

DOG Watch

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

Vol. 19, No. 2 ♦ February 2015

INSIDE

Short Takes 2

Testing dogs for help with PTSD. A wireless cyber-dog makes his debut.

When the Weather Is Frightful 3

Age, size and wind chill can all increase the chances of hypothermia.

The Lethal Dose of Antifreeze 3

It takes only a few licks — about half an ounce — to poison a 10-pound dog.

Ask the Experts 8

The secret to puppy housetraining: hot dogs and two rotisserie chickens.

IN THE NEWS ...

Study Suggests Non-invasive Option for Enlarged Prostates

Research on the use of pulsed electromagnetic field therapy in dogs with benign prostatic hyperplasia (BPH), also known as enlarged prostate, suggests it may hold promise for the nonsurgical treatment in men. The 20 dogs with BPH in the study experienced an average 57 percent reduction in prostate size in three weeks of therapy, researchers at the University of Bari in Italy reported in the journal *The Prostate*.

They found no changes in libido, semen quality and testosterone levels. In addition, the study found support for the hypothesis that impairment of blood supply to the lower urinary tract may be a factor in BPH's development. Their conclusion: With more study, the therapy may be suitable for the treatment in humans with no side effects.

BPH, the result of aging, is estimated to affect 80 percent of men over 80. In un-neutered dogs over the age of 5, as many as 80 percent also may be affected. ♦

Beyond the Guidelines and Checklists

We often face a difficult emotional struggle when deciding if it's time to end a beloved dog's suffering

Guidelines from the American Veterinary Medical Association understandably take an objective approach to euthanasia: "When animals are plagued by disease that produces insurmountable suffering, it can be argued that continuing to live is worse for the animal than death ... The humane disposition is to act for the sake of the animal or its interests because ... the animal will be relieved of an unbearable burden."



If he loves to play and can't now, that's a factor in decision-making.

Many anguished owners, however, face a deeply emotional struggle. The ensuing confusion at decision time can cloud a crucial point: It's the disease that is claiming the pet's life, bringing pain, limitations and more bad days than good. Euthanasia releases him from suffering.

'Awful Burden.' "I find that people are not averse to the dying. They are averse
(continued on page 4)

Life-saving Screening for Hemophilia

Specialized testing at Cornell's Coagulation Lab permits earlier diagnosis and treatment of the bleeding disorder

Advances in veterinary medicine and the rise of animal blood banks have improved the diagnosis and treatment of hemophilia to the point that some dogs who might have died from the condition can now live full lives.

The Comparative Coagulation Laboratory at Cornell University College of Veterinary Medicine is at the forefront of developing techniques for early diagnosis of hemophilia in dogs. Early diagnosis enables proper treatment and responsible breeding habits that help stem the proliferation of the condition. Its incidence in people is documented at one case per 10,000 male births, with a similar estimated incidence in dogs.

The Cornell laboratory acts as a specialized coagulation testing center for veterinary clinicians throughout North America and has expertise in performing specialized tests to identify hemophilia. "The simple screening tests performed in private practices may provide clues that the patient has a bleeding disorder," says Marjory Brooks, DVM, ACVIM, director of the laboratory.

Pinpoint the Problem. "The coagulation lab follows up on these cases with individual coagulation [blood clotting] factor and platelet [cells that help blood clot] testing to pinpoint a specific

(continued on page 6)

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.



B DogWatch® (ISSN: 1098-2639) is published monthly for \$39 per year by Belvoir Media Group, LLC, 535 Connecticut Ave., Norwalk, CT 06854-1713. 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. ©2015 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®, 535 Connecticut Ave., Norwalk, Connecticut 06854-1713.

SHORT TAKES

Seeking Proof of Service Dogs' Benefits for Traumatic Stress

Canine Companions for Independence is preparing dogs for a study to determine if service and emotional support dogs can improve the lives of military veterans with post traumatic stress disorder.

The nonprofit organization, which matches assistance dogs with people with physical disabilities, will train dogs for research to be conducted by the U.S. Department of Veterans Affairs. The dogs will learn obedience and specific tasks intended to help veterans with PTSD.

With five training centers around the country, CCI has placed more than 4,500 assistance dogs to serve children, adults and veterans with disabilities. It also has placed more than 100 "life-changing" assistance dogs with wounded or disabled veterans through its Wounded Veterans Initiative.

