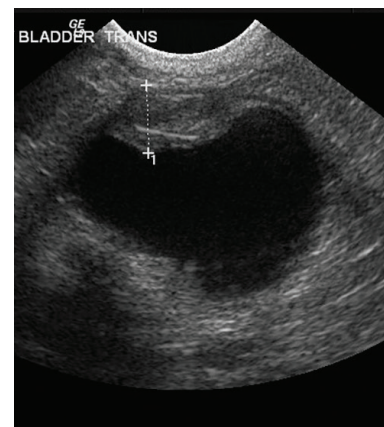


Image quiz:
What's causing
this dog's painful
urination?

See if you can spot
the cause in this
ultrasonogram.

page M6



The golden years

Here's a peek into the bond between the pet owners and veterinarians contributing to the Golden Retriever Lifetime Study, supported by Morris Animal Foundation. *By Portia Stewart*

I am awake at 3:23 a.m., listening to the sleeping-baby sounds of my 11-week-old golden retriever in the kennel next to my bed and thinking about the lifetime of a dog. Last year our home was a hospice for our beloved 17-year-old arthritic Samoyed. This year, life is puppy pads, teething and housetraining. In the three short weeks he's lived with us, our golden has grown longer and taller. His brain and body are expanding exponentially. We're keenly aware he's in a prime socialization period, where his exposure to other animals, people and experiences will shape the dog he becomes.

Watching a pet's lifetime—from cradle to grave—is a privilege pet owners and veterinary professionals share. It's an indelible bond forged from puppy visits to geriatric exams to that final,

page 6>

Facing Internet trolls without fear

Does the possibility of an online attack on your veterinary practice have you hiding under the covers? Come into the light! Establish and monitor your online presence to guard against Internet trolls and other haters. **page 20**

» Protecting your veterinary practice from a cyberattack **page 26**



fetch dvm360 CONFERENCE

dvm360 director
Falley named a top
woman in media

page 3



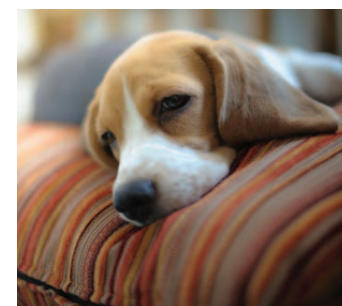
Children's book aims
to inspire future
generations of vets

page 18



Snowbirds
unite (against
veterinarians)!

page 32



Unbundling
myofascial pain
syndrome in dogs

page M1

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¹Data on file at Merial.

²Data on file at Merial. Based on veterinary dispensed dose data.

**NexGard is a Merial product.
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IMPORTANT SAFETY INFORMATION: NexGard® (afoxolaner) is for use in dogs only. The most frequently reported adverse reactions included pruritus, vomiting, dry/flaky skin, diarrhea, lethargy, and lack of appetite. The safe use of **NexGard** in pregnant, breeding, or lactating dogs has not been evaluated. Use with caution in dogs with a history of seizures. For more information, see full prescribing information or visit www.NexGardForDogs.com.

Please see Brief Summary on page 3.



Mission

Through its extensive network of news sources, **dvm360** provides unbiased multimedia reporting on all issues affecting the veterinary profession.

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DIRECTOR'S CUT | Kristi Reimer Fender

Facing the cyberbully

Don't just duck and cover when you find yourself under attack.

In this month's dvm360 Leadership Challenge on cyberbullying in the veterinary profession, we set out with a number of questions we wanted answered. For instance: What criteria characterize online communication as cyberbully-

ing? What's the difference between cyberbullying and a hateful review? Why might veterinarians be easy targets for cyberbullying? What can they do if they find themselves the target of a cyberattack? You can

find the answers to these questions and more starting on page 20, plus in the pages of *Vetted* and *Firstline* magazines and online at **dvm360.com/cyberbully**. But the gist? Help is available. Don't go it alone.



dvm360's Marnette Falley named a top woman in media

'Change-maker' award recognizes efforts to transform the veterinary industry (especially CE) for the better.

Marnette Falley, executive creative director for dvm360, was recently named one of 2018's "Top Women in Media" by *Folio* magazine. Falley was designated as a "change-maker," which *Folio* defines as a woman who is successfully altering the course of her brand or industry for the better.

One of Falley's many accomplishments this past year was to reimagine the attendee experience at Fetch dvm360 conferences, including:

Facilitated sessions. Adult attention spans need pauses to stay focused, which is why many Fetch dvm360 sessions are now incorporating facilitator-led brain breaks.

Doodling encouragement. If you take written notes, you remember only 10% of what you heard 72 hours later. With doodling, you remember 65%.

Conference extensions. The Fetch dvm360 app is loaded with content and tools that can bring conference learnings into exam rooms.

NexGard® (afoxolaner) Chewables

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Description: NexGard® (afoxolaner) is available in four sizes of beef-flavored, soft chewables for oral administration to dogs and puppies according to their weight. Each chewable is formulated to provide a minimum afoxolaner dosage of 1.14 mg/lb (2.5 mg/kg). Afoxolaner has the chemical composition 1-Naphthalenecarboxamide, 4-[5-[3-chloro-5-(trifluoromethyl)-phenyl]-4, 5-dihydro-5-(trifluoromethyl)-3-isoxazolyl]-N-[2-oxo-2-[(2,2,2-trifluoroethyl)amino]ethyl].

Indications: NexGard kills adult fleas and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of Black-legged tick (*Ixodes scapularis*), American Dog tick (*Dermacentor variabilis*), Lone Star tick (*Amblyomma americanum*), and Brown dog tick (*Rhipicephalus sanguineus*) infestations in dogs and puppies 8 weeks of age and older, weighing 4 pounds of body weight or greater, for one month.

Dosage and Administration: NexGard is given orally once a month, at the minimum dosage of 1.14 mg/lb (2.5 mg/kg).

Dosing Schedule:

Body Weight	Afoxolaner Per Chewable (mg)	Chewables Administered
4.0 to 10.0 lbs.	11.3	One
10.1 to 24.0 lbs.	28.3	One
24.1 to 60.0 lbs.	68	One
60.1 to 121.0 lbs.	136	One
Over 121.0 lbs.	Administer the appropriate combination of chewables	

NexGard can be administered with or without food. Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes to ensure that part of the dose is not lost or refused. If it is suspected that any of the dose has been lost or if vomiting occurs within two hours of administration, redose with another full dose. If a dose is missed, administer NexGard and resume a monthly dosing schedule.

Flea Treatment and Prevention:

Treatment with NexGard may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with NexGard should continue the entire year without interruption.

To minimize the likelihood of flea reinfestation, it is important to treat all animals within a household with an approved flea control product.

Tick Treatment and Control:

Treatment with NexGard may begin at any time of the year (see **Effectiveness**).

Contraindications:

There are no known contraindications for the use of NexGard.

Warnings:

Not for use in humans. Keep this and all drugs out of the reach of children. In case of accidental ingestion, contact a physician immediately.

Precautions:

The safe use of NexGard in breeding, pregnant or lactating dogs has not been evaluated. Use with caution in dogs with a history of seizures (see **Adverse Reactions**).

Adverse Reactions:

In a well-controlled US field study, which included a total of 333 households and 615 treated dogs (415 administered afoxolaner; 200 administered active control), no serious adverse reactions were observed with NexGard.

Over the 90-day study period, all observations of potential adverse reactions were recorded. The most frequent reactions reported at an incidence of > 1% within any of the three months of observations are presented in the following table. The most frequently reported adverse reaction was vomiting. The occurrence of vomiting was generally self-limiting and of short duration and tended to decrease with subsequent doses in both groups. Five treated dogs experienced anorexia during the study, and two of those dogs experienced anorexia with the first dose but not subsequent doses.

Table 1: Dogs With Adverse Reactions.

	Treatment Group			
	Afoxolaner	Oral active control		
	N ¹	% (n=415)	N ²	% (n=200)
Vomiting (with and without blood)	17	4.1	25	12.5
Dry/Flaky Skin	13	3.1	2	1.0
Diarrhea (with and without blood)	13	3.1	7	3.5
Lethargy	7	1.7	4	2.0
Anorexia	5	1.2	9	4.5

¹Number of dogs in the afoxolaner treatment group with the identified abnormality.

²Number of dogs in the control group with the identified abnormality.

In the US field study, one dog with a history of seizures experienced a seizure on the same day after receiving the first dose and on the same day after receiving the second dose of NexGard. This dog experienced a third seizure one week after receiving the third dose. The dog remained enrolled and completed the study. Another dog with a history of seizures had a seizure 19 days after the third dose of NexGard. The dog remained enrolled and completed the study. A third dog with a history of seizures received NexGard and experienced no seizures throughout the study.

To report suspected adverse events, for technical assistance or to obtain a copy of the MSDS, contact Merial at 1-888-637-4251 or www.merial.com/NexGard. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

Mode of Action:

Afoxolaner is a member of the isoxazoline family, shown to bind at a binding site to inhibit insect and acarine ligand-gated chloride channels, in particular those gated by the neurotransmitter gamma-aminobutyric acid (GABA), thereby blocking pre- and post-synaptic transfer of chloride ions across cell membranes. Prolonged afoxolaner-induced hyperexcitation results in uncontrolled activity of the central nervous system and death of insects and acarines. The selective toxicity of afoxolaner between insects and acarines and mammals may be inferred by the differential sensitivity of the insects and acarines' GABA receptors versus mammalian GABA receptors.

Effectiveness:

In a well-controlled laboratory study, NexGard began to kill fleas four hours after initial administration and demonstrated >99% effectiveness at eight hours. In a separate well-controlled laboratory study, NexGard demonstrated 100% effectiveness against adult fleas 24 hours post-infestation for 35 days, and was > 83% effective at 12 hours post-infestation through Day 21, and on Day 35. On Day 28, NexGard was 81.1% effective 12 hours post-infestation. Dogs in both the treated and control groups that were infested with fleas on Day -1 generated flea eggs at 12- and 24-hours post-treatment (0-11 eggs and 1-17 eggs in the NexGard treated dogs, and 4-90 eggs and 0-118 eggs in the control dogs, at 12- and 24-hours, respectively). At subsequent evaluations post-infestation, fleas from dogs in the treated group were essentially unable to produce any eggs (0-1 eggs) while fleas from dogs in the control group continued to produce eggs (1-141 eggs).

In a 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of NexGard against fleas on the Day 30, 60 and 90 visits compared with baseline was 98.0%, 99.7%, and 99.9%, respectively.

Collectively, the data from the three studies (two laboratory and one field) demonstrate that NexGard kills fleas before they can lay eggs, thus preventing subsequent flea infestations after the start of treatment of existing flea infestations.

In well-controlled laboratory studies, NexGard demonstrated >97% effectiveness against *Dermacentor variabilis*, >94% effectiveness against *Ixodes scapularis*, and >93% effectiveness against *Rhipicephalus sanguineus*, 48 hours post-infestation for 30 days. At 72 hours post-infestation, NexGard demonstrated >97% effectiveness against *Amblyomma americanum* for 30 days.

Animal Safety:

In a margin of safety study, NexGard was administered orally to 8 to 9-week-old Beagle puppies at 1, 3, and 5 times the maximum exposure dose (6.3 mg/kg) for three treatments every 28 days, followed by three treatments every 14 days, for a total of six treatments. Dogs in the control group were sham-dosed. There were no clinically-relevant effects related to treatment on physical examination, body weight, food consumption, clinical pathology (hematology, clinical chemistries, or coagulation tests), gross pathology, histopathology or organ weights. Vomiting occurred throughout the study, with a similar incidence in the treated and control groups, including one dog in the 5x group that vomited four hours after treatment.

In a well-controlled field study, NexGard was used concomitantly with other medications, such as vaccines, anthelmintics, antibiotics (including topicals), steroids, NSAIDs, anesthetics, and antihistamines. No adverse reactions were observed from the concomitant use of NexGard with other medications.

Storage Information:

Store at or below 30°C (86°F) with excursions permitted up to 40°C (104°F).

How Supplied:

NexGard is available in four sizes of beef-flavored soft chewables: 11.3, 28.3, 68 or 136 mg afoxolaner. Each chewable size is available in color-coded packages of 1, 3 or 6 beef-flavored chewables.

NADA 141-406, Approved by FDA

Marketed by: Frontline Vet Labs™, a Division of Merial, Inc.
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The golden years

> Continued from the cover

sacred goodbye when euthanasia is needed. And a group of special golden retriever owners and veterinarians are taking this journey together. Their purpose? To further scientific research and understanding in order to protect one of the most popular dog breeds.

In the Golden Retriever Lifetime Study (GRLS), all of the 3,000-plus contributing dogs are called heroes, and their numbers indicate when they were registered into the study. Here are a few of their stories—and what researchers are just beginning to learn from these canine pioneers.

Meet Hugo, hero No. 1,003: A golden ambassador

Hugo stands in the reception area of Overland Park Regional Medical

Center in Overland Park, Kansas, still as a statue except for his breathing and the blinking of his eyes. This is a familiar space for him. He's a therapy dog with Pet Partners, and hospital and nursing home visits are part of his weekly routine.

He and owner Brian Berge of Overland Park, Kansas, are completely tuned to each other. Berge scans the lobby, looking for visitors who might need the comfort of his furry friend, who stoically welcomes even the most enthusiastic hugs and petting. Sighting a little girl, the two are off. Berge offers Hugo's "card," which gives his stats—what he likes (including treats, kids and playing with his sister) as well as his credentials as a therapy dog.



Hugo and owner Brian Berge before a hospital visit at Overland Park Regional Medical Center in Overland Park, Kansas. Many dogs enrolled in the GRLS have roles beyond their lives as family pets. Berge discovered Hugo's aptitude as a therapy dog accidentally, when his then-18-month-old grandson first met Hugo as a 3- or 4-month-old puppy. "You've got a puppy and a toddler—what can go wrong, right?" Berge asks. "The toddler sees the puppy and gets up and starts running toward him. And Hugo sees the toddler and starts running towards him. And of course all the adults in the room are in slow motion jumping out of their chairs going, 'No!' As the toddler gets to Hugo, Hugo sits down and wags his tail. The toddler grabs him by the jowls, and we're like, 'Oh no. This can't be good.' And Hugo just wags his tail and licks him. And we thought, you know what, we've got a winner."

Berge has owned golden retrievers since 1975, usually two at a time, and their names have always started with the letter "h." Berge can list every one: Harley, Hogan, Heather, Hazel, Hannah, Hector, Harry, Hutch, Howard and Hugo.

Berge's involvement in the study started with Howard. When this beloved golden was 7 years old, Berge took him to the veterinarian for routine care.

"The vet took a look at him and said, 'This dog's in better shape than most 3-year-old dogs I see,'" Berge says. "We took him home, and that night he went out in the backyard and he just started losing his balance and wobbling."

Initially, the veterinarian thought Howard was experiencing a reaction to his vaccinations, but Howard didn't improve.

"They did the CT [computed tomography] scan and it turned out to be a brain tumor. And we lost him two weeks later," Berge says. "We've always lost our dogs to old age, and most of them from cancer. But when you lose a dog like that at 7, when the vet says he's in better shape than most 3-year-olds, you just don't have time to prepare."

Berge says he and his wife were so stricken by the loss they considered not getting another dog. But as time passed, Berge's wife began to research golden retriever breeders, looking for the right fit.

A circuitous search led them to a responsible breeder of English cream golden retrievers. The breeder had 12 puppies—born on Christmas day. Berge took his granddaughter to visit the pups, and the family fell in love with Hugo, who kept returning to play with them long after the other puppies tired.

Hugo's veterinarian encouraged the family to enroll him in the GRLS, and Hugo has been a participant since puppyhood.

"The Morris study is so comprehensive. Every year we fill out probably a 50- or 60-page questionnaire. And the questionnaire takes into account every single aspect that you could imagine, including what kind of floors do the dogs walk on, where do they sleep, do they play outdoors, do they go to dog parks? So from that standpoint you become much more aware of what you're doing with the dogs," Berge says. "This is also a way of giving you positive experience for the things that you are

Facts about the Golden Retriever Lifetime Study

- > It's the largest, most comprehensive prospective canine health study in the United States.
- > The study's purpose is to identify the nutritional, environmental, lifestyle and genetic risk factors for cancer and other diseases in dogs.
- > About 60 percent of golden retrievers are impacted by cancer.
- > With the help of veterinarians and dog owners, the foundation collects health, environmental and behavioral data on more than 3,000 enrolled golden retrievers.

SOURCE: MORRIS ANIMAL FOUNDATION

doing well with the dog. I think that benefits the dog and the owner."

Hugo also makes an annual trip to his veterinarian for an extended visit. During this visit the veterinarian collects samples from Hugo and completes an extensive survey on the dog's health. While Berge says he misses Hugo during these lengthy visits, he appreciates the veterinarian's investment of time and expertise.

Right now, Berge says, the gifts his dog provides to science don't really affect his family's daily life. But Berge sees these contributions ultimately as a blessing and hopes they'll advance the health of dogs in the future.

A closer look at the study

Today the GRLS is six years into what's expected to be a 15-year journey. And some of the results are already surprising researchers. Missy Simpson, DVM, PhD, is a staff scientist with Morris Animal Foundation and a veterinary epidemiologist who works on the GRLS. Her biggest surprise so far?

"I guess I'm surprised that we don't have any osteosarcoma diagnoses yet," Dr. Simpson tells *dvm360*. In fact, she says investigators had expected to find much more cancer by now than they actually have. The study is focusing on lymphoma, hemangiosarcoma, osteosarcoma and high-grade mast cell tumors.

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Please see Brief Summary on page 8.





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The following information is a summary of the complete product information and is not comprehensive. Please refer to the approved product label for complete product information prior to use.

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PRODUCT DESCRIPTION: CLARO® contains 16.6 mg/mL florfenicol, 14.8 mg/mL terbinafine (equivalent to 16.6 mg/mL terbinafine hydrochloride) and 2.2 mg/mL mometasone furoate. Inactive ingredients include purified water, propylene carbonate, propylene glycol, ethyl alcohol, and polyethylene glycol.

INDICATIONS:
CLARO® is indicated for the treatment of otitis externa in dogs associated with susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Staphylococcus pseudintermedius*).

DOSAGE AND ADMINISTRATION:
CLARO® should be administered by veterinary personnel. Administration is one dose (1 dropperette) per affected ear. The duration of effect should last 30 days. Clean and dry the external ear canal before administering the product. Verify the tympanic membrane is intact prior to administration. Cleaning the ear after dosing may affect product effectiveness. Refer to product label for complete directions for use.

CONTRAINDICATIONS:
Do not use in dogs with known tympanic membrane perforation (see **PRECAUTIONS**).
CLARO® is contraindicated in dogs with known or suspected hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate, the inactive ingredients listed above, or similar drugs, or any ingredient in these medicines.

WARNINGS:
Human Warnings: Not for use in humans. Keep this and all drugs out of reach of children. In case of accidental ingestion by humans, contact a physician immediately. In case of accidental skin contact, wash area thoroughly with water. Avoid contact with eyes. Humans with known hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate should not handle this product.

PRECAUTIONS:
Do not administer orally.
The use of CLARO® in dogs with perforated tympanic membranes has not been evaluated. The integrity of the tympanic membrane should be confirmed before administering the product. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment.
Use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs.
Use with caution in dogs with impaired hepatic function. The safe use of CLARO® in dogs used for breeding purposes, during pregnancy, or in lactating bitches has not been evaluated.

ADVERSE REACTIONS:
In a field study conducted in the United States, there were no directly attributable adverse reactions in 146 dogs administered CLARO®. To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, contact Bayer HealthCare at 1-800-422-9874.
For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

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“At this point in the study we predicted that we would have about 100 of our four primary cancer outcomes, and we’re at about 40,” Dr. Simpson says. “That’s great news ... but it’s also an interesting finding scientifically that maybe they aren’t getting cancer as young or as quickly as we had predicted.”

Dr. Simpson says the researchers do have some ancillary findings that aren’t related to cancer, so that’s where they’re focusing their energy now while they wait on the oncology data to accumulate. Dr. Simpson will offer a preliminary look at some of these at the Fetch dvm360 conference Aug. 17-20 in Kansas City.

“We’re just in the early phases of looking at some other outcomes like cruciate ligament ruptures and clinically evident osteoarthritis,” Dr. Simpson says. “We’re also looking a lot at overweight and obesity in our dogs, so those are all research-in-progress things that we’ll have shaped up enough to present in August.”

The team is also examining changes in behavior parameters over time using the Canine Behavioral Assessment and Research Questionnaire (C-BARQ), a validated measurement tool. “We give that survey to our dog owners every year,” Dr. Simpson says. “So we have longitudinal data that we’ll be able to analyze and describe how those behavior concepts change over time, if they do at all.”

