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A veterinary media maven

Patty Khuly is a Miami-based small animal veterinarian, column writer and blogger.

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April 2015 | Volume 46 | Number 4 | dvm360.com

Changes imminent for large vet shows

WVC moving to March; NAVC will consolidate in Orlando convention center.

By Rachael Zimlich

Two major veterinary conferences—Western Veterinary Conference (WVC) and the North American Veterinary Community (NAVC) Conference—are planning big changes for the years ahead. WVC in Las Vegas will move its long-standing date of mid-February—typically over President's Day weekend—to the first week of March, while NAVC is consolidating its conference from three separate locations to one larger convention center in Orlando.

WVC moves to March

WVC decided to change its dates because of increasingly tight space in the Mandalay Bay Hotel and Casino, says David Little, chief executive officer for WVC. In the last several years the veterinary conference has shared space with MAGIC, one of the world's largest fashion trade shows. While WVC brought in roughly 14,000 attendees

See page 20>

>>> Students in the Center for Advanced Professional Studies (CAPS) Veterinary Medicine program administer an intramuscular injection to Ginger, the veterinary instructor's basset hound, who has hip dysplasia.

Immersing youth in *veterinary medicine*

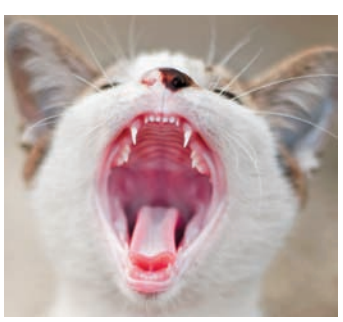
Mentors and field trips foster deeper understanding of the profession.

By Matthew Kenwright

The Blue Valley Center for Advanced Professional Studies (CAPS)—a public high school facility spanning approximately 70,000 square feet in Overland Park, Kansas—is offering a new approach to veterinary medical education in the heart of the Animal Health Corridor.

Recently, eight juniors and seniors participating in the program eyed a radiograph of a dog's stomach to find an irregularity before a

See page 19>



Dental specialists issue warning about mouth gags

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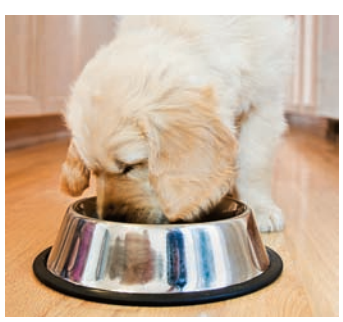

Experts call for evidence in wake of Beneful lawsuit

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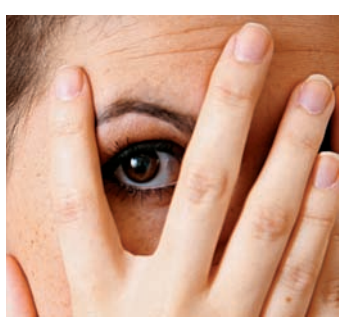

The biggest lie we tell ourselves as veterinarians

page 34

Chasing Rylee: Dr. Jan Bellows' search for his runaway dog

page M5

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Volume 46, Issue 4

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ON THE COVER

Immersing youth in the profession

» *A high school Advanced Professional Studies Veterinary Medicine program provides interested students with mentors, field trips and a deeper understanding of the veterinary profession.* **page 18**

VIDEO

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Evidence vs. the Internet: *A battle to the death*

Clients' online research is more about emotion than it is about facts.

You know clients do it for their pets—and you have to deal with the effects in your exam room. But have you ever Googled your own symptoms? Two and a half hours later you're convinced that you have a life-threatening condition, your doctor is your enemy because he's just a shill for Big Pharma, and the only thing that can set you right is apple cider vinegar, the cure no one wants you to know about because then all the drug companies would go bust.

If enough people say it on an online message board, it must be true, right?

Oh, the Internet. So great for certain things health-related—you can find people with common interests, experiences and challenges, share tips and strategies and support. But it's awful for other things—you have to sort out what's true and helpful from what's rumor, myth, craziness, wishful thinking or simply anecdotal and unproven.

Certain veterinary companies have been the target of much Internet noise in the last few years—notably, Purina with Beneful (see page 12 for the latest) and Elanco with Trifexis. Both products have been blamed widely by consumers for the deaths of pets, but FDA investigations have yielded no evidence to that effect, at least not yet. That hasn't quelled the hysteria on the part of Internet vocalizers, much to the chagrin of said veterinary companies.

Not long ago I heard a veterinary nutritionist—Tony Buffington, DVM, PhD, DACVN, of Ohio State, to be precise—talk about the especially emotional nature of the topic of nutrition among pet owners. When they come to you with their Internet message board findings and their raw food blogs written by "experts," what they're really asking you to understand is how much they care about their pet. And this can be difficult for scientifically minded clinicians who are trained to look at the evidence to engage with.

When faced with a client who is worked up by Internet chatter and looking to you (perhaps skeptically, since after all you're just a shill for Big Pharma and Big Pet Food), Buffington's advice is to acknowledge the emotion before you jump to the evidence. Validate the pet owner's concern and affirm his or her commitment to seeking out the best solution for the pet (even if you think that "solution" is a combination of voodoo and bull feces). That warmth can knock down the walls of Internet-constructed resistance and open the door to a more rational, evidence-based discussion.

After all, those of us who Google our symptoms find in the end that a face-to-face discussion with an experienced, compassionate and wise clinician is of infinitely more value than exhausting hours spent online. Eventually the noise becomes overwhelming and we just need someone real: first to listen and then to make a plan. It's no different with veterinary clients. **dvm360**

Dental experts warn about spring-loaded mouth gags

Device can lead to blindness in cats, studies show; safer alternatives exist and are encouraged as best practice.

Many veterinary practitioners and technicians have used spring-loaded mouth gags in cats and dogs for years to help hold the mouth open, allowing for procedures in the oral cavity. However, experts including Sandra Manfra Marretta, DVM, DAVS, DAVDC, and Mary Berg, BS, RVT, RLATG, VTS (dentistry), say the device is no longer recommended.

"What the dental colleges are recommending now is no longer using those spring-loaded mouth gags during a procedure because it can impede on the maxillary artery if it's extended for too long of a period of time.
—Dr. Sandra Manfra Marretta

Berg cites a study published in *The Veterinary Journal* (2014) that showed spring-loaded gags generate constant force that could contribute to bulging of the soft tissues between the mandible and the tympanic bulla in cats. This force leads to the compression of the maxillary arteries as they course through the osseous structures. The maxillary arteries are the main source of blood supply to the retina and the brain.

And Manfra Marretta warned a CVC audience about the device during a recent lecture. "What the dental colleges are recommending now is no longer using those spring-loaded mouth gags during a procedure because it can impede on the maxillary artery if it's extended for too long of a period of time," she said. "Initially, [researchers] were thinking it was all secondary to hypotension from systemic hypotension. They did further studies to prove that it was having that mouth open too wide for too long."

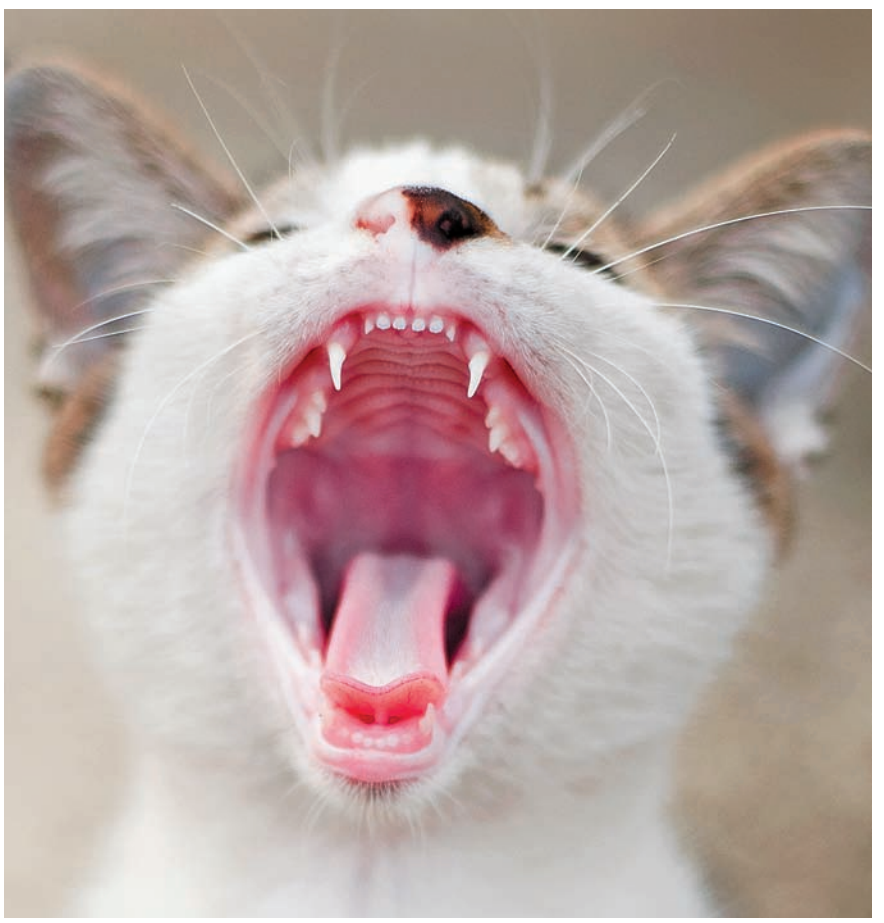
The potential pitfalls of using spring-loaded mouth gags in cats:

> Reduction of blood flow through the maxillary arteries to the retina and brain, which could result in temporary or permanent blindness, or sometimes neurologic abnormalities

> Masticatory muscle strain and injury to the temporomadibular joints

> Stretched tissues, which could make it more difficult to retract to allow for dental cleaning and tooth extraction.

Berg suggests replacing spring-loaded mouth gags with a gentler option. Cut the enclosed end off of a 25-gauge-needle cover and place it between the maxillary and mandibular canines to easily create a new stationary mouth gag. dvm360



>>> Sah ahh. If it were only that easy! Check out alternatives to spring-loaded mouth gags in the box below and go to **dvm360.com/dentistry** for thousands more articles and resources.

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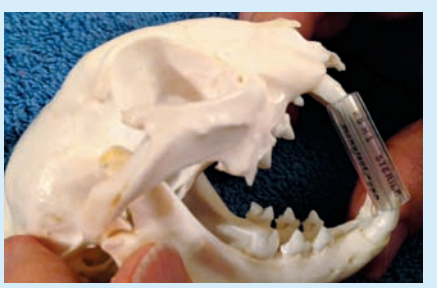
Find it all here dvm360.com

Safer alternatives to spring-loaded gags



Go to dvm360.com/safergag to check out how technician Mary Berg creates a simple gag for cats with a 25-gauge-needle cover. Plus, check out dvm360.com/manfra to hear about the safer alternatives Dr. Sandra Manfra Marretta uses.

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ABAXIS

A veterinary **media maven**

Patty Khuly, a Miami-based small animal veterinarian, column writer and blogger, shares how she became a veterinary writer.

By Donna Loyle, MS

Patty Khuly, VMD, MBA, relishes being able to educate pet owners on veterinary medical and animal welfare issues. She does so via a wide variety of media, including on her website (DrPattyKhuly.com), her blog (Dolittler), forewords for books, occasional reporting on National Public Radio (NPR) and in the columns and articles she writes, or has written, for publications from the *Miami Herald* to *Veterinary Economics* to *Chickens* magazine.

>>> Dr. Patty Khuly, who has taken her veterinary know-how to the media market, is shown here with Stella.

PHOTO COURTESY OF DR. PATTY KHULY

A small animal practitioner and majority owner of Sunset Animal Clinic in Miami, Khuly earned her bachelor of arts from Wellesley College, veterinariae medicinae doctoris (VMD) from the University of Pennsylvania's School of Veterinary Medicine and her master's degree from Penn's Wharton School. She lives in South Miami with her teenage son, Armando, five cats, five dogs, two goats and nine hens.

dvm360: How did you start reaching out to the media to be a resource on veterinary topics?

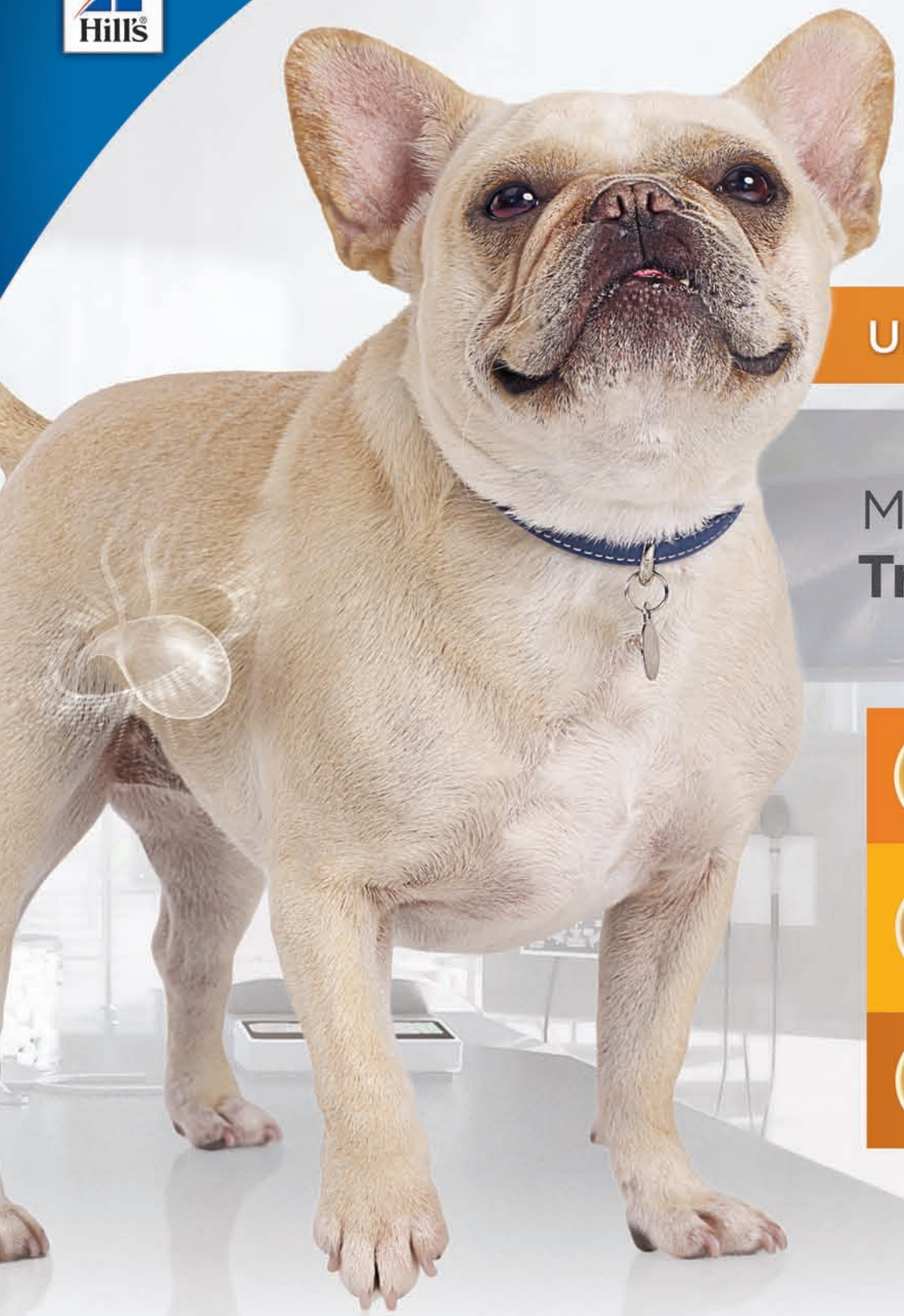
Khuly: I don't know how impressive it is given that I kind of fell into it after one of my epic fails. I wanted to write novels and after working hard on one, I came to the conclusion that novel writing is either a lot harder than I'd thought, or I wasn't any good at it.

Along the way I wrote stuff just to write and realized that writing about my work was a breeze compared to the novel thing. So why not start a blog or write for the newspaper? I figured it would get me in the habit of writing, which it did.

After I appealed to my local newspaper, the *Miami Herald*, about a billion times it finally printed a column of mine. I'd started my Dolittler blog before then—in 2005—but it was only after the column that the blogging picked up steam.

dvm360: What is it about writing and blogging that attracts you?

Khuly: In veterinary school my classmates seemed to be driven by the desire to improve animal health either locally or more globally. I couldn't decide which I liked more. So I guess what attracts me to media outreach is that it trades on the local thing—my daily life in practice—and takes it to a more global level. I like knowing that



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"Strangely enough, being burned out and unhappy in practice made me want to write. And writing steered me out of the doldrums. It's pretty neat how that happened.

—Dr. Patty Khuly

writing about the most mundane things we do in practice every day can have an effect not just on my own personal patients and clients but on a group of people and animals I'd never get the chance to influence otherwise.

dvm360: What need did you see in the media that you wanted to fill?

Khuly: Back in 2005, very few veterinarians were blogging. I figured it would be a fun thing to read for the clients I called "vet voyeurs." I'd cultivated a lot of these clients, so I knew it was a largely untapped audience and that they'd love my little stories.

At some point my opinions about everything from humane slaughter to how much a spay costs started to get traction, too. That was when I realized there really was a dearth of honest discussion on a variety of veterinary topics and that these weren't always limited to small animal practice.

dvm360: Should more veterinarians do media outreach, and if so, why?

Khuly: Yes, yes, yes! For starters, because it's fun. I imagine that many of us who love what we do have a natural desire to want to share it. Some of us write; some of us take photographs; others are more "techie" about it. Regardless of medium, sharing is pretty easy, social media being what it is.

Not only does media outreach help us promote our practices and ourselves as free-agent associates, it has a way of offering our careers a different dimension. It's more rewarding than most veterinarians probably realize. Best of all, the increased exposure makes you want to be better at what you do. That can only be a good thing—for the whole profession.

dvm360: What are the benefits and challenges of being a media go-to person in the veterinary field?

