

Household hazard toxicology update

Laundry detergent pods, a concern for children, can harm pets too, experts say.

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January 2015 | Volume 46 | Number 1 | dvm360.com

Oregon veterinarian imprisoned in SE Asia

Stacey Addison, DVM, witnesses crime, lands in Timor-Leste jail. *By Katie James*

Stacey Addison, DVM, 41, of Portland, Oregon, is in a Timorese prison after being arrested in early September while traveling abroad. A chance encounter—a cab shared with a

stranger—led to her witnessing a crime, which kicked off a chain of events that has family and friends doing everything they can to bring her home.

Addison, a graduate of the University of California-

Davis, left her job of 10 years at a Portland veterinary hospital in January 2013 and set off on a year-and-a-half-long dream trip around the world to see wildlife. She had been planning the trip for two years.

Addison began in Antarctica, then traveled to South America, Borneo and Costa Rica, where her mother joined her for three weeks. In each location Addison focused on seeing national parks and preserves rather than spending time in cities so she could view wildlife, says her mother, Bernadette Kero. She traveled on a budget, stay-

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Dr. Stacey Addison



>>> Dr. Danielle Rastetter, owner of Pets In Stitches in Miamisburg, Ohio.



Low-cost; *business-savvy*

For-profit spay-neuter clinics seek to fill niche but battle resistance from veterinary colleagues. *By Rachael Zimlich*

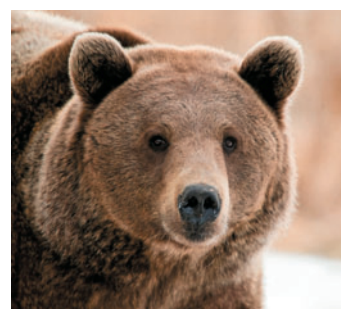
As pet owners have struggled to pay for their pets' healthcare, the veterinary market has seen a blossoming of low-cost spay and neuter clinics. Many are nonprofit programs that have drawn fire and even been challenged by law in some states. But for-profit spay and neuter clinics

seek to find a middle ground—providing a reasonably priced service that provides enough revenue to support the business and its owner.

But many of these for-profit spay and neuter clinics are finding themselves the target of traditional veterinary practices who are defending the cost of their services to price-conscious pet owners.

For this article, *dvm360* talked to leaders at three for-profit spay and neuter clinics who discussed their business models and how they've worked to win clients and work cooperatively with other veterinarians in the community.

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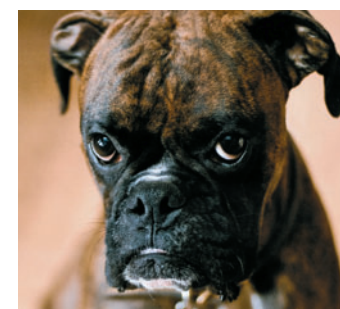
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Flatulence in dogs: Client annoyance or sign of GI illness?
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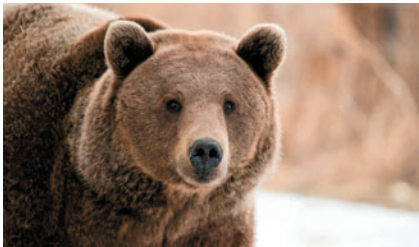
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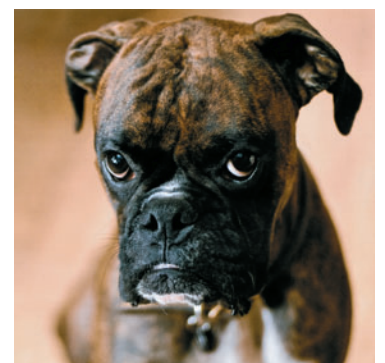
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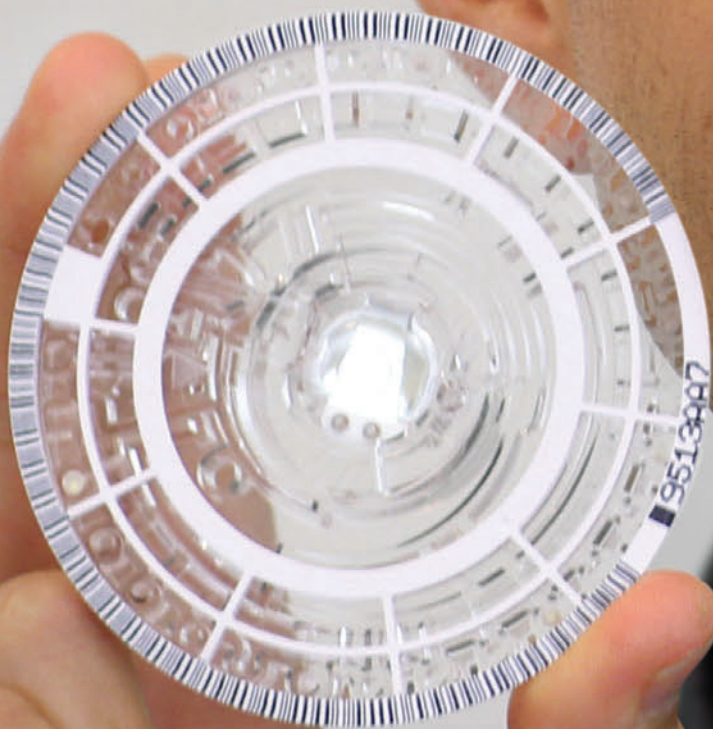
- > UC-Davis provides resources for EPM
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- > Virginia Tech to host equine, food animal conference for veterinarians