"This study is an opportunity to support our veterans and provide insight into the potential benefits of a highly trained assistance dog for individuals living with PTSD," says Paul Mundell, director of canine programs at CCI. The study is expected to take several years.

While it acknowledges that dog owners, including those with PTSD, can experience the benefits of ownership such as diminished stress and enhanced mood, at present, says the VA's National Center for PTSD, "Clinically, there is not enough research yet to know if dogs actually help treat PTSD and its symptoms."

Several studies measuring the impact of service dogs on veterans with PTSD are underway in the U.S. One, called Paws for Purple Hearts, an experimental program for those needing mobility assistance dogs that was reported in *Smithsonian* magazine, found that having veterans praise the dogs helped overcome emotional numbness caused by trauma. The dogs also eased the hyper-vigilance common in PTSD: "Some participants report they finally got some sleep knowing that a naturally alert soul was standing watch."

Cyber-Search Dogs

North Carolina State University researchers have developed a prototype of a wireless



A Labrador Retriever undergoes training for the search command to alert to anyone on the premises. Some veterans with post traumatic stress disorder feel uneasy entering their home, and the dog can ensure no one is present.

computer the size of a deck of cards that can transmit a dog's posture — whether he's sitting, standing or running. The computer, carried in a harness the dog wears, also has speakers and vibrating motors that allow handlers to communicate with the dogs.

The technologies have applications from search and rescue to service dogs to training pets, say the researchers whose report, "Towards Cyber-Enhanced Working Dogs for Search and Rescue," was published online in *IEEE Intelligent Systems* magazine.

The technology includes sensors that monitor a dog's heart rate and body temperature as well as emotional states such as excitement and stress. The devices can be customized depending on the application. "For example, for search and rescue, we've added environmental sensors that can detect hazards such as gas leaks, as well as a camera and microphone for collecting additional information," says Alper Bozkurt, Ph.D., an assistant professor of electrical and computer engineering at North Carolina State.

The researchers have used the device in dog training and are miniaturizing the technologies for animal shelters and hospitals. They're also interested addressing stress in working dogs, such as assistance dogs for the blind, and will use physiological and behavioral sensors to monitor dogs' mental and emotional state. The goal is to help handlers identify and reduce stress for the dogs, improving the length and quality of their lives. ♦

CANINE COMPANIONS FOR INDEPENDENCE

When the Weather Outside Is Frightful

Age, size, disease and wind chill can all increase the chances of hypothermia's onset

Weather forecasters initially issued mixed reports about winter 2015. They invoked El Nino, the polar vortex and the jet stream, but in the end it came down to this: snowy blasts, ice storms and frigid temperatures, all arriving unseasonably early.

The major health threat to dogs in this kind of weather: hypothermia, a perilously low body temperature. "I can't think of anything else winter-related that would be a larger threat," says Gretchen L. Schoeffler, DVM, ACVECC, chief of Emergency and Critical Care Services at Cornell University Hospital for Animals.

The rule of thumb for limiting walks when it's freezing outside: "Generally speaking, if it's too cold for the human, it's too cold for the dog," says Dr. Schoeffler.

"One must also consider wind chill and precipitation — as getting wet in cold weather can be particularly dangerous. Additionally, differences in size, breed, age, health and nutrition status and acclimatization to the cold will make a difference." Young and old dogs are unable to tolerate temperature extremes as well as adult pets can.

Certain diseases can also make it difficult for dogs to regulate their body temperature. Among them are diabetes, heart and kidney disease and hormonal imbalances such as Cushing's syndrome (hyperadrenocorticism) and hypothyroidism (lowered production of thyroid hormones).

Paleness, listlessness and frostbite are hypothermia's common signs, but the most telling is shivering — an early sign



BIGSTOCK

"Generally speaking, if it's too cold for the human, it's too cold for the dog," says Gretchen L. Schoeffler, DVM, chief of Emergency and Critical Care Services.

frequently overlooked, Dr. Schoeffler says. "Shivering animals should be brought indoors and monitored closely. I become much more concerned if signs progress to shallow breathing or generalized weakness, or worse yet, a change in mentation (mental activity and response), or a heart beat or pulse that is hard to find."

If your dog exhibits mild signs, wrap him in a warm blanket. If he's wet, dry him with towels — not a hair dryer, which can cause burns.