Finally, researchers are looking at mortality causes in dogs under 3 years of age. Right now, the literature on this topic tends to be based on information from shelters or teaching hospitals.

“Those populations aren’t necessarily representative of what goes on in the bigger world of dogs,” she says. “We’re working on getting a descriptive paper together about the dogs that were younger than 3, what did they die from.”

“The study is a labor of love,” Dr. Simpson continues. “There are a lot of moving parts, but we have really engaged and committed owners and veterinarians. There’s some handholding, but it’s less than you’d think. Most people are committed to doing what they need to do for the study.”

So far, Dr. Simpson says, the team can’t say whether the study will help other dog breeds beyond goldens. “Any time you do a cohort study with a selective population such as ours, one of



Primary sources of data for the study

What’s collected from each furry participant in the Golden Retriever Lifetime Study? Here’s a quick list:

- > The annual questionnaire the pet owner completes, which includes the C-BARQ—Canine Behavioral Assessment and Research Questionnaire
- > The annual questionnaire the veterinarian completes that contains health history for the prior year, physical exam results, vaccines, medication history and details from the veterinary medical record
- > These samples collected by the veterinarian and stored at a biorepository:
 - serum
 - whole blood
 - urine
 - feces
 - hair
 - toenails
- > Results of these lab tests:
 - complete blood count
 - serum chemistry profile
 - urinalysis
 - fecal analysis (ova, parasite)
 - total thyroid test (T4)
 - heartworm antigen test
- > Pet owners may also opt to allow a postmortem exam to collect tissue, but this isn't a requirement for participation.

PHOTO BY GREG KINDRED

the biggest questions is, can we generalize the findings to other breeds?” she says. “The answer is always ‘we hope so.’ But the truth is, we don’t know.”

Another concern: Do dogs in the study receive better healthcare, and are their pet parents more attentive to their pets’ needs?

“That is something that researchers always struggle with,” Dr. Simpson says. “In human health research we call it the ‘healthy participant bias.’ It’s basically the concept that people who engage in research are systematically healthier than people who don’t. And that could very much be the case with our dogs as well.”

Dr. Simpson says it’s a huge honor to be on this project, and she feels as if

the job description were written for her. “Research is incremental, and nothing happens quickly,” she says. “You have to learn to find edification in the process and celebrate results when they happen, but the beauty is in the details.”

Truman, hero No. 2,874: Golden strong

Valerie Partch, DVM, recognizes Truman’s leash as he steps into the door of the exam room at Jackson Animal Clinic in Platte City, Missouri. “Is that the leash you wore to the wedding?” she asks him.

Owner Andrea Cole, a vibrant young professional with a contagious smile, answers in the affirmative as she enters the room behind Truman. Dr. Partch recognizes the leash because she attended Cole’s wedding, where Truman served as ringbearer. The bond between patient, doctor and pet owner is close—it originated with Cole’s previous golden retriever, Raleigh, and grew stronger along a difficult path.

You see, Cole’s commitment to the GRLS began when Raleigh was diagnosed with bone cancer just before his third birthday. Cole and her then boyfriend (now husband) were devastated.

“As first-time dog parents, we were like, ‘Cancer?’ We didn’t even know dogs could get cancer, let alone bone cancer. So we’re frantically doing tons of research, and we came across Morris Animal Foundation,” Cole says. “We saw the study, and at that point they were still enrolling dogs, and unfortunately you couldn’t enroll dogs that already had cancer.”

Cole was intrigued by the study, so she followed the research. After Raleigh passed and when she and her partner reached the point that they were ready for a new dog, she decided she wanted a dog she could enroll in the GRLS.

“We’d invested so much time and emotion crying and researching and trying to figure out why this had happened to Raleigh. So we specifically wanted a dog that met all of the requirements,” she says.

Study participants were required to be younger than 2 at the beginning of the study, and they needed to be in possession of a three-generation pedigree. Then the pet owner and the veterinarian had to commit to participation in the study.

Cole enrolled Truman as soon as she could. “At that time it was really



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Appetite Stimulant

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Description: ENTYCE® (capromorelin oral solution) is a selective ghrelin receptor agonist that binds to receptors and affects signaling in the hypothalamus to cause appetite stimulation and binds to the growth hormone secretagogue receptor in the pituitary gland to increase growth hormone secretion.

Indication: ENTYCE (capromorelin oral solution) is indicated for appetite stimulation in dogs.

Contraindications: ENTYCE should not be used in dogs that have a hypersensitivity to capromorelin.

Warnings: Not for use in humans. Keep this and all medications out of reach of children and pets. Consult a physician in case of accidental ingestion by humans. **For use in dogs only**

Precautions: Use with caution in dogs with hepatic dysfunction. ENTYCE is metabolized by CYP3A4 and CYP3A5 enzymes (See Clinical Pharmacology). Use with caution in dogs with renal insufficiency. ENTYCE is excreted approximately 37% in urine and 62% in feces (See Adverse Reactions and Clinical Pharmacology).

The safe use of ENTYCE has not been evaluated in dogs used for breeding or pregnant or lactating bitches.

Adverse Reactions: Field safety was evaluated in 244 dogs. The most common adverse reactions were diarrhea and vomiting. Of the dogs that received ENTYCE (n = 171), 12 experienced diarrhea and 11 experienced vomiting. Of the dogs treated with placebo (n = 73), 5 experienced diarrhea and 4 experienced vomiting.

To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, call Aratana Therapeutics at 1-844-272-8262.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>

NADA 141-457, Approved by FDA

US Patent: 6,107,306
US Patent: 6,673,929

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exciting because they were starting to pick up a lot of traction,” she says. “I was worried that we hadn’t gotten him in time. He’s number 2,874, so he’s at the very end. If you talk to anyone at Morris, they say the last couple weeks was just a mad rush of all these submissions.”

While participating in the study is a time commitment, a key part of what makes it all work is Cole’s relationship with her veterinarian. The friendship between Cole and Dr. Partch is never more evident than when they share the memory of Raleigh.

“Raleigh, he was unusual to develop cancer so early in life. It was very sad,” Dr. Partch says, looking to Cole. They share a glance, both caught in a moment of remembrance. “I was really hoping it wasn’t going to be cancer.”

Truman completed his third study visit this year, and Dr. Partch says he’s been the picture of health so far.

As she examines him today, Dr. Partch takes careful measure of Truman’s body, evaluating his eyes and teeth and body condition. He’s been on a diet recently, and he looks lean and lovely. When I ask about the device on his collar, Cole explains that Truman wears a Whistle GPS Pet Tracker, which allows her to monitor her dog’s location and activity from her phone.

Dr. Partch says she’s been impressed by the thoroughness of the GRLS program. “If they could have something like this for all dogs, to really monitor them this closely, we’d be able to catch so many more diseases and problems way earlier, and hopefully be able to prolong their quality and quantity of life,” she says.

Information sharing is a key factor in the study, whether it’s the data collected at the annual veterinary visits or the wisdom owners of the study participants share with each other.

The Golden Retriever Lifetime Study Supporters Facebook page tells the story of the lives of these dogs and their families. On a typical morning, at 5:35 a.m., a golden owner asks for prayers and positive thoughts for her hero, who’s undergoing cruciate ligament repair. A few hours later, another owner shares a paw print of her hero, who crossed the rainbow bridge and will soon be necropsied, with the results sent to Morris to further the study.

“It’s a tight-knit community, amazingly supportive of one another,” Dr.



Dr. Valerie Partch examines her patient, Truman, who is one of the more than 3,000 golden retrievers enrolled in the Golden Retriever Lifetime Study. “I was excited to hear there was a study for the goldens, because they do tend to have cancer a lot more than the other breeds,” Dr. Partch says.

Simpson says. Members support each other not only when one of them loses a pet but also with advice on the study itself. “It’s not a trivial task to do everything we ask of these owners. So those communities are really great in helping us keep our compliance so high and keep people engaged in the study.”

For example, urine collection is an important task for the study, and owners share tips that range from using soup ladles to creating contraptions that attach to the dog itself. Others share stories of cancer diagnoses, remission or the special treats their pets receive after fasting before the annual study exams.

“It’s kind of funny to see the faces of the dogs before they go in for the study, because you can tell they’re like, ‘Where’s my breakfast?’” Cole says.

A recent question posed in the forum: If one of the owners from the study passed away and they wished for their dog to remain in the study, would anyone be willing to take that dog?

“The response was just amazing,” Cole says. “It made me start thinking, if anything happened to me that’s exactly what I would want. I would want whoever takes Truman to keep him in the study. Because just because I’m not here, it shouldn’t take away from the overall greater good.”

Cole says she’s been surprised by how the Facebook page has brought people together.

“Even if you’re having a personal struggle, people just rally around you,” she says. “It’s crazy to think that a breed of dog just instantly brings people together.”

For example, when a golden’s owner recently had surgery, other GRLS participants volunteered to walk the dog while the owner recovered. Cole says she’s constantly impressed by the pods of people who pop up to support each other, whether it’s helping each other out in a crisis or planning puppy playdates.

As I finish writing this, my own now-13-week-old golden retriever sleeps at my feet. He’s doubled in size since we brought him home at 8 weeks. He adores biting at the water that sprays out of the sprinkler and he prefers shady, wooded hikes over the concrete city sidewalks. He’s a tick magnet (thank goodness for modern parasite prevention!) and a goofball and a nippy, sleepy, energetic wanderer. He’s a golden retriever, with that characteristic golden smile that makes a heart happy.

Like the dogs in the GRLS, he will likely not benefit directly from the Morris Animal Foundation research. He’s too young and the scope of the study is big. But it’s a good feeling to know that those dogs who come after may have a brighter future, thanks to the dedication and contribution of the veterinarians and pet owners who are just as amazing, dedicated and loyal as the dogs they love.

Want to know more?

You can connect with the Morris Animal Foundation on Facebook, Instagram and LinkedIn. Also check out the website. You can sign up for quarterly updates about the GRLS study as well as updates about other research.



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IMPORTANT SAFETY INFORMATION: ENTYCE® (capromorelin oral solution) is for use in dogs only. Do not use in breeding, pregnant or lactating dogs. Use with caution in dogs with hepatic dysfunction or renal insufficiency. Adverse reactions in dogs may include diarrhea, vomiting, polydipsia, and hypersalivation. Should not be used in dogs that have a hypersensitivity to capromorelin. See page 10 for product information summary. Please see the full Prescribing Information at entyce.aratana.com/PI.

Simply golden: A Golden Retriever Lifetime Study veterinary visit

Take a peek inside an exam room as Truman the golden retriever visits his veterinarian to provide samples for the study, funded by Morris Animal Foundation. *By Portia Stewart*

Mirataz™ (mirtazapine transdermal ointment)

For topical application in cats only. Not for oral or ophthalmic use.

CAUTION: Federal law (USA) restricts this drug to use by or on the order of a licensed veterinarian.

Before using this product, please consult the product insert, a summary of which follows:

INDICATION: Mirataz™ is indicated for the management of weight loss in cats.

DOSAGE AND ADMINISTRATION: Administer topically by applying a 1.5-inch ribbon of ointment (approximately 2 mg/cat) on the inner pinna of the cat's ear once daily for 14 days. Wear disposable gloves when applying Mirataz™. Alternate the daily application of Mirataz™ between the left and right inner pinna of the ears. **See Product Insert for complete dosing and administration information.**

CONTRAINDICATIONS: Mirataz™ is contraindicated in cats with a known hypersensitivity to mirtazapine or to any of the excipients. Mirataz™ should not be given in combination, or within 14 days before or after treatment with a monoamine oxidase inhibitor (MAOI) [e.g. selegiline hydrochloride (L-deprenyl), amitraz], as there may be an increased risk of serotonin syndrome.

HUMAN WARNINGS: Not for human use. Keep out of reach of children. **Wear disposable gloves when handling or applying Mirataz™ to prevent accidental topical exposure.** After application, dispose of used gloves and wash hands with soap and water. After application, care should be taken that people or other animals in the household do not come in contact with the treated cat for 2 hours because mirtazapine can be absorbed transdermally and orally. However, negligible residues are present at the application site and the body of the cat at 2 hours after dosing. In case of accidental skin exposure, wash thoroughly with soap and warm water. In case of accidental eye exposure, flush eyes with water. If skin or eye irritation occurs seek medical attention. In case of accidental ingestion, or if skin or eye irritation occurs, seek medical attention.

PRECAUTIONS: Do not administer orally or to the eye. Use with caution in cats with hepatic disease. Mirtazapine may cause elevated serum liver enzymes (See **Animal Safety** in the product insert). Use with caution in cats with kidney disease. Kidney disease may cause reduced clearance of mirtazapine which may result in higher drug exposure. Upon discontinuation of Mirataz™, it is important to monitor the cat's food intake. Food intake may lessen after discontinuation of mirtazapine transdermal ointment. If food intake diminishes dramatically (>75%) for several days, or if the cat stops eating for more than 48 hours, reevaluate the cat. Mirataz™ has not been evaluated in cats < 2 kg or less than 6 months of age. The safe use of Mirataz™ has not been evaluated in cats that are intended for breeding, pregnant or lactating cats.

ADVERSE REACTIONS: In a randomized, double-masked, vehicle-controlled field study to assess the effectiveness and safety of mirtazapine for the management of weight loss in cats, 115 cats treated with Mirataz™ and 115 cats treated with vehicle control were evaluated for safety. The vehicle control was an ointment containing the same inert ingredients as Mirataz™ without mirtazapine. The most common adverse reactions included application site reactions, behavioral abnormalities (vocalization and hyperactivity), and vomiting. **See Product Insert for complete Adverse Reaction information.** To report suspected adverse events, for technical assistance or to obtain a copy of the SDS, contact Kindred Biosciences, Inc. at 888-608-2542. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

EFFECTIVENESS: The effectiveness of Mirataz™ (mirtazapine transdermal ointment) was demonstrated in a randomized, double-masked, vehicle-controlled, multi-site field study involving client-owned cats of various breeds. Enrolled cats were ≥ 1 year of age and had existing documented medical history of ≥ 5% weight loss deemed clinically significant. The most common pre-existing conditions included renal insufficiency, vomiting, and hyperthyroidism. Some cats had more than one pre-existing condition. Cats were randomized to treatment groups in a 1:1 ratio of Mirataz™ to vehicle control. A total of 230 cats were enrolled and received either Mirataz™ (115 cats) or a vehicle control (115 cats) containing the same inert ingredients without mirtazapine. The cats were 2.8-24.6 years of age and weighed 2.1-9.2 kg. The dosage was a 1.5-inch ribbon (approximately 2 mg/cat) mirtazapine or vehicle ointment administered topically to the inner pinna of the cat's ear. A total of 177 cats were determined to be eligible for the effectiveness analysis; 83 cats were in the Mirataz™ group and 94 cats were in the vehicle control group. The primary effectiveness endpoint was the mean percent change in body weight from Day 1 to the Week 2 Visit. At Week 2, the mean percent increase in body weight from Day 1 was 3.94% in the mirtazapine group and 0.41% in the vehicle control group. The difference between the two groups was significant (p<0.0001) based on a two-sample t-test assuming equal variances. A 95% confidence interval on the mean percent change in body weight for the Mirataz™ group is (2.77, 5.11), demonstrating that the mean percent change is statistically different from and greater than 0.

STORAGE: Store below 25°C (77°F). Multi-use tube. Discard within 30 days of first use.

HOW SUPPLIED: Mirataz™ is supplied in a 5 gram aluminum tube.

MANUFACTURED FOR:
Kindred Biosciences, Inc.
1555 Bayshore Highway, suite 200
Burlingame, CA 94010

NADA 141-481, Approved by FDA
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NDC 86078-686-01
REG-MTZBS-008 Rev. 26Apr2018
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What's a veterinary visit like for a participant in the Golden Retriever Lifetime Study (GRLS)? Golden retriever Truman, hero No. 2,874, and his owner, Andrea Cole, share their experience here.

"The hardest part for us is tracking everything, because in the yearly report you have to track what their food is, did you give them any other supplementary food like meat or vegetables," Cole says. "We try to switch up Truman's food so it's not the same thing. So the challenge is tracking all the labels, which I have down to a science now."

"I can't tell if he likes it or not, because he gets lots of treats afterward, but it's a lot of blood," Cole

says. "And I think I'm probably more used to it now that he's almost 4. But when you take your 6-month-old puppy in and they start taking vials of blood it's kind of weird. I'm like, is he going to have any blood left? They're like, yeah, he's going to be fine. I'm like, I don't know if I give that much blood. And here's my little puppy, just pumping it out."

Truman wears a collar created Whistle that tracks his activity level as well as his GPS location.

A veterinary sample collection box is sent to study participants about 10 days after they complete their annual questionnaire. Cole's husband drops it off a week before their visit so Dr. Valerie Partch can review the contents and prepare for Truman's visit.



From right to left: Valerie Partch, DVM; Andrea Cole, holding Truman; and veterinary technician Lisa Schelinski.



Truman holds still for a blood draw.

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- ✓ Mirataz was well tolerated both locally and systemically in clinical studies¹

For more information, contact your KindredBio Sales Specialist at 1-888-608-2542, your preferred Distributor Sales Representative, or go to [kindredbio.com/Mirataz](https://www.kindredbio.com/Mirataz).

Important Safety Information

Mirataz™ (mirtazapine transdermal ointment) is for topical use in cats only under veterinary supervision. Do not use in cats with a known hypersensitivity to mirtazapine or any of the excipients. Do not use in cats treated with monoamine oxidase inhibitors (MAOIs). Not for human use. Keep out of reach of children. Wear gloves when handling/applying, wash hands after and avoid contact between the treated cat and people or other animals for 2 hours following application. Use with caution in cats with hepatic and kidney disease. Cat's food intake should be monitored upon discontinuation. Safety has not been evaluated in cats less than 2 kg, less than six months of age or in breeding, pregnant or lactating cats. The most common adverse reactions observed during clinical trials were application site reactions, behavioral abnormalities (vocalization and hyperactivity) and vomiting. **For additional safety information, see brief summary of prescribing information on page 12.**

Reference: 1. Mirataz™ (mirtazapine transdermal ointment) [package insert], Kindred Biosciences, Inc. (Burlingame, CA). Rev. 5/2018. 2. Buhles W, Quimby JM, Labelle D, et al. Single and multiple dose pharmacokinetics of a novel transdermal ointment in cats. J Vet Pharmacol Ther. In press 2018.



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US-MAZ-1800044 May-11-2018

Mirataz™
(mirtazapine transdermal ointment)

The GRLS forges bonds that last a lifetime. Dr. Partch worked at a veterinary practice in Lee’s Summit, Missouri, when she diagnosed Cole’s golden retriever Raleigh with cancer. When Cole adopted her next golden retriever, Truman, and enrolled him in the study, Dr. Partch was excited to help out. And when Dr. Partch moved

across the metro area, to Jackson Animal Clinic in Platte City, Missouri, Cole and Truman followed. Cole says it’s worth the drive to stay connected with her veterinarian-turned-friend and to keep Truman’s health care continuous with his veterinarian. “The dogs in the study probably get a little bit more attention, and

we look at their statistics a bit more than the average dog,” Cole says. “But unfortunately Truman’s not going to get the benefit of this study. So it’s pretty cool to see that people are so committed to keep it going.” Before she completes the extensive annual veterinary questionnaire, Dr. Partch prints it out so she can review

it as she conducts her exam. “Most of the stuff is information we already have saved on him, general health questions, his age, his weight, previous conditions. And the physical exam is a standard physical exam you do on every dog anyway.”



Technician Lisa Schelinski holds Truman as Dr. Valerie Partch performs a nail trim to collect a nail samples.



Dr. Partch examines Truman.



Truman with Schelinski. Truman's Whistle collar tracks his activity level and GPS location.



Cole gifted Jackson Animal Clinic with this plaque to recognize their role in the study.

NADA 141-297, Approved by FDA

ProZinc®
(protamine zinc recombinant human insulin)

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.
Description: ProZinc® insulin is a sterile aqueous protamine zinc suspension of recombinant human insulin.
Each mL contains:
recombinant human insulin 40 International Units (IU)
protamine sulfate 0.466 mg
zinc oxide 0.088 mg
glycerin 16.00 mg
dibasic sodium phosphate, heptahydrate 3.78 mg
phenol (added as preservative) 2.50 mg
hydrochloric acid 1.63 mg
water for injection (maximum) 1005 mg
pH is adjusted with hydrochloric acid and/or sodium hydroxide.