Khuly: I guess the biggest challenge for me right now is balance. The way I've set things up I still need to practice to make a living and maintain my credibility as a veterinarian who works in the trenches, but I have to stay in touch enough with the media to remain publicly relevant. During the past year I've spent so much time working on the practice side that I've ceded a bit of that balance. It's extra hard to keep the media career happy, especially now that I'm a practice owner. On the plus side, business is good.

dvm360: How did you decide that media outreach was a direction you wanted to take your career, and what steps did you take to make it happen?

Khuly: Strangely enough, being burned out and unhappy in practice made me want to write. And writing steered me out of the doldrums. It's pretty neat how that happened. It's not just that writing is cathartic. In fact, for me it was more about being useful. I can be of service in practice, of course, but it wasn't until I started writing that I could see it that way. Perception's a funny thing.

As far as the steps, I took Stephen King's advice: Just write. It doesn't matter what. Don't stress about making it perfect, just keep writing. I think that's pretty good advice for just about everything. In 2005, that meant choosing a blogging platform, buying a domain name, trying out some graphics and cranking out a few blog posts. In 2015, it probably means signing up for a Twitter or Instagram account and dedicating yourself to contributing something every day.

dvm360: Did you have formal writing training, or was it something that you just had a knack for?

Khuly: I paid good money for it. So did many of my colleagues. Four years at a liberal arts college will make you a decent enough writer if you're not careful. I credit my writing skills to the art history department at Wellesley College, not to any innate talent. If I had any true talent I probably would have been a novelist, right?

dvm360: How do you balance all of your interests and pursuits? Your schedule must be jam-packed every day.

Khuly: Yeah, but I don't really have a firm schedule. Except for my appointment schedule at work, doctor's appointments, my son's bus schedule and such, I pretty much just do what I want to do next. I do have to force myself to sit down to write, though. The payoff's great, but very little beats Netflix and a knitting project or curling up with a dog and a good book.

Donna Loyle, MS, is a freelance writer in the Philadelphia area and the former primary editor of the North American Veterinary Licensing Examination.

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QL14999

See brief summary on page 10

Veterinarians call for evidence-based approach in wake of Beneful lawsuit

Latest action has Purina playing defense and veterinarians asking consumers to skip the Internet and consult a veterinarian. *By Julie Scheidegger*

The usual hum of consumer-driven pet food chatter increased to a fever pitch recently as social media, blogs and the 24-hour news cycle chewed on the latest lawsuit against Nestlé Purina's Beneful dog food. Filed in the U.S. District Court of Northern California, the lawsuit—brought by pet owner Frank Lucido—claims that Beneful is to blame for the illness of two dogs and death of another. Lucido hopes others will join him in the class action suit.

Keith Schopp, Nestlé Purina PetCare's vice president of corporate public relations, released a statement stating there are no quality issues with Beneful. "We believe the lawsuit is baseless, and we intend to vigorously defend ourselves and our brand," Schopp says.

To date, the U.S. Food and Drug Administration (FDA) has not identified a problem with Beneful dog food or issued a warning for the product as it has with jerky pet treats, which have been of high concern to consumers.

"There has been no substantiated evidence that Beneful has caused problems when fed to dogs. Poison control groups have not expressed concerns, nor has the FDA," says Stephen Ettinger, DVM, DACVIM, who serves as the Nestlé Purina Fellow in Veterinary Medicine.

"I understand that when an animal is sick, pet owners are upset and often look first to the pet's food and environment as the cause," Ettinger says. "But when evaluated carefully, clinical signs more often are due to primary medical conditions."

The lawsuit states, "On information and belief, these illnesses and deaths were caused by substances in Beneful that are toxic to dogs." It points first to propylene glycol, an FDA-approved food and drug additive, which the suit calls "an automotive antifreeze component that is a known animal toxin." The lawsuit also mentions mycotoxins, a family of fungus that occurs in grains.

GETTY IMAGES

Jessica Vogelsang, DVM, the author behind the blog pawcurious.com, has recently addressed the topic of misinformation in the world of pet nutrition. Vogelsang says accusations that propylene glycol is toxic seem like the legal team grasping for straws. "We have to make sure—before we pull out the pitchforks—if we're going after the wrong thing," she says.

Ettinger says he has read many of the comments in the news and online regarding Beneful. "None provides evidenced-based rationale for making claims about Beneful having a negative impact on the health of a pet," he says.

Vogelsang echoes the need for evidence-based science. "If there's anything going on with your pet, you need to talk to your veterinarian and report to the manufacturer," she says.

"There has been no substantiated evidence that Beneful has caused problems when fed to dogs. Poison control groups have not expressed concerns, nor has the FDA."

—Dr. Stephen Ettinger

dvm360 Find it all here

An up close perspective

To read a blog post from Nestlé Purina Fellow Dr. Stephen Ettinger regarding pet illness and consumer concerns about Beneful, go to **dvm360.com/beneful**.

She adds that process is essential to data collection and what leads to science-based investigations if they are warranted.

"I firmly believe that any abnormality noted by a pet's owner should be brought to the attention of their veterinarian," Ettinger says. "Concerns regarding a particular product should immediately be brought to the attention of the manufacturer so that information can be collected and product appropriately monitored. The veterinarian and the pet owner then can decide whether to contact the FDA," he says. The FDA's Safety Reporting Portal can be found at safetyreporting.hhs.gov.

"People need to take everything with a grain of salt," Vogelsang says. "This lawsuit by itself would not be reason enough for me [to discontinue use] if my pet were doing well. If there's proof—that's a different story."

Beneful has faced two previous class actions suits regarding Beneful in recent years. Both were dismissed in court. **dvm360**

PHOTO COURTESY OF NESTLÉ PURINA

Connecticut

Connecticut legislation aims to make driving with lap-held pets illegal

Ban would enforce fines similar to those already in place for using cellphones while driving.

The Connecticut General Assembly is considering a bill that would make it illegal for drivers to hold their pets in their laps as they drive. The bill calls for those who violate the ban to pay the same fines as those who talk on a cellphone or text while driving, according to the *Connecticut Post*.

The bill's supporters say lap dogs are competing with cellphones for the attention of drivers and that restrictions are needed for the protecttion of drivers, pedestrians and the pets themselves.

Since enacting its hands-free law 10 years ago, law enforcement has issued more than 117,000 citations for cellphone use and distracted driving. The maximum fine is $1,000, the *Post* reports.

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State ROUNDUP

A look at the world of animal health

Kansas

The College of Veterinary Medicine at Kansas State University is establishing a new center of excellence called the Center for Outcomes Research and Education (CORE), which will be under the guidance of David Renter, DVM, PhD, a veterinary epidemiologist. The center will focus on demonstrating the value of animal health interventions, with a goal of improving both animal healthcare and its associated impact on human health, according to a university release.

The center will involve several university faculty members, as well as experts at other institutions. Developing and enhancing public-private partnerships is a key part of CORE's strategic plan, according to the release. A $250,000 gift from Zoetis will help establish the center.

Texas

New legislation presented in Texas is meant to fix weaknesses in the public health response to the Ebola outbreak last fall in Dallas. If the bill passes, two Texas A&M University departments will play a larger role in responding to an infectious disease emergency, according to the Bryan-College Station *Eagle*.

There are 16 provisions in the bill, one of which will task the Texas A&M Veterinary Diagnostic Lab and the Texas A&M College of Veterinary Sciences with providing recommendations for control measures in animals and livestock. Texas A&M veterinarians helped treat Bentley—a Cavalier King Charles spaniel—in October 2014 after his owner, Nina Pham, contracted Ebola from a patient she was treating at Dallas Presbyterian Hospital, the *Eagle* states.

Utah

Steven Lucero, PhD, director of wellness at Utah State University's School of Veterinary Medicine, has created a pet loss hotline for pet owners who are grieving, according to the Associated Press. The line is staffed Monday to Thursday from 5 to 7 p.m. by students.

Wisconsin

A 7-year-old yellow Labrador retriever is adjusting to life without a tongue after a freak accident involving a kennel. Doc, who belongs to Brad and Vanessa Meyer, managed to get his tongue stuck in the part of the kennel where the walls met the top, and it was completely ripped out, according to the *La Crosse Tribune*. Now the Meyers and Doris Durst, DVM, of Lake Wissota Animal Hospital are doing what they can to help Doc be happy and healthy without his tongue.

For now, Doc receives water from a syringe and eats food made into a paste in a similar way. He is already learning to slurp water from a bucket like a horse, according to the *Tribune*. dvm360

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Reference: 1. Data on file, BRONCHI-SHIELD ORAL package insert, Boehringer Ingelheim Vetmedica, Inc.

New pain management guidelines released

Canine, feline guidelines from AAHA, AAFP emphasize team members' role in pain prevention, assessment and treatment.

Advances in companion animal pain management have spurred the American Animal Hospital Association (AAHA) and the American Association of Feline Practitioners (AAFP) to update the pain management guidelines for dogs and cats they developed in 2007.

The 2015 guidelines differ from the older version in several ways, according to AAHA and the AAFP:

> The first sections contain general concepts designed to set the stage for the remaining, more specific content.

> The new guidelines discuss the importance of integrated pain management that does not rely strictly on analgesic drugs.

> Because pain assessment in animals has become more scientifically grounded in recent years, the guidelines include descriptions of various clinically validated instruments for scoring pain in both dogs and cats.

> A section on feline degenerative joint disease has been added due to increased awareness of this condition over the last few years.

> The list of published references includes numerous recent studies published within the last three years.

According to AAHA and the AAFP, effective pain management can reduce disease morbidity, facilitate recovery and enhance quality of life. The guidelines are particularly helpful for busy practitioners because they consolidate current recommendations and insights from experts in pain management, they say.

The guidelines also emphasize that pain management in clinical practice is a team effort, with the pet owner functioning as an integral part of the team. All healthcare team members should have a defined role in the practice's approach to providing compassionate care to its patients, the organizations say.

"The management of pain is a crucial component in every veterinary practice," says Mark Epstein, DVM, DABVP (canine and feline), CVPP, co-chair of the team that worked on the guidelines, in a joint release from the two organizations. "Practices should be committed to educating the entire healthcare team about prevention, recognition, assessment and treatment of pain. Alleviating pain is not only a professional obligation but also a key contributor to successful case outcomes and enhancement of the veterinarian-client-patient relationship."

Ilona Rodan, DVM, DABVP (feline), is the other co-chair. "Pain management requires a continuum of care that includes anticipation, early intervention and evaluation of response for every individual patient," she says. "A team-oriented approach, which also includes the owner, is essential for maximizing the recognition, prevention and treatment of pain for our patients."

To access the 2015 AAHA/AAFP Pain Management Guidelines for Dogs and Cats, visit aaha.org. **dvm360**

CDC identifies new tick-borne virus

Veterinary researchers still investigating impact on pets.

Researchers with the U.S. Centers for Disease Control and Prevention (CDC) have identified a new species of *Thogotovirus* called the Bourbon virus. It was named after the Kansas county where the first U.S. patient diagnosed with the tick-borne disease lived, according to the CDC's *Emerging Infectious Diseases Journal*.

The patient, a 50-year-old man, developed nausea, weakness and diarrhea several days after finding bites and an engorged tick on his shoulder. The following day his symptoms included fever, anorexia, chills, headache, and joint and muscle pain. His primary care physician prescribed doxycycline but his condition deteriorated further, and he was taken to the hospital where his condition worsened. On day 11 the decision to withdraw further care was made after multiple resuscitations and the patient died, the journal reports.

Evaluations for known tick-borne diseases were negative; however, viral plaques were noted in cell culture wells, according to the journal.

While this remains the only case to date and the possibility of transmission to pets is unknown, Susan E. Little, DVM, PhD, DACVM (parasitology), says that it's an interesting discovery becauset it adds to the diversity of viruses recently discovered as transmitted by lone star ticks (Heartland, Bourbon and Tacaribe), which are also not yet known to be pathogenic.

Veterinary parasitologists emphasize that year-round parasite prevention is the best way to keep pets safe and healthy from tick-borne diseases. **dvm360**

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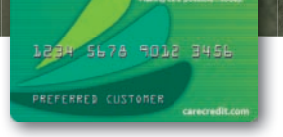

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Immersing youth in veterinary medicine

> Continued from page 1

>>> Students in the CAPS Veterinary Program, headquartered in Overland Park, Kansas, dissect a fetal pig.

>>> A CAPS student palpates a cow during a field trip. The CAPS Veterinary Program debuted this year.

PHOTOS COURTESY OF CAPS, BLUE VALLEY SCHOOL DISTRICT

former practicing veterinarian revealed the problem—a rubber ball was lodged in the intestines. Kyle Malter, DVM, a technical manager with program sponsor Boehringer Ingelheim Vetmedica, was visiting CAPS that day to share his old cases with students.

The presentation ranged from another radiograph of a dog that swallowed $1.67 in coins—a penny's zinc composition is poisonous to canines, Malter told students—to a comminuted fracture of a dog's humerus bone. Instruments such as rongeurs, retractors and hemostats were introduced and explained. Malter also demonstrated comprehensive wellness exams on two dogs and a cat. He reviewed

"In a nutshell, my impression of the program is overwhelmingly positive, and frankly I wish the opportunity existed for my school when I was that age."
—Kyle Malter, DVM
CAPS guest instructor

orthopedic issues, endocrine and skin disorders and how to take patient histories. He used a stethoscope with two sets of earpieces to listen together with students, and they found an animal's optic nerve with an ophthalmoscope. The students learned about top client questions, common diseases and different surgeries.

Malter says he believes the program gives the students an advantage over their peers if they pursue veterinary school because they'll be familiar with many of the concepts.

"In a nutshell, my impression of the program is overwhelmingly positive, and frankly I wish the opportunity existed for my school when I was at that age," he told *dvm360*.

Field trips are a major part of the CAPS learning experience across all programs, which include business, engineering and bioscience courses. The 815 students spend half the school day in the program every day for a semester, and the extra time allows for a deeper understanding of the subjects. The CAPS model has been replicated across the country in Iowa, Arizona, Minnesota, Utah and Nebraska.

Students in the veterinary program have visited Bayer Animal Health in Shawnee, Kansas, and learned about aspects of an industry career, such as marketing, drug development and production, according to the CAPS website. The students engaged in a project to create or improve animal products, producing ideas for stress relievers, an antibacterial cream and dental chews. Students have also visited such places as Shatto Milk Company in Osborn, Missouri, and Swickard Family Farm in Stilwell, Kansas, to see a cattle and grass farm, and they also shadowed the teams at four clinics for a week each to see how practice operations can vary.

Kelley Tuel, CAPS' veterinary medicine instructor, brings her experience as a biology teacher and researcher to the program. During her research for her master's in biology at Emporia State University, she found two undescribed bacterial mutants and named them *Halobacterium* sp. KBT-1 and sp. KBT-2 (KBT stands for Kansas biology teacher). She is currently pursuing a second master's in veterinary biomedical science and pathobiology.

The CAPS veterinary course, which debuted this year, engages the 25 students more than a traditional class would, Tuel says. "To be in that professional environment and feel that they are respected and that they're welcomed guests is, I think, exciting for them and it makes them feel like they have a foot in the door when they do come back to apply for jobs," she says.

The program hasn't addressed the financial aspects of a veterinary career yet, but one speaker did broach the topic, Tuel says.

"He talked about [practice] profitability and how to weigh that with the number of animals you have and when the economy fluctuates, so they're seeing that's a common thing they need to learn about," she says.

Student debt is another issue not yet incorporated, but another speaker asked students to consider the costs of an undergraduate education in-state versus out-of-state combined with the price of veterinary school.

"I think it's important to say, 'OK, what is important to me, and how [do I] finance that?'" Tuel says.

Jackson Ralston, a senior in the program, said the program has supported his goal to be a veterinarian. "It hasn't changed my view," he said. "It's really only affirmed it." **dvm360**

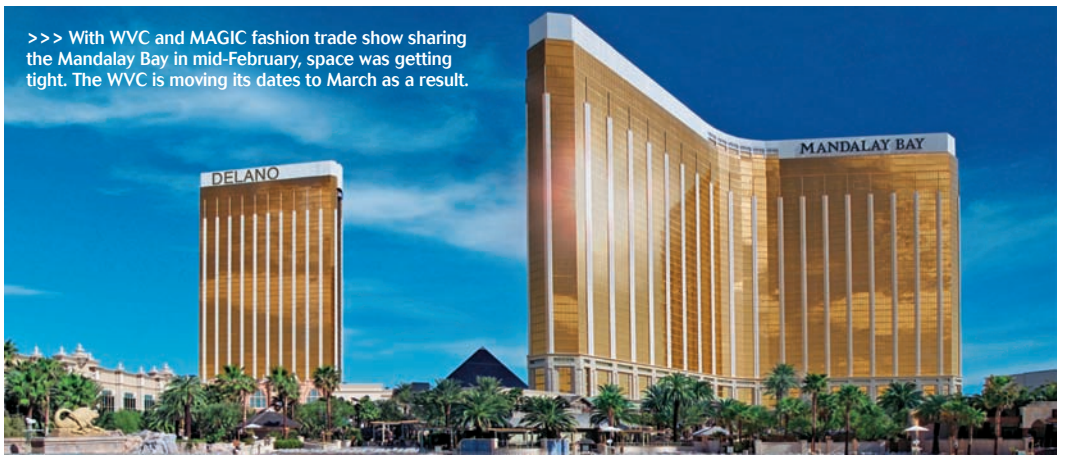
Find it all here dvm360.com

CAPS on video

To watch a video that explores the Center for Advanced Professional Studies' Veterinary Medicine program, shows Dr. Malter's presentation to the class and features interviews with the instructor and a student, scan the QR code above or visit **dvm360.com/CAPSvideo**.

Changes imminent for WVC, NAVC

> Continued from page 1



>>> With WVC and MAGIC fashion trade show sharing the Mandalay Bay in mid-February, space was getting tight. The WVC is moving its dates to March as a result.

at this year's conference, MAGIC had 65,000. "We all have had kind of our own place, but it's just a lot of pressure with that many people in the building at one time," Little told *dvm360.*

Joe Loggia, chief executive officer of MAGIC's parent company, UBM Advanstar, says MAGIC's space requirements have grown by 30 percent since 2010.