"A dog with more severe signs should be taken to a veterinarian ASAP," Dr. Schoeffler says. Prognosis varies, depending on the temperature and the dog's health, but is generally favorable. ❖

The Lethal Dose of Antifreeze: About Half an Ounce for a 10-pound Dog

Despite manufacturers' adding bitter flavoring to sweet-tasting antifreeze two years ago, it has had little impact on the number of calls to the ASPCA Animal Poison Control Center about dogs who have ingested the poison. In fact, annual calls increased from 305 in both 2012 and 2013 to 328 last year.

"Bittering agents do not appear to be deterrents for pets. They have been added to rodenticides for years and animals still eat them," says toxicologist Tina Wismer, DVM, the center's medical director.

One reason: "Dogs, who are the No. 1 animal exposed to antifreeze, are gulpers and do not take the time to taste things first," Dr. Wismer says.

Colorless, odorless ethylene glycol in antifreeze is highly poisonous to dogs, cats and humans. It's used in car cooling systems and home plumbing to winterize pipes, but exposure to it can be year round. Dogs can lick spills and radiator leaks on garage floors, driveways and city streets.

◆ *It Takes Only a Few Licks.* "For a 10-pound dog, a potentially lethal dose could be as little as 20 milliliters, which is approximately 4 teaspoons or 1.3 tablespoons, or about 0.67 ounces," says Gretchen L. Schoeffler, DVM, at Cornell.

◆ *It's Quickly Absorbed.* Kidney failure can occur within 18 to 36 hours, says Dr. Schoeffler. "For animals already showing signs of kidney injury, the only real hope is hemodialysis and even then the prognosis is poor."

"The best treatment after the kidneys are showing injury is hemodialysis, which is available in only a handful of veterinary hospitals. Fortunately, most of the cases we see are acute [sudden] exposures, and we have time to decontaminate and administer the antidote. If someone calls about a patient whose kidneys are already showing evidence of injury, we refer them elsewhere." (Cornell doesn't currently offer hemodialysis.)

Signs of antifreeze poisoning can develop in an hour after ingestion and often resemble drunkenness: incoordination, vomiting, diarrhea, excessive urination, seizures, depression, elevated heart rate and coma.

The customary antidote for dogs at Cornell is 4-methylpyrazole, also known as fomepizole, or if that is not available, ethanol, Dr. Schoeffler says. Ethanol causes less ethylene glycol to be metabolized and more is excreted. "I much prefer fomepizole, but it can be difficult to get and is very, very expensive."

Several brands of antifreeze containing the somewhat safer ingredient propylene glycol rather than ethylene glycol are available, but they're still toxic. Safe handling and storage of all antifreeze — and cleanup of spills — is paramount. If you suspect your dog has ingested either type of antifreeze, immediate veterinary treatment can be life saving. ❖

GOODBYE... (continued from cover)

to making the decision to end their animal's life purposefully," says Katherine Goldberg, DVM, guest lecturer at Cornell University College of Veterinary Medicine. "In fact, many people tell me that they wish they would find their animal dead, that it would be a relief and alleviate this awful burden of decision-making."

Dr. Goldberg, who founded and operates Whole Animal Veterinary Geriatrics & Hospice Services, makes clear to owners that they're not alone in deciding on euthanasia for their pets — the issue is universal. "We are doing our very best to make sure that this dying experience is as peaceful and painless as possible," she says.

The word euthanasia comes from the Greek *eu*, meaning good, and *thanatos*, meaning death. The expanded 2013 AVMA guidelines include



"We are doing our very best to make sure that the dying experience is as peaceful and painless as possible," says Katherine Goldberg, DVM, here with her new dog, George.

WHAT YOU SHOULD KNOW

These pet loss support hotlines are among many available:

- ◆ **ASPCA Pet Loss Hotline:** 877-GRIEF-10 (877-474-3310). This direct line to ASPCA psychologist and grief counselor Stephanie LaFarge, Ph.D., operates daily from noon to midnight EDT.
- ◆ **Pet Loss Support Hotline of Cornell University College of Veterinary Medicine:** 607-253-3932. On Tuesdays, Wednesdays and Thursdays from 6 p.m. to 9 p.m. EDT, veterinary student volunteers staff the hotline to provide a listening ear and empathy. Feel free to leave a message. For urgent help at other times, the hotline's outgoing message refers callers to the 24-hour national Crisis Call Center at 800-273-8255.

advice on ethical decision-making and other matters beyond the actual procedure. One example: "When an animal's life no longer has positive value for it ... the humane thing to do is to give it a good death."