Indication: ProZinc (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in cats with diabetes mellitus.
Dosage and Administration: USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.
FOR SUBCUTANEOUS INJECTION IN CATS ONLY.
DO NOT SHAKE OR AGITATE THE VIAL.
ProZinc insulin should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Once mixed, ProZinc suspension has a white, cloudy appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial. Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the cat.
Always provide the Cat Owner Information Sheet with each prescription.
The initial recommended ProZinc dose is 0.1 – 0.3 IU insulin/pound of body weight (0.2 – 0.7 IU/kg) every 12 hours. The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the cat at appropriate intervals and adjust the dose based on both clinical signs and glucose nadirs until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 150 mg/dL and clinical signs of hyperglycemia such as polyuria, polydipsia, and weight loss were improved.

Further adjustments in the dosage may be necessary with changes in the cat’s diet, body weight, or concomitant medication, or if the cat develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.
Contraindications: ProZinc insulin is contraindicated in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in the ProZinc product. ProZinc insulin is contraindicated during episodes of hypoglycemia.
Warnings: User Safety: For use in cats only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.
Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Cat Owner Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. An animal with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.
Any change in insulin should be made cautiously and only under a veterinarian’s supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic cats that are difficult to regulate.
Precautions: Animals presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdosage can result in profound hypoglycemia and death. Progestogens, certain endocrinopathies and glucocorticoids can have an antagonistic effect on insulin activity. Progestogen and glucocorticoid use should be avoided.

Reproductive Safety: The safety and effectiveness of ProZinc insulin in breeding, pregnant, and lactating cats has not been evaluated.
Use in Kittens: The safety and effectiveness of ProZinc insulin in kittens has not been evaluated.

Adverse Reactions:
Effectiveness Field Study
In a 45-day effectiveness field study, 176 cats received ProZinc insulin. Hypoglycemia (defined as a blood glucose value of <50 mg/dL) occurred in 71 of the cats at various times throughout the study. Clinical signs of hypoglycemia were generally mild in nature (described as lethargic, sluggish, weak, trembling, uncoordinated, groggy, glassy-eyed or dazed). In 17 cases, the veterinarian provided oral glucose supplementation or food as treatment. Most cases were not associated with clinical signs and received no treatment. One cat had a serious hypoglycemic event associated with stupor, lateral recumbency, hypothermia and seizures. All cases of hypoglycemia resolved with appropriate therapy and, if needed, a dose reduction.

Three cats had injection site reactions, which were described as either small, punctate, red lesions; lesions on neck; or palpable subcutaneous thickening. All injection site reactions resolved without cessation of therapy.
Four cats developed diabetic neuropathy during the study as evidenced by plantigrade stance. Three cats entered the study with plantigrade stance, one of which resolved by Day 45. Four cats were diagnosed with diabetic ketoacidosis during the study. Two were euthanized due to poor response to treatment. Five other cats were euthanized during the study, one of which had hypoglycemia. Four cats had received ProZinc insulin for less than a week and were euthanized due to worsening concurrent medical conditions.
The following additional clinical observations or diagnoses were reported in cats during the effectiveness field study: vomiting, lethargy, diarrhea, cystitis/hematuria, upper respiratory infection, dry coat, hair loss, ocular discharge, abnormal vocalization, black stool, and rapid breathing.
Extended Use Field Study
Cats that completed the effectiveness study were enrolled into an extended use field study. In this study, 145 cats received ProZinc insulin for up to an additional 136 days. Adverse reactions were similar to those reported during the 45-day effectiveness study and are listed in order of decreasing frequency: vomiting, hypoglycemia, anorexia/ poor appetite, diarrhea, lethargy, cystitis/hematuria, and weakness. Twenty cats had signs consistent with hypoglycemia described as: sluggish, lethargic, unsteady, wobbly, seizures, trembling, or dazed. Most of these were treated by the owner or veterinarian with oral glucose supplementation or food; others received intravenous glucose. One cat had a serious hypoglycemic event associated with seizures and blindness. The cat fully recovered after supportive therapy and finished the study. All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.
Fourteen cats died or were euthanized during the extended use study. In two cases, continued use of insulin despite anorexia and signs of hypoglycemia contributed to the deaths. In one case, the owner decided not to continue therapy after a presumed episode of hypoglycemia. The rest were due to concurrent medical conditions or worsening of the diabetes mellitus.
To report suspected adverse reactions, or to obtain a copy of the Material Safety Data Sheet (MSDS), call 1-866-638-2226.

Information for Cat Owners: Please refer to the Cat Owner Information Sheet for more information about ProZinc insulin. ProZinc insulin, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include: hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include: weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected cat does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.
Effectiveness: A total of 187 client-owned cats were enrolled in a 45-day field study, with 176 receiving ProZinc insulin. One hundred and fifty-one cats were included in the effectiveness analysis. The patients included various purebred and mixed breed cats ranging in age from 3 to 19 years and in weight from 4.6 to 20.8 pounds. Of the cats included in the effectiveness analysis, 101 were castrated males, 49 were spayed females, and 1 was an intact female.

Cats were started on ProZinc insulin at a dose of 0.1-0.3 IU/lb (0.2-0.7 IU/kg) twice daily. Cats were evaluated at 7, 14, 30, and 45 days after initiation of therapy, and the dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, and 30. Effectiveness was based on successful control of diabetes, which was defined as improvement in at least one blood glucose variable (glucose curve mean, nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or body weight). Based on this definition, 115 of 151 cases (76.2%) were considered successful. Blood glucose curve means decreased from 415.3 mg/dL on Day 0 to 203.2 mg/dL by Day 45, and the mean blood glucose nadir decreased from 407.9 mg/dL on Day 0 to 142.4 mg/dL on Day 45. Mean fructosamine values decreased from 505.9 µmol/L on Day 0 to 380.7 µmol/L on Day 45.

Cats that completed the effectiveness study were enrolled in an extended use field study. The mean fructosamine value was 342.0 µmol/L after a total of 181 days of ProZinc therapy.
How Supplied: ProZinc insulin is supplied as a sterile injectable suspension in 10-mL multidose vials. Each mL of ProZinc product contains 40 IU recombinant human insulin.
Storage Conditions: Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light.
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Important Safety Information: For use in cats only. Animals presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdosage can result in profound hypoglycemia and death. Progestogen and glucocorticoid use should be avoided. PROZINC insulin is contraindicated in cats during episodes of hypoglycemia and in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in the PROZINC product.

References: **1.** Nelson RW, Henley K, Cole C; PZIR Clinical Study Group. Field safety and efficacy of protamine zinc recombinant human insulin for treatment of diabetes mellitus in cats. *J Vet Intern Med.* 2009;23(4):787–793. **2.** Nelson RW. Disorders of the endocrine pancreas. In: Nelson RW, Cuoto CG, eds. *Small Animal Internal Medicine*. 4th ed. St. Louis, MO: Mosby Elsevier; 2008:764–802. **3.** Rucinsky R, Cook A, Haley S, Nelson R, Zoran DL, Poundstone M; American Animal Hospital Association (AAHA). AAHA diabetes management guidelines for dogs and cats. *J Am Anim Hosp Assoc.* 2010;46(3):215–224.

UBM, dvm360 parent company, joins global events and info group Informa

The newly combined business-to-business company now employs 11,000-plus people in more than 30 countries.

Informa PLC, an international exhibitions, events, intelligence and academic publishing group, recently announced that it has finalized acquisition of UBM plc, the parent company of dvm360 and its associated veterinary events and media brands, including dvm360.com, the Fetch dvm360 conferences, and *dvm360*, *Vetted* and *Firstline* magazines.

“It’s an exciting time and a positive development for the Animal Care group, including the dvm360 and Fetch brands,” says Christie McFall, dvm360’s vice president and general manager. “Being part of a larger global group means we can explore new opportunities for development as well as continue to invest in our service to the animal care profession.”

McFall emphasizes that there’s no change to dvm360 or UBM Animal Care today. “It’s business as usual for us, but we’re enthusiastic about the new possibilities we can bring to customers in the future by having greater international reach and a broader portfolio of information services brands, products and channels,” she says. “And as part of a larger group, we can continue to invest in our business and customer experiences.”

UBM and Informa’s combined target audiences span a wide range of industries, including life sciences, technology, health and nutrition, maritime, fashion, construction, real estate and more. Products and services include business-to-business (B2B) exhibitions and events; data-, intelligence- and research-based products; marketing and consulting services; and other offerings, according to company materials.

The combination of UBM and Informa brings together more than 500 exhibition brands, 800 conferences, 200 intelligence and information brands, and 11,000 employees working in more than 30 countries.

Stephen A. Carter, Informa group chief executive, was also upbeat about the development. “Today marks the start of an exciting chapter for Informa as we combine our company with UBM to create a truly international B2B information services business,” he said in an Informa announcement.



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1. Adequan Canine Prescribing Information, Rev. 1/18.
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¹Chu H., Chavez L., et al. (1992). Immunogenicity and efficacy study of a commercial *Borrelia burgdorferi* bacterin. *J Am Vet Med Assoc.* 201(3), 403-411.

²Levy S., Millership J., et al. (2010). Confirmation of presence of *Borrelia burgdorferi* outer surface protein C antigen and production of antibodies to *Borrelia burgdorferi* outer surface protein C in dogs vaccinated with a whole-cell *Borrelia burgdorferi* bacterin. *Intern J Appl Res Vet Med.* 8(3), 123-128.



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NADA 141-273, Approved by FDA

Vetmedin® (pimobendan) Chewable Tablets

Cardiac drug for oral use in dogs only

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description: Vetmedin (pimobendan) is supplied as oblong half-scored chewable tablets containing 1.25, 2.5, 5 or 10 mg pimobendan per tablet. Pimobendan, a benzimidazole-pyridazinone derivative, is a non-sympathomimetic, non-glycoside inotropic drug with vasodilatative properties. Pimobendan exerts a stimulatory myocardial effect by a dual mechanism of action consisting of an increase in calcium sensitivity of cardiac myofilaments and inhibition of phosphodiesterase (Type III). Pimobendan exhibits vasodilating activity by inhibiting phosphodiesterase III activity. The chemical name of pimobendan is 4,5-dihydro-6-[2-(4-methoxyphenyl)-1H-benzimidazole-5-yl]-5-methyl-3(2H)-pyridazinone.

Indications: Vetmedin (pimobendan) is indicated for the management of the signs of mild, moderate, or severe (modified NYHA Class II^a, III^b, or IV^c) congestive heart failure in dogs due to atrioventricular valvular insufficiency (AVVI) or dilated cardiomyopathy (DCM). Vetmedin is indicated for use with concurrent therapy for congestive heart failure (e.g., furosemide, etc.) as appropriate on a case-by-case basis.

^a A dog with modified New York Heart Association (NYHA) Class II heart failure has fatigue, shortness of breath, coughing, etc. apparent when ordinary exercise is exceeded.

^b A dog with modified NYHA Class III heart failure is comfortable at rest, but exercise capacity is minimal.

^c A dog with modified NYHA Class IV heart failure has no capacity for exercise and disabling clinical signs are present even at rest.

Contraindications: Vetmedin should not be given in cases of hypertrophic cardiomyopathy, aortic stenosis, or any other clinical condition where an augmentation of cardiac output is inappropriate for functional or anatomical reasons.

Warnings: Only for use in dogs with clinical evidence of heart failure. At 3 and 5 times the recommended dosage, administered over a 6-month period of time, pimobendan caused an exaggerated hemodynamic response in the normal dog heart, which was associated with cardiac pathology.

Human Warnings: Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans.

Precautions: The safety of Vetmedin has not been established in dogs with asymptomatic heart disease or in heart failure caused by etiologies other than AVVI or DCM. The safe use of Vetmedin has not been evaluated in dogs younger than 6 months of age, dogs with congenital heart defects, dogs with diabetes mellitus or other serious metabolic diseases, dogs used for breeding, or pregnant or lactating bitches.

Adverse Reactions: Clinical findings/adverse reactions were recorded in a 56-day field study of dogs with congestive heart failure (CHF) due to AVVI (256 dogs) or DCM (99 dogs). Dogs were treated with either Vetmedin (175 dogs) or the active control enalapril maleate (180 dogs). Dogs in both treatment groups received additional background cardiac therapy.

The Vetmedin group had the following prevalence (percent of dogs with at least one occurrence) of common adverse reactions/new clinical findings (not present in a dog prior to beginning study treatments): poor appetite (38%), lethargy (33%), diarrhea (30%), dyspnea (29%), azotemia (14%), weakness and ataxia (13%), pleural effusion (10%), syncope (9%), cough (7%), sudden death (6%), ascites (6%), and heart murmur (3%). Prevalence was similar in the active control group. The prevalence of renal failure was higher in the active control group (4%) compared to the Vetmedin group (1%).

Adverse reactions/new clinical findings were seen in both treatment groups and were potentially related to CHF, the therapy of CHF, or both. The following adverse reactions/new clinical findings are listed according to body system and are not in order of prevalence: CHF death, sudden death, chordae tendineae rupture, left atrial tear, arrhythmias overall, tachycardia, syncope, weak pulses, irregular pulses, increased pulmonary edema, dyspnea, increased respiratory rate, coughing, gagging, pleural effusion, ascites, hepatic congestion, decreased appetite, vomiting, diarrhea, melena, weight loss, lethargy, depression, weakness, collapse, shaking, trembling, ataxia, seizures, restlessness, agitation, pruritus, increased water consumption, increased urination, urinary accidents, azotemia, dehydration, abnormal serum electrolyte, protein, and glucose values, mild increases in serum hepatic enzyme levels, and mildly decreased platelet counts.

Following the 56-day masked field study, 137 dogs in the Vetmedin group were allowed to continue on Vetmedin in an open-label extended-use study without restrictions on concurrent therapy. The adverse reactions/new clinical findings in the extended-use study were consistent with those reported in the 56-day study, with the following exception: One dog in the extended-use study developed acute cholestatic liver failure after 140 days on Vetmedin and furosemide.

In foreign post-approval drug experience reporting, the following additional suspected adverse reactions were reported in dogs treated with a capsule formulation of pimobendan: hemorrhage, petechia, anemia, hyperactivity, excited behavior, erythema, rash, drooling, constipation, and diabetes mellitus.

Effectiveness: In a double-masked, multi-site, 56-day field study, 355 dogs with modified NYHA Class II, III, or IV CHF due to AVVI or DCM were randomly assigned to either the active control (enalapril maleate) or the Vetmedin (pimobendan) treatment group. Of the 355 dogs, 52% were male and 48% were female; 72% were diagnosed with AVVI and 28% were diagnosed with DCM; 34% had Class II, 47% had Class III, and 19% had Class IV CHF. Dogs ranged in age and weight from 1 to 17 years and 3.3 to 191 lb, respectively. The most common breeds were mixed breed, Doberman Pinscher, Cocker Spaniel, Miniature Toy Poodle, Maltese, Chihuahua, Miniature Schnauzer, Dachshund, and Cavalier King Charles Spaniel. The 180 dogs (130 AVVI, 50 DCM) in the active control group received enalapril maleate (0.5 mg/kg once or twice daily), and all but 2 received furosemide. Per protocol, all dogs with DCM in the active control group received digoxin. The 175 dogs (126 AVVI, 49 DCM) in the Vetmedin group received pimobendan (0.5 mg/kg/day divided into 2 portions that were not necessarily equal, and the portions were administered approximately 12 hours apart), and all but 4 received furosemide. Digoxin was optional for treating supraventricular tachyarrhythmia in either treatment group, as was the addition of a β -adrenergic blocker if digoxin was ineffective in controlling heart rate. After initial treatment at the clinic on Day 1, dog owners were to administer the assigned product and concurrent medications for up to 56 \pm 4 days.

The determination of effectiveness (treatment success) for each case was based on improvement in at least 2 of the 3 following primary variables: modified NYHA classification, pulmonary edema score by a masked veterinary radiologist, and the investigator’s overall clinical effectiveness score (based on physical examination, radiography, electrocardiography, and clinical pathology). Attitude, pleural effusion, coughing, activity level, furosemide dosage change, cardiac size, body weight, survival, and owner observations were secondary evaluations contributing information supportive to product effectiveness and safety. Based on protocol compliance and individual case integrity, 265 cases (134 Vetmedin, 131 active control) were evaluated for treatment success on Day 29. At the end of the 56-day study, dogs in the Vetmedin group were enrolled in an unmasked field study to monitor safety under extended use, without restrictions on concurrent medications.

Vetmedin was used safely in dogs concurrently receiving furosemide, digoxin, enalapril, atenolol, spironolactone, nitroglycerin, hydralazine, diltiazem, antiparasitic products (including heartworm prevention), antibiotics (metronidazole, cephalexin, amoxicillin-clavulanate, fluoroquinolones), topical ophthalmic and otic products, famotidine, theophylline, levothyroxine sodium, diphenhydramine, hydrocodone, metoclopramide, and butorphanol, and in dogs on sodium-restricted diets.

Manufactured for:
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Revised 01/2017

After seeing books about pirates and fairies but none about the ‘best profession in the world,’ Dr. Ruth MacPete set out to write one herself.

By Katie James

Lisette the Vet, a new children’s picture book by Ruth MacPete, DVM, features an animal-loving little girl who wants to become a vet:

Lisette loves animals: big or little, furry or feathery, even slimy or scaly. Well ... almost all animals. When her class gets a new pet, she can’t wait to meet him. When she finally meets When disaster strikes, will Lisette the Vet save the day?

Dr. MacPete, who’s been writing about pet health for 15 years as a way to connect with pet parents and share veterinary knowledge, says Lisette’s story has been six years in the making. She tells *dvm360* that she was inspired to pen *Lisette the Vet* while reading to her children.

“After reading countless books to my young kids, I realized there were a lot of picture books about fairies, monsters, pirates, princesses, superheroes and more, but not a lot of picture books about the best profession in the world—veterinary medicine,” she says. “Instead of dreaming of becoming a princess, I wanted to encourage my daughter to become a veterinarian.”

Dr. MacPete hopes to inspire children to overcome their fears and to believe in themselves. “And of course I want children to share my passion for veterinary medicine and to become inspired to become future veterinarians,” she says.

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–Dr Danielle Laughlin

Cardiologist

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IMPORTANT SAFETY INFORMATION: Use only in dogs with clinical evidence of heart failure. The most common side effects reported in field studies were poor appetite, lethargy, diarrhea, dyspnea, azotemia, weakness, and ataxia. If side effects should occur, pet owners should contact their veterinarian. The safety of VETMEDIN has not been established in dogs with asymptomatic heart disease or in heart failure caused by etiologies other than atrioventricular valvular insufficiency or dilated cardiomyopathy. VETMEDIN should not be given in case of hypertrophic cardiomyopathy, aortic stenosis, or any other clinical condition where an augmentation of cardiac output is inappropriate for functional or anatomical reasons. The safe use of VETMEDIN has not been evaluated in dogs younger than 6 months of age, dogs with congenital heart defects, dogs with diabetes mellitus or other serious metabolic diseases, dogs used for breeding, or pregnant or lactating bitches. Please refer to the package insert for complete product information or visit **www.vetmedin.com**.

Please see Brief Summary on page 18.

Facing Internet trolls without fear

Does the possibility of an online attack on your veterinary practice have you hiding under the covers? Come into the light! Establish and monitor your online presence to guard against Internet trolls and other haters. *By Sarah A. Moser*

Smeat campaigns are nothing new in politics. It comes with the territory. And bullying is an all-too-common topic in America's high schools. But now veterinarians are increasingly finding themselves the targets of scathing online reviews, harassment and all-out threats.

This raises a number of questions: What is cyberbullying, and how does it differ from bad reviews—or actual crime? How can you minimize the chance of you and your veterinary practice becoming a target? And, lastly, what should you do if you find yourself under fire?

Here we explore these topics and give you the tools you need to protect your reputation and your practice.

Cyberbullying vs. bad publicity

In the so-called “good old days,” to escape a bully, you just ran home to mom. Yes, the bully might be waiting outside the school the next morning, but at least you could find temporary reprieve. Now bullying takes many forms, and much of it happens online.

As adults, we often don't call it bullying but harassment, defamation, threats or, simply, just someone being a jerk.

“Most of the time we reserve the term ‘bullying’ for behaviors that occur among youth,” says Justin Patchin, PhD, co-director of the Cyberbullying Research Center in Eau-Claire, Wisconsin. “With adults the situation is more tricky. There aren't a lot of laws that look at bullying as adults. Instead we look at the behaviors.”

Patchin, a professor of criminal justice at the University of Wisconsin-Eau Claire, clarifies what these behaviors entail: Is what you're experiencing a threat? Does it defame your character? Is it an intentional infliction of distress?

“There are laws that capture some of the behaviors we colloquially refer



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The most commonly reported side effects were vomiting, loss of appetite, diarrhea, excessive salivation, agitation, tiredness, vocalization, confusion, increased water consumption, weight loss, weakness, fever, panting, and reversible changes in skin color (flushing or bright pink). Abnormal gait, seizures or tremors, as well as liver enzyme elevations, kidney failure, blood in urine and urine retention have been reported. In some cases death, including euthanasia has been reported. Sudden death was sometimes preceded by vocalization or collapse.

