, meaning its causes were unknown, research at the lab has subsequently revealed that the main culprits are actually bacteria — specifically invasive E. coli. These E. coli share characteristics of the bacteria associated with IBD in humans.

"It is possible that common genetic mechanisms shared in people and dogs underlie disease in these other groups," Dr. Simpson says. Successful eradication of the bacteria in dogs has yielded dramatic long-term clinical improvement in

SUPPORTERS OF CURRENT STUDIES

Like all research laboratories, the Simpson Laboratory's funding relies on project grants to be completed within a set time frame. Currently, its studies are funded by a number of organizations, including the National Institutes of Health, Jill Roberts Center for Inflammatory Bowel Disease, American Kennel Club, American College of Veterinary Internal Medicine and Crohn's & Colitis Foundation of America.

GC-affected Boxers and French Bulldogs. Given the significance of these findings — and the ramifications for human medicine — GC remains a focus of research at the lab.

Other accomplishments include an enhanced understanding of a form of

IBD called lymphoplasmacytic enteritis. Research has shown that this disease responds well to dietary therapy, removing the need in many cases for immunosuppressive therapies such as steroids.

As research continues to yield greater understanding of inflammatory

bowel diseases, the prospects for their improved diagnosis and treatment continue to grow — for pets as well as humans. "In the future," Dr. Simpson says, "we will move toward therapies that are individualized for patients rather than a generic one-drug-fits-all approach." •

HEALTH

FLEAS ... (continued from the cover)

food, warmth and habitat — everything they need to thrive and repeat that life cycle. An adult flea would never leave an animal if it had a choice."

While this arrangement may work well for the flea, it will likely make your dog miserable. Flea saliva, the substance deposited into the skin when fleas feed on your dog, contains more than 20 substances that are irritating and potentially allergenic, says dermatologist William H. Miller, Jr., VMD, Medical Director of the Cornell University Companion Animal Hospital.

"The flea's bite causes a red papule
— a small bump sort of like a mos-

quito bite in a person. If the dogs had only one flea, the animal and owner wouldn't even notice it. However, fleas rarely occur alone. As a group, fleas can inflict numerous itchy bites. And if the animal is allergic to flea saliva, the bite wound is bigger, angrier and itchier," says Dr. Miller.

Complications can arise from flea bites when the dog tries to soothe the itching by scratching, licking, chewing or rubbing. Serious scratching — for example, by a dog with sharp nails — can damage the surrounding skin, and that skin can become infected, which can make itching even worse. "In debilitated animals or those with chronic untreated



Fleas can cause intense itching, especially in the tail area, and often a good roll on the back is the only relief, at least temporarily.

allergies, this secondary infection can seriously damage the skin and cause systemic problems," Dr. Miller says.

Tapeworm Vector. "Fleas are also a vector for tapeworms, as well as various bacterial pathogens like Bartonella, so if a flea is swallowed while the animals licks or chews at its skin, the animal can be infested by tapeworms or myriad systemic diseases."

The degree of these reactions and complications in dogs depends largely on the severity of the infestation, the degree of allergy in the animal and the timing of treatment — ideally promptly. Allergic dogs in a heavily infested environment can suffer significant skin damage in a very short period of time. "When a secondary infection is superimposed on a flea-induced rash, health can deteriorate very, very quickly," Dr. Miller says.

Because fleas can bite anywhere on the dog's body, it's easy to see them if the flea burden is great, Dr. Miller says. "With only a few fleas, a flea comb may be necessary to find them. The presence of tapeworm segments around the animal's anus would increase the suspicion of fleas. Any secondary infections would be diagnosed by clinical examination,

WHEN FLEA CONTROL SHIFTED TO VETERINARIANS

Twenty-five years ago, the discovery that fleas can remain on a dog for their adult life was revolutionary. "It changed the thinking about flea treatment," says parasitologist Dwight Bowman, M.S., Ph.D., at Cornell. "Now owners could apply a much smaller quantity directly to the pet rather than spraying their whole house or backyard.