Veterinarians typically perform euthanasia in a private room at their clinic or at a private home to minimize distress for the pet and owner. Methods vary, but veterinarians commonly administer a sedative, then a barbiturate. "The animal experiences no awareness of the end of life — the process is akin to undergoing general anesthesia for a surgical procedure," the ASPCA says.

When a severely suffering dog has a debilitating terminal illness, a veterinarian may ask questions such as:

- ◆ Is he eating? Drinking?
- ◆ Responding to you and his environment?
- ◆ Soiling where he sleeps?

Dr. Goldberg also asks:

- ◆ Are you concerned about your dog's mobility or comfort level?
- ◆ Has his self-grooming changed?
- ◆ What does your dog do to express contentment and joy?

She asks owners to evaluate their dog's quality of life on a scale of 1 to 10, with 10 being the best. "I encourage each family member to do this independently. It's a good catalyst for conversation."

Many online numerical quality-of-life tools suggest that, if your dog scores a particular number, it's time to euthanize. "There's not one list of questions that is going to answer this question for every person," Dr. Goldberg says. She finds that any single factor — such as lost mobility — isn't necessarily definitive. "Immobility to someone with a Yorkie is going to mean something different from someone with a Great Dane."

What's more, "Can you be comfortable but not mobile? Absolutely. Whether an animal is happy being immobile is another question."

To help gauge quality of life, she asks owners: What is your dog's favorite thing to do? What makes him who he is? If it's lounging on a sunny patch of grass, he likely still enjoys that. But if he loves to chase a tennis ball or play but can't now, that's significant.

Empowering Owners. Seek a second opinion if you're being encouraged to have your dog undergo additional treatments when you would rather pursue palliative (comfort) care until you feel euthanasia is warranted, Dr. Goldberg says. "One myth I'd like to bust is, 'It's a veterinarian's job to decide when their patients should die.' No one knows the relationship you have with your animal more than you. I want to empower people. They're part of this process. They have choices."

When euthanasia does emerge as the right choice, she suggests closing your eyes and envisioning how you want to say goodbye. What does that look like and feel like to you? Maybe it entails a visit to a park or quiet time with family at home or a small ceremony in a meaningful location.

When cancer gripped her Bernese Mountain Dog, Griffy, Dr. Goldberg

YOU ARE NOT ALONE IN YOUR GRIEF

Psychologist Stephanie LaFarge, Ph.D., fields 2,000 or more calls every year for the ASPCA Pet Loss Hotline and says 75 percent of callers confide with some embarrassment: "You know, I didn't grieve this hard when my father [or other close relative] died."

"They think it means they are a bad person who likes animals better than people, but it's a fact that people experience the loss of a pet with great intensity," Dr. LaFarge says. "It's not pathological. It's the norm. It feels odd because we didn't expect it to hit so hard."

Science doesn't know why, but Dr. LaFarge speculates one reason is the role the animal plays. We're around our pets for more hours of the day than most human relationships afford, and for sheer comfort, companion animals live up to their companion roles.

"Pets have gone, as they say, from the backyard to the bedroom," Dr. LaFarge says, "and they're omnipresent in a way that makes their absence feel all the more dramatic and the house more empty."

Two-time Pulitzer Prize-winning author E.O. Wilson, professor emeritus at Harvard known for his work in sociobiology, has theorized that a separate structure in the brain may account for our deep attachment to animals. "To my knowledge, no scientist has tried to test this possibility. In reality we don't know why many pet owners feel the loss of their pet with such intensity," Dr. LaFarge says.

Death can be particularly hard when a pet represents life transitions in an owner's life, as can happen when a young mother loses a pet who had been with her when she changed from free spirit to parent, she says. And sometimes women don't feel they have permission to grieve since they're so busy with their children.

Dr. LaFarge has found that men and woman grieve on different timelines. "Often women peak first since they have provided most of the caregiving for a dying pet. Men may have a delayed reaction several months later."

In the end, the best advice is to let yourself grieve. Some people find solace in remembering a beloved pet with a ceremony, donation or memorial. A proliferation of pet loss support groups helps pet owners in their time of need. Check with the veterinarian, a veterinary school, your local shelter or humane organization. You're not alone in feeling your loss.