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to as bullying,” says Patchin, who fields calls from adults a couple of times a week who claim to be harassed online.

Generally, for something to qualify as bullying, the actions must be ongoing, cause harm and be intentional. When someone posts bullying statements online where they can be viewed by multiple people over and over again, this is cyberbullying, which causes repetitive victimization.

From a legal standpoint, Patchin says bullying is sometimes easier to handle when it involves students, as schools often have a specific course of action to follow. With adults, unless the action crosses a criminal threshold and you’re willing to take to the harasser to court, legal recourse is limited.

Nancy Willard, MS, JD, director of Embrace Civility in the Digital Age in Eugene, Oregon, has studied the effects of bullying for more than a decade. She says that despite an abundance of programs geared toward educating the public on minimizing bullying, studies show no decline in this harmful behavior in students. And that behavior carries over to when these students become adults.

However, “there is no effective definition of bullying,” says Willard, a former special education teacher. “For veterinarians, the question is not whether a person’s online posts

Free consult

The AVMA provides its members up to 30 minutes of free consultation with Bernstein and Associates on cyberbullying issues. Often that’s all it takes to resolve a problem. But if members continue to encounter difficulty, Bernstein offers AVMA members a 40 percent discounted rate for additional services. This can include everything from writing review responses, to temporarily taking over social media for the clinic, to preparing veterinarians to deal with reporters, to helping them after a cyberbullying crisis.

constitute bullying, but whether your state has a statute related to harassment,” she says. “That language differs by state and, from a legal perspective, must be balanced with a person’s free speech right.”

What makes veterinarians a target?

Reality vs. expectations: The clash between the two is at the root of almost every crisis between veterinarians and clients or animal welfare groups, says Erik Bernstein, vice president of Bernstein Crisis Management, a Los Angeles-based public relations firm

that provides services to veterinarians (see “Free consult,” at left).

“The public sees veterinarians as the safeguard of every single animal interaction,” he says. “They think you should never do something that would make an animal uncomfortable. As a veterinarian, you might laugh, knowing that much of what you do for pets is not comfortable, but that’s often the public’s expectation. When people see things that clash with their expectations, they get upset.”

For example, after a certain procedure, a pet might not look so good, he says. People will post pictures online, complaining that the veterinarian didn’t treat their pet well because of its less-than-ideal appearance. They don’t realize it’s part of the healing process, so they get riled up emotionally. Their expectation differs from the reality.

Also, engaging in controversial procedures such as onychectomy or devocalization can heighten the clash. “As a practice in general, if you choose to engage in a procedure that is known to be controversial, be ready for backlash,” Bernstein warns.

Veterinarians might think they make easy targets for cyberbullies, but really, every business has predictable crises, Bernstein says. It boils down to: (1) Were you or your staff members as nice to clients as you should have

Cyberbullying resources

When wandering the world wide web, know that you don’t have to go it alone. The following resources aim to help you prepare for—and react to—cyberbullying, reputation management and other veterinary business crises.

- > For AVMA members: Cyberbullying—and How to Handle It (see avma.org/PracticeManagement/Administration/reputation/Pages/cyberbullying.aspx)
- > Embrace Civility in the Digital Age, online resources from Nancy Willard, JD, MS, on preventing and handling cyberbullying in students and adults (see embracecivility.org)
- > Bernstein Crisis Management, a public relations firm that works with veterinarians to prepare and protect their practice reputation (see bernsteincrisismanagement.com)
- > Cyberbullying Research Center, offering resources and guidance to protect against cyberbullying (see cyberbullying.org)



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been? (2) Did a patient die unexpectedly or under unique circumstances? And (3) is there a billing dispute?

“These are probably the top three things that result in reputation threats that we see, and almost no one is prepared for them,” he says.

Take into account people’s love for their pets and the emotions involved in

their care, and you’re ripe for a reputation crisis. “I’ve seen people get more worked up over an issue with their pets than with children,” Bernstein says.

You’re in the crosshairs. Now what?

It’s nearly inevitable. A bad review—or two or three—crop up. First things first: Even if the complaint is phrased unprofessionally and couched in personal attack, is there any legitimacy to it? If so, make it right. (See dvm360.com/cyberwrong for ideas.)

Next, martial your community of supporters. “Hopefully your practice has developed a culture and community of people who are willing to defend you,” says Patchin. “Ask your loyal supporters to post good experiences about you online to outweigh the negative.”

Patchin says he personally had a problem with something that happened at his veterinarian’s clinic years ago. The office manager didn’t handle the situation well, but the veterinarian went out of his way to fix the problem. Because of that extra effort, Patchin still patronizes that veterinary practice, even though he’s moved across town and it’s no longer convenient. “The way they handled my poor experience makes me all the more willing to give them my support now,” he says.

Next, Bernstein says to take stock of how public the criticism is. If a person posts a few comments on Facebook that only a handful of their friends and family will see, it’s not worth you jumping into the fray. However, if the reviews are on a more public platform and others are believing faulty information and spreading it, it’s time to take control.

“You want to post a public response on a platform that you control,” Bernstein says. “Do not engage in a public back-and-forth; you’re never going to win a fight with a mob on their own turf.”

Your statement should be polite, professional and nondefensive. Most importantly, it should telegraph every ounce of kindness you can possibly muster. “If you’re not dripping with compassion, you’re done for,” says Bernstein. “Period. It doesn’t matter how right you are if you look like you don’t care. The way to win the public over is not to be rude. Take the high road. You can kindly and compassionately lead your read-

When it happens to a friend

If you see a colleague under attack, you might naturally want to support him or her. But don’t get involved in a back-and-forth exchange online, says cyberbullying expert Justin Patchin. You’ll never win. Instead, consider sending a private message of support to that veterinarian.

If you do want to go public with your support, make sure you know all the facts of the situation. “The second you endorse someone, your name is attached,” Patchin says. “While I understand the desire to protect someone, make absolutely sure you’re not connecting yourself to someone who has made a mistake. If they truly have done something wrong and they know it, you’ll get a piece of the backlash.”

ers to the conclusion that your bully is insane—but you can’t say it!”

The severity of the situation determines whether you sign the post with the name of the clinic, such as “The ABC Animal Hospital team,” or with the name of the practice owner or manager. The more serious the situation, the more necessary it is that a high-ranking staff member or the owner use their own name, Bernstein says.

When polite responses and support from your community fail, it’s time to seek outside help. “Do not underestimate the power of having an attorney send a certified letter to the person posting this stuff quoting the criminal harassment statute or raising the potential for a defamation claim,” Willard advises. “Whether you take action or not, sometimes a carefully worded letter from an attorney is all it takes to make it stop. Then offer something sweet, like a mediation service.”

Don’t forget to keep any evidence of mistreatment along the way. Take screenshots and keep messages in case the situation rises to the level of civil or criminal action. And if ever you feel like your safety is in jeopardy, don’t hesitate to call the police.

Sarah A. Moser is a freelance writer in Lenexa, Kansas.



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REC16NALYMEAD2 (03/18).

¹ Straubinger RK, Chang YF, Jacobson RH, Appel MJ. Sera from OspA-vaccinated dogs, but not those from tick-infected dogs, inhibit *in vitro* growth of *Borrelia burgdorferi*. *J Clin Microbiol*. 1995;33(10):2745-2751.

² Rice Conlon JA, Mather TN, Tanner P, Gallo G, Jacobson RH. Efficacy of a nonadjuvanted, outer surface protein A, recombinant vaccine in dogs after challenge by ticks naturally infected with *Borrelia burgdorferi*. *Vet Ther*. 2000;1(2):96-107.

³ Probert WS, Crawford M, Cadiz RB, LeFebvre RB. Immunization with outer surface protein (Osp) A, but not OspC, provides cross-protection of mice challenged with North American isolates of *Borrelia burgdorferi*. *J Infect Dis*. 1997;175(2):400-405.



Dishing deep dark secrets

Delving into the innermost thoughts of Drs. Codger and Greenskin sheds new light on both sides. Time to learn about the meaning behind their motives.

This month we’re taking a step back from the ongoing trials and tribulations of our prototypical associate Dr. Greenskin and practice owner Dr. Codger and diving into something a bit deeper. Have you ever wondered what thoughts these two secretly harbor about each other?

Of course you have! And now you’re in luck: We’ve paid hackers and bandits to get access to the personal journals of both our favorite doctors. Here we’ll share the juiciest and most telling excerpts. Let’s dig in.

Greenskin: Some days it’s so hard to keep my composure in front of those crazy clients! At times I just want to choke someone. It’s a freaking Chihuahua ... they shake! That’s what they do!

And, yeah, I’ve been telling you for three years your dog needs a dental—now you want to act surprised that we need to pull 10 teeth? Would you wait until you’ve been vomiting for four days before calling your doctor? Come on people, I’m an animal doctor, not a miracle worker, psychotherapist, psychic or spiritual healer!

Codger: I’m so blessed that all of my clients still love me. In fact, they seem to be liking me more and more as I age. Well, it’s a blessing and a curse, I suppose. Sometimes I feel bad for the younger vets when clients don’t really want to see them. It’s natural, though, isn’t it? The young’uns just don’t have any experience, and they always seem so pissed off when a client doesn’t do exactly what they recommend. I’m so glad I’ve never had those problems. I understand that people are what makes this whole thing work.

Greenskin: I try so hard to do a good job on my surgeries, and it really

gets to me when the techs get annoyed about the big dog spay taking more than 30 minutes! Those are challenging surgeries and I want my patients to be safe, first and foremost.

Also, I really wish we would start double-wrapping our surgery packs and maybe even throw away some of those rusty instruments! I’m pretty sure those 30-year-old scissors have

done their part for the business, so why can’t we just replace them?

Codger: I still love surgery, which is a good thing, because today’s vets seem so afraid of it. It’s like they

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Dosage and Administration: Always provide “Information for Dog Owners” Sheet with prescription. Use the lowest effective dose for the shortest duration consistent with individual response.

The dose of GALLIPRANT (grapiprant tablets) is 0.9 mg/lb (2 mg/kg) once daily.

GALLIPRANT tablets are scored and dosage should be calculated in half tablet increments. Dogs less than 8 lbs (3.6 kgs) cannot be accurately dosed. **See product insert for complete dosing and administration information.**

Contraindications: GALLIPRANT should not be used in dogs that have a hypersensitivity to grapiprant.

Warnings: Not for use in humans. Keep this and all medications out of reach of children and pets. Consult a physician in case of accidental ingestion by humans. **For use in dogs only.** Store GALLIPRANT out of reach of dogs and other pets in a secured location in order to prevent accidental ingestion or overdose.

Precautions: The safe use of GALLIPRANT has not been evaluated in dogs younger than 9 months of age and less than 8 lbs (3.6 kg), dogs used for breeding, or in pregnant or lactating dogs. Adverse reactions in dogs receiving GALLIPRANT may include vomiting, diarrhea, decreased appetite, mucoid, watery or bloody stools, and decreases in serum albumin and total protein. If GALLIPRANT is used long term, appropriate monitoring is recommended.

Concurrent use with other anti-inflammatory drugs has not been studied. Concomitant use of GALLIPRANT with other anti-inflammatory drugs, such as COX-inhibiting NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after a daily dose of GALLIPRANT, a non-NSAID/non-corticosteroid class of analgesic may be necessary.

The concomitant use of protein-bound drugs with GALLIPRANT has not been studied. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications.

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The use of GALLIPRANT in dogs with cardiac disease has not been studied.

It is not known whether dogs with a history of hypersensitivity to sulfonamide drugs will exhibit hypersensitivity to GALLIPRANT. GALLIPRANT is a methylbenzenesulfonamide.

Adverse Reactions: In a controlled field study, 285 dogs were evaluated for safety when given either GALLIPRANT or a vehicle control (tablet minus grapiprant) at a dose of 2 mg/kg (0.9 mg/lb) once daily for 28 days. GALLIPRANT-treated dogs ranged in age from 2 yrs to 16.75 years. The following adverse reactions were observed:

Adverse reaction*	GALLIPRANT (grapiprant tablets) N = 141	Vehicle control (tablets minus grapiprant) N = 144
Vomiting	24	9
Diarrhea, soft stool	17	13
Anorexia, inappetence	9	7
Lethargy	6	2
Buccal ulcer	1	0
Immune mediated hemolytic anemia	1	0

*Dogs may have experienced more than one type or occurrence during the study.

GALLIPRANT was used safely during the field studies with other concurrent therapies, including antibiotics, parasiticides and vaccinations.

To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, call 1-888-545-5973.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>

Information for Dog Owners: Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with drug intolerance. Adverse reactions may include vomiting, diarrhea, decreased appetite, and decreasing albumin and total protein. Appetite and stools should be monitored and owners should be advised to consult with their veterinarian if appetite decreases or stools become abnormal.

Effectiveness: Two hundred and eighty five (285) client-owned dogs were enrolled in the study and evaluated for field safety. GALLIPRANT-treated dogs ranging in age from 2 to 16.75 years and weighing between 4.1 and 59.6 kgs (9-131 lbs) with radiographic and clinical signs of osteoarthritis were enrolled in a placebo-controlled, masked field study. Dogs had a 7-day washout from NSAID or other current OA therapy. Two hundred and sixty two (262) of the 285 dogs were included in the effectiveness evaluation. Dogs were assessed for improvements in pain and function by the owners using the Canine Brief Pain Inventory (CBPI) scoring system.¹ A statistically significant difference in the proportion of treatment successes in the GALLIPRANT group (63/131 or 48.1%) was observed compared to the vehicle control group (41/131 or 31.3%). GALLIPRANT demonstrated statistically significant differences in owner assessed pain and function. The results of the field study demonstrate that GALLIPRANT, administered at 2 mg/kg (0.9 mg/pound) once daily for 28 days was effective for the control of pain and inflammation associated with osteoarthritis.

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Brief Summary: AT1-040-16



Indication

Galliprant is an NSAID indicated for the control of pain and inflammation associated with osteoarthritis (OA) in dogs.

Important Safety Information

Not for use in humans. For use in dogs only. Keep this and all medications out of reach of children and pets. Store out of reach of dogs and other pets in a secured location in order to prevent accidental ingestion or overdose. Do not use in dogs that have a hypersensitivity to grapiprant. If Galliprant is used long term, appropriate monitoring is recommended. Concomitant use of Galliprant with other anti-inflammatory drugs, such as COX-inhibiting NSAIDs or corticosteroids, should be avoided. Concurrent use with other anti-inflammatory drugs or protein-bound drugs has not been studied. The safe use of Galliprant has not been evaluated in dogs younger than 9 months of age and less than 8 lbs (3.6 kg), dogs used for breeding, pregnant or lactating dogs, or dogs with cardiac disease. The most common adverse reactions were vomiting, diarrhea, decreased appetite, and lethargy. Please see brief summary to the left for full prescribing information.

don't even teach surgery in school any more. Heck, I was doing my first spays and neuters when I was working as a kennel attendant in high school! The kids seem so stuck on all this hoity-toity, everything-has-to-be-perfect high-horse attitude. And what a pity they'll never experience the superior tissue handling of clean

bare hands soaked in Betadine!

Greenskin: I wish we could find more qualified and experienced people to work in our hospital. The techs in the vet school teaching hospital—they'd gone to school and were licensed, and some of them even held specialty certifications and rocked. Here we're lucky if the kennel atten-

dant who takes the technician's job decides to stay on for more than a year.

I don't think Codger pays them very well, and the one RVT we do have earns about one extra dollar per hour. With no incentive to excel or advance their career, you wonder why we can't recruit and keep qualified people?!

Codger: I can't wait for the next

set of young new techs to start. I like looking at their booties, and not the ones they wear over their shoes in the operating room! Hahahahaha!

I hope the missus doesn't get ahold of my diary.

Greenskin: The financial stress really gets to me. I don't know if my boss has any idea that I will never reach the kind of wealth he's been able to build. I suppose it's OK; I'm getting used to all those zeroes and commas on my loan statements every month. As long as I can put ramen on the table I suppose I'll be all right. I work hard, but I don't think there's an incentive for me to try harder than I already do. In the best case, if I really push myself to buy the practice and never take a day off for the rest of my functional life, maybe that will be one less zero off my loan balance when I croak? What's the point?

Codger: I'm glad I've done well for myself and my family, but don't people know I've earned it? Do you think I'd have spent all those years fussing after every single client, taking phone calls at home, going to the clinic in the middle of the night, basically being at everyone's beck and call, if I didn't think it was going to pay off?

And now the whippersnappers just don't get the economics. I can spay a dog by myself in the kitchen with my Swiss army knife—and I have! Now they want a cautery machine, the fanciest drugs, 14 beeping machines to tell you the dog is alive, non-latex gloves, about 30 radiopaque gauze squares, 20 different kinds of suture and two hours of clinic time with two extra technicians all for a \$90 surgery! And they wonder why they can't pay their bills!

Greenskin: I'm losing sleep yet again over another difficult case. I think the dog's Cushing's is under control, so why can't I get the BG below 500? I spent hours with this client and we've tried every kind of insulin, doing everything by the book.

Those liver and kidney values were really high, though. I sure hope the owners can afford the ultrasound, bile acids, urine culture and repeating an ACTH stimulation test and a LDDST. If they go for those I think we might go ahead with calling in the mobile CT scan as well. I just don't get how Codger never seems to do anything more than a CBC and chemistry profile, and his clients seem so happy!

Codger: Oh God, why can't these

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A peek inside the enigma that is Dr. Greenskin.

kids just prescribe steroids without all the fuss?

Greenskin: My boss is such a cute old man, but he makes me wonder sometimes. As much as he's taught me, and as much as I appreciate all he's done, I don't get why he can't seem to hang it up and retire. It's one thing to love what you do, but if you can't let go of the job, is it really a life worth living? I mean, it's been a good run—why don't you call it a day and enjoy retirement before they bury you?

Codger: That Dr. Greenskin. I was excited that she wore tight jeans to the interview, but maybe I wasn't prepared for how hard it would be to train her. I wish she'd listen more, and it really sucked when she threw such a fit about autoclaving syringes. Little does she know about my secret stock of reused syringes in my desk drawer. HA!

I think she might make a decent vet someday, if she tries harder. I wonder if she'll ever get married though. Why don't the pipsqueaks seem to care about having families anymore? Dang millennials are gonna screw everything up eventu-

ally—sure hope I'm dead by then!

Greenskin: Is my career going to be worth it in the long run? I don't know, but I don't have much of a choice except to keep the faith. I do think my high GPA, work ethic and all those years of school might have paid off better elsewhere. I guess that's why I don't really encourage young people to enter this field. My little niece says she wants to be a vet—I hope I can help her understand that it might not be the best choice for her.

I probably need to hang on more tightly to the great days, though. The happy clients and the cases that do well, the lives we save and the appreciation we get from time to time. I need to think about those things more and let the stressful stuff roll off. Codger never seems stressed about anything, but I wonder if it's because he just doesn't care anymore. Maybe I'll know in five or six decades!

Codger: I've appreciated my career, and I can't see myself having done anything else. But I can see that a lot of the fun of the job is lost on some of our new grads. What they're paying

for school is an outrage, and it sure doesn't promote a nice easy start to their professional lives. In my day, you'd never think that a vet could get sued for anything—now I see so much defensive medicine it makes me sick.

The days of James Herriot are over, but I do wish our profession could be a little more lighthearted sometimes. Maybe it's OK, since the young vets don't know what they're missing—I guess this is their "normal."

I'm thankful for what I've been able to do and how fortunate I've been. As much as Greenskin has been a pain in my ass, I hope I can convey to her that this is a career worth having. That in the end, she won't be able to dream of doing anything else.

Hmmm ... there's clearly a lot to chew on here. By now you're probably wondering what's happening with Mrs. Actright. You'll just have to tune in next time to Old School, New School!

Dr. Jeremy Campfield works in general practice in California's Sacramento Valley. He is an avid kiteboarder.

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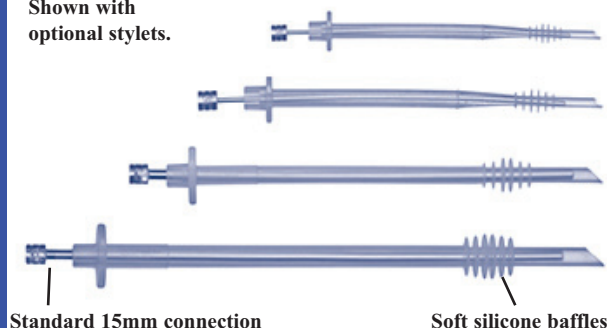
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Snowbirds unite!