"While some of this growth has been accommodated in sections located at the Las Vegas Convention Center, a substantial portion of it is located at the Mandalay Bay," Loggia says.

Juggling both shows in the same location, along with the regular tourist traffic, hasn't been ideal for either show since the two began co-locating at the Mandalay Bay in 2013.

"It's just not the best experience we have had for our attendees," Little says.

Loggia says each group tried to minimize interruptions to the other, but Little says the amount of traffic generated by the two shows made it difficult to navigate around the hotel.

Little says WVC got some pressure from the city of Las Vegas and the Mandalay Bay to move its dates to accommodate MAGIC, but Loggia says MAGIC and the WVC leadership jointly reached a solution with the help of the Mandalay Bay and the Las Vegas Convention and Visitors Authority to set dates that would work for both shows.

Loggia says UBM Advanstar—also the parent company of *dvm360* and the CVC veterinary conferences—has had a strong relationship with WVC for many years, even publishing program guides and helping to create procedural surgical videos in partnership with WVC (see **dvm360.com/waldron-video**). Loggia and Little say attendees at both shows should benefit from the impending changes.

"Honestly, I don't think the change for us will be that noticeable. We're not worried that it's going to impact attendance," Little says. "For those people that are there, they will have a more pleasant experience."

Little says WVC is offering a lot more than it has in the past, with more training throughout the year, plus WVC Academy at the Oquendo Center, a large veterinary training facility. He says he believes that the future for WVC lies more in its continuous offerings throughout the year than in the annual conference, which will run from March 6-10 in 2016, and in early March in subsequent years. "People want customized, personalized experiences," he says.

NAVC moves to convention center

Another convention looking to streamline its conference and improve attendees' experience is the annual NAVC show in Orlando.

In the past, NAVC has been spread over three Orlando locations—the Caribe Royale All-Suite Hotel and Convention Center, the Gaylord Palms Resort and Convention Center and the Orlando World Center Marriott.

NAVC attendance reached a high this year at 16,383 compared to 15,600 last year and around 14,000 from 2009 to 2011, says Megan Golden, NAVC vice president of customer experience. However, the bigger issue than attendance—aside from inconvenience for attendants who have to travel between three locations—is exhibit space. "We have no room for any more exhibits," Golden says. "There's a lot of growth in the industry that we haven't been able to accommodate."

The conference remained split between the locations for this year's show, which ran from January 17-21 and featured 650 exhibitors in the two exhibit halls. Next year's show, slated for January 16-20, will remain split between the three locations, but Golden says NAVC is finalizing plans now to consolidate the convention starting in 2017 at the Orange County Convention Center (OCCC) in Orlando.

The OCCC is adjacent to the Hyatt Regency Orlando and there is also a Hilton hotel within walking distance, Golden says. She says more details will be revealed in the coming months, but the move will allow attendants to stay in one location for the whole event and make moving between exhibits easier. **dvm360**

Rachael Zimlich is a freelance writer who lives in Cleveland, Ohio. She is a former staff reporter for dvm360 *magazine.*

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MRI explosion injures worker, damages veterinary hospital

When an MRI unit exploded at Oradell Animal Hospital in Paramus, New Jersey, on March 6, it took the staff less than five minutes to evacuate its patients, clients and team to safety. Three representatives from the MRI company, who were on site dismantling the unit, were injured—one critically.

Jeremy Hogan, 37, was transported to a local hospital with lacerations and crushing-related injuries. Although still critical, his condition was updated to stable several days after the explosion and he was expected to recover. His two coworkers were also hospitalized but have been released.

Posts on the Oradell Facebook page tell of a grateful staff. Quick and effective execution of emergency protocol got clients, 60 patients and 100 employees to safety—although some staff members risked their own safety to stay with the injured until emergency personnel arrived. "All of our incredible staff members are safe today, many of whom performed heroic acts in the face of disaster yesterday," read a post a day after the blast. Those staff members were medically checked at the scene and released.

The explosion, which happened at approximately 11:51 a.m. March 6 in the east wing of the facility, shook the entire building, causing serious damage where the MRI unit, reportedly leased from Advanced Veterinary Technologies, was located. Although no fire resulted from the explosion, the Paramus Fire Department discovered a small helium leak from the MRI unit. Helium is used as a cooling agent inside the machine. Helium is not combustible but is a dangerous inhalant. The Bergen County Hazardous Materials Unit assisted firefighters in controlling and dissipating the leak. The injured were treated for respiratory complaints.

Despite a focused area of extensive damage, the building was deemed structurally intact and safe by the Hackensack Fire Department Rescue Collapse Unit. Patients were referred to other area hospitals or were seen at the hospital's two other satellite offices.

"Thank you to our referring veterinarians for all of your concern and offerings to help us during this time. Thank you to our clients for all of your kind and compassionate words," Oradell's Facebook page reads. A post also reports that "MRI worker Jeremy is holding his own. Our prayers and thoughts are with him and his family." **dvm360**

PHOTO COURTESY OF PARAMUS POLICE DEPARTMENT

>>> An MRI unit exploded at Oradell Animal Hospital March 6 in Paramus, New Jersey, while MRI company representatives were dismantling the unit. One worker was critically injured but is expected to survive. All staff, clients and patients were evacuated safely.

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See brief summary on page 24

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K-State veterinary researchers watch for next influenza strain

Emerging disease experts monitor novel swine viruses for changes that could prove dangerous to human as well as animal health.

As seasonal influenza cases decrease across the United States, Kansas State University researchers are preparing for the next potential virulent strain of flu.

The work is starting with swine in the field. Juergen Richt, DVM, PhD, professor of veterinary medicine and director of the U.S. Department of Homeland Security's Center of Excellence for Emerging and Zoonotic Animal Diseases, and Wenjun Ma, BVSc, MVSc, PhD, assistant professor of diagnostic medicine and pathobiology, are surveying for swine influenza viruses as part of a $1 million grant from the National Institutes of Health.

"Swine influenza are constantly changing," Richt says in a release from K-State. "There's a constant mutational rate, and sometimes they're changing very rapidly using a mechanism called reassortment—gene segments from one influenza virus are mixed with gene segments from a different influenza virus. We are very concerned about these genes coming together to create new surface proteins that have not been seen in the human population."

"Swine influenza viruses ... sometimes have the ability to transmit from pigs to humans."

—Juergen Richt, DVM, PhD
U.S. Department of Homeland Security

The researchers are collecting samples from diseased pig populations recorded by the Kansas State Veterinary Diagnostic Laboratory and the Abilene Animal Hospital. These samples are analyzed to determine if the swine influenza could be a danger to humans.

"Swine influenza viruses infect swine and cause a respiratory disease in pigs, but they sometimes have the ability to transmit from pigs to humans," Richt says. "We hope that we are early enough in discovering these novel swine influenza viruses so that we can isolate and characterize these viruses and alert the respective authorities to control and eradicate them as soon as possible."

The Kansas State University research team has been working on this project for six years. It previously discovered a novel influenza subtype in swine from Missouri. Richt says this novel H2N3 virus was created through a reassortment from a duck influenza virus and an endemic swine influenza virus, which could have been very dangerous to human health. As the team monitored the influenza, the virus died out before it could spread.

"I think it is very important work because influenza is a threat to public health and animal health. We are providing very important information for the industry," Ma says.

The project is part of the Center of Excellence for Influenza Research and Surveillance and is in collaboration with the infectious diseases department at St. Jude Children's Hospital. **dvm360**

University of Florida veterinary hospital attains Level 1 emergency designation

The University of Florida's Small Animal Hospital has been certified as a Level 1 veterinary emergency and critical care facility by the Veterinary Emergency and Critical Care Society (VECCS). It is the state's only facility to hold the designation, university representatives say.

"The Level 1 emergency and critical care certification is the highest level of care a hospital can receive in this certification program," says Carsten Bandt, DVM, chief of the hospital's emergency and critical care service, in a university release.

The certification program is part of an effort by the VECCS to raise awareness for emergency critical care services and to give the public a way to compare different emergency and critical care facilities.

According to the society's website, a Level 1 emergency and critical care facility is a 24-hour acute care facility with the resources and specialty training necessary to provide sophisticated emergency and critical patient care. Facilities receiving the Level 1 designation are open to receive small animal emergency patients 24 hours a day, seven days a week, 365 days a year.

In addition, Level 1 facilities must have at least one diplomate of the American College of Veterinary Emergency and Critical Care employed full time and available for consultation either on site or by phone 24/7.

The UF Small Animal Hospital's emergency and critical care service employs six such specialists who manage everything from trauma and acute kidney disease to lacerations and exposure to toxins.

The service treats more than 4,000 small animal patients each year, according to Dana Zimmel, DVM, a clinical associate professor of large animal internal medicine and chief of staff of the UF veterinary hospitals.

"In collaboration with our surgery service, our hospital can provide emergency neurosurgery and general surgery, as well as reproductive, ophthalmic and orthopedic surgery," Zimmel says in the release. "We welcome both referral and walk-in emergencies of any kind." **dvm360**

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[1]Data on file. Hill's Pet Nutrition, Inc.
[2]Kruger JM, Lulich JP, Merrils J, et al. *Proceedings*. American College of Veterinary Internal Medicine Forum 2013.

State veterinary boards should heed Supreme Court ruling on N. Carolina case

Justices say barring teeth whitening by nondentists unfairly restricts competition.

By Mark Cushing, JD

The U.S. Supreme Court recently delivered an important decision in *North Carolina Board of Dental Examiners v. Federal Trade Commission*, affirming a lower court's ruling that the North Carolina dental board was limiting competition in the state. While this particular decision involved dentists, the Supreme Court's ruling directly affects boards of veterinary medicine, along with other professions such as medicine and law.

The North Carolina facts involve the state board's efforts to outlaw teeth whitening by nondentists, a growing practice. The Supreme Court rejected the board's defense—that as a state-regulated agency it was immune from federal antitrust laws—stating that it did not meet the requirements for that kind of immunity and that the board's conduct was inherently anticompetitive.

In its opinion, the court emphasized that the North Carolina dental board consists primarily of practicing dentists. Of course, state veterinary boards across the United States are made up primarily of practicing veterinarians, so the court would likely treat the veterinary profession no differently.

The action against the North Carolina board was brought by the Federal Trade Commission (FTC). Of note to veterinarians, it was also the FTC that held against the Oklahoma State Board of Veterinary Medical Examiners in 1990. That case involved the state board's attempt to restrict licensed Oklahoma veterinarians from business or employment relationships (in their practices) with non-Oklahoma veterinarians or nonveterinarians. This FTC ruling has held sway since then, and in this recent Supreme Court decision,

one can assume how the court might rule if veterinarians or nonveterinarians challenged a state board's attempt to enforce that the sole owner of a veterinary practice can only be a licensed veterinarian in that state.

It's also important for veterinarians to understand the Supreme Court's test for whether a state regulatory agency is immune from federal antitrust laws. It stems from the Midcal decision of 1980, which focused on California's decision to grant a private body of wine merchants price-setting powers over the entire state. To avoid antitrust liability, the state must *actively supervise* the decisions and policies of the regulatory agency (for example, the state veterinary board) to prevent it from limiting competition against members of its profession—and states rarely do this.

According to Justice Anthony Kennedy, who wrote the majority opinion in the North Carolina case, Midcal's supervision rule stems from the recognition that "where a private party is engaging in anticompetitive activity, there is a real danger that he is acting to further his own interests, rather than the governmental interests of the State." As a result, the rule demands "realistic assurance that a private party's anticompetitive conduct promotes state policy, rather than merely the party's individual interests."

So what does this mean for veterinarians? Be assured that every veterinary board in the country has been provided by its lawyers with a copy of the North Carolina Board of Dental Examiners decision, just as most if not all have seen the 1990 FTC decision against the Oklahoma State Board of Veterinary Medical Examiners. State veterinary boards act at their peril when they restrict competition within the profession without clear direction from their state legislatures that the restriction is official policy, necessary for the state's broader well-being, and actively watched over by the state itself. **dvm360**

Mark Cushing, JD, is founder of the Animal Policy Group, providing government relations and strategic services for animal health, veterinary and educational interests. This commentary was adapted from his Veterinary Policy Notes blog on dvm360.com.

"Where a private party is engaging in anticompetitive activity, there is a real danger that he is acting to further his own interests, rather than the governmental interests of the State."

—Justice Anthony Kennedy, U.S. Supreme Court

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Science, not revenue, should guide vaccine recommendations

I read with interest Dr. Sandra Wing's letter to the editor ("Vaccination changes have hurt client visits and hospital revenue," January 2015), which laments how changes in vaccine schedules have hurt veterinary practice revenue. Dr. Wing correctly correlates triannual vaccine schedules to a decline in client and patient wellness visits, with a resulting negative impact on practice revenue. However, the letter seems to suggest that the profession return to recommending annual immunizations even though science dictates that this is unnecessary.

If it is true (however unproven) that annual versus triannual wellness visits have a favorable cost-benefit outcome for veterinary patients as a whole, our goal should not be to go backward and against the evidence vis-á-vis immunizations, but rather to go forward and develop new models for delivering preventive and wellness care (prepaid plans and other creative solutions) that promote annual (if not semiannual) patient visits.

Not that this is easy. In fact, it is difficult. But it certainly is superior, scientifically and otherwise, to a 1990s (and early 1990s at that) practice model that relies on vaccine reminders to drive revenue.

I do share Dr. Wing's concerns about the overall health of our industry and the challenging prospects of the future. However, the prescription is innovation, not lamentation.

Mark E. Epstein DVM, DABVP (canine and feline), CVPP
Gastonia, North Carolina

Feline nutrition vitally important

The December issue listed the top five feline illnesses and number one is chronic kidney failure ("Pets Best names top feline illnesses"). This has never been a surprise to me in my 40-plus years of practice. In my first year or so out, I observed that virtually all cats with urinary tract problems of any kind were usually on a diet of dry cat food. This for an animal that's classified as an obligate carnivore!

For years I have campaigned, in every publication possible, that a dry food diet is anathema to the feline species. Unfortunately, dry food is the big moneymaker in the pet food industry. As we all know, "Money talks, and all else walks," so my message has not been an easy sell. It is only in the last few years that my own profession has begun to awaken to reality and realize how important diet is to the health of our felines.

Bud Stuart, DVM
Santa Barbara, California

SOCIAL MEDIA Roundup

Crazy clients, snappy patients: How should a veterinarian warn the practice team?

Dr. Rosenberg's March column prompts reader response on Facebook.

Delia Angulo
In my prior paper practices we would make the "owner" notation in the actual file, folder not the medical record. So you would have to lift all the records to see if there were any special notes. On the actual record we would use the typical "use caution; will bite" for patients and never had problems. In my current paper-light practice we use smiley faces for caution pets and super smiley faces for really bad pets, so either way it looks like a happy note.

Kleinbrook Animal Hospital
Often the problem is due to previous bad experiences that have the owners so concerned and anxious that their visits become a struggle. We've found that if our staff is prepared for these visits we are able to keep a more positive attitude, and usually the relationship with the owner improves over time.

Make yourself scarce:

How relative scarcity affects incomes

Market data analyzing practice types and geography reveals which practitioners are in higher demand—and who's earning more money.

Elsewhere in dvm360
The AVMA Economics Division has kicked off its 2015 Economic Report series. **See page 44.**

My brother called me excitedly one day and asked, "Do you want to go to the travel and outdoor expo?"

My first thoughts were of previous expos we'd attended—fun days full of talking with other fishermen and hunters about boats, equipment and trips. Of course I would love to go, but I needed some actionable information: When was the expo, where would it take place and was there any specific reason we needed to attend this particular event?

My brother lives in California and I live in Chicago. Turns out the expo was in my neighborhood in just a couple of weeks. It would be the perfect opportunity to find a guide for a trip to Wisconsin to fish for Muskie, something my brother and I had talked about for years. I signed up.

So what's my point? That information is only as good as the outcomes it leads to. It's as true in the world of veterinary markets as it is in the world of outdoor expos. Specifically, information about veterinary incomes, debt levels, numbers of veterinarians by practice type, practice revenues, unemployment, underemployment and pricing is only useful if it is actionable.

Consider a new veterinarian's income and debt levels. Mean income reported prior to graduation by those veterinarians in the 28 U.S. veterinary colleges with full-time employment was $66,897 in 2014. But how many of those 1,121 seniors received that starting salary? If they didn't, what factors explain the difference?

The three most important factors affecting starting salary are gender, practice type and location. The mean starting salary for males in 2014 was $69,994 compared to $66,235 for females—more than a $3,700 difference. Equine practitioners received a mean starting salary of $42,077 compared to food animal practitioners, who received $73,354—more than a $31,000 difference. And new veterinarians who were

TABLE 1

Comparing the market demand for occupations

The demand for workers in various occupations is determined by comparing the number of online help wanted ads to the number of people searching for those jobs (measured in thousands).

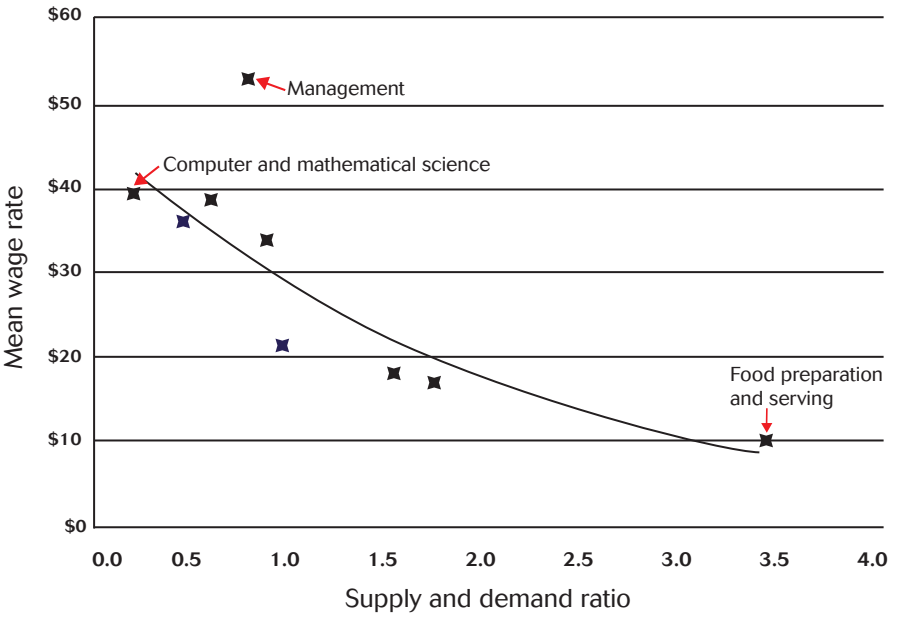
Occupation	Total online help wanted ads	Total unemployed people in those fields	Ratio	Mean hourly wage
Management	473.8	359.3	0.77	$53.15
Computer and mathematical science	592.5	101.1	0.17	$39.43
Architecture and engineering	172.3	98.6	0.57	$38.51
Healthcare practitioners and technical	565.6	244.4	0.44	$35.93
Business and financial operations	326.8	290.3	0.87	$34.14
Installation, maintenance, and repair	221.7	212.1	0.94	$21.35
Sales	587.2	924.8	1.54	$18.37
Office and administrative support	557.9	1008.5	1.75	$16.78
Transportation and material moving	336.9	606.8	1.72	$16.28
Food preparation and serving	225.9	781.1	3.45	$10.38

Source: The Conference Board Help Wanted Online Data Series, December 2014

TABLE 2

Illustrating occupational supply and demand

The relationship between relative scarcity and wages is shown below using the data from Table 1.