"Pets are omnipresent in a way that makes their absence feel all the more dramatic and the house more empty," says psychologist Stephanie LaFarge, Ph.D., at the ASPCA Pet Loss Hotline.

kept his love of eating and being outdoors foremost as they spent their final moments in a field where the two often walked, and Griffy gobbled a plate of hamburger. It was so powerful that Dr. Goldberg thought every pet owner should have the chance to experience such a meaningful goodbye, and Whole Animal Veterinary Geriatrics & Hospice Services was born.

"My bias is that death and dying could and should occur where it is most meaningful for the family. If it is at home, that needs to be an option. If that's in the veterinary clinic, fine, but we need to be having these conversations," Dr. Goldberg says.

Others' Presence. You may decide to have other pets witness the euthanasia and view the body because, one theory goes, it can prevent their searching for the missing animal. "We are continuing to learn more and more about cognition and the emotional experiences of animals, and a great deal of their grieving behavior is still unknown," Dr. Goldberg says. "However, we have profound examples of intra- and inter-species grief that certainly lead me to believe that offering other pets the opportunity to be present during euthanasia and/or visit the deceased body afterward can be beneficial.

"I have had several experiences with grief among household pets that were powerful and inexplicable — gathering around their deceased housemate and not leaving for several hours, for example.

"Eventually, whatever process was happening between them came to completion, and they all left the body and continued on. I have no idea what was occurring, but something very real was taking place. Quite honestly, I was honored to have witnessed it."

Dr. Goldberg performs euthanasia as part of her work and views it as honoring the relationship between people and animals at their most precious time. "Dying is as natural as being born," she says. "Death is not the enemy. None of us are escaping it." ♦

HEMOPHILIA... *(continued from the cover)*
diagnosis. This is critical for appropriate treatment."

Hemophilia is a condition in which the blood's ability to clot is severely reduced, causing a dog to bleed uncontrollably from even a slight injury. Although the blood disorder has no cure, accurate diagnosis and proper veterinary treatment of bleeding episodes can enable many affected dogs to live natural life spans.

"There is no drug or diet supplement that can supply the missing coagulation factor in pets with hemophilia. However, transfusion with canine blood products is effective, Dr. Brooks says. Canine blood products include whole blood, packed red blood cells and frozen plasma. The number of transfusions required throughout an affected dog's life will depend largely on the severity of the condition.

The Severe Cases. Several types of coagulation factor deficiencies affect animals as well as humans. Many types result in prolonged bleeding due to the lack of coagulation. They become problematic in surgery or situations where an animal sustains trauma. In addition, in more severe



Marjory Brooks, DVM, ACVIM, director of the Comparative Coagulation Laboratory, works at one of the automated coagulation analyzers that allows same-day testing and speedy turnaround times.

cases, internal bleeding can occur in the abdomen, chest, central nervous system or muscles, and a pet owner might not detect it until the animal's life is in jeopardy.

Hemophilia A (known as factor VIII deficiency) is the most common inherited coagulation factor defect in dogs. Veterinarians often find that the sever-

ity and frequency of bleeding related to the degree coagulation factor VIII is decreased (or in some cases, completely absent) in the blood.

Hemophilia B (known as factor IX deficiency) is diagnosed less often in dogs than hemophilia A. Signs of both types are similar. The ratio of cases of hemophilia A to B is approximately five to one, Dr. Brooks says. Both forms are sex-linked (or X-linked) recessive. This means that males demonstrate the bleeding tendency, and female carriers show no symptoms. However, a female carrier can transmit the trait for hemophilia to her offspring. On average, a carrier female will transmit the trait to half her sons (who are then affected with hemophilia) and to half of her daughters (who are then also carriers).

"Hemophilia often results from spontaneous mutation in previously unaffected breeds or lines," Dr. Brooks says. "Unlike many hereditary traits, hemophilia is often diagnosed in mixed-breed animals and is not exclusively found in a single breed or inbred family. However, once a mutation develops, it can be propagated when asymptomatic carrier females or mildly affected males are bred."

Dr. Brooks notes that a recent clinician survey found that hemophilia was reported most often in mixed-breed

HOW MUTATED GENES PASS TO THE NEXT GENERATION

Hemophilia occurs as a result of genetic mutation, and once it develops, it can be transmitted to a dog's offspring. Because female carriers are asymptomatic (meaning they don't demonstrate any symptoms of hemophilia), it can be challenging to identify them to avoid passing the mutation on to the next generation.