One retired kennel owner offers to provide veterinary services for his neighbors—but he's not a veterinarian. What's the local practice owner to do?

Dr. Lee Stall owned a two-veterinarian practice in a suburban community in the South. The beautiful weather brought many seniors to the area to escape the harsh winters, and many of his clients were on a fixed income. They lived pleasant, rewarding retirement years but adhered to a strict budget, as is the case with many 21st-century retirees.

In one particular retirement community, Harvest Falls, the neighbors took an innovative approach to cost-cutting. The residents banded together and pooled their various talents—there were retired tradesmen, computer professionals, barbers and many others with varied skills. The neighbors used a communal barter system that served everyone. For those willing to participate, there were free haircuts, computer repairs, plumbing assistance—and the list goes on.

Before his retirement, Jim Johnson had bred springer spaniels, owned a boarding kennel and trained dogs. He shared with his community the same assistance he gave his own pets. Mr. Johnson ordered his pets' vaccines from a mail-order house and administered them as prescribed. He cleaned his dogs' ears, expressed their anal glands and massaged their legs and back when they were stiff. When the dogs displayed clear signs of illness, Mr. Johnson did take them to the veterinarian.

Mrs. Coggins, a resident of the Harvest Falls community, brought her dog to Dr. Stall for a checkup. Dr. Stall recommended vaccine updates, an ear swab to see if the dog's ears were yeast-free and a radiograph of the pelvis due to some posterior discomfort. When Mrs. Coggins declined, Dr. Stall asked why. Mrs. Coggins told the veterinarian that her neighbor, a retired kennel owner and dog trainer, had vaccinated her dog, cleaned his ears and massaged his hips. Mr. Johnson didn't charge her a fee, and her financial restrictions made his offer very attractive.

This was the third Harvest Falls client who had declined professional services as a result of the community's communal services. Dr. Stall explained to Mrs. Coggins that Mr. Johnson was not a veterinarian and that he could create more problems than he was preventing. Her response: "That's why I came to you for a checkup."

Dr. Stall continued, saying Mr. Johnson was practicing veterinary medicine without a license. Mrs. Coggins replied that he took no money and was only trying to help. The veterinarian and the client agreed to disagree.



After Mrs. Coggins left, Dr. Stall thought through his options. The definition of practicing veterinary medicine without a license requires the diagnosis and treatment of an animal—regardless of a fee being charged—when the individual is not the owner of the animal. Should he report this man to the state veterinary board? Should he call Mr. Johnson directly and advise him that he was breaking the law? Should he acknowledge Mr. Johnson's good intentions, advise him of the law and volunteer to oversee his efforts, which would help the senior community and bring everyone into compliance?

Dr. Stall felt that this last option—offering to assist Mr. Johnson—would ultimately be in the best interests of the Harvest Falls senior community.

Should Dr. Stall simply have reported the man to the board and asked it to issue a cease-and-desist order, or were his actions better for all concerned in the long run? Let us know what you think at dvmnews@ubm.com.

Dr. Rosenberg's response

This is a perfect example of knowing when to pick your battles. This senior community member wasn't aware he was in violation of the law, nor was there a profit motive. This should not be interpreted as condoning the practice of veterinary medicine without a license. Illegal practice happens far too often, and many animals fall victim to those with greed and deception as a motive. But in this scenario Dr. Stall is displaying equal amounts of skill, compassion and discretion. I believe he took the correct path.

Marc Rosenberg, VMD, is director of the Voorhees Veterinary Center in Voorhees, New Jersey. Although many scenarios Dr. Rosenberg describes are based on real-life events, the veterinary practices, doctors and employees described are fictional.

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Please see Brief Summary on page 34

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HEARTGARD Plus is recommended for dogs 6 weeks of age and older. For dogs over 100 lb use the appropriate combination of these chewables.

ADMINISTRATION: Remove only one chewable at a time from the foil-backed blister card. Return the card with the remaining chewables to its box to protect the product from light. Because most dogs find HEARTGARD Plus palatable, the product can be offered to the dog by hand. Alternatively, it may be added intact to a small amount of dog food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes after administration to ensure that part of the dose is not lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

HEARTGARD Plus should be given at monthly intervals during the period of the year when mosquitoes (vectors), potentially carrying infective heartworm larvae, are active. The initial dose must be given within a month (30 days) after the dog's first exposure to mosquitoes. The final dose must be given within a month (30 days) after the dog's last exposure to mosquitoes.

When replacing another heartworm preventive product in a heartworm disease preventive program, the first dose of HEARTGARD Plus must be given within a month (30 days) of the last dose of the former medication.

If the interval between doses exceeds a month (30 days), the efficacy of ivermectin can be reduced. Therefore, for optimal performance, the chewable must be given once a month on or about the same day of the month. If treatment is delayed, whether by a few days or many, immediate treatment with HEARTGARD Plus and resumption of the recommended dosing regimen will minimize the opportunity for the development of adult heartworms.

Monthly treatment with HEARTGARD Plus also provides effective treatment and control of ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*). Clients should be advised of measures to be taken to prevent reinfection with intestinal parasites.

EFFICACY: HEARTGARD Plus Chewables, given orally using the recommended dose and regimen, are effective against the tissue larval stage of *D. immitis* for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus Chewables are also effective against canine ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*).

ACCEPTABILITY: In acceptability and field trials, HEARTGARD Plus was shown to be an acceptable oral dosage form that was consumed at first offering by the majority of dogs.

PRECAUTIONS: All dogs should be tested for existing heartworm infection before starting treatment with HEARTGARD Plus which is not effective against adult *D. immitis*. Infected dogs must be treated to remove adult heartworms and microfilariae before initiating a program with HEARTGARD Plus.

While some microfilariae may be killed by the ivermectin in HEARTGARD Plus at the recommended dose level, HEARTGARD Plus is not effective for microfilariae clearance. A mild hypersensitivity-type reaction, presumably due to dead or dying microfilariae and particularly involving a transient diarrhea, has been observed in clinical trials with ivermectin alone after treatment of some dogs that have circulating microfilariae.

Keep this and all drugs out of the reach of children.

In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning cases of ingestion by humans.

Store between 68°F - 77°F (20°C - 25°C). Excursions between 59°F - 86°F (15°C - 30°C) are permitted. Protect product from light.

ADVERSE REACTIONS: In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported following the use of HEARTGARD: Depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

SAFETY: HEARTGARD Plus has been shown to be bioequivalent to HEARTGARD, with respect to the bioavailability of ivermectin. The dose regimens of HEARTGARD Plus and HEARTGARD are the same with regard to ivermectin (6 mcg/kg). Studies with ivermectin indicate that certain dogs of the Collie breed are more sensitive to the effects of ivermectin administered at elevated dose levels (more than 16 times the target use level) than dogs of other breeds. At elevated doses, sensitive dogs showed adverse reactions which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitability, stupor, coma and death. HEARTGARD demonstrated no signs of toxicity at 10 times the recommended dose (60 mcg/kg) in sensitive Collies. Results of these trials and bioequivalency studies, support the safety of HEARTGARD products in dogs, including Collies, when used as recommended.

HEARTGARD Plus has shown a wide margin of safety at the recommended dose level in dogs, including pregnant or breeding bitches, stud dogs and puppies aged 6 or more weeks. In clinical trials, many commonly used flea collars, dips, shampoos, anthelmintics, antibiotics, vaccines and steroid preparations have been administered with HEARTGARD Plus in a heartworm disease prevention program.

In one trial, where some pups had parvovirus, there was a marginal reduction in efficacy against intestinal nematodes, possibly due to a change in intestinal transit time.

HOW SUPPLIED: HEARTGARD Plus is available in three dosage strengths (See DOSAGE section) for dogs of different weights. Each strength comes in convenient cartons of 6 and 12 chewables.

For customer service, please contact Merial at 1-888-637-4251.



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My wife and I just returned from our most recent adventure that took us literally halfway around the world as we traveled to Sri Lanka, Indonesia and Singapore. While in Yogyakarta airport, I headed over to an airport bookstore for some light reading. I should have just watched the in-flight movies ...

Without taking sides, I've been struggling with the increasing divisions in our society, and a book practically jumped off the shelf at me: *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. I recognized the name of the author, Jonathan Haidt. He wrote a very influential read called *The Happiness Hypothesis* that I had struggled through a few years ago. In that book, Haidt, a professor of social and moral psychology at New York University, originated a model of the rider and the elephant—essentially about how we get in and stay out of our own way in life.

The main premise of the model is that the human brain has two sides always engaged. The rider represents the rational, analytical, detail-focused side of our thinking. He is a small fellow perched on the back of an elephant that is nonanalytical, impossible to control and driven by emotion and instinct. Since the rider cannot possibly force the elephant in a particular direction, he must rely on influencing the elephant to go in a direction or perform a task by knowing what the elephant wants and providing it.

When we travel, my wife and I have specific roles. She is the detail team who makes all the reservations and arrangements. Thus, she is the elephant rider. She keeps me on track, determines a clear path forward and removes any obstacles.

That makes me the elephant here. Besides carrying our bags, I believe in preparation before travel and try to have a passing knowledge of what we want to see and do—Buddhist

temples and monuments, some as old as Christianity; wildlife, from Asian elephants to leopards; diving among bizarre and colorful marine life; watching men balanced above the surf on poles fishing for fish just a few inches long; and eating a traditional Singapore meal of chicken and rice in a tiny café in Singapore's Chinatown.

Psychologists Dan and Chip Heath have written a number of popular books that elaborate on Haidt's elephant-and-rider model. In their books, the rider is the planner who can accomplish little without the strength of the elephant. The rider must focus on consistency and clarity. Be clear in your expectations, the authors advise; help to remove obstructions, prevent distractions and provide rewards to the elephant. Here are some quotes from chapter one of *Switch* by the Heath brothers:

- > *Changes often fail because the Rider can't keep the Elephant on the road long enough to reach the destination.*
- > *To make progress toward a goal ... requires the energy and drive of the Elephant.*
- > *The Rider's great weakness: spinning his wheels.*

> *A reluctant Elephant and a wheel-spinning Rider can ensure nothing changes. But when Elephants and Riders move together, change can come easily.*

So if you find your elephant is easily distracted by shiny objects and straying off track or you feel yourself stuck in the rut of too much emphasis on detail, ask "How can I get the elephant and the rider moving together?"

In your practice, major course corrections are unlikely, so the key is for the rider to focus on the clarity of the path and the fact that we all travel it together. Rewards, acknowledgment and praise do much to keep the elephant on track and reduce distractions.

Dr. Mike Paul is the principal of MAG-PIE Veterinary Consulting and lives in Anguilla, British West Indies.

MEDICINE | Pain management

Unbundling **myofascial pain syndrome** in your veterinary patients

An exploration of the utility and urgency of treating taut muscle fibers in dogs with osteoarthritis. *By Michael Petty, DVM, CVPP, CVMA, CCRT, CAAPM*

Buster was a 4-year-old golden retriever that walked into my practice for a wellness exam and some routine vaccinations. As a part of all of my exams, I look for the presence of muscle pain—specifically something called myofascial pain syndrome (MPS). Buster had a strong reaction when I palpated his quadriceps and iliopsoas muscles for MPS. I had a discussion with Buster's owner and explained to her that this type of pain most often occurred secondary

to pain somewhere else, and because of the pattern of pain it was most likely somewhere in the hind legs.

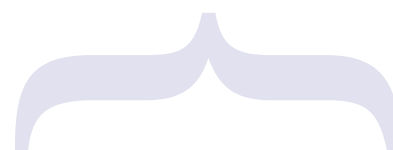
At this point the owner mentioned that Buster was no longer jumping up on the couch to sit next to her or on the bed to sleep next to her. She consented to radiographs, and we discovered that Buster had mild hip dysplasia and mild osteoarthritis (OA) of the hips. After instituting appropriate treatment, we followed up with Buster's owner, and she reported that

he was doing much better—not only jumping up on furniture but initiating play more often, something she hadn't noticed had been in decline.

Buster busts open a common problem

This is a typical story in my practice. Many owners (and even some veterinarians) write off a decline in activities—even activities the dog has always loved—as the result of old age. Clients bring their pets to us and don't even

According to Dr. Michael Petty, chronic pain issues are often not addressed when they're a problem just for the dog; they're addressed only when they become a problem for the owner.



UROLOGY

M4

Image quiz: What's causing this dog's painful urination?

DENTISTRY

M8

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think to mention that something's amiss because they don't realize it themselves. The sad truth is that chronic pain issues are often not addressed when they're a problem just for the dog; they're addressed only when they become a problem for the owner.

Osteoarthritis is almost always a young dog disease secondary to conformational issues. For example, dogs with hip or elbow dysplasia will have radiographic evidence of OA by the time they're 1 or 2 years old. However, it's often not diagnosed in young dogs unless the owner sees a mobility problem. Reluctance to go for long walks, walk across slippery surfaces, or jump in and out of cars is mistaken for something the dog just doesn't want to do, whether the reluctance has been there from the start or developed over time.

An inability to recognize these behaviors as signs of pain is itself a tragedy, because early diagnosis and treatment are vital. OA causes an increase in inflammatory mediators in the joint that inflame cartilage and cause pain, which in turn causes more severe OA. Round and round the insidious cycle goes until the joints become almost unusable. However, if OA is diagnosed early and treatment is initiated right away, this can slow the progression of the disease and give the dog a more comfortable life than it would otherwise have.

Myofascial pain detection can help both owner and veterinarian with the decision to pursue diagnostics such as radiographs, especially in young dogs. It's a hard sell to ask any dog owner to consider radiographic screening for joint disease when there are no obvious signs, especially if sedation is required. But when a veterinarian discovers myofascial pain and suspects underlying disease, he or she has taken the first step on the diagnostic pathway and the "sell" becomes easier.

MPS has been known to occur in every animal where it has been looked for—even sharks. MPS can also occur with other issues, especially secondary to orthopedic injury or surgery, traumatic injuries, and repetitive motions (such as in agility dogs).

So what is myofascial pain?

MPS has been discussed in the medical community for hundreds of years. But it wasn't until the 1940s when a cardiologist named Janet Travell noticed an



An inability to recognize these behaviors as signs of pain is itself a tragedy, because early diagnosis and treatment are vital.

odd pattern of muscle pain in some of her patients that her efforts brought MPS into modern medicine. Since then, there's been a huge amount of research and interest in treating MPS. A quick query on PubMed shows 16,795 scholarly articles on MPS. Yet many veterinarians and physicians have never heard of it—or if they have, they don't really understand what it is.

In the case of osteoarthritis, MPS occurs because of sustained low-level contractions in a muscle or group of muscles. When a muscle needs to perform a low-level contraction, only a few muscle fibers are enlisted for that action. This makes sense—if you wanted to drink a glass of water and used the entire biceps muscle, disaster would ensue.

What doesn't make sense is that whenever these low-level contractions occur, the same few muscle fibers are always used, and even if they become exhausted, no other muscle fibers jump in to help out. This has been referred to as the "Cinderella hypothesis." The rest of the muscle, just like Cinderella's sisters, never helps out: the same fibers are the first to the task, do all the work on their own and are the last ones to "go to bed."

If you want to do a quick experiment on yourself, pick up some small object near you and hold it in your hand, extending your arm horizontally in front of you. If it's something like an empty coffee cup, it probably weighs only a few ounces. Yet within several minutes your muscles will begin to ache and eventually it will become impossible to hold your arm out in front of you.

Now think about a visit to the gym, where you might be curling 10 to 20 pounds or more and not feeling the same degree of exhaustion as you just felt with a 4-oz coffee cup. That's because all of the muscle is pitching in for the job at the gym. The first example with the coffee cup is similar to what a dog with a painful limb will encounter, but the pain of putting full weight on the limb is often less than the pain of

the "cramp" that came about from protecting the injured leg by holding it up to take the weight off of it. Eventually these constantly cramped and exhausted muscle fibers develop MPS.

Eventually these few muscle fibers become permanently contracted. It's beyond the scope of this article to explain all of the reasons behind this permanent contraction, but the short answer is that there is a lack of adenosine triphosphate (ATP), which is necessary for the sarcomere within this taut band of muscle to relax. This might seem counterintuitive; we think of muscles needing energy to contract, but the opposite is true as well—they also need it to relax. This is why we see muscles go into rigor mortis upon death when all the existing ATP is used up.

When these taut muscle bands occur, the entire muscle becomes shortened, just like pulling on a loose thread can cause an entire piece of fabric to shorten. The joint is compressed from the constant contraction, causing dysfunction in the joint dynamics. So not only is there muscle pain, but the reduced width of the joint space causes increased wear and tear on the joint.

The Dx and Tx of MPS

MPS is diagnosed by palpation of muscles. It's a hard method to describe but an easy one to employ once you've been shown how. The palpation technique requires gentle palpation across the muscle fibers in search of the taut band. It requires a light touch and a basic knowledge of muscle anatomy so you know how to palpate across the fibers and not along the length of the fibers.

Treatment of MPS can be done by one of several methods. The most common method is dry needling, wherein the taut band is palpated and an acupuncture needle is inserted into it. There are two methods of needle insertion, but both result in a relaxation of the taut band of muscle by utilizing a spinal reflex pathway that bypasses the ATP cascade.

Other methods include cold laser therapy and massage, which both increase blood flow to the affected area, thereby allowing for the mitochondrial production of ATP and the relaxation of the sarcomere. The dry needling is dramatic and instant, with immediate relief.

Do you need to treat MPS?

Yes and no. Sometimes MPS becomes a problem larger than the originating cause of the MPS, whether it's OA or a cruciate tear. In this case, if you address only the underlying cause—with a nonsteroidal anti-inflammatory drug (NSAID) or surgical repair, for example—the patient may not demonstrate a satisfactory response to treatment. But if the MPS is mild, aggressive treatment of the OA may allow the taut bands in the muscles to relax on their own as the muscles are used in a normal manner over time.

I have seen many cases where OA treatment has been unsatisfactory until the MPS was addressed. In addition, I have had cases come to me from surgeons where the surgery was a success but the dog wouldn't walk on the leg weeks or months after healing. I recall one West Highland white terrier that was two months out from a tibial plateau leveling osteotomy (TPLO) and wasn't using the leg. The surgeon was befuddled, the owner was angry and thinking of retaining an attorney, and the dog was in constant pain. One needling session later, the dog walked out normally, the owner broke down in tears of joy and everyone was happy. Of course, several visits were necessary to completely fix the issue—but after months of pain, no one was complaining.

How to grasp the cut-and-dry of dry needling

Interested in learning more about dry needling? It's taught in the acupuncture course by Curacore. If you don't want to learn both acupuncture and myofascial techniques, Myopain Seminars teaches a weekend class. If you just wish to read up on MPS, I recommend the excellent book *Myofascial Trigger Points* by Jan Dommerholt and Peter Huijbregts.

Michael Petty, DVM, CVPP, CVMA, CCRT, CAAPM, is a faculty member of the Canine Rehabilitation Institute in Wellington, Florida, and owner of Arbor Pointe Veterinary Hospital, Canton, Michigan.

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Image Quiz: What's causing this dog's painful urination?

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For Otic Use in Dogs Only

Caution:
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Before using this product, please consult the product insert, a summary of which follows:

Indication:
OSURNIA is indicated for the treatment of otitis externa in dogs associated with susceptible strains of bacteria (*Staphylococcus pseudintermedius*) and yeast (*Malassezia pachydermatis*).

Dosage and Administration:
OSURNIA should be administered in the clinic. Clean and dry the external ear canal before administering the initial dose of the product. Administer one dose (1 tube) per affected ear(s) and repeat administration in 7 days. Do not clean the ear canal for 45 days after the initial administration to allow contact of the gel with the ear canal. Cleaning the ear may affect product effectiveness (see **Effectiveness**). If alternative otic therapies are required it is recommended to clean the ear(s) before application. Open tube by twisting the soft tip. Insert the flexible tip into the affected external ear canal(s) and squeeze entire tube contents into the external ear canal(s). After application, gently massage the base of the ear to allow the gel to penetrate to the lower part of the ear canal.

See product insert for complete dosing and administration information

Contraindications:
Do not use in dogs with known tympanic perforation (see **Precautions**).
Do not use in dogs with a hypersensitivity to florfenicol, terbinafine or corticosteroids.

Warnings:
Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans. In case of accidental skin contact, wash area thoroughly with water. Avoid contact to the eyes.

Precautions:
Do not administer orally.
The use of OSURNIA in dogs with perforated tympanic membranes has not been evaluated. The integrity of the tympanic membrane should be confirmed before administering this product. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment.
Use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs (see **Animal Safety**).
Use with caution in dogs with impaired hepatic function (see **Animal Safety and Adverse Reactions**).
The safe use of OSURNIA in dogs used for breeding purposes, during pregnancy, or in lactating bitches, has not been evaluated.