Source: The Conference Board Help Wanted Online Data Series, December 2014

set to begin practice in the mountain states (zip codes that begin with an 8) received a mean starting salary of $71,233, while those in the northern states (zip codes that begin with 5) received a mean starting salary of $63,718—a difference of $7,500.

These figures are signaling relative scarcity in the market for new veterinarians. Food animal veterinarians are relatively more scarce than equine, and veterinarians in general are relatively more scarce in mountain states than northern states. So what exactly does it mean to be relatively more scarce?

To help answer that question, let's look at some data collected by the U.S. Bureau of Labor Statistics (BLS), a series called Help Wanted Online. In this series, the BLS compares the number of online help wanted ads to the number of unemployed people in each occupation. According to a recent set of those comparisons (see Table 1), there are nearly six times as many jobs in computer and mathematical sciences as there are people looking for those jobs. However, in food-related employment, there are approximately seven people for every advertised job. Thus, employees in computer and mathematical sciences are relatively more scarce than employees in food-related industries.

The market signal of relative scarcity is wages. Professionals in computer and math occupations are being offered a mean starting wage of $39.43 per hour, while food workers are being offered

a mean wage of $10.38 per hour. This is a clear signal that we need more computer and math people and fewer food workers—that computer and math people are relatively more scarce in America's labor market then food workers. There is a clear relationship between relative scarcity and wage—generally, the more relatively scarce the workers, the higher the wage. In fact, more than 80 percent of the variation in wage rates can be explained by relative scarcity. What's more, we can rank relative scarcity from most scarce to least scarce by using the ratio of jobs available in an occupation to people in an occupation looking for work—a supply-and-demand ratio reflecting market conditions for this type of worker. Using this supply-demand ratio, we can build a relative scarcity curve to illustrate the relationship between relative scarcity and wage, as in Table 2.

So where do veterinarians fall on the relative scarcity curve? To determine that, we have to convert starting salaries to wages. A food animal veterinarian who makes $73,354 working 2,080 hours (40 hours per week) would be receiving a comparable wage of $35.27 per hour and be near the supply-demand ratio of 0.5. But if she worked 2,600 hours annually (50 hours per week), her wage would only be $28.21 per hour, closer to the supply-demand ratio of 1. A starting veterinarian who may be expected to work 60 hours per week is making $23.51 per hour, near the supply-demand ratio of 1.5.

As you can see, the number of hours worked annually affects the hourly wage rate and the position on the relative scarcity curve. The more hours the average new veterinarian works, the fewer new veterinarians will be needed to fill the job demand. The relative scarcity of new veterinarians will increase as new veterinarians work fewer hours on average.

Salaries and wages are price signals that help guide resources and ensure that the amount of supply is close to the amount of demand across all markets. However, there are many factors that influence those market prices. Even though the mean salary of a new physician may exceed that of new veterinarian, it does not necessarily imply that medical doctors are relatively more scarce than veterinarians. Indeed, there may be some new veterinarians that have higher starting salaries than some new physicians. The key is to pay attention to market prices (wages) and understand the factors that affect them. Higher wages generally mean greater relative scarcity and, based on the mean wage rate for new veterinarians, the measure of relative scarcity is between 0.5 and 1.5. So what's the specific actionable for this information? It's that new veterinarians can use this information as a guide. With their high debt-to-income ratios, new veterinarians who target their early career to locations and practice types with higher relative scarcity will more quickly improve their economic well-being. As they develop greater economic security, these veterinarians can begin to develop a career path to reach the region and type of practice they desire. **dvm360**

ECON Veterinary Economics

Dr. Mike Dicks, director of the AVMA's Veterinary Economics Division, holds a doctorate in agricultural economics from the University of Missouri. He has worked in Africa on water delivery and energy production technologies and has served with the USDA's Economic Research Service.

When a colleague's *expectation* **crosses the line**

A veterinarian gets more than he bargained for when treating the pet of a retired peer in the community.

Dr. Lee Grant owned a three-doctor practice in a resort area of South Carolina. He had thrived during the last 15 years by reaching out to local pet owners while also welcoming vacationers with open arms. He was proud to be a veterinarian and had been an officer in his local and state veterinary associations for more than a decade.

Dr. Bill Rader retired from practicing veterinary medicine two years ago. He sold his busy small animal practice and moved from the frigid northern part of the country to spend his retirement years in beautiful South Carolina. Dr. Rader had always had a Labrador retriever as a pet. In recent days, he had noticed that his dog had become a bit lethargic. He observed paleness in the pet's gums and knew that medical assistance was needed, so he called Dr. Grant and scheduled an appointment.

Upon arrival, Dr. Rader introduced himself as a recently retired veterinarian. In light of this background, he asked Dr. Grant if he could participate in his pet's care. Being the collegial person he was, Dr. Grant consented to Dr. Rader's request. A complete workup was done, including an abdominal ultrasound. It became clear that the Labrador had a splenic mass. Both doctors agreed that surgery was necessary. Dr. Rader then requested to scrub in on the surgery.

At this point Dr. Grant started to feel uncomfortable. His retired colleague did not hold a license to practice in South Carolina. In addition, he could prove to be a distraction in the operating room, impacting the health and well-being of the patient. Dr. Grant shared his feelings with Dr. Rader, who reluctantly complied with Dr. Grant's decision. Fortunately, the surgery went very well. The dog recovered uneventfully, and Dr. Rader removed his pet's sutures himself 10 days later. Dr. Grant sent his retired colleague a bill for his services with a 15 percent discount as a professional courtesy.

Dr. Grant soon received a check in the mail accompanied by a letter. Dr. Rader reported that the pet was doing well but that he was as disappointed both in Dr. Grant's refusal to honor his request to participate in the surgery and the minimal monetary courtesy that had been applied to his bill for professional services.

Dr. Grant was flabbergasted. He felt he had treated his fellow veterinarian very generously, but then he remembered that no good deed goes unpunished.Do you think these doctors acted and reacted appropriately in this situation?

Rosenberg's response

Most veterinarians attempt to extend professional courtesy and respect to their colleagues, as Dr. Grant attempted to do with Dr. Rader. But a clinician must also keep in mind the regulations that he or she is bound by when issued a state license. It's true a license isn't required for an owner to humanely administer care to his own pet. But Dr. Grant took on his colleague's pet as a patient and at that point had to meet the standard of care mandated by his licensure.

If Dr. Grant had allowed Dr. Rader to participate in the surgery and order certain medical protocols for his pet, he could have placed himself in a gray area of adherence. In this case, Dr. Grant acted ethically and courteously, while Dr. Rader was out of line. There's no requirement that a discounted bill be issued, and it was inappropriate for Dr. Rader to object to the amount of the courtesy. Hopefully this will not deter Dr. Grant from offering colleagues courtesies in the future.

As for Dr. Rader, retirement was an excellent decision. **dvm360**

Dr. Marc Rosenberg is director of the Voorhees Veterinary Center in Voorhees, N.J. He is a member of the New Jersey Board of Veterinary Medical Examiners. Although many of his scenarios in "The Dilemma" are based on real-life events, the veterinary practices, doctors and employees described are fictional.

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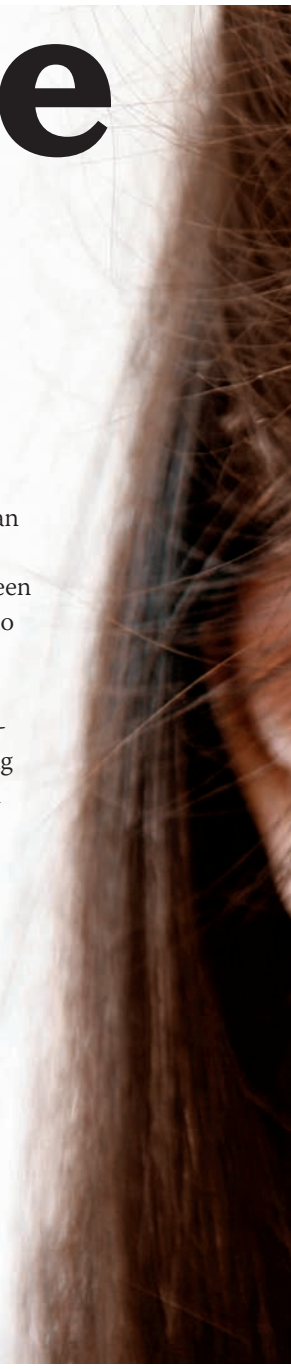
[1] Straubinger RK, Chang YF, Jacobson RH, Appel MJ. Sera from OspA-vaccinated dogs, but not those from tick-infected dogs, inhibit *in vitro* growth of *Borrelia burgdorferi*. *J Clin Microbiol.* 1995;33(10):2745-2751.

[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.

The **biggest lie** we tell ourselves

Hiding from the truth will undermine the way we practice, communicate and provide patient care.



Sometimes we tell ourselves lies to make life easier. We say things like, "I was walking in and out of exam rooms all day long. That counts as exercise," or "There's a ban on cellphones in the office, but everyone will understand that it doesn't apply to me." We kid ourselves to feel better, and it usually works.

To be fair, most of these tall tales are pretty harmless. However, some come back to bite us. There's one particular lie that undermines the way we practice, communicate and provide patient care. It affects how we educate veterinarians and how we operate our clinics. Here's the lie:

If we just tell average pet owners what's best for their pets, they'll do it.

Isn't this a wonderful idea? The problem is that, most of the time, it's not true. And we know it.

Don't get me wrong—this isn't an attack on pet owners. I'm not saying people fail to follow doctors' orders because they're bad people or don't love their pets. Why does it happen then?

The case of the crappy car owner

Sometimes in my lectures to veterinarians, I talk about the type of car owner I am. (Spoiler alert: I'm awful.) I love my car and use it extensively. I fully understand how much I depend on it and what a bind I would be in without it. Yet I don't take very good care of it.

When it comes to fixing problems, I head right to the shop. I'm just not so great about the regular maintenance. The auto places always give me a list of what's best for my car. It's just that life/work/parenthood/finances/time keep getting in the way.

One day, after I made this confession in a talk, a feline practitioner shared her candid feedback with me. She said, "You know, you shouldn't tell that story about your car." I asked her why not. "Because it makes you look like one of those bad cat owners. The ones who never come in on time. You don't want people to think that's you."

But here's the thing: That is me. And it's probably you. It's almost all of us.

How many people have cars that are due for maintenance? How many of us are past due for a physical or a dental appointment? Is anyone putting off funding a retirement account or college fund?

Listen, I'm not actually a bad cat owner. My pets receive great care not only because I'm a certifiable animal lover, but because I'm a trained veterinary professional. That's not the case for the vast majority of our clients. They love their pets, but they also love their kids, their jobs, their hobbies, the idea of retirement and their teeth. Everyone has only so much money, time and energy, and no one thinks about pet health in their real lives as much as veterinary professionals do. Let's face it: Most people are about as consistent at keeping up with pet care as I am with handling my car maintenance.

What we've gotten wrong—and how we can get it right

For years, I believed that if we just sat down and explained things to pet owners, they would do what was best for their pets. I'm sorry to say that I don't believe this anymore.

While this idea is comforting and makes it easier for us to shake it off when we make recommendations people decide not to follow, it's simply not true. If we can come to grips with that, I think we can modify our approach in two ways to fix the problem:

1. Innovate to communicate. Often, our idea of client education is a single conversation between the pet owner and the veterinarian in the exam room. It's an isolated interaction between a doctor and a person who may or may not be the patient's decision maker. It's also generally unstructured, brief and happening in front of a pet, a natural distraction. In short, it's a frantic mess.

Educating pet owners in this fashion can yield only limited success. If we are going to successfully compel people to take specific actions, the messages we send must be clear, focused and repeated through multiple channels. We must help pet owners understand why we are making the recommendations and what they need to do. Conversation is one way to deliver these messages. Email, text messaging, videos, infographics, blog posts, interesting articles and smartphone apps are just a few ideas. Effective client communication is the single greatest opportunity for innovation in our profession today.

2. Stop abdicating our position. I have a friend who despises choosing a restaurant. In fact, it's nearly impossible to get her to weigh in on any sort of dinner-related decision. The reason is that she doesn't want to feel accountable if the place we visit is underwhelming. She takes comfort in always being able to say, "Well, it was your choice." For a friend and a dinner decision, this is fine. But what if everyone approached choices this way?

Yes, we need to present pet owners with options, but we cannot relin-

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quish our responsibility to guide their decisions. Too often, we say "Well, you could ... " and then present a multiple-choice scenario with options that may seem perfectly clear to us but are confusing to our clients.

We feel good about putting the choice in their hands, but then we wonder why they so often default to choosing the cheapest option. (The one element that's not confusing in all of this? Price. You don't need a medical degree to understand that part.)

Instead, what if we presented options in the context of making a strong recommendation? For example, we can use statements like, "Based on what we've discussed, the plan I'd recommend is … " or simply, "To address your concerns, we need to … " We can use these phrases and still give people options. However, they offer clear direction on how best to move forward and take advantage of our education, training and experience.

If we are acting ethically, listening to our clients and their needs and practicing a good standard of care, we should be able to give options while also making clear what path we believe will best serve the pet and owner. When we refuse to commit to any recommendation, we abdicate our position as a guide, consultant and doctor. I believe that also means we fail our clients.

Letting go of the biggest lie we tell ourselves in veterinary practice means we have to make some changes. We have to change how and what we communicate in order to increase the odds that pet owners will take the best action for their pets.

In that way, we can ensure that when we tell clients what's best, they're hearing it and doing it. We can turn the lie into a truth.
I think I'm ready. Are you? dvm360

Dr. Andy Roark practices in Greenville, South Carolina. He is the founder and managing director of veterinary consulting firm Tall Oaks Enterprises. Follow him on Facebook or @DrAndyRoark on Twitter.

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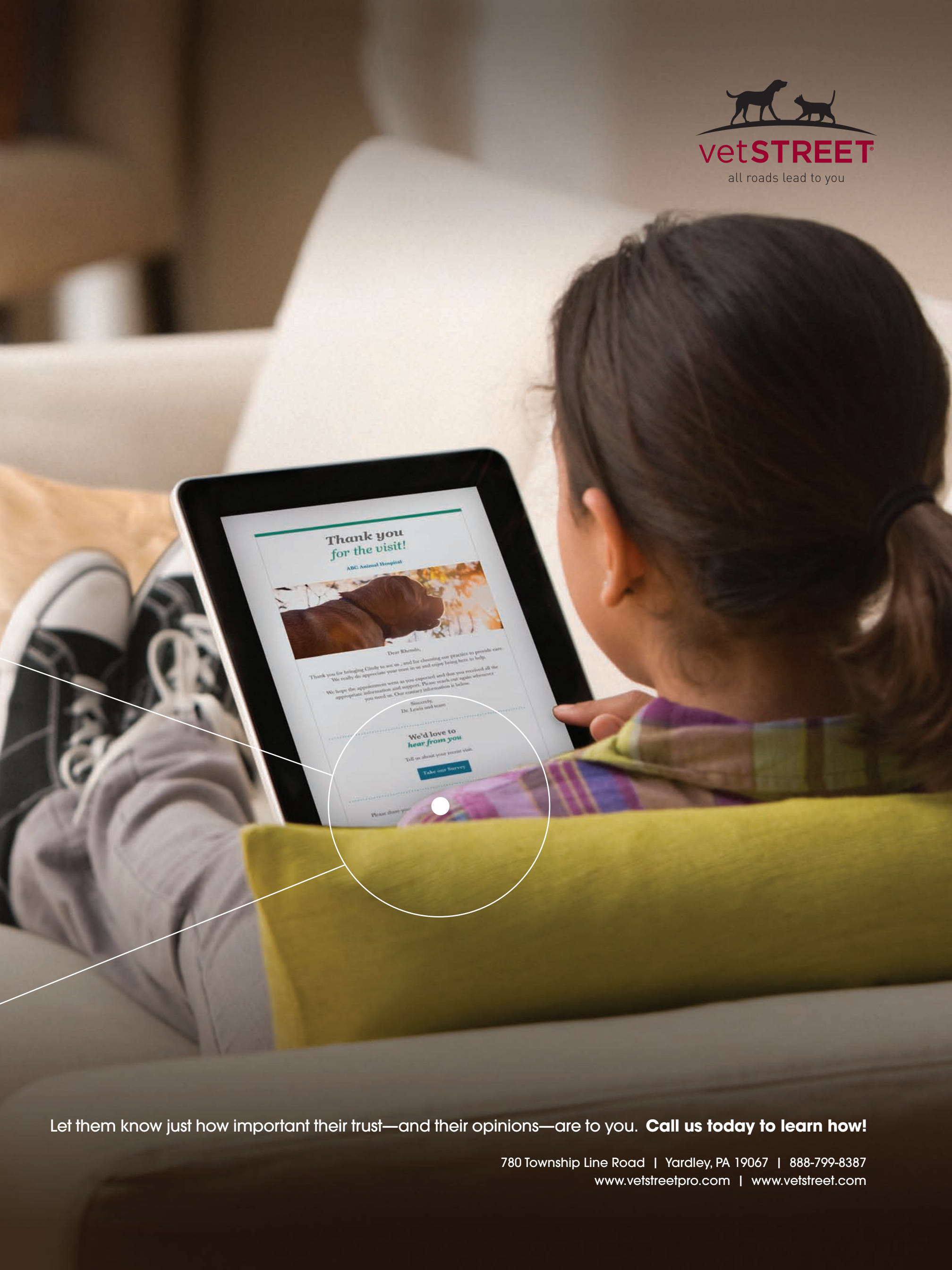

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Protect your practice from third-party **troublemakers**

The employer-employee relationship holds unforseen dangers for practice owners. Make sure you keep excellent employee records, and you'll be better prepared for possible litigation.