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(913) 871-3821 | kreimer@advanstar.com

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Ladies and gentlemen, Mike Obenski has left the building

I can't fill his giant shoes, but I will try to keep you informed about important issues facing the veterinary profession.

I know that many of you are going to throw this magazine across the room as soon as you open it and find that you favorite columnist is no longer on this page, which he's occupied for nearly 40 years. I know you're going to do this because that's what I would do in your place.

When I first took the helm of *dvm360* magazine, I can't count the number of times I had a conversation that went something like this:

Reader: "You work for *dvm360*? I love that magazine!"

Me: "That's great to hear! What is it that you like about it?" [Preparing self to hear glowing comments about sharp news coverage, insightful commentary and so on.]

Reader: "It's that guy in the front, that—oh, what's his name ... Obenski. Man, he's great. He's *hilarious*!"

And I have to say I agree. Never have I worked with a writer with a finer wit or a sharper satirical instinct, and it was all enhanced by the brilliant illustrations of Ryan Ostrander. In fact, I think the "Where did I go wrong?" column was a form of therapy for the veterinary profession. Obenski took the client foibles you encounter every day—the ones that make you want to tear your hair out, scream till you're hoarse and/or curl up in a fetal position—and turned them into laughter. So the next time a client pulled a stunt that might ordinarily send you into a homicidal rage, you could just chuckle and think about how this was just like that last Obenski column you read.

Sadly, in case you missed it, Obenski, has decided to retire. I know I will miss him, and I'm sure you will too. I would like to thank him here for his many faithful years and every single one of his 431 columns.

Obenski took the client foibles you encounter every day—the ones that make you want to tear your hair out, scream till you're hoarse and curl up in a fetal position—and turned them into laughter.

Education issues are hot!

On a more serious note, at the very moment I'm writing this on Dec. 11, 2014, a federal agency called the National Advisory Committee on Institutional Quality and Integrity (NACIQI) is hearing testimony on whether the American Veterinary Medical Association (AVMA) Council on Education (COE) should itself be reaccredited as the accreditor of veterinary medical colleges.

Basically, the U.S. Department of Education checks in every few years to make sure those organizations responsible for maintaining appropriate standards in various areas of higher education are doing an adequate job. The NACIQI hearings are designed to hear from various stakeholders, ferret out any problems and advise the Department of Education on whether the accreditors' accreditation should be renewed.

This has been a contentious issue in veterinary medicine in the last couple of years. A contingent of influential veterinarians maintains that the COE has relaxed its standards and

applied them inconsistently to new veterinary schools applying for accreditation, especially schools beyond U.S. borders. They've been especially critical of the distributive model of clinical training, in which students learn hands-on skills in private practices rather than a teaching hospital.