Adverse Reactions:
The following adverse reactions were reported during the course of a US field study for treatment of otitis externa in dogs treated with OSURNIA with 1 tube per affected ear(s) and repeated after 7 days:

Frequency of Adverse Reaction by Treatment

Adverse Reaction	OSURNIA (n=190)	Placebo (n=94)
Elevated Alkaline Phosphatase	15 (7.9%)	3 (3.2%)
Vomiting	7 (3.7%)	1 (1.1%)
Elevated AST, ALT, ALP*	2 (1.1%)	0 (0.0%)
Weight loss (>10% body weight)	1 (0.53%)	0 (0.0%)
Hearing Decrease/Loss	1 (0.53%)	1 (1.1%)

*Aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP). Two dogs with pre-existing elevations in ALP were reported to have an increase in liver enzymes (ALP, ALT and/or AST) at study exit. Subsequent clinical chemistries returned to pre-treatment levels in one dog, while no follow up was performed for the second dog.

Effectiveness:
Effectiveness was evaluated in 235 dogs with otitis externa. The study was a double-masked field study with a placebo control (vehicle without the active ingredients). One hundred and fifty-nine dogs were treated with OSURNIA and seventy-six dogs were treated with the placebo control. All dogs were evaluated for safety. Treatment (1 mL) was administered to the affected ear(s) and repeated 7 days later. Prior to the first administration, the ear(s) were cleaned with saline but not prior to the Day 7 administration. Six clinical signs associated with otitis externa were evaluated: pain, erythema, exudate, swelling, odor and ulceration. Total clinical scores were assigned for a dog based on the severity of each clinical sign on Days 0, 7, 14, 30 and 45. Success was determined by clinical improvement at Day 45. The success rates of the two groups were significantly different (p=0.0094); 64.78% of dogs administered OSURNIA were successfully treated, compared to 43.42% of the dogs in the placebo control group.

Storage Conditions:
OSURNIA should be stored under refrigerated conditions between 36° - 46° F (2° - 8° C). To facilitate comfort during administration, OSURNIA may be brought to room temperature and stored for up to three months.

How Supplied:
OSURNIA is a gel in a single use tube with a flexible soft tip, supplied in cartons containing 2 or 20 tubes.

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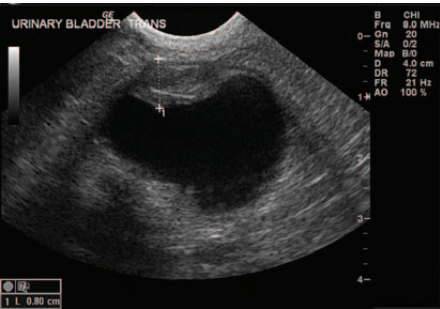
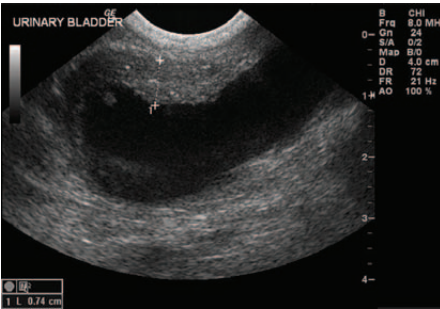


An intervention to remove urinary stones didn't alleviate this bichon frise's stranguria. See if you can spot the cause in this ultrasonogram.

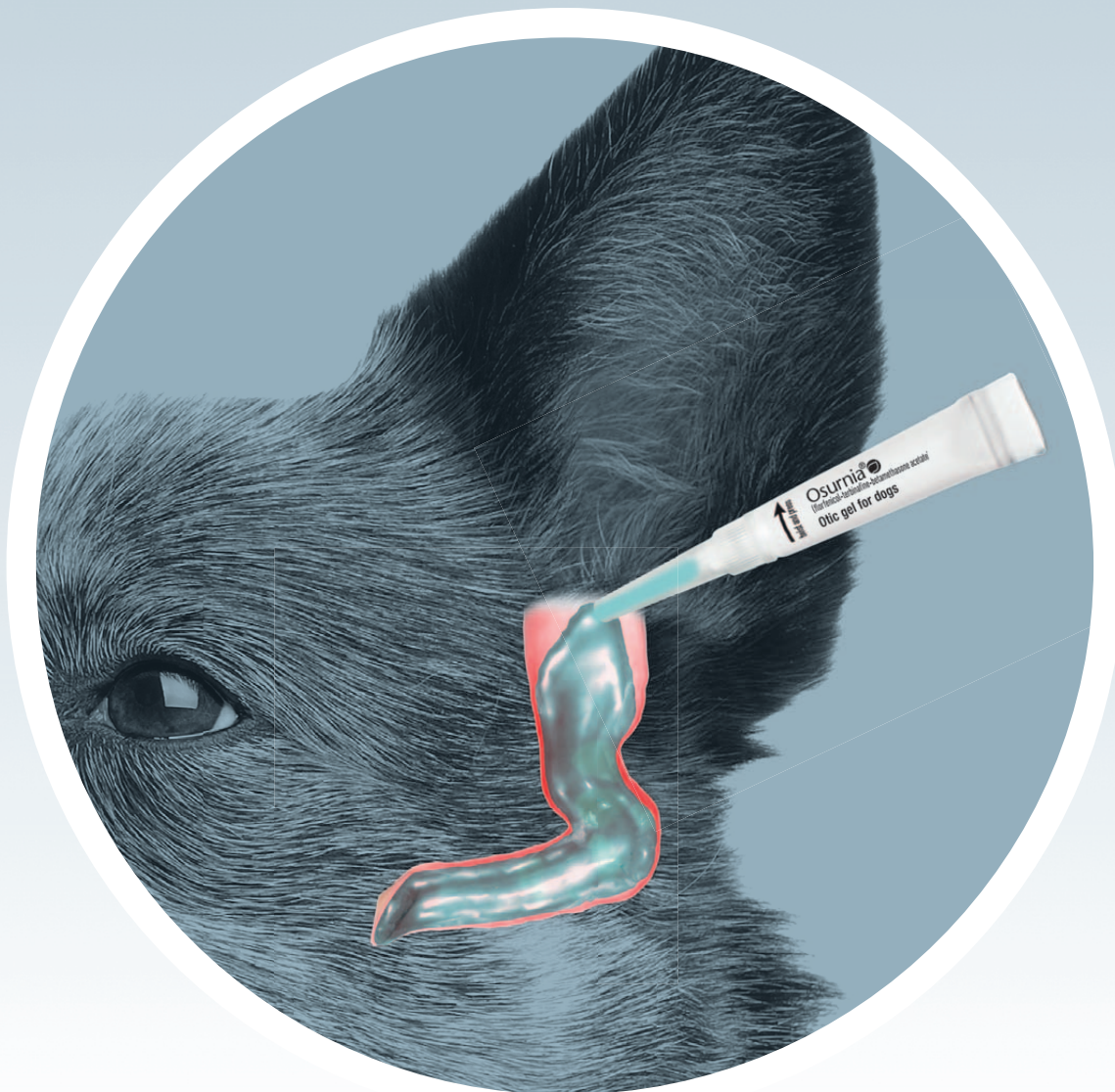
By Jessica Romine, DVM, DACVIM

This 6-year-old female spayed bichon frise presented for evaluation of stranguria. She had undergone a cystotomy five weeks prior and two calcium oxalate stones had been removed. Urine culture results were negative at that time. Since the cystotomy, she has been posturing and urinating with a normal stream, yet continues to exhibit stranguria after the stream ends. What's your diagnosis based on this history and ultrasound images below?

- a. Persistent urolithiasis in the urethra
- b. Urethritis
- c. Retained suture
- d. Cystitis and postoperative inflammation



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time at the source of infection.

INDICATION

OSURNIA is indicated for the treatment of otitis externa in dogs associated with susceptible strains of bacteria (*Staphylococcus pseudintermedius*) and yeast (*Malassezia pachydermatis*).

IMPORTANT SAFETY INFORMATION

OSURNIA[®] (florfenicol/terbinafine/betamethasone acetate) is for otic use only under veterinary supervision. Do not use in dogs with known tympanic perforation or a hypersensitivity to florfenicol, terbinafine or corticosteroids. Adverse reactions observed during clinical trials include vomiting, increased liver enzymes and transient loss of hearing. Please see Brief Summary of Full Prescribing Information on M4.

The correct answer is c. Retained suture

This bladder wall is thickened on the cranioventral border, where the cystotomy had previously been performed. There's a linear hyperechoic opacity evident in the center of the thickened area suggestive of suture material (Figure 1; arrow).

Coupled with a negative urine culture result and the fact that the dog had a normal urine stream rather than dribbling, it was suspected that irritation from the suture was triggering the stranguria since her bladder shrank during micturition. Cystoscopy confirmed that a loop of suture was entering the lumen and calcium oxalate crystals were already encrusting the retained suture (Figures 2 and 3).

A cystotomy was performed to remove the suture and thickened material, and the dog's clinical signs resolved within three days.

A suture nidus is an oft-overlooked differential for recurrent urolithiasis and should be considered in any case where stones have recurred after cystotomy, particularly if they recur quickly. The uroliths may be still attached to the bladder wall by the suture, or the suture may have broken and dissolved, leaving a free-floating stone with a small center core, visible only if cut.

In a retrospective study of uroliths formed around a suture nidus, suture-associated cystoliths made up 0.6% of canine cystoliths, including 9.4% of recurrent cystoliths. Shih tzus, Lhasa apsos and Pomeranians, as well as male dogs, were more likely to develop suture-associated cystoliths, likely owing to these dogs' increased risk of calcium oxalate stone formation.¹ Dogs with suture-associated cystoliths also had stone recurrence sooner than dogs with non-suture-related cystoliths because the suture provides an excellent nidus.²

To minimize iatrogenic urolith formation, the American College of Veterinary Internal Medicine (ACVIM) consensus on uroliths is to use suture patterns that minimize suture exposure to the bladder lumen and to attempt medical dissolution of struvites and minimally invasive procedures when available.³

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1. Appel SL, Lefebvre SL, Houston DM, et al. Evaluation of risk factors associated with suture-nidus cystoliths in dogs and cats: 176 cases (1999–2006). *J Am Vet Med Assoc* 2008;233:1889-1895.

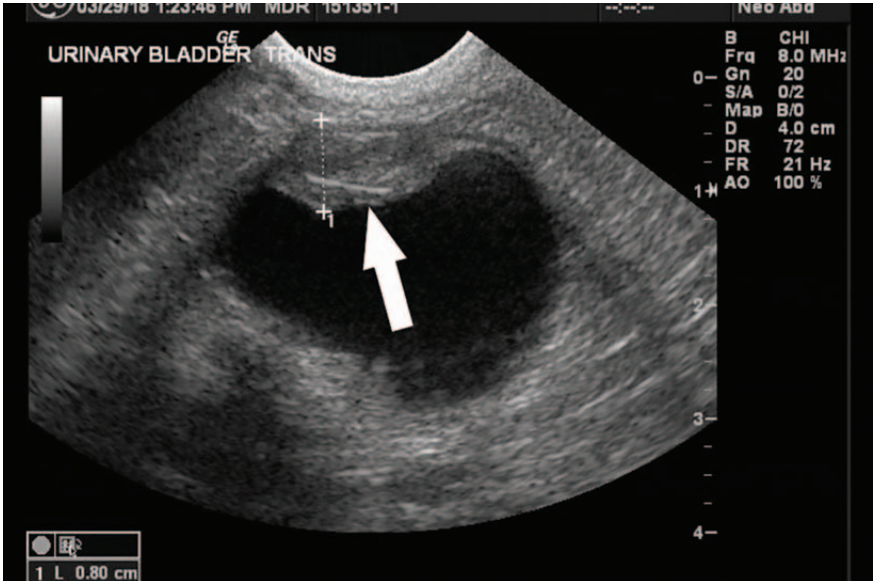


Figure 1. A linear hypoechoic opacity suggests a retained suture.

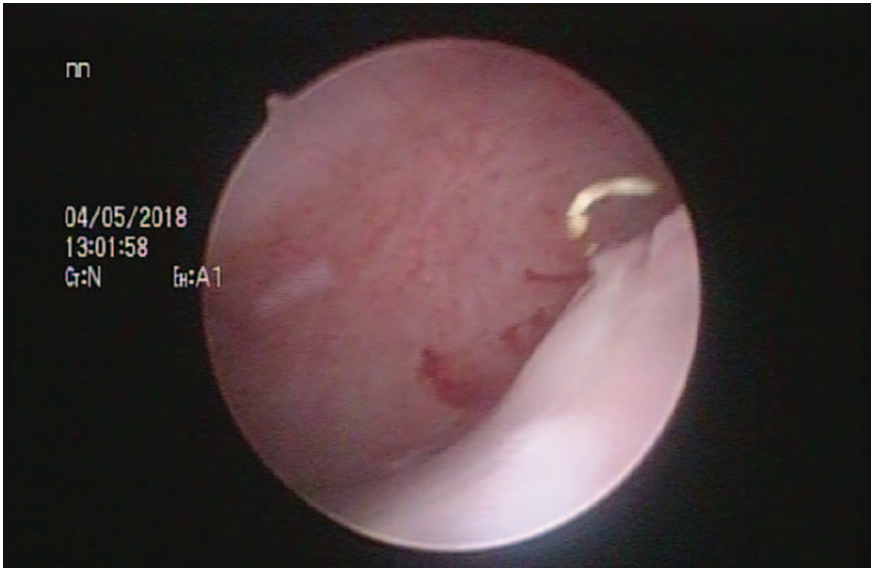


Figure 2. Cystoscopy shows a loop of suture and calcium oxalate crystals.

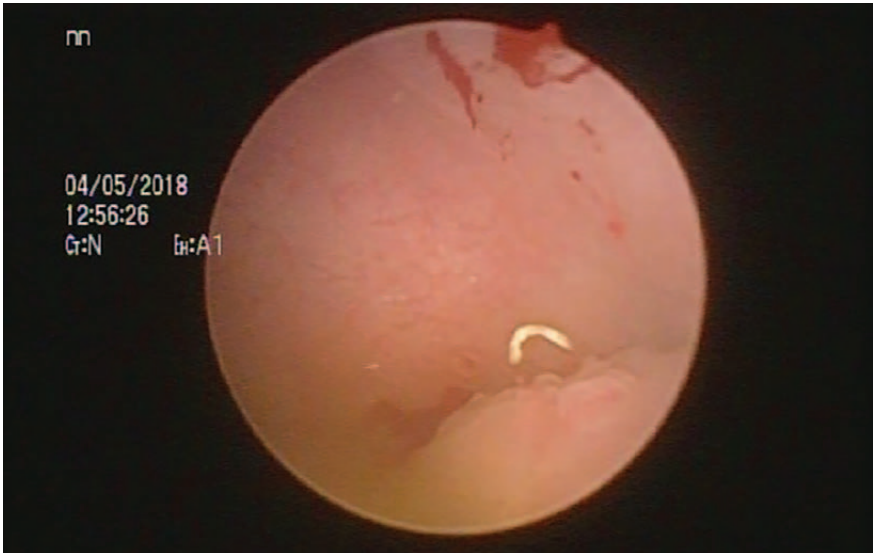


Figure 3. Cystoscopy shows a loop of suture and calcium oxalate crystals.

2. Kaiser J, Stépánková K, Kor Istková T, et al. Determination of the cause of selected canine urolith formation by advanced analytical methods. *J Small Anim Pract* 2012;53:646-651.

3. Lulich JP, Berent AC, Adams LG, et al. ACVIM Small Animal Consensus Recommendations on the Treatment and Prevention of Uroliths in Dogs and Cats. *J Vet Intern Med* 2016;30:1564-1574.

Jessica Romine, DVM, DACVIM, is a small animal internal medicine specialist at BluePearl Veterinary Partners in Southfield, Michigan. She has a special interest in interventional radiology and advanced imaging procedures.



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Avoid surprising clients after dental procedures

Most veterinary clients don't appreciate surprises when it comes to their pets' dental procedures—especially when the revelation is permanent and costs extra. Here are some steps you can take to avoid them in your practice. *By Barden Greenfield, DVM, DAVDC*

Editor's note: We recently received an email from an unhappy pet owner whose veterinarian had removed her dog's canines while the pet was under anesthesia for the extraction of an abscessed tooth. The pet owner was unable to take the veterinarian's phone call while at work, and though she was later told that gum recession was the impetus for the extra procedures, she believed that the removal of her dog's canines was unethical and cruel. Instead of passing judgment on a situation about which we know few details, we asked Dr. Greenfield to comment on steps veterinarians can take to avoid such situations altogether.

Many veterinarians take it upon themselves to make unilateral decisions regarding what to perform in an anesthetized pet's mouth without owner consent. From a legal standpoint, these veterinarians are treading dangerous waters. But before we cast a colleague into the dungeon, let's look at ways that would allow for better veterinarian-client communication with a goal of avoiding surprised and upset clients.

There's a colossal difference between the treatment plan for an oral procedure and one for a spay or neuter. The latter are defined procedures with little chance of deviation from the original

plan. But because 80 percent of all dogs and cats over the age of 3 years have some form of periodontal disease, the initial treatment plan (avoid calling it a "quote") for an oral procedure is much more subject to change—a fact that should be made explicitly clear to your clients to allow you some latitude.

Before a pet is transferred to your hospital's care for a planned dental procedure, a trained person (most reliably a veterinarian) should examine the patient's oral cavity for any obvious pathology requiring treatment beyond the original plan so any changes can be discussed with the client in person before the pet is anesthetized. However, you'll still need to explain to the client that once the patient undergoes anesthesia and further assessment via probing and dental radiography, you may detect hidden pathology that will need to be addressed.

The consent form should reflect the base treatment plan and possible additions. If the client says that he or she will be unavailable to talk during the procedure, you'll need to discuss possible additions and whether or not the client is comfortable with having them performed. But even with this information, I would never recommend unilaterally extracting any extra teeth without the client's consent unless it was pre-arranged with the signing of the consent form.

Don't remove a strategic tooth (e.g. canine tooth, maxillary fourth premolar, mandibular first molar) unless you're able to discuss it with the client first. If you later learn that the owner is against the procedure, you will have

placed yourself in legal jeopardy.

Let the client know via the consent form that if they do not respond to your texts or calls, you will awaken the pet and create a new plan for any additional treatment that needs to be done. Is there wiggle room for minor procedures? Yes, but proceed with caution, as some clients resist having even an incisor extracted without direct consent.

I tell clients to keep their cell phone by their side during the day with a possible second number to call. My team texts the clients to let them know when we're starting the anesthetic procedure, and once we clean, chart, probe and radiograph the patient, my team calls or texts again to discuss treatment recommendations. If the owner doesn't respond within 10 to 15 minutes, we simply wake the pet up, and the recommended additional procedures are staged with a new treatment plan. (The owner will need to know that startup fees will be incurred, but that's the price they must pay for delaying treatment.)

Your client consent form should be your friend, and your team should know that there's no such thing as a universal periodontal procedure fee. Pets receiving thorough dental care are healthier pets, and their owners are happy knowing they got what they agreed to—it's a win-win situation for retaining valuable clients for the lifetime of the pet.

Dr. Barden Greenfield is the owner of Your Pet Dentist of Memphis, Tennessee, and Little Rock, Arkansas.

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Veterinary student debt is an academic problem

Educational debt is a trap of veterinary colleges' own making. *By Peter Eyre, DVM&S, BSc, BVMS, PhD*

Many leaders in higher education will resist the suggestion that student debt is an academic problem. They will insist that declining government financial support is the cause. Further, they will add that easy student access to federally backed educational loans has enabled colleges and universities to raise tuition and fees excessively. They will also point out that low entry-level veterinary salaries make high educational debt a particularly heavy burden for a new graduate.

All of these assertions are true. Nevertheless, veterinary colleges must accept that controlling educational costs is largely their business, irrespective of the various contributing elements.

As higher education fell on hard times, the colleges decided that the only answer to budget shortfalls was more money. There has been a threefold increase in the cost of attending college since the mid-1980s. Nearly 90 percent of veterinary graduates have educational debt, and according to 2016 AVMA estimates, the average graduate incurs a debt of nearly \$144,000, and some are saddled with much higher debt.

The tendency to blame veterinary students' economic woes on their own lack of financial acumen is just an excuse for our failure to acknowledge the serious consequences of overwhelming debt, and it's patently unfair. Students have no access to, nor influence on, the political systems that created the tuition-debt problem, so they are left to deal with the financial burden without recourse. Tuition is set by and for the colleges; it's up to them to make it right.

A budget-enhancing device used by universities is the generation of philanthropic revenue. Certainly, boosting private income is an excellent strategy, though it will take massive fundraising efforts to significantly offset the cost of veterinary education.