The more information that is known about a pet's parentage, the better. Evaluation of pedigrees can determine carrier status of some asymptomatic females. It can also help estimate the risk that some animals are carriers and help confirm laboratory diagnosis of affected males or females.

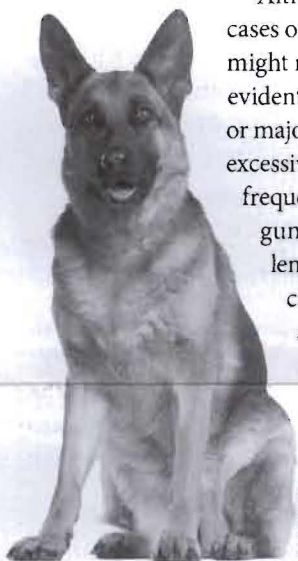
All daughters of hemophilic males will be carriers of hemophilia and should not be used for breeding. These females can be safely spayed and will not demonstrate the clinical signs of hemophilia. The full sisters and maternal half-sisters of hemophilic males have a 50 percent chance of being carriers of hemophilia, and Cornell recommends that these dogs not be bred as well.

It is recommended to screen all sons of confirmed or possible carrier females for hemophilia via diagnostic assays. Males confirmed to be clear of hemophilia can safely be used for breeding without further propagation of the defect.

dogs, Labrador Retrievers, and German Shepherd Dogs. The laboratory's case records for 2012 to 2013 revealed the highest proportion of diagnoses in mixed-breed dogs, German Shepherds, Chihuahuas, Golden Retrievers and pit-bulls. The prevalence is similar to breed popularity and might not indicate a predisposition in the breeds themselves.

Spontaneous Hemorrhage. The severity of hemophilia varies widely. Some dogs might die within the first few weeks of their lives, while others live full lives with only intermittent signs of bleeding. "The disease is often diagnosed when a young male develops severe, abnormal bleeding after neutering," Dr. Brooks says. "In the most severe forms, puppies have spontaneous hemorrhage into muscles and joints (causing lameness and swelling) and prolonged bleeding when teething and from minor wounds."

Although most cases of hemophilia might not become evident until surgery or major trauma, excessive bruising, frequent bleeding gums and swollen, tender joints can be other symptoms of the condition.



BIGSTOCK

The lab's highest proportion of hemophilia diagnoses for 2012-2013 was for mixed breeds and German Shepherd Dogs, along with Chihuahuas, Golden Retrievers and pit bulls. However, the prevalence may reflect breed popularity rather than a predisposition.

AMONG THE LAB'S ACHIEVEMENTS

The Comparative Coagulation Laboratory was established in 1965 by Dr. W. Jean Dodds at the Wadsworth Center in Albany, N.Y. In 1994, Dr. Jim Catalfamo and Dr. Marjory Brooks relocated the laboratory to Cornell University. The lab routinely receives samples from throughout the United States, Canada and the United Kingdom, as well as regular submissions from veterinary clients in Brazil and Hong Kong.

Over the years, the laboratory has counted the following among its achievements:

- ◆ Early identification of canine hemophilia A, hemophilia B and von Willebrand disease (VWD), a severe bleeding defect.
- ◆ Transfusion trials to improve management of dogs with severe hemophilia and VWD.
- ◆ Patenting of a new von Willebrand factor assay technique that subsequently led to the characterization of VWD subtypes in dogs.
- ◆ Characterization of platelet abnormalities, including the bleeding disorders hereditary thrombasthenia in Otterhounds, Basset Hound thrombopathia and Scott syndrome in German Shepherd Dogs.

Hemophilia is diagnosed via evaluation of coagulation in specially prepared blood samples. In cases of hemophilia A, these tests measure coagulation factor VIII. Hemophilic dogs have a marked reduction in factor VIII activity compared to normal dogs.

Coagulation assays range from \$15 for a single factor to more than \$100 to measure all the coagulation factors. Because hemophilia has a known inheritance pattern, pedigree information can streamline diagnoses and identify carrier females.

Frozen Plasma. The blood products used to treat patients with hemophilia include fresh frozen plasma that replaces both factor VIII and factor IX components of the blood. If a hemophilic dog's blood loss is severe, he will be hospitalized and receive blood and plasma transfusions. Repeated transfusions might be necessary to control or prevent further hemorrhaging. Including catheter, hospitalization, blood typing tests and the transfusions, the costs can range from several hundred to several thousand dollars.