These veterinarians are calling for a new or reimagined accrediting body that is independent of the AVMA, which they fear may be interfering in the process for political reasons rather than the best interests of the profession. They have targeted this NACIQI hearing as an opportunity to express their lack of confidence in the COE as it exists today.

Defenders of the the current process believe these critics are motivated by a desire to stanch the flood of new grads entering the market. In light of this, the AVMA insists that the COE cannot make accrediting decisions based on market forces and must simply decide whether a school is capable of graduating competent veterinary practitioners. And based on graduating students' ability to pass the North American Veterinary Licensing Examination, they say, they're doing exactly that.

The debate has caught the attention of the Department of Education, which recently issued a staff analysis recommending that the COE be granted just six months of continued accreditation while it figures out how to address the issues the critics have raised.

By the time you're reading this, an article will be available online. So head to dvm360.com/COEhearing to get up to date. And if you decided to pick the magazine back up and read to the end of this column—even though I'm not Obenski—I sincerely thank you. **dvm360**

Laundry detergent pods, a concern for kids, can harm pets too

Advise your veterinary clients about this hazard—and when they need to seek your help. *By Heather Handley, DVM*

Most soaps and detergents contain chemicals called ionic and anionic surfactants. When pets ingest a small amount of such products, it's possible for them to respond to the unpleasant taste or to have mild, self-limiting gastrointestinal upset (drooling, vomiting and diarrhea).

However, a new danger seems to be presenting itself. It was first noticed that young children were developing serious respiratory issues after biting into the highly concentrated, prepackaged laundry detergent pods (some that look like candy and come

in brightly colored packages—Nationwide Children's Hospital in Columbus, Ohio, performed a study that's been widely reported in mainstream media).

Not surprisingly, Pet Poison Helpline has noticed some severe clinical signs in dogs and cats exposed to these pods as well.

Of the cases reported to the Pet Poison Helpline over the past two years, 72 percent of pets developed clinical signs. In order of prevalence, 84 percent of symptomatic cases experienced vomiting, 21 percent experienced cough, 17 percent experienced lethargy and 13 percent experienced dyspnea, wheezing or

other respiratory irritation.

So why do pets exposed to laundry pods experience more severe reactions than pets that simply lick the product off the floor or their fur? The reason is thought to be the way the product is formulated in the pod.

When a pet bites into a pod, the product is both highly concentrated and under pressure from the bite. Therefore when the pod is punctured, the detergents are forcefully expelled and may be easily aspirated or swallowed, often in large amounts. Theoretically, ingestion of multiple packets also poses a risk for a foreign body obstruction and erosive lesions from prolonged contact in the gut. (One note: Dishwasher pods also pose a risk to pets, with a greater potential for corrosive injury.)

When these exposures occur, it is important for the pet owner to dilute the exposed site as much as possible—to rinse the mouth, skin or eyes until the slick, “soapy” feel is gone.


Any persistent vomiting or respiratory signs should be evaluated by a veterinarian immediately. In the clinic, veterinarians should evaluate patients with respiratory abnormalities for aspiration.

There is no antidote for laundry pod exposure, so any persistent clinical signs should be treated with symptomatic and supportive care.

If a pod's contents are ingested or in the case of a severely symptomatic patient, it is recommended a pet poison control center be consulted. **dvm360**

Dr. Heather Handley is a veterinarian with Pet Poison Helpline.





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COLORADO

Good as new: CSU Veterinary Hospital's grizzly patient settled at new home

7-year-old Marley underwent surgery for two broken elbows after being rescued from a roadside park in Georgia.

Marley, a grizzly bear that was rescued earlier this year with two broken elbows, is adapting to her new home in the wild after undergoing surgery to repair the injured joints. Earlier this year, Marley was rescued from a concrete pen in a roadside attraction in Georgia (see the April issue of *dvm360*) and transported to a refuge in Colorado. It soon became clear that the bear, a 7-year-old female grizzly, was lame and suffering.

In February Marley underwent surgery at the James L. Voss Veterinary Teaching Hospital at Colorado State University and recovered indoors for several weeks, according to a university release. Marley has since been transferred to a 20-acre habitat in the Wild Animal Sanctuary in Keenesburg, Colorado, where she will live out her life.