"In 1994 Ciba-Geigy came out with Program (lufenuron), the first such product. It worked by preventing fleas from reproducing and was a phenomenal success. In 1996 Frontline (fipronil) and Advantage (imidacloprid) came onto the market. Now rather than toting home bags of products like flea bombs and sprays for the house and yard, all the pet owner needed was one small product. The whole industry shifted over from pest-control agents to veterinarians."

Generations of dogs have received the treatments since then. "Owners need to apply the product only once a month and not worry about it anymore," Dr. Bowman says.

Fleas will probably always be with us since stray cats and dogs, as well as wildlife like opossums, also harbor fleas, he says. "To pet owners, fleas may seem unusually difficult to eradicate. But the advantage in dealing with fleas is that they stay on the host, enabling targeted treatment."

6 DOGWatch AUGUST 2014

along with diagnostic samples (cytology) from the lesions. Systemic diseases caused by the transfer of infectious agents might be diagnosed by appropriate blood tests or cultures."

Stopping the Itch. A few flea bites require no treatment. However, when a dog is uncomfortably itchy due to flea allergies and/or having been bitten by a large number of fleas, veterinarians may prescribe an anti-itch medication. "Primarily, these are steroids, but antihistamines or some newer anti-allergic medications may also be used," says Dr. Miller.

Current anti-flea medications are available in many forms, including topical spot-application products, pump sprays, flea collars and oral medications that require a flea to bite before becoming effective. Some topical products kill fleas by direct contact. Others kill the fleas once they ingest the product. Some products target adult fleas, others target larvae and eggs, and some all three. Still others target fleas as well as other external parasites, such as ticks, lice and mange mites. "Selecting the best product depends upon the area, the dog and the owner's preference," says Dr. Miller.

New products to control fleas are constantly being researched and

developed. "What began with just lufenuron in 1994 has multiplied," Dr. Bowman says. "There are 10 to 15 such products out there today. And new products, product combinations and delivery methods are still coming out. These include a chewable product called NexGard (afoxolaner), made by Merial, which received FDA approval in September 2013. We will probably see entirely new chemicals in the next three or four years."

Although many preventives are available at big box stores, pet stores or farm and garden centers, their staffs may not be knowledgeable about a specific flea-control program for you, Dr. Miller says. "A veterinarian who knows the number and type of animals in your household, the indoor and outdoor environment, and the medical idiosyncrasies of your pets will be able to design the flea-control program best suited to you and your dog."

Dr. Bowman's best advice: "Take your dog to the veterinarian for a prescription, follow instructions and don't stop using flea control in the winter, no matter where you live! Because some pet owners aren't doing these things, it's a wormier, more flea-ridden world than it should be."

BATTLING THE PARASITE ON THE HOMEFRONT

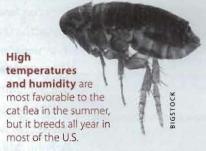
When flea infestation is extensive, stronger measures are sometimes called for, along with appropriate treatment of your dog. Ridding the environment of fleas — including treating all animals in contact with an infested dog — is key.

The most effective way is to treat the pet's living areas at the same time that you treat him. Here's how:

- Launder all pet bedding in hot water.
- Vacuum thoroughly under furniture, cushions, chairs, beds and along walls.
- Discard vacuum cleaner bags outside otherwise, fleas can continue to develop inside the bags and re-infest the house.
- Apply EPA-approved sprays to rugs, carpeting and pet bedding to kill fleas on contact. Boron-based shampoo for indoor carpeting kills immature fleas by contaminating their food supply. Always read and follow label directions carefully.

MEET CTENOCEPHALIDES FELIS

Despite its name, both dogs and cats are hosts for the wingless cat flea, Ctenocephalides felis. It breeds year round in most of the U.S., with temperatures and humidity most favorable for them from June through August. The insects are hard-shelled, ranging from reddish-brown to black in color. Because of their size — about one-eighth of an inch long - they're difficult to see on a dog's coat. Their waste may be evident, however, as tiny black dots, largely consisting of dried blood.



Among the distinguishing facts about fleas:

- Because of their powerful legs, they can jump to 8 inches high, or about 150 times their own height.
- Pet owners and others in the U. S. spend more than \$6 billion annually on flea control.
- Pet sleeping areas are the areas in the home most likely to harbor flea eggs and larvae.
- Fleas can bite humans and cause severe itching, but humans aren't their usual host. When flea bites are found on the people in the house, the house is likely to be heavily infested.