Transfusion can cause immune reactions in a dog when antibodies destroy the foreign blood cells or proteins from the donor. However, blood typing and cross-matching tests are now widely performed in veterinary medicine. "The need for transfusion varies depending on the patient's clinical bleeding tendency," Dr. Brooks says. "Severe cases may require frequent transfusion and may experience frequent, spontaneous bleeds that impact their quality of life. Patients with mild to moderate hemophilia may have a natural life span with few or no transfusions."

As veterinary testing and management of hemophilia in dogs continue to improve, so do the ultimate outcomes for them. ♦

PET DONORS AUGMENT THE BLOOD BANK'S SUPPLIES

The Cornell Companion Animal Hospital maintains a clinic blood bank offering canine and feline blood and plasma products for its patients. The bank is stocked with products purchased from national veterinary blood banks, as well as from Cornell's own voluntary canine and feline donors.

The donors are pets who live with their families rather than at the facility. They're typed, tested and screened yearly to ensure pathogen-free blood products. Each donor is a life-saver for the patient in need of transfusion.



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

COMING UP ...

DOOR DARTERS



**CORNEAL
ULCERATION**



INCONTINENCE



MATTED FUR

The Secret to Puppy Housetraining: Hot Dogs and Two Rotisserie Chickens

Q I got my first Weimaraner when he was already fully grown. He's gone, and I now have a 10-week-old Weimaraner named Lily — a real charmer — but I'm having a tough time with housetraining, perhaps because it's so new to me.

We sleep together, and Lily used to wake me every couple of hours throughout the night to go out. Now she slips out of bed and urinates in the house.

Should I withhold water from her in the late evening? I don't like crating her for long periods. I've read puppies don't have control of their bladders until they're 4 months old. Is that so? Is there a smart way to handle this? I think my carpeting is a goner, but my real concern is Lily's well-being.

A I know just where you are coming from because I got my new Westie, Yuki (Japanese for Snowy), at 10 weeks and now, at 20 weeks, she is fairly well housetrained as long as she is at home with no change in schedule. The fact that Lily slips out of your bed to urinate elsewhere means that she has control of her bladder to some extent.

She does not want to urinate where she sleeps, so you can take advantage of that by crating her at night when you are in bed. The crate can be right beside and facing your bed, so she (and you) won't feel lonely. You could purchase a stuffed dog called Snuggle Puppy. It has a heat source and heartbeat to help Lily think she is with you or her mother.

An airline crate is much preferable to an open wire crate because dogs like the cave-like interior of the airline crate. Crating should work well because Lily will wake you up to leave the crate.

Kidney function slows down at night so she should not have to urinate more than once or

twice per night. Yuki slept through the night after two days in my home and she was only 11 weeks. You could withhold water for two hours before you go to bed. The rule is that puppies can hold their urine for their age in months plus two hours, which means that Lily should be able to wait four hours.

If she has not eliminated in the house for a month, you can allow her to sleep with you again, but put a bell on her collar so you will hear her leave. The minute you wake up, take Lily out with treats in hand. As soon as she urinates outside, say "Good girl" and give her a treat.

Don't wait until she comes back to the house; be right beside her so she gets the treat just as she is finishing voiding. She may have to defecate, too, when she first awakens, so keep her outside with you for another few minutes.

Again, she should get a treat as soon as she defecates. Dogs seem fussier about defecation sites; they often choose smooth grassless areas.

To protect your rugs and speed her house-training, have her tethered to you whenever you are awake. That way you can catch her in the act and startle her if she squats. Rush her outside and reward her for urinating there. Never, ever, punish her after the fact. She will not know why she is being punished and she will be confused and anxious.

Take her outside every two to four hours until you have learned her pattern of elimination. Feed her meals rather than free-choice food so her schedule of elimination will be more regular.

While you are rewarding her for elimination, you can also be training her to sit and even to "down." She isn't too young. I know you are enjoying Lily and all her puppy antics. Have faith that she will learn the proper place to eliminate. It took two rotisserie chickens and a pack of hot dogs to train Yuki. ❖

CORRESPONDENCE

The Editor
DogWatch
535 Connecticut Avenue
Norwalk, CT 06854-1713
dogwatcheditor@cornell.edu

SUBSCRIPTIONS

\$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 75777-8535.

OR CALL TOLL FREE: 800-829-5574