The CSU veterinary team visited the sanctuary in November to check

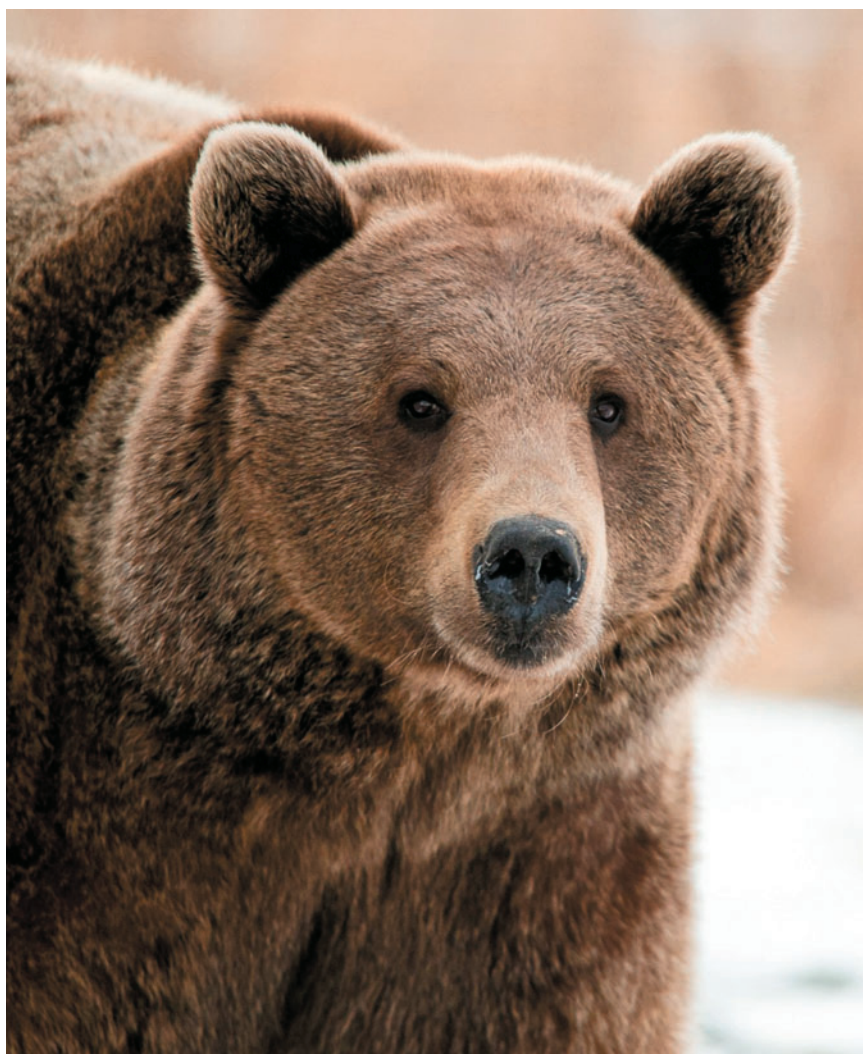
on Marley's progress. They found Marley healthy and roaming through prairie grasses in a cold wind—a big change from being anesthetized with an open, draining wound over one of the broken elbows. Now the only sign of her injury is the fur on her forelimbs. It grew back with lighter highlights after being shaved for surgery, according to the release.

"Marley is adapting wonderfully," says Rebecca Miceli, director of animal care at the Wild Animal Sanctuary. "As she continues to grow and recognize the freedom she has here, she will flourish."

As Marley recovered in the sanctuary clinic, she watched cartoons to help her acclimate to noise, university officials say. She relearned to use her front legs and adapt to her outdoor habitat with help from the CSU Equine Ambulatory and Avian, Exotic and Zoological Medicine services.

"CSU has been immensely helpful," Miceli says. "They have been a key factor in the recovery of a lot of our animals, and we couldn't do it without their expertise and knowledge."