Colleges should take deliberate steps to reduce their spending. Opportunities to cut down on costs may be found in the DVM curriculum delivery, facilities management, faculty and staff appointments, and administration, among others. And students' out-of-pocket costs could be significantly reduced by shortening pre-veterinary education, perhaps from four to two years. Other

efforts, such as requiring financial literacy education and improving career and wellness counseling, would also help.

We need to be clear-eyed and tough-minded in assessing what's happening

to veterinary education and the profession and why. Veterinary colleges must have the courage, humanity and humility to control the tuition-debt problem before it is too late. It is hard to imagine

anything more consequential or urgent.

Dr. Peter Eyre is dean emeritus at the Virginia-Maryland College of Veterinary Medicine in Blacksburg, Virginia.

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^{*}Repeat administration every 4 to 8 weeks, as needed, in individual patients.¹

References: 1. Data on file, Study Report No. C863R-US-12-018, Zoetis Inc. 2. Gonzales AJ, Humphrey WR, Messamore JE, et al. Interleukin-31: its role in canine pruritus and naturally occurring canine atopic dermatitis. *Vet Dermatol.* 2013;24(1):48-53. doi:10.1111/j.1365-3164.2012.01098.x. 3. Data on file, Study Report No. C362N-US-13-042, Zoetis Inc. 4. Data on file, Study Report No. C961R-US-13-051, Zoetis Inc.

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Your client's yard has been treated for fleas and ticks, so they're good, right?

Residential lawn care companies heavily advertise treatments that reportedly keep fleas and ticks at bay this time of year—but do they work, and are they safe for your veterinary patients? *By Katie James*

Summertime means more time outside for pets and their parents. You do your best to convince clients to purchase parasite preventives, but sometimes they decline and fleas and ticks end up at their backyard functions. Or do they? This time of year, residential lawn care companies heavily advertise spray or granular treatments that reportedly keep these pests at bay.

Two lawn care companies that *dvm360* spoke with use products formulated with bifenthrin, which is in the pyrethroid family, in their yard treatments. Pyrethroids are manmade versions of pyrethrins, which come from chrysanthemum flowers.

Bifenthrin can be used on both crops and in residential applications and was first registered for insecticide use by the United States Environmental Protection Agency (U.S. EPA) in 1985, according to the National Pesticide Information Center (NPIC).

How does it work?

Bifenthrin works by interfering with the nervous system of

insects when it is touched or eaten by the insect. It is considered more toxic to insects than mammals due to their smaller size and lower body temperatures, NPIC says.

Because of factors such as sprinklers, the lawn being mowed, or rain, a lawn care company may recommend multiple applications of the bifenthrin-containing product to maximize effectiveness.

Is it risky for pets?

Lawn care companies advertise these products as very safe for pets and humans that frequent the yard. However, they recommend keeping pets off of the grass until the mixture has dried when using a sprayed application because of a risk of exposure while the product is wet.

According to NPIC, pets that have been exposed to bifenthrin can exhibit the following clinical signs: single-episode vomiting or diarrhea, reduced activity, twitching of the ear, paw flicking and increased drooling. Other clinical signs can include hyperactivity followed by incoordination with diarrhea, depression and dilated

pupils. Some veterinarians, the agency notes, have reported additional clinical signs such as chewing, head bobbing, partial paralysis and tremors.

The bottom line?

These treatments could be used in conjunction with parasite preventive medications, but they aren't a replacement. As long as the pet leaves the yard (and it will), the opportunity for the pet to pick up ticks or fleas still exists. Furthermore, wildlife such as birds, mice or rabbits could also carry pests into the reportedly tick-and-flea-free yard at any time.



Talk it out: What to say when the subject comes up
Need communication tips for when the client says, "Nah, my lawn is treated"? Check out these scenarios from Dr. Michael Nappier at dvm360.com/pesticidechat.

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The key to turning ambitions into accomplishments?



By identifying only one or two clear goals for your hospital, you allow your veterinary team to put all of their energy, attention and resources toward achieving the outcomes that will make the biggest difference in your practice.

Increasing client compliance, maintaining a high-performing staff and improving workplace morale are all great goals that veterinary practices everywhere hope to achieve. The trick, of course, lies in knowing how to turn ambitions into accomplishments.

As discussed in last month’s column (read at dvm360.com/covey), establishing just one or two key areas of focus, or “wildly important goals” (WIGs), provides clarity so everyone in your practice can work toward your top priorities. (This practice is also the first of the “Four Disciplines of Execution” developed by Franklin Covey.) A narrow focus allows your team to concentrate their energy, attention and resources on achieving your top desired outcomes. Otherwise, there’s a good chance you’ll keep doing the same old thing with the same old results.

Pick a WIG

Narrowing your list of wants down to one or two WIGs is a task in itself. A good place to start is to ask yourself, “What’s the one area where change would have the greatest impact if every other area of our practice remained the same?”

The answer to this question will vary from practice to practice. One clinic may want to focus on retaining clients, so building repeat visits and loyalty might be its WIG. Another may enjoy a good, loyal base of clients yet aspire to grow and add new patients. A third practice looking to increase employee engagement and avoid turnover might select increasing employee satisfaction as its WIG.

Your WIG should also:

- > Align with your mission
- > Have a realistic breadth of focus
- > Have a practical time frame.

Keep in mind that your WIG could have indirect benefits. For example, a practice experiencing a low level of client compliance, which threatens patient health and affects practice finances, could make increasing the number of annual wellness visits its WIG. Why? More wellness visits means more contact with clients and



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*Studies show Simparica starts killing ticks in 8 hours and is $\geq 96.9\%$ effective for 35 days against weekly reinfestations of *Ixodes scapularis*, *Amblyomma americanum*, *Amblyomma maculatum*, *Dermacentor variabilis*, and *Rhipicephalus sanguineus*.^{1,2}

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References: 1. Six RH, Geurden T, Carter L, et al. Evaluation of the speed of kill of sarolaner (Simparica™) against induced infestations of three species of ticks (*Amblyomma maculatum*, *Ixodes scapularis*, *Ixodes ricinus*) on dogs. *Vet Parasitol.* 2016;222:37-42. 2. Six RH, Everett WR, Young DR, et al. Efficacy of a novel oral formulation of sarolaner (Simparica™) against five common tick species infesting dogs in the United States. *Vet Parasitol.* 2016;222:28-32.

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Please see Brief Summary on page 40

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thus more opportunities to provide care guidelines and dispense valuable advice, thereby (hopefully) improving client compliance as a byproduct.

Don’t keep your WIG a secret

Once your WIG is set, it’s vitally important that your entire team know

what it is, why you chose it and how they can contribute to its realization. Take the time to demonstrate to each employee how he or she is integral to achieving this goal.

Map out a plan

Mapping out a plan of attack can help you maintain control over your WIG

pursuit. In the scenario outlined above, this could look like exploring and applying various ways to get clients in the door for wellness visits. Concurrently, the veterinary team could concentrate on forward booking appointments and providing owners with easy-to-follow home-care materials.

Beware of traps

These seemingly benign things can slow you down:

Urgent tasks. Urgent day-to-day tasks consume 80 percent of our energy on average, so we must fight the instinct to place equal importance on every task. Be clear about what matters most.

Random good ideas. While concentrating on one or two top goals, you’ll have to learn to say “no” or “not now” to some of the new and good ideas that come along. Even good ideas can distract you from achieving your WIGs.

Multitasking. There’s an old proverb that says, “If you chase two rabbits, you won’t catch either one.” When we multitask, we’re constantly switching focus, which wastes time as we reorient ourselves to the new activity. You can’t significantly improve everything at once.

Next steps

Once you’ve determined your WIG, the AVMA has a host of practice management tools to help you turn it into an accomplishment. Strategies for pricing, business management or marketing can all be found on the AVMA website, avma.org. In addition, a resource toolbox created by Partners for Healthy Pets can help your entire team with tactics like forward booking, reviving inactive clients and setting up monthly payment programs for preventive healthcare.

Dr. Matthew Salois is chief economist and Veterinary Economics Division director at the AVMA. He has worked in private industry, government and academia, most recently serving as director of global scientific affairs and policy at Elanco Animal Health. Before that, he was chief economist with the Florida Department of Citrus. Dr. Salois earned his PhD in food and resource economics from the University of Florida.



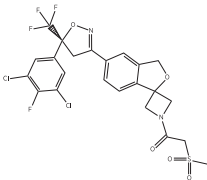
FOR ORAL USE IN DOGS ONLY

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Description: SIMPARICA is a flavored, chewable tablet for administration to dogs over 6 months of age according to their weight. Each tablet is formulated to provide a minimum sarolaner dosage of 0.91 mg/lb (2 mg/kg) body weight.

Sarolaner is a member of the isoxazoline class of parasitocides and the chemical name is 1-(5'-((5S)-5-(3,5-Dichloro-4-fluorophenyl)-5-(trifluoromethyl)-4,5-dihydroisoxazol-3-yl)-3'-H-spiro(azetidine-3,1'-(2)benzofuran)-1-yl)-2-(methylsulfonyl)ethanone. SIMPARICA contains the S-enantiomer of sarolaner.

The chemical structure of the S-enantiomer of sarolaner is:



Indications:

SIMPARICA kills adult fleas, and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of tick infestations [*Amblyomma americanum* (lone star tick), *Amblyomma maculatum* (Gulf Coast tick), *Dermacentor variabilis* (American dog tick), *Ixodes scapularis* (black-legged tick), and *Rhipicephalus sanguineus* (brown dog tick)] for one month in dogs 6 months of age or older and weighing 2.8 pounds or greater.

Dosage and Administration:

SIMPARICA is given orally once a month at the recommended minimum dosage of 0.91 mg/lb (2 mg/kg).

Dosage Schedule:

Body Weight	SAROLANER per Tablet (mg)	Number of Tablets Administered
2.8 to 5.5 lbs	5	One
5.6 to 11.0 lbs	10	One
11.1 to 22.0 lbs	20	One
22.1 to 44.0 lbs	40	One
44.1 to 88.0 lbs	80	One
88.1 to 132.0 lbs	120	One
>132.1 lbs	Administer the appropriate combination of tablets	

SIMPARICA can be offered by hand, in the food, or administered like other tablet medications.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes to ensure that part of the dose is not lost or refused. If a dose is missed, administer SIMPARICA and resume a monthly dosing schedule.

SIMPARICA should be administered at monthly intervals.

Flea Treatment and Prevention:

Treatment with SIMPARICA may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with SIMPARICA can continue the entire year without interruption.

To minimize the likelihood of flea re-infestation, it is important to treat all dogs and cats within a household with an approved flea control product.

Tick Treatment and Control:

Treatment with SIMPARICA can begin at any time of the year (see **Effectiveness**).

Contraindications:

There are no known contraindications for the use of SIMPARICA.

Warnings:

Not for use in humans. Keep this and all drugs out of reach of children and pets. For use in dogs only. Do not use SIMPARICA in cats.

SIMPARICA should not be used in dogs less than 6 months of age (see **Animal Safety**).

Precautions:

SIMPARICA may cause abnormal neurologic signs such as tremors, decreased conscious proprioception, ataxia, decreased or absent menace, and/or seizures (see **Animal Safety**).

The safe use of SIMPARICA has not been evaluated in breeding, pregnant, or lactating dogs.

Adverse Reactions:

SIMPARICA was administered in a well-controlled US field study, which included a total of 479 dogs (315 dogs treated with SIMPARICA and 164 dogs treated with active control once monthly for three treatments).

Over the 90-day study period, all observations of potential adverse reactions were recorded.

Table 1. Dogs with adverse reactions

Adverse reaction	sarolaner	sarolaner	active control	active control
	N	% (n = 315)	N	% (n = 164)
Vomiting	3	0.95%	9	5.50%
Diarrhea	2	0.63%	2	1.20%
Lethargy	1	0.32%	2	1.20%
Inappetence	0	0%	3	1.80%

Additionally, one female dog aged 8.6 years exhibited lethargy, ataxia while posturing to eliminate, elevated third eyelids, and inappetence one day after receiving SIMPARICA concurrently with a heartworm preventative (ivermectin/pyrantel pamoate). The signs resolved one day later. After the day 14 visit, the owner elected to withdraw the dog from the study.

For a copy of the Safety Data Sheet (SDS) or to report adverse reactions call Zoetis Inc. at 1-888-963-8471. Additional information can be found at www.SIMPARICA.com. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

Clinical Pharmacology:

Sarolaner is rapidly and well absorbed following oral administration of SIMPARICA. In a study of 12 Beagle dogs the mean maximum plasma concentration (C_{max}) was 1100 ng/mL and the mean time to maximum concentration (T_{max}) occurred at 3 hours following a single oral dose of 2 mg/kg to fasted animals. The mean oral bioavailability was 86% and 107% in fasted and fed dogs, respectively. The mean oral T_{1/2} values for fasted and fed animals was 10 and 12 days respectively.

Sarolaner is distributed widely; the mean volume of distribution (Vdss) was 2.81 L/kg bodyweight following a 2 mg/kg intravenous dose of sarolaner. Sarolaner is highly bound (≥99.9%) to plasma proteins. The metabolism of sarolaner appears to be minimal in the dog. The primary route of sarolaner elimination from dogs is biliary excretion with elimination via the feces.

Following repeat administration of SIMPARICA once every 28 days for 10 doses to Beagle dogs at 1X, 3X, and 5X the maximum intended clinical dose of 4 mg/kg, steady-state plasma concentrations were reached after the 6th dose. Following treatment at 1X, 3X, and 5X the maximum intended clinical dose of 4 mg/kg, sarolaner systemic exposure was dose proportional over the range 1X to 5X.

Mode of Action:

The active substance of SIMPARICA, sarolaner, is an acaricide and insecticide belonging to the isoxazoline group. Sarolaner inhibits the function of the neurotransmitter gamma aminobutyric acid (GABA) receptor and glutamate receptor, and works at the neuromuscular junction in insects. This results in uncontrolled neuromuscular activity leading to death in insects or acarines.

Effectiveness:

In a well-controlled laboratory study, SIMPARICA began to kill fleas 3 hours after initial administration and reduced the number of live fleas by ≥96.2% within 8 hours after flea infestation through Day 35.

In a separate well-controlled laboratory study, SIMPARICA demonstrated 100% effectiveness against adult fleas within 24 hours following treatment and maintained 100% effectiveness against weekly re-infestations for 35 days.

In a study to explore flea egg production and viability, SIMPARICA killed fleas before they could lay eggs for 35 days. In a study to simulate a flea-infested home environment, with flea infestations established prior to the start of treatment and re-infestations on Days 7, 37 and 67, SIMPARICA administered monthly for three months demonstrated >95.6% reduction in adult fleas within 14 days after treatment and reached 100% on Day 60.

In well-controlled laboratory studies, SIMPARICA demonstrated ≥99% effectiveness against an initial infestation of *Amblyomma americanum*, *Amblyomma maculatum*, *Dermacentor variabilis*, *Ixodes scapularis*, and *Rhipicephalus sanguineus* 48 hours post-administration and maintained >96% effectiveness 48 hours post re-infestation for 30 days.

In a well-controlled 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of SIMPARICA against fleas on Day 30, 60 and 90 visits compared to baseline was 99.4%, 99.8%, and 100%, respectively. Dogs with signs of flea allergy dermatitis showed improvement in erythema, papules, scaling, alopecia, dermatitis/pyodermitis and pruritus as a direct result of eliminating fleas.

Animal Safety:

In a margin of safety study, SIMPARICA was administered orally to 8-week-old Beagle puppies at doses of 0, 1X, 3X, and 5X the maximum recommended dose (4 mg/kg) at 28-day intervals for 10 doses (8 dogs per group). The control group received placebo tablets. No neurologic signs were observed in the 1X group. In the 3X group, one male dog exhibited tremors and ataxia post-dose on Day 0; one female dog exhibited tremors on Days 1, 2, 3, and 5; and one female dog exhibited tremors on Day 1. In the 5X group, one female dog had a seizure on Day 61 (5 days after third dose); one female dog had tremors post-dose on Day 0 and abnormal head coordination after dosing on Day 140; and one female dog exhibited seizures associated with the second and fourth doses and tremors associated with the second and third doses. All dogs recovered without treatment. Except for the observation of abnormal head coordination in one dog in the 5X group two hours after dosing on Day 140 (dose 6). There were no treatment-related neurological signs observed once the dogs reached the age of 6 months.

In a separate exploratory pharmacokinetic study, one female dog dosed at 12 mg/kg (3X the maximum recommended dose) exhibited lethargy, anorexia, and multiple neurological signs including ataxia, tremors, disorientation, hypersalivation, diminished proprioception, and absent menace, approximately 2 days after a third monthly dose. The dog was not treated, and was ultimately euthanized. The first two doses resulted in plasma concentrations that were consistent with those of the other dogs in the treatment group. Starting at 7 hours after the third dose, there was a rapid 2.5 fold increase in plasma concentrations within 41 hours, resulting in a C_{max} more than 7-fold higher than the mean C_{max} at the maximum recommended use dose. No cause for the sudden increase in sarolaner plasma concentrations was identified.

Storage Information:

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An open letter to the AVMA: It's high time to consider revising stance on hemp

These authors propose the adoption of parameters to gauge the safety and efficacy of commercial hemp products.

Editor's note: The authors sent us this letter—which they say they originally submitted to the editors of the Journal of the American Veterinary Medical Association on June 29 but which was reportedly rejected for publication—in hopes that dvm360 would make their message public. It was written in response to the AVMA document “Cannabis: What veterinarians need to know,” released in January of this year. Note that individual readers are advised to be familiar with their state laws before recommending or prescribing the products discussed below in their own veterinary practices.

Dear AVMA editorial board:

We are writing to offer several suggestions regarding the current AVMA stance on treating and recommending hemp products for veterinary patients.

First, we fully understand and support the need for safety and efficacy data around hemp treatment. We also share the AVMA's concern that there are companies marketing products that are untested and lack pharmacokinetic studies which make safe dosing intervals and dosage impossible and potentially dangerous.

Safety and doing no harm is the primary directive of all veterinarians. We would encourage the AVMA to review recent studies performed at the Cornell College of Veterinary

Medicine and update their position and modify the statement of January 2018 to reflect that there are safe and efficacious products (Ellevet Sciences) that have the necessary evidence for veterinarians to begin guiding their clients regarding the use of hemp-based nutraceuticals for pain.

We understand that defining guidelines for a new class of nutraceuticals is very challenging; consequently, we would like to suggest parameters that might serve as a starting point for further discussions regarding hemp products and their legality primarily coming from the agricultural hemp bill recently modified and passed by congress:

1. Products must first meet the legal qualifications for hemp including THC (tetrahydrocannabinol) concentration less than 0.3 percent of the final product. Hemp must be grown under the Farm Act with supporting documentation.

2. A certificate of analysis must be available for each batch and the product must be tested for major cannabinoid content, pesticides, heavy metals, mold and bacteria.

3. The company must have tested the product for the indication at an accredited university or third-party contract laboratory under the direction of a veterinarian with high-quality third-party results regarding clinical ef-

ficacy as well as short- and longer-term pharmacokinetics and safety data to support its dosing recommendations.

With these guidelines, veterinarians will have more information and determine what is best for their patients. Veterinary medicine is in the infancy and forefront of hemp research and we hope our suggestions will stimulate discussion and creation of guidelines, so we can help more patients.

Thank you.

—Fred Metzger, DVM,
MRCVS, DABVP

—Joe Wakshlag, DVM, PhD,
DACVN, DACVSM

Note: According to Ellevet, neither Dr. Metzger or Dr. Wakshlag receives any direct compensation from the company. Ellevet does fund the research conducted by Dr. Wakshlag at Cornell University.



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Early feline spay is the best way

Not only is this better for the cat, but your veterinary client retention rates become healthy and strong as well. *By Richard Speck, DVM*

I've been retired for 12 years, after working in private practice for 25, but former clients still often recognize me out and about. The most common remark I receive from them is, "You spayed my cat." When I think about that comment I've heard so many times over the years, I realize it was the start of a bond between that client and me as their veterinarian. Even years and years later, it's this one event that stands out to my former clients the most and that was often the start of a lengthy relationship with the client.

Many times our clients' first meaningful impression of their chosen veterinarian is when they trust you with their cat's first surgery. They trust you with the life of their beloved pet at this time even more than during an office visit. Their first experience with an animal's surgery can be very positive because kittens recover quickly. After these clients tell me I spayed their cat, many of them will next remark,

"You'd never know she had surgery, she looked so good!"

Cats spayed or neutered before 5 months of age bounce back from sterilization surgery fast. I've seen clients' amazement when their young cats act normal right after sterilization—eating, playing, and with a hardly noticeable surgical scar. That tells them you know what you're doing, and they'll always remember who spayed their kitty.