There's a new development in employment law. Just when you thought your practice had a handle on unemployment, workers' compensation, minimum wage and the Affordable Care Act, yet a new headache has emerged. Are you prepared to deal with employer-employee problems that originate solely with an individual who is outside the employment relationship?

Although it may seem far-fetched that an employee-related problem could stem from someone outside of the workplace, you may have already seen examples in your own practice. Ever have a receptionist go through a breakup, only to have the jilted partner show up at your practice either begging her to get back together or swearing at her for ending the relationship? If the behavior stops soon, no problem. But what if she can't (or won't) dissuade the ex from coming to the clinic and putting on a show in front of your clients?

One day, the office administrator at the pet clinic begins getting insulting and downright abusive texts from Joan's number.

Do you take out a restraining order? Move the receptionist to behind-the-scenes tasks? Fire her and avoid the headaches? There are a lot of options, but none of them are ideal. Let's keep this relatively common outside-party mess in mind while we consider the more serious, real-life example that one of my legal clients recently experienced with an employee.

Karen is an exam-room attendant at Greenwich Village Pet Clinic in New York City. Her job performance is fair—she's been written up for laziness, but the clients and other staff members like her so she's managed to keep her job for a few years. Karen's live-in partner, Joan, is chronically unemployed and relies almost exclusively on Karen's income.

One day, the office administrator at the pet clinic begins getting insulting and downright abusive texts from Joan's number. The texts say that Karen isn't getting paid enough. Joan peppers the texts with profanity, sexually demeaning expletives and personal insults. And, in a ridiculous and foolish twist, Joan signs the texts "Dr. Slater"—the name of the clinic owner.

You can't make this stuff up! And I haven't, because except for the names and a few other minor changes, this is exactly what happened.

Clearly, something has to be done. The situation is toxic and complex and can't be allowed to continue. Let's study this third-party employee problem and consider what can be done both to solve it (with minimum impact on business) and to prevent something similar from happening again.

Options

What would your next step be?

> Confront Karen?

Positive: She might be able to control her partner and that could help diffuse the problem.

Negatives: 1) Bringing it to Karen's attention could easily exacerbate the problem. 2) Discussing it with Karen reveals that if she's subsequently discharged, it's not her behavior that's causing the consequence.

> Fire Karen without explanation?

Positive: The problem is immediately resolved after the locks are changed and the clinic security system is recoded.

Negatives: 1) The inevitable unemployment claim could be long-lasting and almost impossible to defend against. 2) Staff morale is upended. As far as the other employees know,

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Karen has done nothing wrong and wasn't even given two weeks' notice or a severance check. "Might I be next?" they wonder. The drama is certain to be intense and destructive. 3) You might have some serious cynicism or self-doubt. Can you feel good about firing somebody for another person's acts? Or should you be infuriated that Karen and Joan might have been acting in concert so that Karen could stop working and have an almost perfect case for receiving unemployment coverage?

No doubt, the decision to fire Karen involves many critical considerations. But think about it on an even deeper level: What additional legal ramifications could exist in this third-party-induced firing? Is there, in addition to everything else, a serious risk of placing the clinic in the crosshairs of a wrongful termination lawsuit?

Taking action

In most jurisdictions, with the absence of a contract or labor union, employers are generally free to fire employees for nearly any reason. However, the Civil Rights Act of 1964 and numerous other federal and state laws prohibit firing an individual for certain reasons. At the same time, it's an absolute legal obligation of employers to protect their employees from sexual harassment and an abusive work environment.

Consider how these laws affect the owner of Greenwich Village Pet Clinic. Dr. Slater must do her best to avoid a lawsuit by her office administrator for Joan's sexual harassment.

The only way to do that is simply to make it stop. Simultaneously, she must handle Karen in such a way as to avoid a claim that she wrongfully discharged her (fired her because of her gender, age, religion, race and so on. If, due to the delicate circumstances, no reason is given for the firing, the vulnerability to such a lawsuit is likely greater.

Fortunately, the story has a good ending! Dr. Slater had been doing all the right things to protect herself and the clinic from all types of employee lawsuits. You should strongly consider adopting her practice's policies:

First, the clinic maintains a clear and detailed employee handbook that outlines what behavior will and will not be tolerated. It explains that any illegal or inappropriate acts perpetrated against clinic workers will be handled promptly and will be pursued to the fullest extent of the law. (In the Greenwich Village case, the police did become involved in dealing with Joan.)

Second, employee files are maintained on all staff members. These files include all of the details of each employee's initial interview, any requests for pay raises, how those are answered, as well as any additional pertinent information about each worker.

Third, each employee receives regular reviews conducted jointly by the office administrator and the clinic owner. Detailed notes are taken about any oral understandings, admonishments or corrective actions taken with each employee. In this case, the office administrator was interviewed by the practice owner and served as a witness in order to document the events related to the inappropriate texts from Joan's number.

Ideally, written transcriptions of that texted material would also be obtained from the cellular phone provider. (Or in the case of voicemails, a CD of any verbal abuse or threats would be created.)

So how did quality record keeping and a detailed employment file help Dr. Slater deal with the abusive text messages that originated from Joan's cell phone number?

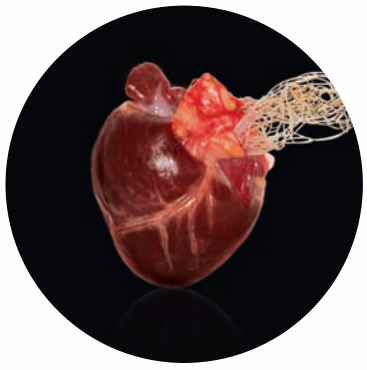
She fired Karen immediately without explanation and felt comfortable. Having read through Karen's employee file, it was immediately clear that Karen could never hope to bring a credible claim for discrimination, unlawful discharge or virtually any other employment-related matter. Karen's file revealed that she had zero credibility!

In the employment file was full documentary evidence that Karen had recently been brought up on charges by the state's unemployment insurance department for receiving and cashing unemployment checks from her previous employer while simultaneously working full time at Greenwich Village Pet Clinic.

The New York Police Department spoke to Joan and explained that they had reviewed the texts and highly recommended that the clinic manager press charges. The manager declined to pursue that option.

While it's impossible to eliminate the chance of a lawsuit resulting from the acts of a third party, good documentation and well-established employee management protocols can help ward off undeserved legal issues. **dvm360**

Dr. Christopher Allen is president of Associates in Veterinary Law PC, which provides legal and consulting services to veterinarians. Call (607) 754-1510 or e-mail info@veterinarylaw.com.

SAY NO  TO HEARTWORMS.

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[3] Of dogs showing a preference in two studies conducted, all dogs preferred HEARTGARD Plus Chewables to IVERHART PLUS® (ivermectin/pyrantel) beef-flavored tablets; Executive Summary VS-USA-37811 and VS-USA-37812.
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[5] Of dogs showing a preference in one study conducted, all dogs preferred HEARTGARD Plus Chewables to SENTINEL® SPECTRUM (milbemycin oxime/ praziquantel/lufenuron) beef-flavored tablet; Executive Summary VS-USA-37801.
[6] Opinion Research Corporation, Heartworm Prevention Medication Study, 2012. Data on file at Merial.
[7] Data on file at Merial.

See brief summary on page 40

Beware of your own anger

What you deem as an appropriate emotional reaction may be perceived as much more by your veterinary team.

Dr. Dan Sizemore comes barreling down the hallway behind the exam rooms. He wears a distinct look of exasperation mixed with anger. His eyes are narrowed. Brows knitted and forehead furrowed, he spies … Heidi, his technician.

"Where is the lab report I asked for yesterday on the Miller cat?" Dr. Sizemore bellows. "The lab told me two days ago it had been faxed here Monday. Mrs. Miller is very upset. Why can't my staff get these reports to me?"

Heidi Jones happens to be the only person in the room. Dr. Sizemore's voice is strident and his face is a little red. In short, he seems angry. She knows nothing about the lab report but answers anyway. "I'll see what I can do immediately."

Just then time at the veterinary hospital is suspended. Sigmund Freud walks through the wall and asks, "Dr. Sizemore, are you angry?"

"I'm very concerned about this situation and it needs to be resolved immediately. But let me clarify—I am not angry," Sizemore says.

Freud turns to Heidi. "Does it appear to you that your boss is angry? Do you think his anger is directed at you?"

"Can he hear me talking to you?" she asks. Freud answers in the negative. "Then yes," Heidi responds. "He seems very angry to me. He's talking to me, so I suppose he is angry with me and thinks I'm responsible for the lab report. It may affect my job … I don't really know, but it makes me wonder."

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Once time and space return to All Pets Vet Clinic, Dr. Sizemore forgets the conversation within 10 minutes. Heidi remembers it forever.

Avoid angry

Are you a boss who likes to take authority? Do you demand immediate results? Do you relish taking on challenges and solving problems? This may seem like a great combination of assets for a veterinary employer, but this type of person often has a dominant personality with behaviors that are difficult to work with.

Remember: When you're the boss, there's an invisible wall between you and your employees. How transparent and thin that wall becomes is a function of how you react to your team members. This is especially true when the constant drivel of small frustrations finally boils over into apparent anger.

Your reaction to problems is very important for the health of your practice. Often as the boss you may not even realize that employees perceive your reactions to frustrations as anger directed at them personally. In your view, you may honestly and sincerely think you're reacting appropriately to the frustration of the moment. But your employee perceives this as anger directed at her. She senses this because:

> You are the boss.

> Your tone of voice and increased volume level indicate anger.

> Your facial expressions consist of a glare, knit-together eyebrows and so on.

> Her emotions tell her that your behavior is personal and punitive.

This kind of boss rarely attaches his reaction to the employee personally and may forget the conversation took place altogether. The employee, however, may hold on to the exchange for a long time. If your employee sees your reaction as anger, she will be reluctant to bring problems to your attention. And this is the opposite of what you want.

Here are some actions you can take to rectify the situation:

> Realize that it's unprofessional to express anger in the workplace.

> Realize that your body language and tone and level of voice may be perceived as anger whether that's your intention or not.

> Realize that, as the boss, you have a level of responsibility to the organization that requires leadership with regard to personal demeanor.

O would some power the giftie give us to see ourselves as others see us.
—Robert Burns

> Realize that we are human and we all get angry at times.

It's important to note that although anger is normal, the expression of it is a problem. The simplest and best way to avoid an emotional boil-over is to take yourself out of the situation. In other words, walk away. It's better to talk about it when you're in a different frame of mind.

There were times in my own practice that I was Dr. Sizemore. A former employee pointed this out. Believe me, I was in a state of shock. How many times was I perceived to be angry by an employee while I perceived it as simple "concern" on my part? We all should learn from our mistakes. I hope you will learn from mine. **dvm360**

Dr. David Lane owns and manages two practices in southern Illinois. He has a master's degree in agricultural economics and is a consultant, speaker and author of numerous practice-management articles. He can be reached at davidlane1948@yahoo.com.

MEDICINE | Internal medicine

New studies in internal medicine: Bacterial infections

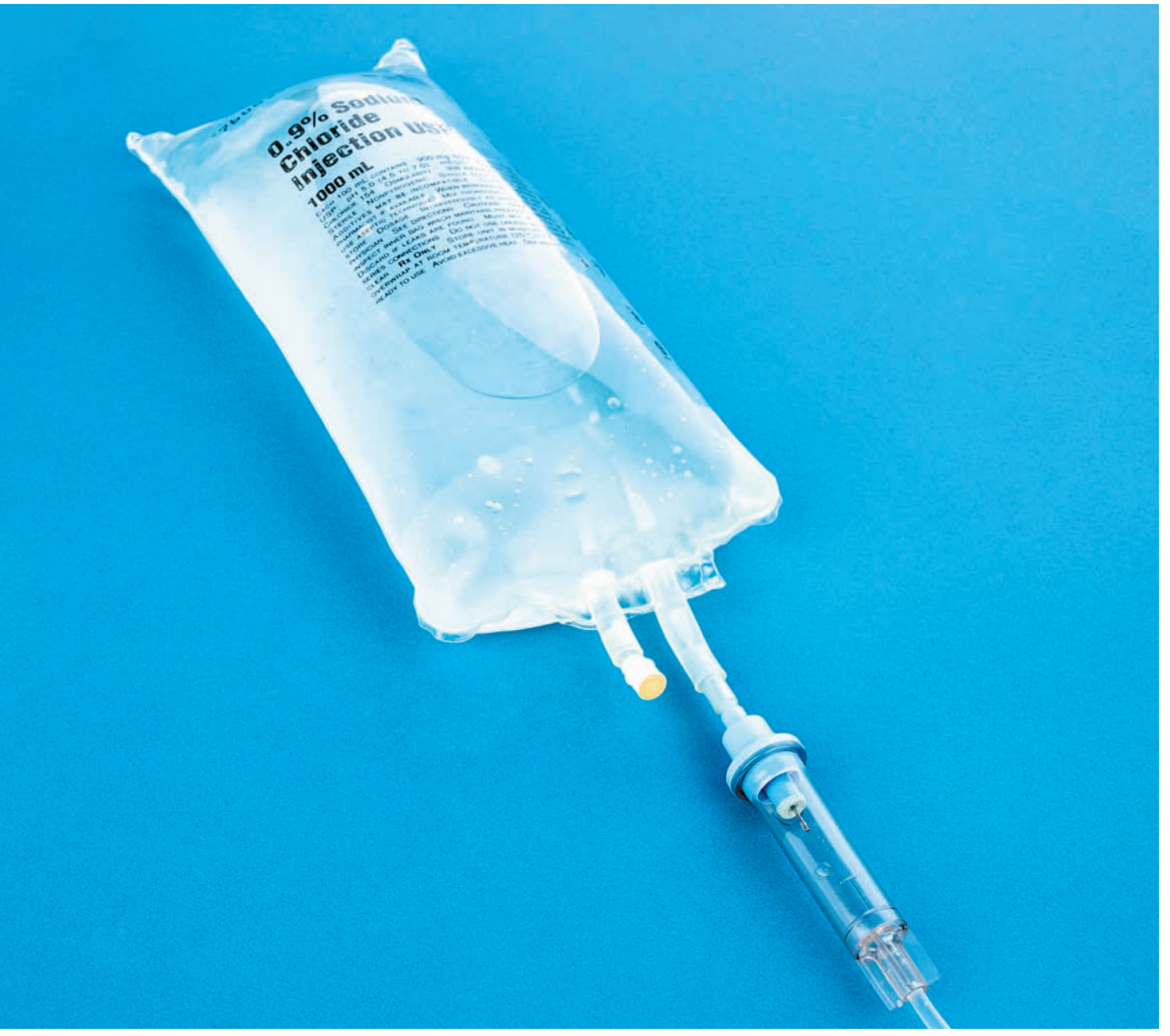
The latest information on bacterial contamination of fluid bags and ports, plus new tests for leptospirosis.

By Anthony P. Carr, Dr. med. vet., DACVIM

Bacterial infections should concern any veterinarian, particularly if they are caused iatrogenically. Recent studies, briefly described below, found only minor levels of contaminations in reused intravenous fluid bags but more on ports after several days. And new in-clinic tests for leptospirosis show promise.

Intravenous fluid bag colonization

Although we all know it's a less-than-ideal practice, many of us still keep a bag of fluids that we periodically reuse. In some cases these bags are used for subcutaneous fluid therapy in multiple patients or in the same patient (a relatively common practice in cats with chronic kidney disease for which the owners administer the fluids at home).



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COMMENTARY **M5**
Chasing Rylee: The search for a runaway dog

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Of course, when the bag is punctured to obtain fluids, there's always the risk of bacterial contamination. Indeed, studies show that contamination can occur in veterinary multiuse medication vials. One study found that 18% of multidose vials at a veterinary teaching hospital were contaminated with bacteria, in some cases with organisms that clearly were pathogenic.[1] This study also cultured saline bottles and found that over a third contained bacteria.

Researchers from The Ohio State University looked for bacterial contamination of fluid bags in a veterinary emergency room (ER) and intensive care unit (ICU). The researchers used 1-L bags of saline (n=90) punctured three times daily. Samples were cultured on days 0, 2, 4, 7 and 10.[2] The bags in the ER showed no bacterial growth on days 0 or 2. On day 4, 1.1 percent of the bags had positive test results for bacteria, and on days 7 and 10, 4.4 percent had positive results. None of the bags in the ICU were positive at any time point.

The injection ports were also sampled with a swab, and the following bacterial growth was found:

- Day 0: 4.4 percent
- Day 2: 12.2 percent
- Day 4: 17.8 percent
- Days 7 and 10: 31.1 percent

Most contaminated ports were in the ER.

The results of this study, which were presented at the 2013 International Veterinary Emergency and Critical Care Symposium, suggest that bacterial contamination of fluid bags used over a longer period is rare but does occur. If the bag is used for only two days, the risk of contamination appears to be low. Infection of fluid bags may be linked to the severity of port contamination.

A previous study showed that if an alcohol swab was used before inserting a needle into a port, the introduction of bacteria into the vial was significantly reduced.[1] This study also demonstrated a much higher prevalence of bacterial contamination in bottles of saline solution.

The differences in the results of these two studies may be related to environmental differences in which the bags were used. It's possible that the ER or ICU staff paid close attention to hand hygiene and suitable practices when taking fluids from a bag, something that may not occur in a less-intense practice environment.