Now Marley is acclimating to life outside, interacting with other bears and eating a diet of vegetables, fruit, grain and meat. [dvm360](#)



>>> Marley, a 7-year-old female grizzly, is settling into her home at the Wild Animal Sanctuary in Keenesburg, Colorado. She was treated for two broken elbows at CSU in 2014 after being rescued from a roadside attraction.



Want more Marley?

To see a video of Marley in action at the Wild Animal Sanctuary, scan this QR code or visit dvm360.com/grizzly.





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See brief summary on page 10

State ROUNDUP

A look at the world of animal health

California

The University of California Board of Regents is suing Jack Snyder, DVM, PhD, DACVS, a former professor at the University of

California-Davis School of Veterinary Medicine, saying he made more than \$1 million in outside income, according to local TV station KCRA Sacramento. The lawsuit claims that the money should have gone to UC-Davis and that Snyder went to great lengths to hide it.

Snyder, who retired from the school in 2014, worked at the Center for Equine Health and is known as a prominent equine surgeon. The regents’ claim, however, says he spent most of his time away from the school getting paid millions for his consulting work around the world, according to KCRA.

The contract Snyder and other faculty members sign upon beginning work for the university says they are allowed to work outside of the school but aren’t allowed to keep any money other than royalties and prizes, KCRA reports. All other money is supposed to go into a profit-sharing plan.

Jack Robbins, VMD, a well-known equine veterinarian, passed away at the age of 93 after battling the effects of pulmonary and respiratory disease, according to the *Daily Racing Form*. Robbins was born in Michigan and came to California after his parents’ divorce. He went on to become a thoroughbred breeder and recognized racing figure as well as a pioneer of racetrack veterinary medicine, the *Racing Form* states.

Robbins earned his VMD from the University of Pennsylvania and was a member of the California Thoroughbred Breeders Association for more than 50 years, according to the *Racing Form*. He helped found the American Association of Equine Practitioners in 1954 and in 1969 was one of the founding directors of the Oak Tree Racing Association.

Robbins was awarded the 2002 Honored Guest of the Thoroughbred Club of America award, the Joe Palmer award from the National Turf Writers and Broadcasters Association for meritorious services to racing, the Distinguished Life Member Award of the AAEP and the Bellwether Medial and Citation of Gratitude from the University of Pennsylvania School of Veterinary Medicine. He was also given a place in the City of Arcadia Walk of Champions, which is near Santa Anita Park, according to the *Daily Racing Form*.

He is survived by four sons, eight grandchildren and three great-grandchildren.

Indiana

Two coyote attacks in the Lafayette, Indiana, area recently prompted a veterinarian at Purdue University’s College of Veterinary Medicine Steve Thompson to warn pet owners of a potential problem, reports the Purdue *Exponent*, a campus publication. Steve Thompson, DVM, director of the veterinary college’s Pet Wellness Clinic, told the *Exponent* that coyote attacks are not uncommon in the rural areas; however, the two early-morning attacks in a city location were a concern. One pet owner witnessed a coyote attack their small dog in the backyard. The dog was taken to Purdue and later euthanized due to its injuries.

“The coyote population continues to expand, and what is occurring now is the dispersal phase of that population,” Thompson says. “Young coyotes who have relied on their parents for food are being kicked out of their litter or pack, so they have to find new territory. It’s after summer and before winter and you have young males looking for new hunting areas.”

Montana

The Veterinary Diagnostic Laboratory in Bozeman, Montana, has regained full accreditation after 11 years without it, according to the *Bozeman Daily Chronicle*. The American Association of Veterinary Laboratory Diagnosticians granted the Montana Department of Livestock Diagnostic Laboratory full accreditation for the first time since 2003, following an inspection. This accreditation will last through 2015.

The laboratory, which processes most tissue and blood samples for Montana

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

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

Dosing Schedule:

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

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

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

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

Tick Treatment and Control: Treatment with NEXGARD may begin at any time of the year (see **Effectiveness**).

Contraindications: There are no known contraindications for the use of NEXGARD.

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

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

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

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

Table 1: Dogs With Adverse Reactions.