I liked to include sterilization as the last step in any kitten wellness package—including first exams, testing, deworming, vaccinating and, lastly, sterilization—all within in the first 5 months of age. By slipping surgery in at the end of a wellness package, at around 20 weeks, you have formulated that bond with the client, helping to ensure client retention. Kittens can go into heat as early as 4 months, so doing the surgery by 5 months prevents nearly all heat cycles and the issues associated with them. The veterinarian benefits from

early spay/neuter as much as the client does because in my experience, surgery at a young age is faster, easier and comes with fewer complications from anesthesia or surgery than in older animals.

Your clients will thank you, remember you and be loyal for years if you explain the benefits of early spay/neuter. My clients appreciated learning that early spaying and neutering will prevent the hormonal "bad behaviors" that result in so many cats being surrendered to shelters. They liked hearing that early spaying will prevent life-threatening mammary cancer. And they liked knowing that they wouldn't contribute to pet overpopulation—most clients are conscientious and want to prevent pre-sterilization litters. They want to be part of the solution to pet overpopulation.

Don't forget to permanently mark each sterilized cat as having been spayed or neutered. Done at an early age, their scars will be hard to detect. To make this mark, I just created a small incision with a scalpel blade near the spay or neuter incision, and applied green tattoo ink and a drop of tissue glue to prevent the pet from spreading the ink by licking the tattoo site.

The bond you form with clients early—within the first 5 months—cements their trust in you when harder, later-in-life decisions have to be made in their aging pets' lives. This early bonding, I believe, leads to client referrals to your practice.

Now that I am retired, former clients tell me that they appreciated my availability for the last-minute appointments when things weren't quite right with their pets and that they remembered those late-night emergency trips to see me and that I gave them good medical advice. Still, my most frequently heard comment from former clients is, "Hey, you spayed my cat."

Richard Speck, DVM, is the board president at Animal Protective League in Springfield, Illinois.



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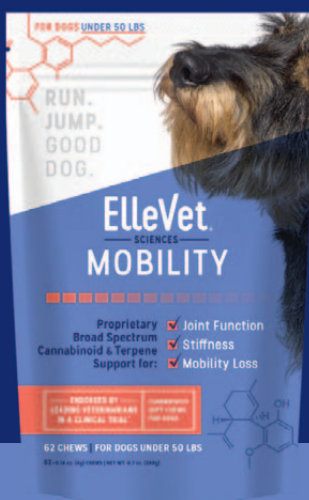
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WILL BE PUBLISHED IN FRONTIERS IN AUGUST!



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A clinic in the country: Inspired by architect Frank Lloyd Wright, the veterinary hospital Dr. Jordan Kobilca dreamed of finally came to fruition after years of planning. Special care went into every detail, including the exterior columns. "We wanted to mimic what's called 'warped board concrete,' but we didn't want the individual board marks, so we used plywood forms and sandblasted them prior to putting them up so when we poured the concrete into the forms, they left that rich wood grain texture in the concrete itself," Dr. Kobilca says.

Midcentury modern meets veterinary care

With its clean lines and creative roofline, this clinic in Door County, Wisconsin, would make Frank Lloyd Wright proud. *By Ashley Griffin*

Jordan Kobilca, DVM, of Door County Veterinary Hospital in Sturgeon Bay, Wisconsin, always had the vision for his midcentury modern hospital—just not the architect.

"It was over the course of a couple years before I was able to find the team and get that right look and be happy with it," says Dr. Kobilca.

Well, teamwork finally made his dream work, and his hospital earned a Merit Award in the 2018 dvm360 Hospital Design Competition. Read on to see exactly why the judges, and clients and staff, are so smitten with this 4,100-square-foot clinic in the country.

1. Thinking outside of the square box

Dr. Kobilca and his wife, Jennifer Kerley, DVM, wanted to build their second practice, Door County Veterinary Hospital, closer to their house. And they wanted to build a unique yet functional facility, because it often becomes their home away from home.

"I spend a lot of time at work—it's more than a job—so I wanted [the new hospital] to be a place I liked," Dr. Kobilca says. "Midcentury modern is a

style that I have always enjoyed—it has clean lines and yet it's fun."

Dr. Kerley let her husband take the reins on the project, and he got to work, only to pump the brakes. The first two architects he tried working with just didn't get it.

"They were just giving me square boxes, and not the look or feel that I wanted," Dr. Kobilca says. "And then someone recommended a local residential and commercial builder, and I hit it off with the architect. I showed him pictures of buildings I thought were neat and he came up with some great ideas. Some of them were out there, but I loved them. I wanted something unique."

2. Open for treatment

Dr. Kobilca's favorite feature in the new hospital? The open treatment area.

"Most treatment tables I'd seen had some kind of chase that went up to the ceiling, and I didn't want a bunch of columns in my treatment area," Dr. Kobilca says. "So we had the T-shaped tables custom made."

This design, which runs the water and electrical lines through the floor,

By the numbers

Door County Veterinary Hospital—Sturgeon Bay, Wisconsin

Owner: Dr. Jordan Kobilca

Number of doctors: 2

Exam rooms: 4

Total cost: \$1,438,713

Cost per square foot: \$305.05

Square footage: 4,100

Structure type: Freestanding, new
Architect: Jeremy Lueck, DeLeers Construction

Secondary architect: Kelly Kueper, Integrity Engineering

Photographer: Cathy Carter, Fotosold

allows an unobstructed view from the doctor's office, as well as the laboratory area and exam rooms, into the main treatment area and ICU recovery.

3. All about the organization

If there's one thing Dr. Kobilca learned from his first hospital, it was to build more storage.

"We practice out of 1,700 square feet at our other hospital, and we're



Want more dvm360 Hospital Design Competition content?

Visit dvm360.com/hdc18 for a list of winners from 2018's competition and a schedule of when to keep an eye out for features in these pages and on dvm360.com. Visit dvm360.com/hdc18choice to find out the 2018 People's Choice Award competition winner and see images of all 16 of this year's entrants.

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Sleek and stone: Friendly staff behind a stone-covered reception desk greet clients when they walk into Door County Veterinary Hospital. Leash hooks are located on either side of the front of the desk for client convenience. The hospital's logo, which is in the shape of Door County, stands out on the wood grain laminate veneer wall behind the desk.



Designing for the big dogs: When it comes to exam rooms, one size doesn't always fit all. This is why Dr. Kobilca and his team designed the hospital's four exam rooms to accommodate patients of all sizes. "We spend a lot of time on the floor working with the larger animals, so that's why we have the flip-up tables," Dr. Kobilca says. "Conversely, we wanted exam rooms, preferably with a window and counter, for not only cats but also small dogs." All exam rooms feature drywall versus acoustic panels to prevent any animals from escaping via the ceiling.



Wide open treatment: The custom-made T-shaped tables were designed to create an open treatment area so Dr. Kobilca can keep an eye out from his office. These treatment tables are stainless steel for easy cleaning and durability. Oh, and the owl artwork on the wall? It's from art.com. "It's like someone wise is looking over me," Dr. Kobilca says.



No shortage of storage: The surgery room is lined with cabinets to prevent a storage shortage. In fact, the entire space is designed for efficiency. "We have ceiling-housed oxygen and electric to allow for full access to the surgery table and patient without tripping on cords," says Dr. Kobilca.

hiding paper towels everywhere," Dr. Kobilca says.

His new hospital is packed with storage that would make any type-A team member swoon. For example, drawer dividers save the team from digging for caps, exam room benches double as secret storage units, and raised counters allow room for crash carts.

"We maybe have too many cabinets in the new hospital, but we wanted to make sure we had plenty of storage," Dr. Kobilca says. "It doesn't seem like you can ever have enough."

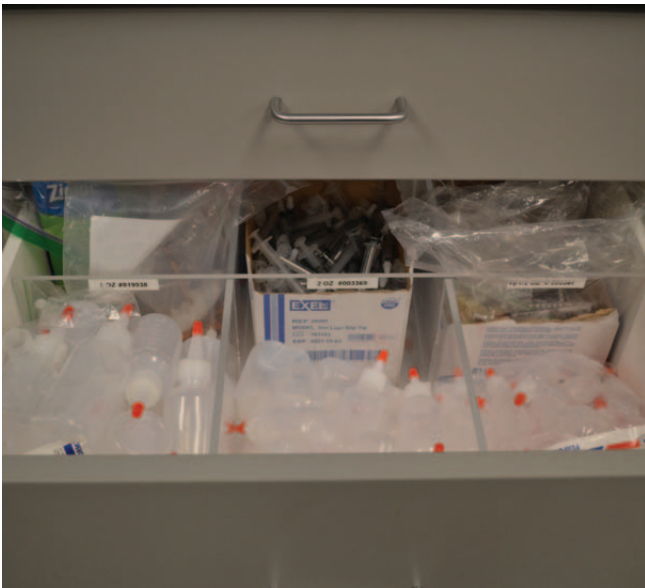
Ashley Griffin is a freelance writer based in Kansas City and a former content specialist for dvm360.

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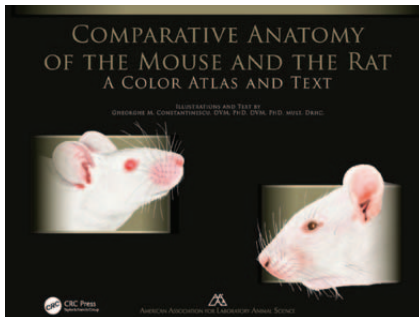
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Technology Partner Innovations, a new business formed by Patterson Veterinary and Cure Partners, is launching a new cloud-based practice management software system, NaVetor. NaVetor, which was built for the veterinary industry but incorporates some best practices in clinical data management capabilities from the human medical industry, is designed to simplify decision making and streamline operations, saving time and effort to maximize value and returns. For fastest response, visit navetor.com.



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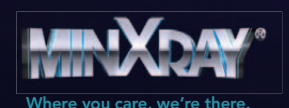
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Equine vet techs deserve a seat

Before the day kicks off, on the way to visit every patient, and during each exam: Here are nine reasons why an equine veterinary technician is a must-have passenger (or driver) in your mobile equine practice today. *By Kyle Palmer, CVT*

For mobile equine veterinarians, preparation is important: preparation for specific cases, planning a logical and efficient route of travel from appointment to appointment, and ensuring that the practice vehicle is appropriately stocked. You'd never leave the driveway in a vehicle with no vaccines, no antibiotics, no tools or no medical supplies, so why should you go anywhere without the most important thing in the truck: your veterinary technician or assistant?

Even if you've already embraced the daily use of an assistant, this person

is more than just a warm body. Your working partnership can have a major impact on efficiency. If you're not using one? Hire one. Now.

What can an equine vet tech do for you? Well, first off, if your state veterinary practice act says your technicians can do it, let 'em do it. I won't downplay the benefits of lending a hand or showing your staff you're not above the dirty work, but unless you've got absolutely nothing else to do (and I mean nothing), leave your technician to it. Here are nine tasks that are perfect for a tech.

1 Your technician ... takes first look at the schedule

Although schedules change, your technician should start the day by reviewing every appointment, ensuring you have the right medications and equipment for those visits. The technician should also be checking every patient's medical history for ongoing concerns, vaccine or deworming needs, and any other relevant information. Your client's satisfaction will go through the roof when you and your technician call the horse by name and demonstrate a knowledge of its history and needs.

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- Everyone who has recently thought, "I'll have to laugh about this so I don't cry"

At its best, Vets Against Insanity is a hilarious tool designed to inspire veterinary professionals to take risks, laugh more, pursue personal development and enjoy more professional satisfaction and success.

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Warning: You can play with the regular folks in your life, but do you really want to deal with the blank stares you'll get after playing "radiolucent bladder stones"? To get your game now, go to dvm360.com/vai.



2 Your technician ... optimizes your route

The veterinary technician should make sure client addresses and phone numbers are current and look for ways your route can be made more efficient. Perhaps switching the order of two nearby calls will help travel time? A confirmation call from the technician to each of the day's clients will ensure you don't show up to an empty barn, each horse is ready for the appointment, and you stay on schedule.

3 Your technician ... checks your accounts receivable and follows up

Your technician can also review each client's accounts. How do they pay (do they pay?), and do they have a balance outstanding? A previous balance means a courtesy telephone call to remind clients of amounts owed and to verify that they'll be taking care of the outstanding balance during today's appointment.

If the answer is "no," that information may affect whether you show up for that appointment. If the answer is "yes," you'll save yourself the sometimes-awkward exchange in person (and you'll get paid, which I always think is a great thing). Above all, having that exchange before you drive to the appointment gets the client thinking that an agreement to pay is a requirement of your showing up—which it should be.

4 Your technician ... manages your inventory

A huge part of preparation centers on something no one in our industry really loves: inventory. It's often cited as a borderline failure in many practices, despite various attempts at doing it well.

But you're in luck! Mobile practice inventory is simple to manage and should always be successful for two reasons. First, two people are involved with it on a daily basis—you and your technician. Second, 100 percent of the services you provide come out of the vehicle you're working in. What's more, you have a built-in list of what you need to put in your vehicle today because you have a record of what was sold or used yesterday. If you used it, replace it. Unless your veterinary software

doesn't track medications and consumables used (and if not, you need to change), all that data is at your fingertips, right?

Wrong! That was a test and you failed.

The data is at your *technician's* fingertips, because you should be spending your precious time practicing medicine, not running reports.

5 Your technician ... checks your ride

Not only should your vehicle be stocked and organized with the standard products and supplies, all the equipment should be in working order. Your technician can run a quick test to make sure everything operates properly, batteries are charged, water tanks are full, and everything that was taken out for cleaning or sterilization has been returned.

6 Your technician ... drives so you can have your hands free

Finally, you and your technician are ready to drive out and have a well-planned day together. There's only one decision left to be made.

Who's driving?

It's hard to imagine a practicing equine veterinarian who doesn't have a stack of phone calls to return, so using your technician as a chauffeur while you make calls makes a lot of sense. You're also free to process medical records and research treatment options for complicated cases.

Most small animal practitioners would kill to have 15 to 45 minutes between cases to catch up on records or make phone calls.

One caveat to this: If you have a published number that rings to your phone/vehicle rather than a brick-and-mortar location with staff, let your technician answer that line. Hands-free technology has advanced to the degree that using a phone in the car can be safe and uncomplicated. Your technician may end up transferring the call to you most of the time, but answering the phone yourself sends the signal that you're not very busy.

7 Your technician ... helps with exams

The last piece to this puzzle is how your technician assists you throughout the day. A technician should stage

the equipment you'll need while you handle the initial client greeting. A technician should be an active participant in the examination and treatment process. Put the lead rope in the technician's hands so you can focus on speaking to the client who's focused on you. Once the diagnostic and treatment phase of a visit is complete, your technician cleans equipment, puts it all away, and gets the vehicle buttoned down and ready to leave.

Your technician can collect samples, administer dewormers and take radiographs. A licensed veterinary technician is educated, trained and dying to put these skills to use.

8 Your technician ... enters charges and collects money

The technician can start a medical record (computerized or otherwise) and enter charges relevant to the appointment. Then you take just a moment to make sure the charges are correct and complete, then let your technician collect the balance. It's a good time to let the client know that you're going to take off your gloves or wash your hands and will be right back.

This two-minute period is vital for your technician to get some alone time to collect payment. It frees you from being the bill collector, so you remain the compassionate caregiver, and, frankly, it's going to be a lot harder for the client to ask your technician if they can "pay later."

9 Your technician ... lines up the next visit

The second your call is over, the technician calls the next client to give them an ETA. Being late is hard to avoid in mobile equine practice because many variables are out of your control, but clients are often happy to simply know you're heading their direction. This on-the-way call can also help ensure that the client and patient will be ready upon your arrival.

Hiring a trained veterinary technician isn't an expense—it's an investment. And it's about time you made it.

Kyle Palmer, CVT, is a frequent contributor to dvm360 magazine and a practice manager at Silver Creek Animal Clinic in Silverton, Oregon, where he also serves as mayor.



All in favor of more equine business content, say "neigh"

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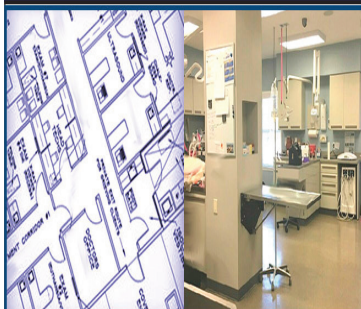
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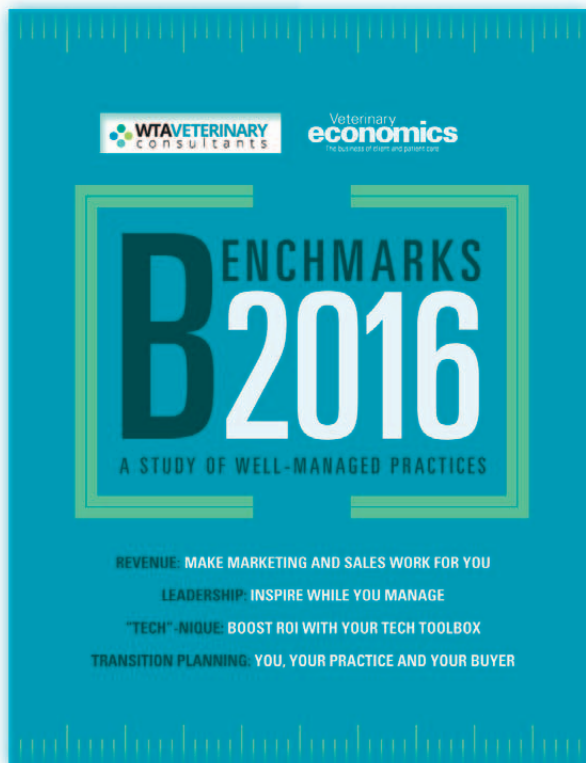
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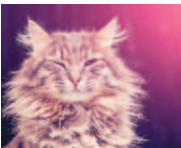
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August 18-19

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August 18-19

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ciples of Fracture Repair
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August 28

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aaha.org

September 1

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September 22

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September 22

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So to let the public know of my existence, I joined the local Lions Club and a couple of other groups in town. I visited local ranches to ask if they could board my wife's horse. This inevitably led to conversations that included the question, "What do you do?"

I explained that I was opening a mixed-animal and house- and farm-call veterinary practice. This invariably produced a joyful response such as, "Oh great! We really need a vet out here. We use Dr. _____, but he's 35 miles away and sometimes not available, so we're glad to know someone else is here if we can't get him."

When we reached a staff of eight doctors, we were told that we were the largest general practice group in the United States. Of course, that was almost half a century ago, and large group practices are now commonplace.

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1. Even when my entire practice was ambulatory (large and small), if I was late I would phone the client, explain why I was late, apologize, and tell them when I expected to arrive.

2. The year after I began my practice, our team got its first phone answer-



ing service. At first, the owner of the business did all the answering herself, and she was excellent. Eventually as our community and her business grew, she hired other operators. I asked the owner to allow me to train each operator as to how I wanted the phone answered:

> Not "Veterinary service!" But "Dr. Robert Miller's answering service, how may I help you?"

> Not "Is this an emergency?" But "Dr. Miller is off duty now, but he is available if you need to speak to him."

I told them that it does not need to be an emergency for me to speak to the caller, at any time, if they were concerned or had a question.

The above became a permanent practice policy even after I opened an office and even after we had grown into a large group.

After I established a clinic, whenever I completed a surgical procedure, I personally phoned the client to reassure them that the patient was doing well (if it was). This usually elicited words of relief and gratitude.

Often, long after caring for a patient, I would call a client to say something like, "This is Dr. Miller. It's been three weeks since we treated Brownie's ears. Is he still comfortable?" Or, "Several months

ago, we removed Pal's tumor. I have an identical case and I thought I'd call and find out if Pal is still doing well."

The surprise and appreciation expressed by clients after such calls was so common and so effusive that it invariably built our practice.

When, inevitably, our practice grew to the point where the doctor did not always have time to make such calls consistently, the calls were assigned to practice employees who were polite, friendly, patient and understanding.

Unanswered phone calls, brusqueness, indifference, impatience and forcing callers to leave messages are not practice builders. Importantly, such "call backs" are informative to us as to the efficacy of our treatments. What I don't want to hear is, "Oh! Dr. Miller? Oh! Pal died the day after you sent him home."

Special guest columnist

Robert M. Miller, DVM, is an author and a cartoonist and speaker. He's lent his pen to the "Mind Over Miller" column for Veterinary Medicine since 1968, and his thoughts are drawn from 32 years as a mixed animal practitioner. Watch for more of Dr. Miller's columns in future issues of dvm360.



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