The takeaway: Although not an ideal practice, multiple uses of intravenous fluid bags is feasible, although attention should be paid to appropriate port disinfection before removal of fluids, and the bag should be discarded after two days.

Multiple uses of intravenous fluid bags is feasible, although attention should be paid to appropriate port disinfection before removal of fluids, and the bag should be discarded after two days.

Leptospirosis

In some geographic areas, leptospirosis is a leading cause of kidney disease in dogs. The resurgence of this pathogen has occurred as a result of disease caused by serovars other than *Leptospira interrogans* serovar *canicola* or *Leptospira icterohaemorrhagiae*, which had previously been the most common serovars associated with clinical disease in dogs.

Another concern is that leptospirosis is potentially zoonotic, and veterinary healthcare team members can be exposed to the organism through contact with urine from infected dogs. In one study, blood was taken from 511 veterinarians who attended the 2006 American Veterinary Medical Association convention and assayed for various *Leptospira* serovars using a microscopic agglutination test (MAT). Of the veterinarians tested, 2.5 percent had positive test results, with the most common serovar being *Leptospira bratislava*.[3]

Generally, any dog that presents for

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acute renal failure should be treated as a leptospirosis suspect, and appropriate precautions (e.g., gloves, hand washing) should be taken until the dog can be tested, even though it can take several days to get results. Many dogs are subclinical carriers.

In a study done in Michigan and prior to the introduction of the newer vaccines, almost 25 percent of otherwise healthy dogs had titers that suggested exposure to leptospirosis, especially serovars *L. grippotyphosa* and *L. bratislava*.[4]

Vaccine versus natural exposure. One of the diagnostic challenges of leptospirosis is determining if an elevated titer on an MAT test is from vaccine or natural exposure. Although various cutoffs have been proposed, it's still a challenging task.

A study from Colorado State University, the results of which were presented at the 2013 American College of Veterinary Internal Medicine (ACVIM) Forum, investigated the impact of vaccination on MAT titers.[5] Twenty-three healthy dogs were given one of four vaccines that contained *L. canicola*, *L. grippotyphosa*, *L. pomona* and *L. icterohaemorrhagiae* serovars. They had received two doses of the same vaccine about a year previously. Blood samples were collected before vaccination and four weeks later.

After one year, 20 of the 23 dogs had negative test results for MAT titers. Four weeks after vaccination, about 50 percent of the dogs had an MAT titer ≥ 800 for at least one serovar. The vaccines have undergone duration of immunity studies showing efficacy at protecting against disease one year after vaccination. A markedly elevated titer, even in a vaccinated dog, probably indicates natural exposure, unless the vaccination was given recently.

The in-clinic test doesn't replace the MAT or PCR test in diagnosing leptospirosis. But provided it becomes commercially available, it does offer a rapid in-house test with relatively accurate and helpful results.

A new in-clinic test. Another major issue with testing for leptospirosis is that the MAT generally has to be done at a reference laboratory, and it may take several days before results become available. PCR tests are available for testing blood or urine for leptospirosis antigens, but again, it may take time to get results back. IDEXX Laboratories recently started offering an ELISA based on detection of antibodies to LipL32. This protein is present only on pathogenic *Leptospira* species.

At the 2014 ACVIM Forum, a study was presented that looked at an in-clinic version of this test.[6] The researchers looked at 403 serum samples that were submitted for MAT testing. Of the samples, 202 were positive (MAT titer ≥ 800), and 201 were negative based on MAT. Sensitivity was 83 percent, and specificity was 82 percent. This means that of the 201 positive results, the test picked up on 168 of them. Specificity refers to true positives, so 82 percent of the cases that were positive on the in-clinic test were positive on the MAT; 18 percent were false positives.

One issue with these statistics is that an MAT titer ≥ 800 was considered positive. Some of the cases that were positive on the in-clinic test may have had titers on MAT, just not ≥ 800. The investigators also looked at 150 sera from dogs in the state of Alaska in which the disease essentially doesn't exist. In this case only 4 percent false positives were found.

These results are quite promising. The test isn't 100 percent with regard to sensitivity or specificity, but it is pretty good, and the major benefit is that it can be run in the clinic immediately.

The takeaway: Given the results of this study, I would consider a positive result on the test highly suspicious, and if the clinical signs fit, I would handle the patient as if it had leptospirosis. I probably would continue to use appropriate infection-control procedures if the patient had negative results on the in-clinic test, simply because of the risk to people, but I would be a bit less concerned. Of course, the in-clinic test doesn't replace the MAT or PCR test in diagnosing this disease. But provided it becomes commercially available, it does offer a rapid in-house test with relatively accurate and helpful results. dvm360

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More on lepto

Internal medicine specialist Dr. Mary Bowles tells you when to suspect and how to manage this chameleon-like disease at dvm360.com/leptotips.

>>>A happy pair. Dr. Jan Bellows and Rylee.

Chasing Rylee: The search for a runaway dog

Dr. Jan Bellows recounts the dramatic four-day search for his beloved missing pet—and what he learned along the way.

By Jan Bellows, DVM, DAVDC, DABVP, FAVD

Thursday, Day 1

Just after midnight on New Year's Day, she was gone—my long-distance running buddy, Rylee, an obedient 18-month-old German shorthaired pointer. She had been sleeping on the couch, and as our friends exited the front door after a fun New Year's Eve party, out she ran, spooked by the fireworks. My wife, Allison, screamed, "Grab her!" as I felt her smooth hair slip through my hands. But it was too late. She was gone into the black night.

>>>Desperate measures. Dr. Bellows hired a helicopter pilot to help out in the search for Rylee.

Our gated south Florida neighborhood is surrounded by water and fencing. Rumors of hungry alligators and of poisonous *Bufo* species toads abound. Where could she be? Her collar with her rabies tag, which was removed before bedtime, was lying on the kitchen table.

One of our friends jumped in the car to search with Allison. The other couple took a second car, while I ran with a flashlight up and down the street calling her name. We notified the local police, who joined the search at 2:30 a.m. with bright lights, but there were too many places for her to hide. At 4:30 a.m. we suspended the search until daybreak.

By 6:30 that morning I was on my bike and riding through the community—15 miles up and down streets, stopping in backyards, calling out her name. Nothing. Allison was outside hanging up posters in our community, but I felt I had to do more. Upon my urging and against her better judgment, Allison secured a helicopter and a pilot to help me scan the dense bushes and waterways that surround our homes. To complicate matters, the sky was darkening, and it began to rain. Within minutes, we were over our community, hovering 300 feet above our streets and waterways for over an hour. Still, no sight of Rylee.

Allison announced Rylee's disappearance and our plight on Facebook and bought advertising to reach 40,000 people. She posted Rylee's picture and information under the lost-and-found section on Craigslist and FindFido. I drove to the Fort Lauderdale Humane Society and Animal Control to make sure she wasn't picked up, turned in or dead. No one had seen her. I dropped off her posters at all the local veterinary practices, hoping that someone might bring her in if she was found injured.

Her second evening out alone was quickly approaching. Allison called a pet psychic, who saw a large hedge next to a swimming pool and Rylee still in our community. She recommended that we fry some hamburger meat (not something that we vegans would have on hand), walk down the block near an open field, sit on the curb and loudly remark how the food tasted. Allison found a can of beef dog food and fried it. At 11 p.m. we walked home to an empty yard once more.

>>>An aerial view. Would this elevated vantage point help Dr. Bellows find Rylee?

>>>On the right track? A nose-scent tracker joined the on-ground forces to find the lost Rylee.

Friday, Day 2

Allison and I were up by sunrise, walking behind the homes in the community to see if she was in the underbrush. Our "gated" community is rife with areas of downed fences and sharp wires poking up. She could have easily crawled out and headed west to the Everglades or into someone's car.

One of my clients emailed the website of a professional pet tracker, Karin Tar-Qwyn from Nebraska, who employed a local tracker named Jamie. The company boasts a 90 percent recovery rate. Ironically, the longest track they'd done was 50 miles for a German shorthaired pointer, just like our Rylee. Her first suggestion was to get larger laminated signs from an office supply store, wooden stakes and zip ties. Jamie would meet us at 10 a.m. on Saturday with three tracking dogs to begin the search. She advised us to get an object with Rylee's scent and wrap it in gauze.

Saturday, Day 3

At 5:30 a.m. I met with my running group outside our neighborhood, asking them to be eyes and feet on the ground. I spent the next four hours running through swampland calling Rylee's name to no avail. Jamie, the tracker, arrived at 10 a.m. with three of her dogs: Fletcher, an air-sniffer tracker; Kaya, a nose-scent tracker; and a third dog that we weren't introduced to. The office supply store let us know that the order of 100 signs was too big for them to handle and that they could get the order done in three days rather than by 5 p.m. as promised. Jamie argued with the manager, and they informed us that some or all of them would be ready by 5 p.m.

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Bufo species toad toxicosis

Follow along on the case of a Yorkshire terrier that consumed a *Bufo* species toad at **dvm360.com/BufoCase.**

PHOTOS COURTESY OF DR. JAN BELLOWS

Fletcher was all business. Jamie gave him Rylee's scent and he began tracking. When he was finished, Jamie took the second dog out, who followed the exact path. Jamie emailed the route to Karin in Nebraska. Both felt Rylee was out of the community. Jamie asked us if we wanted Karen to bring the super tracking dogs from Nebraska. The answer was "yes." Karin made plans to bring three of her dogs and placed her other dogs in boarding, promising to be at our house in 29 hours. Allison went to pick up the signs, argued with the manager (who wanted to charge double the quoted fee), brought them home and attached them to the stakes. From my office, Dr. Hannah Duranleau, Dr. Elizabeth McMorran, her husband Siggi, our son Dr. David Bellows and Tiffany Grande got directions from Jamie on where to place the signs. Allison and I were out until midnight, exhausted, with 12 more signs to go. It was going to be Rylee's third night alone, and we hoped she was dognapped—at least she would be inside.

Sunday, Day 4

I went out with the remaining signs by 6:30 a.m. and discovered that all of the signs placed in the local country club were gone. Their management doesn't allow them. Allison took a call at 9:15 a.m. from a man named Bob, who lives about a mile from our house. He said he had Rylee. He explained that he saw something in the bushes near his home as he was walking his dog and went over to see what it was. He could see that it was a dog and was able to coax her out from the bushes. She was in bad shape, he explained, couldn't walk and tried to pull herself toward him. He picked her up and carried her to his home. He then called us after seeing the posters. Allison and I sped to the home and found Rylee. She was lying on the floor bleeding from her mangled paws, but she was alive. Time to have a good cry.

>>>A successful campaign. These prominent signs in Dr. Bellows' neighborhood eventually led to the breakthrough that he and his family were waiting on pins and needles for.

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See more online

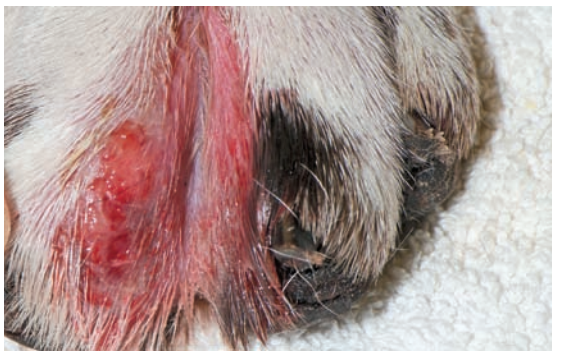
Dr. Bellows captured additional images from Rylee's harrowing adventure. View them all at dvm360.com/Rylee.

Epilogue

Once we found Rylee, it was time to assess her injuries. All four of her feet were swollen and bleeding. We're not sure why. Perhaps she was trying to claw her way out of danger on her way toward home. Her blood values were consistent with infection, dehydration and malnutrition (a low protein concentration). Culture of her feet found multisensitive bacteria.

Now, three months later, she is back to running mega mileage, but she still has a claw bed disease where the sides of four claws grow but not the middle, creating hollow keratin structures.

We are not sure where Rylee spent the four nights—did she make it out of the community but then claw her way back? Why were her feet in such bad shape? She was a runner, used to 20 milers without a scratch. What happened? Only Rylee knows, and she is not talking. **dvm360**



Dr. Jan Bellows owns All Pets Dental in Weston, Florida. He is a diplomate of the American Veterinary Dental College and the American Board of Veterinary Practitioners. He can be reached at (954) 349-5800; email: dentalvet@aol.com.

>>>Reunited! Despite some sore feet, Dr. Bellows and Rylee had a happy reunion.

Search smart

Looking back on his rescue efforts, Dr. Bellows discusses what worked—and what didn't.

Signs: Ultimately, it was one of our signs that reunited us with Rylee. Get the word out by ordering 11x14-inch laminated posters from an office supply store. Staple them to a stake and zip-tie the posters to posts in the area.

Social media: Check to see if your local community or homeowners association has a blog or email list to spread the word to your immediate neighbors. We were also surprised at how quickly and effectively the word spread via Craigslist.

Pet psychic: Of all the advice and "leads" we got, the information from the pet psychic (www.calmpet.com) most closely reflected the actual truth—Rylee was still in our community.

Animal agencies: Visiting animal control, humane society and local animal hospitals. Many caring folks who see an injured animal scoop them up and bring them to a local animal hospital. Rylee had a microchip.

Microchip tips: Rylee's microchip was only registered to our clinic, not a national registry. Be sure to register your pet nationally. It's also a good idea to add a name and number not in your area in case a hurricane, tornado or other natural disaster shuts down local phone or cellular service.

Pet tracking: In our geographical area there were too many places for Rylee to go, so it was hard to accurately track her. We spent the day going in circles. As for the Nebraska-based tracker, she turned around once we found Rylee and only charged us for 2.5 hours of her time.

Helicopter search: This effort made me feel like I was being productive, but it may have actually scared Rylee further under the bushes.

Facebook ads: If we had to do the Facebook ad again, we would have filtered it down to our immediate area.

The most effective strategy: Don't give up!

EQUINE | Surgery STAT

How to perform a regional limb perfusion in horses

This method of delivering antimicrobials to the limbs of equine patients is easily performed in the field or in the clinic.

By Amy Poulin Braim, VMD, DAVCS (large animal)

Wounds to the distal limb can be a common occurrence in horses. Depending on the location and underlying structures involved, treatment of these injuries can be challenging, and systemic antimicrobial selection can be limited due to cost and availability.

Performing a regional limb perfusion in a horse is a relatively easy and effective method to provide a high concentration of antimicrobial therapy to the soft tissue structures, joints and bones within the distal limb. This technique is a good adjunct to medical, surgical and systemic antimicrobial and local wound therapy to improve the response to treatment.

Considerations

Regional limb perfusions can be performed in an anesthetized horse or in a standing sedated horse with a local regional anesthetic block, depending on the disposition of horse, injection site and the location of the placement of the tourniquet. For the distal forelimb, a low four point or lateral palmar block

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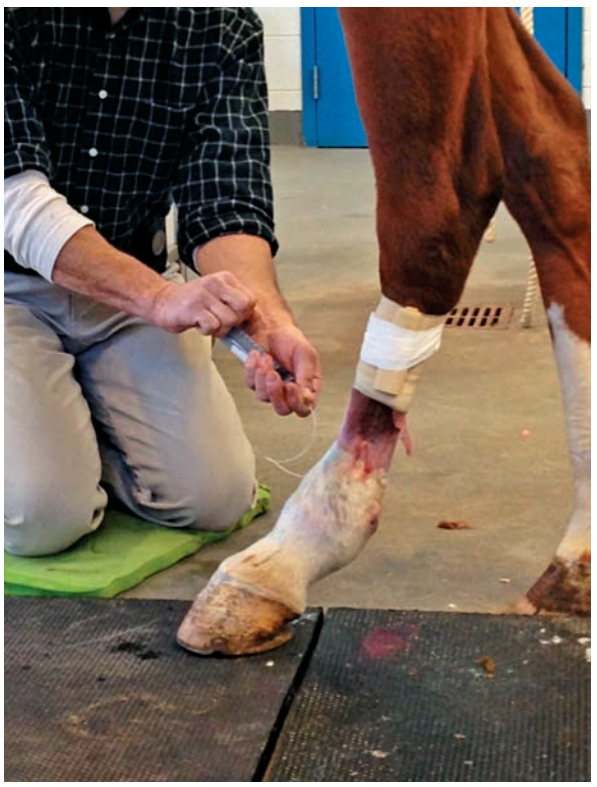

>>> Figure 1. An example of hind distal limb regional limb perfusion. (Photo courtesy of Dr. Greg Staller, DVM, DACVS, Running 'S' Equine Veterinary Services, Califon, New Jersey.)

>>> Figure 2. An example of front limb upper limb regional limb perfusion. (Photo courtesy of Dr. Liberty Getman Tennessee Equine Hospital, Thompson's Station, Tennessee.)

with or without a dorsal ring block can be performed. For hindlimb wounds, a low or high four point or origin of suspensory with dorsal ring block is effective. For proximal cannon bone wounds, targeting the carpal and tarsal regions, a median/ulnar block can be performed for the forelimb and tibial peroneal for the hindlimb.[1]

The regional anesthetic block should be performed proximal to the location of the regional limb perfusion injection, which should be proximal to both the wound itself and tourniquet placement. This will allow for complete desensitization of the area and reduction of discomfort from both the tourniquet and the increased intravascular volume that may be felt after infusion of medication.

Sites for injection include the medial or lateral palmar/plantar digital veins for distal limb wounds (below the carpus/tarsus) (Figure 1) or the medial cephalic (forelimb) or medial saphenous (hindlimb) vein for wounds in the proximal metacarpus/tarsus or carpal/tarsal region (Figure 2).

Perform the procedure in an open, clean, dry, quiet environment with good footing, adequate sedation and appropriate handling. Once the tourniquet is in place, be sure to keep the animal still, without buckling, resting a limb or walking, as this lessens the effectiveness of the tourniquet (and thus the procedure) by allowing possible escape of blood and antimicrobials into the systemic circulation.

Supplies needed

- Appropriate intravenous sedation to last approximately 45 minutes
- Chlorhexidine and alcohol soaked 4-x-4 gauze sponges or other aseptic preparation materials
- Sterile gloves
- Mepivacaine to perform a regional nerve block of the distal or proximal limb to be perfused
- Esmarch tourniquet (10-cm wide rubber bandage)
- Brown gauze x 2
- 25-, 23- or 21-ga butterfly catheter with extension set
- White tape
- Dry gauze
- Appropriate antimicrobials with appropriate syringe size selection, diluted for a total volume of 20 to 60 ml .