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

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

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

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

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

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

Effectiveness: In a well-controlled laboratory study, NEXGARD began to kill fleas four hours after initial administration and demonstrated >99% effectiveness at eight hours. In a separate well-controlled laboratory study, NEXGARD demonstrated 100% effectiveness against adult fleas 24 hours post-infestation for 35 days, and was > 93% effective at 12 hours post-infestation through Day 21, and on Day 35. On Day 28, NEXGARD was 81.1% effective 12 hours post-infestation. Dogs in both the treated and control groups that were infested with fleas on Day -1 generated flea eggs at 12- and 24-hours post-treatment (0-11 eggs and 1-17 eggs in the NEXGARD treated dogs, and 4-90 eggs and 0-118 eggs in the control dogs, at 12- and 24-hours, respectively). At subsequent evaluations post-infestation, fleas from dogs in the treated group were essentially unable to produce any eggs (0-1 eggs) while fleas from dogs in the control group continued to produce eggs (1-141 eggs).

In a 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of NEXGARD against fleas on the Day 30, 60 and 90 visits compared with baseline was 98.0%, 99.7%, and 99.9%, respectively. Collectively, the data from the three studies (two laboratory and one field) demonstrate that NEXGARD kills fleas before they can lay eggs, thus preventing subsequent flea infestations after the start of treatment of existing flea infestations.

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

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

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

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

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

NADA 141-406, Approved by FDA

Marketed by: Frontline Vet Labs™, a Division of Merial Limited.
Duluth, GA 30096-4640 USA

Made in Brazil.
1050-4493-02
Rev. 4/2014

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veterinarians, struggled to regain full status after being downgraded to provisional status in 2003 after inspectors found shortcomings in funding, facility capabilities and quality management, the *Daily Chronicle* reports.

Nebraska

Livestock on two Nebraska farms were recently quarantined after cattle were diagnosed with vesicular stomatitis, state officials told the Lincoln, Nebraska, *Journal Star*. The virus, which is spread by insects and from animal to animal through open sores and saliva, causes oral blisters and isn't typically fatal but can cause financial losses to farmers. The locations where infected animals are found are quarantined until 21 days after the lesions in the last animals have healed, according to the *Journal Star*.

The U.S. Department of Agriculture has confirmed outbreaks of vesicular stomatitis in two other states in 2014—at 364 locations in Colorado and at 60 locations in Texas.

Oklahoma

When state House members return for the legislative session in February, a veterinarian from Cushing, Oklahoma, will join as the speaker pro tem-elect. Republican Rep. Lee Denney, DVM, will be in the chair presiding when House Speaker Jeff Hickman (R-Fairview) has other duties, according to the *Tulsa World*.

The 61-year-old has two years left before she runs into the 12-year limit for representatives. She told the *Tulsa World* that her greatest accomplishment in office has been drawing attention to the issue of puppy mills and working to get more money to schools. She earned her DVM degree from Oklahoma State University.

Washington

A 10-year-old boxer named Anna who was suffering from Cushing's disease has undergone a transsphenoidal hypophysectomy to save her life. While the procedure is becoming common for humans, it hasn't been performed on a canine patient before, according to an American Dog Rescue (ADR) press release. ADR provided the resources for the surgery to take place at the Washington State University Veterinary Hospital.

"This is a surgery performed to remove a tumor from the pituitary fossa usually originating from the pituitary gland," says Tina Owen, DVM, in the release. "The pituitary fossa is approached through the mouth via an incision in the soft palate. ... This surgery is technically challenging and postoperative recovery requires extremely close monitoring."

ADR Founder Arthur Benjamin says it was veterinary internist Melissa Tucker (Utah Veterinary Center), oncologist Nick Bacon (University of Florida Veterinary College) and a team from Texas A&M who came up with a solution other than the traditional approaches to create a successful outcome for Anna. [dvm360](#)

Rapinovel™ (propofol)



Smooth induction.
Quick recovery.
Great value.



For customer service or to place an order, call 1-800-633-3796. For product information, call 1-800-422-9874.

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

WARNINGS: Induction of anesthesia with Rapinovel™ injection is frequently associated with apnea and respiratory depression. Hypotension and oxygen desaturation can occur also, especially following rapid bolus administration. Apnea is observed less frequently following maintenance doses of Rapinovel™ injection when given as the sole maintenance agent, or when a maintenance dose is administered during inhalant anesthesia. To report adverse effects, call 1-800-422-9874.