Katherine A. Houpt, VMD, Ph.D., here with her Cairn Terrier, Denver, provided the answer on this page. Dr. Houpt is a diplomate of the American College of Veterinary Behaviorists and emeritus professor at Cornell University College of Veterinary Medicine.

Please Share Your Questions
We welcome questions of
general interest on health,
medicine and behavior.
We regret however, that
we cannot comment on
specific products and
prior diagnoses. Please
send correspondence to:

DogWatch Editor 800 Connecticut Ave. Norwalk, CT 06854 or email dogwatcheditor@ cornell.edu.



A Visiting Husky Forages for Food on the Kitchen Counter

When my son comes over to visit with his Siberian Husky, the dog will not stop jumping on the kitchen counter or table. Why won't he listen?

Huskies are pretty close in looks and behavior to wolves, so it is not surprising that he hunts for his food. The problem is where he is hunting. Your son's Husky probably listens but he does not understand.

One of the most common causes of strife between dogs and people is that people assume the dog understands English or Spanish or Urdu. They can learn the association between words and activities. For example many dogs realize that "walk" means fun outside and "Milk-Bone" means a crunchy treat. He does not know what "Do not jump on the counter" means.

You probably say "No" when he jumps on the counter, but we use "No" so much that most dogs ignore it. One of my favorite cartoons shows one dog meeting another and saying, "My name is No, No, Bad Dog. What is yours?" A few dogs realize that "No" means stop what you are doing at the moment. You may shout "Down." He may or may not know that down means lie down or stop jumping up on people, but he doesn't generalize that to don't jump up to inspect that lovely roast on the counter.

Let's try to analyze the problem. Why is he jumping on the counter? If we know his motivation, we may be able to change it. My guess is that there is food on the counter and on the table, and it is probably better food than on your son's counter and table. Alternately, your son may not mind his dog putting his paws on the counter, so the dog has no idea the rules are different in your home.

The first step is to be sure the dog has his main meal before you are cooking and eating. If hunger

is his motivation, he will be less likely to cruise the counter when he is satiated. He probably is not exercised enough, especially when he is visiting, so a long jog would reduce his eagerness to jump. Finally, his motivation may be to get your attention, especially if it happens when you have been ignoring him, having a nice dinner-table conversation and when paws on the table and the rolls are being "wolfed" down. Suddenly, all eyes are on him. I am sure he gets a lot of attention then.

One way to divert him during meals is to give him a puzzle toy to enjoy while you eat. There are wooden puzzles the dog must manipulate with his nose to open secret compartments where kibble can be hidden. Other puzzles are balls or Buster cubes, which are polyhedrons not cubes, that release food when they are turned. There is TugaJug that requires the dog to manipulate a rope inside a plastic bottle so kibble falls out. Some dogs fling it around so be sure all your breakables are out of reach.

You can try to prevent the jumping on tables and counters by blocking access. A baby gate is usually sufficient to keep dogs out of the kitchen and dining room. If he jumps only when food is prepared and served, you could put him in his crate or have him on a leash or otherwise secured. There are actually "no jump" harnesses; the Horgan Harness is one brand.

You can punish him for jumping up, but to be effective — that is, to reduce the frequency of his jumping — the punishment has to be immediate. Running to him saying "No!" and pulling him off occurs much too late for him to realize why he is being manhandled. Of course, he should have been trained not to jump or even to stay outside the kitchen and dining room. Your son should begin to teach him to sit and stay away from the food or to avoid entering the kitchen. I hope these suggestions help to make you son's dog as welcome a guest as he is. *

CORRESPONDENCE

The Editor DogWatch* 800 Connecticut Ave. Norwalk, CT 06854 dogwatcheditor@cornell.edu \$39 per year (U.S.) \$49 per year (Canada)

Single copies of back issues are available for \$5 each. Call 800-571-1555

For subscription and customer service information, visit www.dogwatchnewsletter. com/cs or write to: *DogWatch*, P.O. Box 8535, Big Sandy, TX 7577-8535.

OR CALL TOLL FREE: 800-829-5574