The type, dosage and combination of broad-spectrum antimicrobials are covered in a variety of textbooks and scientific articles.[2] There are also doses and protocols that remain largely anecdotal. Drug selection and frequency of delivery can be adjusted based on the results of the bacterial culture and sensitivity patterns, if available.

The procedure

- After the end of a surgical procedure on a limb or once a horse is adequately sedated and appropriately blocked for regional perfusion, apply the tourniquet circumferentially to the limb above the level of the injury. You can place a brown gauze roll medially and laterally to the flexor tendons in both forelimbs and hindlimbs to help aid in more uniform compression of the limb by the tourniquet. In proximal limb wounds, place a tourniquet above and an additional tourniquet below the site of injury.
- Aseptically prepare the skin over the distended vein, advance a butterfly catheter into the vessel, secure it and slowly infuse diluted drug over the course of about five minutes. Leave the tourniquet in place for twenty to thirty minutes to maintain a high concentration of the antibiotic within the isolated region.
- You can remove the catheter and apply a small pressure wrap of gauze 4-x-4s held tightly in place around the injection site with white tape to reduce hematoma formation and extravasation of antimicrobials into the perivascular space. Alternatively, if the horse is not moving around, you can clamp off the extension line with a hemostat and tape it to the limb. The butterfly needle can remain in place until the appropriate time has lapsed; the tourniquet is then removed, and a pressure wrap can be placed over the site.

The procedure may be performed daily, alternating the type of antibiotic, or every other day using the same antibiotic. A typical series of regional limb perfusions is a total of three perfusions performed every other day, but guidance to the frequency should be based on reassessment of clinical improvement and could be more or less. **dvm360**

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>>> Paint horses with blue eyes are more likely to experience genetic deafness than other types of horses.

Hearing loss in *equine patients*

These conditions are associated with auditory problems in foals and adult horses. *By Ed Kane, PhD*

Although deafness in horses is relatively rare, equine practitioners who do see signs of deafness in their patients can find the underlying condition challenging to diagnose. However, collecting a thorough history and discussing behavioral and temperament changes with clients can help veterinarians help their patients with complete or partial deafness—in most cases providing a good outcome and a favorable performance outlook.

Reported causes of deafness in horses include trauma, inflammation or infection of the peripheral auditory pathways (for example, temporohyoid osteoarthropathy [THO] and otitis externa or media), and suspected gentamycin intoxication.[1] The failure of sound waves to be conducted from the ear canal to the inner ear is referred to as conductive deafness, while alterations of the neural structures in the auditory pathway result in sensorineural deafness, says Monica Aleman, DVM, DACVIM, of the University of California, Davis, School of Veterinary Medicine.[2]

The presenting complaint with these horses and their owners varies according to the disease present. Common client observations include altered behavior, such as startling in response to environmental stimuli, and training difficulties, such as lack of response to verbal cues. Other signs, such as leaning to one side, head tilt, head shaking, undefined gait deficits, corneal ulceration and dysphagia, have also been reported.[2]

Physical and neurologic examination often reveals clinical signs commonly associated with hearing loss, Aleman notes. These signs include startling when approached and not

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turning the head or ears toward the source of a loud noise. In cases of concurrent conditions, such as brain disease, multiple cranial nerve deficits (mastication deficits with or without masticatory muscle atrophy, facial paresis or paralysis with or without vestibular disease or alterations in alertness) are often noted.

Head shaking and ear rubbing are associated with ear infections. Horses with THO can present with vestibular disease, displaying signs such as head tilt, nystagmus, positional strabismus (abnormal eyeball position upon movement of the head), leaning to one side and ataxia.[2]

Although genetic deafness is most common in Paint horses, any horse with a lot of white or diluted color in its coat can be deaf due to a genetic link between deafness and coat and eye color, Aleman says. A horse can also become deaf after experiencing head trauma. "In thoroughbreds, one of the most common causes of deafness is trauma in the stall or the gate," she says. "If a thoroughbred becomes fractious and has an accident that affects its head or brain, it can lose its hearing."

BAER testing

Although behavioral signs can suggest deafness, the definitive test to determine the presence and extent of deafness is brainstem auditory evoked response (BAER). BAER testing evaluates the integrity of the auditory pathway.

The normal BAER test consists of a sequence of five to seven peaks (representing depolarization of neural structures along the auditory pathway), named I to VII, which occur during the first 10 milliseconds after stimulus onset.[2]

BAER is a noninvasive, safe, inexpensive way to gain diagnostic information. It requires minimal restraint (standing sedation) and provides objective information about the functional status of the auditory system.[3]

General equine practitioners have a number of referral options for facilities with BAER equipment. "Many veterinary schools have BAER equipment in their neurology departments," says K. Gary Magdesian, DVM, professor of medicine and epidemiology at the UC Davis veterinary school. "Some small animal neurology practices would have these also."

Although genetic deafness is most common in Paint horses, any horse with a lot of white or diluted color in its coat can be deaf due to a genetic link between deafness and coat and eye color.

Auditory loss in foals

Here are several conditions that can be associated with auditory loss in foals.

Congenital malformations. These are bony deformations of the skull that cause auditory loss. "We don't see the condition commonly, but we do see it once in a while, especially in miniature horses," Aleman says. "It may be that since they're of such small size—even more so when born—their skulls are thick. And some are born with no acoustic canals. It's uncommon, but it does happen."

Lavender foal syndrome. This is a genetic mutation. "I've tested only one of those foals with a BAER," Aleman says. "I don't know if the deafness was because of the coat color dilution or because that particular foal was also septic. It's possible that it's color-related. We need to look at more affected foals to be more knowledgeable of this condition."

Overo lethal white foal syndrome (OLWFS). OLWFS involves a lack of melanocytes and links white skin pigment, blue eyes and deafness. Melanocytes, which are critical to proper hearing and cochlear function, are derived from the neural crest and migrate to a section of the cochlea called the stria vascularis.[1]

Without melanocytes in the inner ear, the stria vascularis doesn't develop or function normally and may degenerate along with cochlear hair cells (neural hearing receptors), leading to hearing loss, according to Magdesian. Congenital deafness is associated with abnormal migration of these melanocytes from the neural crest and poor survival or development in the inner ear of some animals, such as American Paint horses, with alternations in coat pigmentation (white spotting) and iris color (blue eyes).[1]

Neonatal encephalopathy. One cause of encephalopathy is excess bilirubin, the product of red blood cell (RBC) breakdown. "Bilirubin can be very elevated in foals that have neonatal isoerythrolysis," Aleman says. In these cases, bilirubin accumulates to toxic levels in the brain. In human infants, high bilirubin levels in the brain can induce permanent brain damage, especially to the hearing portion of the brain. Another encephalopathy is found in foals that suffer from hypoxic injury before, during or after delivery, and the damage can be permanent.

Sensorineural deafness. "These are foals that have a genetic mutation," Aleman says. "For example, Paint horses can carry a mutation associated with their skin pigmentation. When you have a stallion that carries a mutation and you cross that with a mare with the same mutation, you increase the chances of having a completely white foal with one or two blue eyes and would produce deafness."

"Sensorineural" means from the neural auditory pathway. An ear infection where the ear canal is plugged with debris is an example of nonneural deafness; the nerve portion of the auditory system is intact. The term "sensorineural deafness" means the nervous part of the auditory system is abnormal—that some part of the nervous portion is affected.

Sensorineural deafness may exist in some splashed white, frame Overo, Tovero and Overo-blend Paint horses, particularly those with large amounts of white on the face and limbs and those with particularly heterochromic or completely blue eyes. In one study, BAER testing confirmed bilateral deafness with complete lack of waveforms in 10 of 10 deaf American Paint horses tested. All of the confirmed and

suspected-deaf horses had one or more blue or partially heterochromic irises.[1]

Hearing deficits in foals appear as complete absence of BAER; this occurs both in neonatal foals with common neonatal disorders (sepsis, neonatal encephalopathy caused by hypoxia, prematurity) and in those with neonatal isoerthrolysis. Congenital or hereditary disorders, such as multiple malformations and particular coat color patterns, can be associated with auditory function impairment.[4]

Neonatal isoerythrolysis (NI). NI occurs when mares have antibodies against the RBCs of the foals and pass these antibodies via colostrum. The antibodies bind to the RBCs and destroy them, Aleman explains. "When the RBCs are destroyed, a breakdown product, bilirubin, accumulates," she says. "Bilirubin crosses the blood-brain barrier and accumulates there as well. Bilirubin is quite toxic to the brain and can damage the auditory portion, producing deafness. Foals with NI are at risk of having encephalopathy because of high bilirubin."

Thus, foals are born with a functional auditory system comparable to that of adult horses when tested at 90 dB HL (hearing level). Brain insults in the perinatal period, such as those associated with sepsis, hypoxic ischemia and marked hyperbilirubinemia, should be considered as potential causes of hearing loss in neonatal foals.[4]

Prematurity can result in a nonfunctional auditory system similar to that reported in premature infants. Furthermore, neonatal foals are commonly presented with a combination of problems, possibly increasing the risk of hearing impairment. Congenital or inherited disorders, such as those associated with multiple malformations and coat color patterns, also should be considered as potential associations with hearing loss.[4]

Auditory loss in adult horses

Deafness can be associated with the following conditions in mature horses.

Sensorineural deafness. As in foals, ensorineural deafness may exist in splashed white, frame Overo and Overo-blend Paint horses, particularly those with large patches of white on the face and limbs and those with partially heterochromic or completely blue eyes.[1] "A minority of horses with these white spotting patterns are deaf, but it's common enough that veterinarians should be aware of the association," says Magdesian.

Temporohyoid osteoarthropathy (THO). THO is a disorder of the petrous temporal and stylohyoid bones that form the temporohyoid joint. Presence of neurologic deficits (facial paralysis and vestibular nerve dysfunction) and abnormalities in the temporohyoid apparatus have been strongly associated with BAER abnormalities.[3]

In one study, all horses with THO that were tested with BAER were

found to be deaf as follows: complete unilateral BAER loss (82 percent), partial unilateral BAER loss (18 percent) on the most affected side, and contralateral partial BAER loss (46 percent).[3]

Absence of identifiable BAER peaks was most compatible with complete hearing loss. Increased peak latencies, difficulty in identifying peaks, or both were suggestive of partial hearing loss. Most horses with THO in this study had a complete absence of waveforms, which is most consistent with peripheral sensorineural hearing loss; however, severe conduction disturbances could not be ruled out.[3]

Auditory abnormalities, such as a completely or partially abnormal BAER, are common in horses with THO.[3] The proposed etiologies of THO hearing loss in horses include inflammation, infection of the middle ear (otitis media interna) secondary to a hematogenous or an ascending infection from the upper respiratory tract, guttural pouches or both, extension of otitis externa, and a nonseptic primary degenerative process that results in arthrosis of the temporohyoid joint.[4]

With THO, owners might notice some eye involvement, though eye damage is not related to deafness per se. "When horses have THO, one sign that horse owners sometimes notice is corneal ulceration," says Aleman. "This is actually secondary to dysfunction of another cranial nerve, seven. Eye involvement has nothing to do with the hearing or hearing loss, only that horses with THO have damage to nerves seven (facial) and eight (vestibulocochlear)."

In conclusion, auditory abnormalities are common in horses with THO. Diseased horses appear to have peripheral sensorineural hearing loss that may be complete or partial, and in some cases of bilateral THO, the horses also have contralateral partial hearing loss.[3]

Training and safety issues

With deaf horses, trainers have to modify their approach so that the horse responds properly, Aleman says. "If the horse has acquired deafness and is already trained, it probably will be easier to adapt to the new situation of being deaf," she says. "Horses that are deaf or become deaf are definitely trainable; they just need specific care to adjust to their deafness."

Magdesian states that many trainers and riders aren't aware of their horse's deafness, which can lead to problems if they assume the horse is not responding to auditory cues. With trainer or rider awareness and the use of visual (when doing ground work like lunging) and tactile cues (when driving or riding), deaf horses perform normally and as well as hearing horses.

With trainer or rider awareness and the use of visual (when doing ground work like lunging) and tactile cues (when driving or riding), deaf horses perform normally and as well as hearing horses.

Aleman notes that with deaf horses, "we just have to be a little more careful. They can startle easier. The newly deaf horse can adapt to its situation. It's not that they're going to be completely dangerous and unmanageable. They just require some special training, and we should avoid whenever possible unfamiliar situations and environments." Handlers should approach horses from a position where they can be seen, which is easily done in horses as their visual field is so wide and has little in the way of blind spots, says Magdesian.

Summary

Other than the results of a BAER test, which are definitive, there are other signs of deafness a practitioner can look for. "When doing an examination on the horse, something very simple can be tried—clap loudly, hiding the action, so the horse doesn't witness it," Aleman suggests. "It will either hear or not hear the noise."

After making a loud sound, look for the horse to turn its ears, adjusting its attention to respond to the sound, possibly moving away. If the horse reacts to the sound, one can assume the horse hears. If not, suspect the animal to be deaf or partially deaf, maybe in only one ear.

Determining whether a horse is partially deaf can be difficult. That's where the BAER test is vital and can easily discern partial deafness. If the horse can hear from one ear, it may respond to the sound but won't be able to localize it. For example, if you're standing on the right side of the horse and it has hearing on that side, either it will move away from you because it knows the sound is coming from that direction, or it's going to turn toward you because it knows where the sound is coming from. A horse needs both ears intact to properly localize sound.

Although a horse may be deaf and therefore have some quirks in its behavior because of its deafness, it shouldn't become a major concern. However, owners need to be cognizant of the deafness, handle their animal carefully and tailor training to its specific needs. **dvm360**

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Legislators waste little time introducing new loan bill

Veterinary Medicine Loan Repayment Program Enhancement Act designed to reduce veterinary shortage in rural areas. *By Julie Scheidegger*

Right out of the gate, Sen. Mike Crapo (R-Idaho) has reintroduced the Veterinary Medicine Loan Repayment Program Enhancement Act in the new session of Congress. While the last Congress—one of the least productive in recent history—failed to take up the bill as part of tax reform or any other piece of legislation, many veterinary leaders, including those in the American Veterinary Medical Association (AVMA), are hoping to see progress this year.

The bill aims to amend the Internal Revenue Code to remove a 39 percent withholding tax on awards granted through the Veterinary Loan Repayment Program, which can total up to $25,000 annually per recipient. This would allow the program, which provides loan repayment aid to veterinarians who practice public health or food animal medicine in designated shortage areas across the country, to grant awards to more individuals and increase veterinary access to ranchers and farmers in need.

"The AVMA has been advocating for the Veterinary Medicine Loan Repayment Program Enhancement Act since 2009, and we will continue to do so this Congress," says Gina Luke, assistant director of the AVMA's Governmental Relations Division. "The AVMA remains optimistic that this common-sense legislation, which will help so many farmers and ranchers in rural communities across the country, can pass as part of any other tax reform bill that comes to the floor."

>>> Rep. Kurt Schrader, DVM, meets with a group of veterinary students at the 2015 AVMA Legislative Fly-In.

PHOTO COURTESY OF SCOTT NOLEN/AVMA

Congress passed legislation removing the withholding tax on a similar human health program in 2004. Currently, SB 440 has bipartisan support from 17 co-sponsors.

The AVMA continues to encourage veterinarians and those participating in the loan repayment program to speak to their congressmen and women about the positive impact of the bill. Veterinary students recently took the cause straight to legislators during the AVMA's 2015 Legislative Fly-in March 2-3. "The rising cost of student debt is on a lot of these students' minds as they plan for their future careers, and opening up more opportunities for veterinarians to serve rural communities in need of public health or food animal medicine is also critical to our nation's agricultural community," says AVMA President Ted Cohn, DVM, in an association release.

The nearly 70 students who participated in the fly-in focused their legislative meetings on the Veterinary Medicine Loan Repayment Program Enhancement Act and the reauthorization of the Higher Education Act, which would improve the terms and conditions on federal student loans for veterinary students, provide them the ability to reconsolidate or refinance their loans and maintain the Public Service Loan Forgiveness Program. The participants talked with legislators about the burden that educational debt is having on young professionals, particularly in the veterinary medical field where the average graduating debt for veterinarians has increased roughly 7.5 percent annually during the last decade to $135,283 in 2014, the AVMA says.

For more information on the bill, go to avma.org. **dvm360**

Merial acquires Legend, Marquis products from Bayer

Merial recently acquired Legend (hyaluronate sodium) and Marquis (ponazuril) from Bayer HealthCare, expanding its portfolio in performance horse healthcare, the company announced.

Legend is an FDA-approved product labeled for both intra-articular and intravenous injection and indicated in the treatment of joint dysfunction associated with equine osteoarthritis. In studies, clinical improvement was judged to be excellent or good in 90 percent or more of cases treated intravenously or intra-articularly with Legend.

Marquis is an FDA-approved treatment for equine protozoal myeloencephalitis (EPM), a neurological disease caused by *Sarcocystis neurona*, a parasite that invades the brain and spinal cord. If left untreated, it can lead to permanent damage to the central nervous system or death. When used as directed, Marquis crosses the blood-brain barrier to kill *S. neurona*, stopping the parasite from inflicting further damage to the central nervous system. **dvm360**

I don't *care* about this *data* ... **Maybe you shouldn't either**

Two surveys of national veterinary fees and charges may contradict each other. Here's what you should really focus on.

In an article last month ("New research raises questions about veterinary price trends"), there were details on two seemingly conflicting reports on veterinary fees. I'll tell you why I think study results such as these always need to be taken with a grain of salt.

Fees are up ...

First, a U.S. government study based on limited data collected by the Bureau of Labor Statistics indicated that fees for veterinary services increased 15 percent during the postrecession years of 2009 to 2013. That sounds significant but may have been a bit spurious. This was a small sampling of phone calls to U.S. practices requesting the prices of a few "common" products or services.

Still, the government says fees are up—so how should veterinarians react? We might pat ourselves on the back and breathe a sigh of relief. Practice owners who've seen stagnant revenue might say, "I knew things would turn around! Maybe my practice is next!" That would be a mistake—but let's look at the second study before I explain.