When using Rapinovel™ injection, patients should be continuously monitored, and facilities for the maintenance of a patent airway, artificial ventilation, and oxygen supplementation must be immediately available. The clinical use of propofol without available supplemental oxygen and artificial ventilation has not been adequately evaluated and is not recommended.

The year in news

It's that time again. This roundup pulls together the most-read veterinary news stories of 2014.

While 2014 was a year of highs and lows, with plenty of attention grabbing headlines, we at *dvm360* wondered what stories garnered the most interest of our readers. Using online page-view analytics, we rounded up the most-read articles into the list below. Visit dvm360.com/2014review to read the full versions.

1 Exclusive report: New complaint filed against Dr. Pol
Controversial reality veterinarian Jan Pol, DVM, made headlines again when a new complaint was filed against him with the Michigan Department of Licensing and Regulatory Affairs regarding the content of his National Geographic Wild Show. *dvm360* brought you the exclusive story, speaking with Eden Myers, DVM, who filed the complaint.



2 An ailing veterinary profession: Six diagnostic indicators
This in-depth look at the health of the veterinary profession found that associates are struggling financially, some practices are failing to grow, practice ownership is becoming more and more elusive and permanent changes need to be made to put the profession back on the path to financial success.



3 Veterinary community stunned by Sophia Yin's unexpected death
Renowned veterinary behavior expert Sophia Yin, DVM, passed away due to suicide on Sept. 28, leaving the veterinary community reeling and questioning the emotional toll the profession takes on its members.



4 The surprising places xylitol is found
Xylitol, an artificial sweetener, is found in more than just chewing gum and dental products these days. Now smok-

ing cessation products, nasal sprays, multivitamins and more products contain the chemical, which can cause hypoglycemia and hepatic necrosis in dogs.



5 Neutering effects more severe for golden retrievers than Labs
Researchers at the University of California-Davis School of Veterinary Medicine found that golden retrievers had a higher occurrence of joint disorders and certain cancers than Labrador retrievers when comparing the incidence of these conditions between breeds in neutered and non-neutered animals.



6 Veterinarian, parents murdered at their western Kentucky home
Emily Champion, DVM, and her parents Joy and Lindsey Champion were found murdered in their home on Oct. 26. Champion, who was home visiting her parents, had been working at Baronne Veterinary Clinic Equine Medical and Surgical Facility in Sunset, Louisiana. Her brother, Ryan Champion, was subsequently charged with the murders.



7 Too many veterinarians? AVMA panel tackles hot topic
A panel that took place during the 2014 AVMA convention discussed whether or not



For Animals Only

Rapinovet™ (propofol) Anesthetic Injection

Emulsion for intravenous use in dogs and cats.

BRIEF SUMMARY: Before using Rapinovet™ (propofol), please consult the product insert, a summary of which follows:

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

WARNINGS: Induction of anesthesia with Rapinovet™ injection is frequently associated with apnea and respiratory depression. Hypotension and oxygen desaturation can occur also, especially following rapid bolus administration. Apnea is observed less frequently following maintenance doses of Rapinovet™ injection when given as the sole maintenance agent, or when a maintenance dose is administered during inhalant anesthesia.

When using Rapinovet™ injection, patients should be continuously monitored, and facilities for the maintenance of a patent airway, artificial ventilation, and oxygen supplementation must be immediately available. The clinical use of propofol without available supplemental oxygen and artificial ventilation has not been adequately evaluated and is not recommended.

SIDE EFFECTS: The primary side effect of Rapinovet™ injection in dogs is respiratory depression and apnea. Apnea was observed in 20% of the dog cases in the clinical trial. Apnea was observed in 1.4% of the cat cases in the clinical trial. All apnea cases responded satisfactorily to oxygen supplementation and/or controlled ventilation.

The primary side effect of Rapinovet™ injection in cats is paddling during recovery. Paddling was observed in 11% of the cat cases in the clinical trial.