... but charges are down?

A recent survey of practice charges conducted jointly by VPI-Nationwide and Purdue University's Krannert School of Management indicated that veterinary charges (as reported for reimbursement through pet insurance) actually fell by 1 percent during that same period, 2009 to 2013. So what do we learn? As an old friend once told me, "I'll tell you one thing for sure: I don't know."

Here's my take: I'm concerned that national trends and statistics mean relatively little to an individual veterinary practice. Surveys often simplify things by reporting average results—so that you can see whatever you want to see and walk away telling yourself that your practice is unique.

When it comes to economics, pretty much any study can be used to prove or disprove either a point or a counterpoint. Time is the ultimate verifier.

A character in the Johnny Depp Western *Dead Man* said it best: "I wouldn't trust no words written down on no piece of paper." We all have a tendency to see what we believe rather than believe what we see.

Your mileage may vary

Some practices increased some fees from 2009 to 2013 and saw revenue rise. Others, though, are still treading water, and for them right now the sky is falling. But even the owners of struggling practices tend to focus on what they do right and ignore everything else.

I'm worried that these surveys focus on the easy fix—fees and charges. Bump up your prices, rake in the revenue, right? We know it often doesn't work that way. Just look at the studies: Our prices have risen, but charges have fallen. What gives?

Well, you know that increased fees don't always turn into increased charges. You can increase a few line items in your practice software, but what often happens is that other services go undone or worse yet are provided but done at a discount or for free. An increase in prices without an accompanying increase in revenue is a shadow dance that winds up having a negative impact on everyone, including the patient. The client pays more for the same product, the patient gets less or the same care, and the practice sees no increased revenue.

Solve the *real* problem

Providing value—getting clients to pay increased fees—requires significant time and energy in better client communication and real value-added services. Here are four steps you can take to provide more value to clients—regardless of fees and charges:

1. Make sure you offer the best medical care you can. Surveys by the advocacy group Partners for Healthy Pets found that pet owners said they're looking for the best care. Don't assume your medicine is best. Check your competitors, learn about new services and products and stay on top of your game. Isn't that what we want to provide to our patients?

2. Provide a positive client experience. Go out of your way to educate and inspire pet owners and make it easier for them to do business with you. You'll get more frequent opportunities to serve and care for pets.

3. Give clients what they want. Offer everything they expect from you and then find out what *else* they want. Ask them regularly in surveys and in person whether they're satisfied. Don't ever assume you're satisfying clients.

4. Charge appropriately. Don't give away products and services. Don't assume clients can't afford care before you've even explained it. And double-check your record-keeping and documentation in the exam room, in reception and in your practice software.

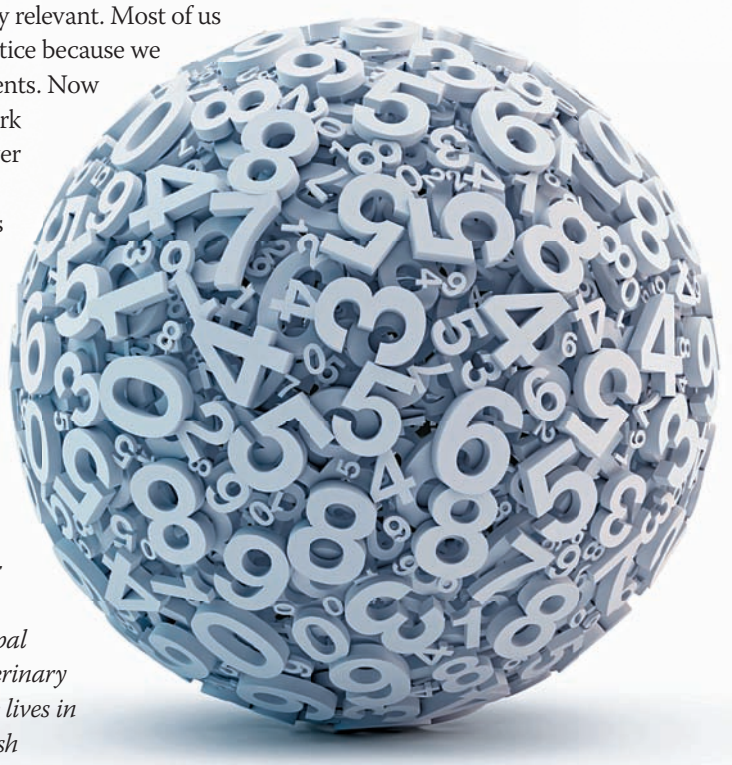
We know we're seeing more and more competition from online pharmacies, corporate practice groups and newly opening practices. We must focus on differentiating ourselves as individual practitioners and as a profession if we want to stay relevant. Most of us went into practice because we loved our patients. Now we need to work harder than ever to make sure the pet owners who bring them in are educated and satisfied with our service.

dvm360

Dr. Paul is a nationally known speaker and columnist and the principal of Magpie Veterinary Consulting. He lives in Anguilla, British West Indies.

Decide for yourself

See more expert opinions on the data Dr. Michael Paul is talking about at **dvm360.com/VPIdata.**



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Medical Illumination International

Surgery light series

Medical Illumination International has introduced the MI LED series surgery lights. The MI 1000 LED surgery light has an increased 100,000-lux output at 1 meter. The MI 750 LED Minor Surgery Light features a 50,000-lux at 1 meter and 4,300-degree-Kelvin color temperature. The MI 500 LED Exam/Diagnostic/Dental light has an increased 50,000-lux output at .60 meter. It has a small, compact head, with complete articulation from a variety of mounting options. The 1000 and 750 models include a sterilizable handle.

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IDEXX Laboratories

Bovine milk test

IDEXX Laboratories announces the launch of the Somaticell SCC Test, an on-farm test that eliminates the guesswork about somatic cell counts (SCC) in raw cow milk. It will be available in the U.S., Canada and Latin America. By using the Somaticell SCC Test, producers can get clear-cut results on-farm in less than two minutes, allowing them to make real-time decisions about how to manage SCC levels. The test gives producers the flexibility to test individual or bulk samples, and ready-to-use reagents and materials make the test easy to use.

For fastest response call (800) 321-0207 or visit idexx.com/somaticell

IDEXX Laboratories

Porcine reagents

IDEXX Laboratories has launched a set of RealPCR reagents for detecting viral agents that cause highly contagious and acute diarrheal diseases in swine. The swine enteric coronavirus polymerase chain reaction (PCR) assays include the RealPCR PEDV RNA Reagents for porcine epidemic diarrhea virus, the RealPCR PDCoV RNA Reagents for porcine deltacoronavirus, the RealPCR TGEV RNA Reagents for transmissible gastroenteritis virus and the RealPCR PEDV/PDCoV Multiplex RNA Reagents. The assays can be run side by side on a single plate, maintaining fast run protocols and increasing laboratory workflow efficiency.

For fastest response visit idexx.com/pedv

Nestlé Purina

New therapeutic food branding

Purina is changing the name of its veterinary pet food from Purina Veterinary Diets to Purina Pro Plan Veterinary Diets. The transition began in March 2015 and is expected to take several months as the new packaging replaces the old. Purina says it saw a need for a stronger link between its premium wellness brand and its veterinary diets but stresses that the change is in name only. The scientific formulations will stay the same, as will veterinary exclusivity, company representatives say.

For fastest response visit purinaveterinarydiets.com

Companion Animal Health

Therapy laser

Companion Animal Health introduces the CTX Therapy Laser, which combines advanced features with a redesigned approach to dosing that gives the user versatility and control over treatments. The CTX features 0.5 to 15 watts of therapeutic power and long-life battery operation, providing the user with flexibility both in treatment applications and treatment locations. The CTX features three different dosing solutions to provide an appropriate tool for new, intermediate and advanced laser users.

For fastest response visit CompanionTherapyLaser.com

Redcort Software

Time clock management software

Redcort Software has released Virtual TimeClock 15, featuring a new payroll approval system that simplifies the management of timecards for payroll. Addressing the need for data security, Virtual TimeClock 15 provides enhanced security and encryption features that help to ensure employee time clock data remains secure. In addition, a suite of new password rules, features and security options help ensure the privacy of users.

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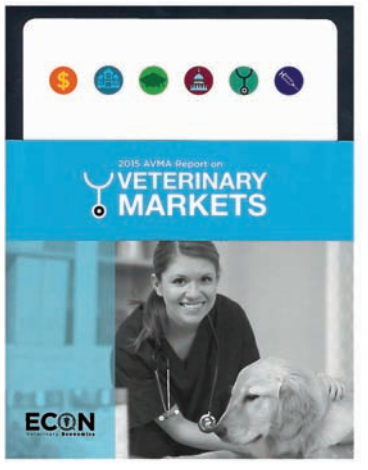

American Veterinary Medical Association

Economic report series

The American Veterinary Medical Association (AVMA) has launched its 2015 Economic Report subscription series, bringing veterinary economic information to its members and general public. The six-part report series covers veterinary markets, employment, debt and income, the market for veterinarians, capacity for veterinarians and the market for veterinary education. The series is $249 for AVMA members and $499 for nonmembers and can be purchased online from the AVMA Store.

For fastest response visit avma.org

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PetHub has integrated its product with the VetData.net Marketplace. The Marketplace was created by Veterinary Data Services to seamlessly connect veterinary clinics with their business partners. The VetData.net Marketplace will allow veterinarians to search for any pet on file in their practice software, type in the PetHub tag ID, and quickly send home a registered, protected pet. The program works by linking physical ID tags to pets' profiles and PetHub's free 24/7 Found Pet Hotline.

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Henry Schein Animal Health

Client communication system

Henry Schein Animal Health has launched Rapport, a cloud-based client communication system. Rapport contains communication tools designed to increase practice efficiency, improve pet healthcare, enhance a veterinary practice's image and boost the flow of clients into the practice. Features include online appointment scheduling, client reminders and veterinary practice websites. Rapport-driven practice websites offer several features designed to increase client engagement.

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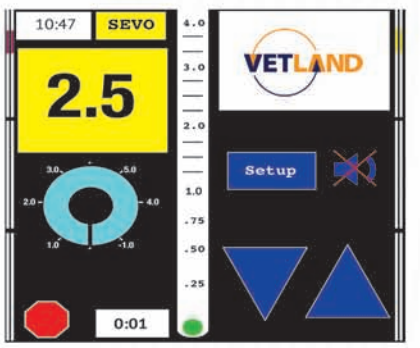

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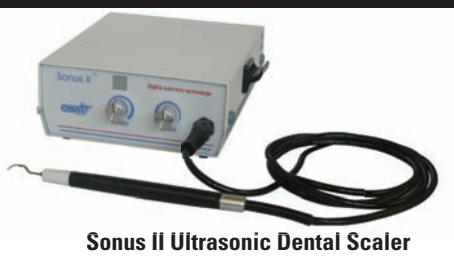

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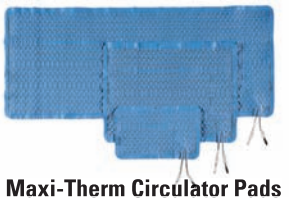

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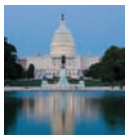
For a full listing of events in 2015, visit dvm360.com/calendar



April 23-26
CVC Washington, D.C.
(800) 255-6864, ext. 6
thecvc.com/dc

August 28-31
CVC Kansas City
(800) 255-6864, ext. 6
thecvc.com/kc

December 3-6
CVC San Diego
(800) 255-6864, ext. 6
thecvc.com/sd

CVC unconventional

National and international meetings

April 11-12
Clinical Approaches to the Ear for the GP
San Diego, CA
(619) 640-958
sdcvma.org

Feline Dentistry
Casselberry, FL
(941) 276-9141
http://veterinarydentistry.net/feline-dentistry-ce-course/

April 15-18
2015 North American Veterinary Dermatology Forum
Nashville, TN
(877) 754-6838
navdf.org

April 16-19
Advanced Techniques in Small Animal Fracture Management
Columbus, OH
(610) 695-2459
aona.org/#AONA=

April 17-21
Medical Acupuncture for Veterinarians- April Small Animal and Exotics clinical intensives
Fort Collins, CO
(303) 318-0447
onehealthsim.org/medical-acupuncture-for-veterinarians-2/

April 25
WVC On The Road: Practical Surgery Tips You Can Use
Oklahoma City, OK
(866) 800-7326
wvc.org

April 30 - May 03
ContinuEd Feline Symposium – 2015
Chicago, IL
(800) 539-7395
continu-ed.com/ContinuEd_Feline_Symposium_2015.html

May 02
WVC On The Road: Small Animal Gastroenterology
Memphis, TN
(866) 800-7326
wvc.org

May 17-20
American Academy of Veterinary Pharmacology and Therapeutics 2015 Symposium
Fort Collins, CO
(970) 492-5458
aavpt.org

June 03-06
American College of Veterinary Internal Medicine Forum
Indianapolis, IN
(303) 231-9933
acvim.org

June 03-07
Emerald Coast Veterinary Conference
Sandestin, FL
(678) 309-9800
emeraldcoastvc.com/

June 27-28
Communication Coaching Skills Workshop
Fort Collins, CO
(970) 297-1273
cvmbs.colostate.edu/clinsci/ce/products/70-veterinary-communication-coaching.aspx

June 28
Veterinary Dentistry & Radiology for the Veterinarian and Technician
Denver, CO
(941) 276-9141
veterinarydentistry.net/vet-dental-course-denver-colorado

July 19
Veterinary Dentistry & Radiology for the Veterinarian and Technician
Bloomfield Hills, MI
(941) 276-9141
veterinarydentistry.net/vet-dental-course-bloomfield-hills-michigan

Local and regional meetings

April 11
San Diego County VMA Veterinary Conference
San Diego, CA
(619) 640-9583
sdcvma.org

April 24-26
West Virginia Veterinary Medical Association Spring Meeting
Greenbrier, WV
(804) 346-0170
wvvma.org/event/greenbrier2015/

May 13
Massachusetts Veterinary Medical Association Spring CE Conference
Marlborough, MA
(508) 460-9333
massvet.org

GA Veterinary Managers Association Meeting
TBA
(678) 467-2750
gavma.com

May 15-17
New York State Spring Veterinary Conference
Rye Brook, NY
(607) 253-3200
vet.cornell.edu/nysvc

May 20-21
16th Annual Pennsylvania VMA Spring Clinic
State College, PA
(888) 550-7862
pavma.org

June 07-09
Idaho VMA Annual Conference
Sun Valley, ID
(208) 922-9431
ivma.org/site

June 17-21
Southeast Veterinary Conference
Hilton Head, SC
(800) 441-7228
scav.org/events/sevc/index.htm

June 18-19
Vermont VMA Summer CE Conference
Burlington, VT
(802) 878-6888
vtvets.org

June 18-21
Pacific Veterinary Conference
Long Beach, CA
(800) 655-2862
cvma.net

June 21-23
Montana Veterinary Medical Association Summer Meeting
Big Sky, MT
(406) 447-4259
mtvma.org

October 13-16
Atlantic Coast Veterinary Conference
Atlantic City, NJ
(908) 281-5108
acvc.org

September 3-4
Montana Veterinary Medical Association Fall Symposium
Bozeman, MT
(406) 447-4259
mtvma.org

September 17-18
Iowa VMA 133rd Annual Meeting
Ames, IA
(800) 369-9564
iowavma.org

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The **most important drawer** in my desk

Sometimes you need just a little reminder of why you decided to join the veterinary profession in the first place.

I gave a talk to a group of undergraduate students at the veterinary school at Texas A&M the other day, and it got me thinking about why I do what I do. These students were all pre-veterinary majors and hoped someday to get to do what I do every day for the rest of their lives.

As I met with them they asked question after question about being a veterinarian and what life was like. They all had stories about other veterinarians who'd told them they shouldn't do it. It's true—it seems as if many veterinarians have become bitter and burned out on our profession and actively tell up-and-coming pre-veterinary students to pursue a different path in life.

After the class was over and I was making the seven-hour drive back to Lamesa, I had plenty of time to think about what we had discussed. I wondered what made all those veterinarians so bitter about our profession that they would discourage the next generation from becoming veterinarians.

I finally decided that it was because they never kept a "Why I Do It" drawer. About 20 years ago I started putting thank you letters in the bottom drawer of my desk. There are stories of little girls whose horses would have died without a colic surgery, notes from old women who were thankful to still have their dog, cards from people who just wanted to thank us for making the last few days of their pets' life comfortable, and stories of pigs that won a big show.

There are stories of little girls whose horses would have died without a colic surgery, notes from old women who were thankful to still have their dog, cards from people who just wanted to thank us for making the last few days of their pet's life comfortable, and stories of pigs that won a big show.

There are cards signed by 50 little first-graders thanking us for letting them tour the clinic. There are cards from saddle recipients who'd won roping competitions or barrel races we'd sponsored because we were blessed enough to have the means to share. There are pictures of horses winning big races and little kids holding puppies. There are Future Farmers of America students standing in the winner's circle with a lamb that would have died if we hadn't seen it. There are booklets from graduation ceremonies that I've been privileged to speak at—an opportunity I never would have been afforded without the education and exposure that being a veterinarian gave me.

There are hundreds upon hundreds of thank you cards reminding me that in this little corner of the world, I have made a difference. And this drawer—the bottom drawer of my ancient metal desk that came with the clinic when I bought it 23 years ago—has now spilled over to the other drawers. I no longer have a "Why I Do It" drawer, I have three drawers full.

And when I get down on being a veterinarian for whatever reason that day offers, I sometimes open one of those drawers and remind myself why I do this, one little letter, note and picture at a time.

The next time I go talk to students who are hoping to become veterinarians for a living, I'm gonna reach into one of those drawers, pull out a handful of reasons why they should do it, and take them with me to read. I'm really glad I made the decision all those years ago to save the precious little notes from the people whose lives I've touched. I had no idea that someday it might encourage the next generation of folks who want to spend a career making people and their animals smile. **dvm360**

Dr. Bo Brock owns Brock Veterinary Clinic in Lamesa, Texas.

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* Source: Survey conducted in February 2014 of small animal veterinarians who recommended liver support brands.

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