Other transient side effects in dogs or cats are observed infrequently or rarely:

• **Respiratory:** panting, reverse sneezing, cyanosis • **Musculoskeletal:** paddling during recovery, tremors, tenseness, movements, fasciculations • **Cardiovascular:** bradycardia, hypotension, cyanosis, tachycardia, premature ventricular contractions • **Central Nervous System:** excitation, opisthotonus, seizure • **Injection Site:** pain during injection • **Gastrointestinal:** emesis/retching • **Other:** rubbing at face or nose during recovery, vocalization during recovery, chewing or licking the injection site during recovery.

PRECAUTIONS:

1. Rapinovet™ injection contains no antimicrobial preservatives. Strict aseptic techniques must always be maintained during handling since the vehicle is capable of supporting rapid growth of microorganisms. Failure to follow aseptic handling procedures may result in microbial contamination causing fever, infection/sepsis, and/or life-threatening illness. Do not use if contamination is suspected.

2. When using Rapinovet™ injection, patients should be continuously monitored, and facilities for the maintenance of a patent airway, artificial ventilation, and oxygen supplementation must be immediately available. The clinical use of propofol without available supplemental oxygen and artificial ventilation has not been adequately evaluated and is not recommended.

3. Anesthesia effects: Careful monitoring of the patient is necessary when using Rapinovet™ injection as a maintenance anesthetic due to the possibility of rapid arousal. Apnea may occur following maintenance doses of Rapinovet™ injection.

4. Physiological effects: During induction of anesthesia, mild hypotension and increased heart rate may occur when Rapinovet™ injection is used alone.

5. Premedicants: Premedicants may increase the anesthetic or sedative effect of Rapinovet™ injection and result in more pronounced changes in systolic, diastolic, and mean arterial blood pressures. The use of ketamine (an approved compound for restraint in cats) is not recommended as a preanesthetic prior to propofol due to an increased number of patients experiencing apnea.

6. Breeding Animals: Adequate data concerning the safe use of Rapinovet™ injection in pregnant, lactating, and breeding dogs and cats have not been obtained. Propofol crosses the placenta, and as with other general anesthetic agents, the administration of propofol may be associated with neonatal depression.

7. Puppies and Kittens: The use of propofol has not been evaluated in puppies or kittens.

8. Compromised or debilitated dogs and cats: Doses may need adjustment for geriatric or debilitated patients. The administration of Rapinovet™ injection to patients with renal failure and/or hepatic failure has not been evaluated. As with other anesthetic agents, caution should be exercised in dogs or cats with cardiac, respiratory, renal or hepatic impairment, or in hypovolemic or debilitated dogs and cats.

9. Sighthounds: Rapinovet™ injection induction followed by inhalant anesthetic agents produced satisfactory anesthesia and recovery times in sighthounds. Propofol alone in 6 greyhounds and 7 non-greyhounds showed satisfactory, but longer recovery times in the greyhounds (averages of 47 and 18 minutes, respectively).² In a propofol pharmacokinetics study, greyhounds had higher propofol levels in plasma, a lower volume of distribution, slower total body clearance rates, and longer recovery times than did mixed-breed dogs. The elimination half-life was similar in both groups.³

10. Arrhythmogenicity: In one study in dogs, propofol increased myocardial sensitivity to the development of epinephrine-induced ventricular arrhythmias in a manner similar to other anesthetics.⁴

11. Consecutive day treatment: Heinz bodies increased dramatically in cats following repeat administration of propofol on consecutive days and were associated with decreases in RBC count and hematocrit. Large numbers of Heinz bodies can lead to hemolytic anemia.^{5,6} In one study in cats, treatment with propofol once a day for 3 days led to a marked increase in Heinz bodies. Treatment for 5 or more consecutive days resulted in generalized malaise and/or facial edema; clinical signs of illness resolved within 24 to 48 hours after cessation of propofol.

12. Concurrent Medication: No significant adverse interactions with commonly used drugs have been observed.

13. Perivascular Administration: Perivascular administration does not produce local tissue reaction.

CONTRAINDICATIONS: Rapinovet™ injection is contraindicated in dogs and cats with a known hypersensitivity to propofol or its components, or when general anesthesia or sedation are contraindicated.

HUMAN USER SAFETY: Not for human use. Keep out of reach of children.

Rapinovet™ injection should be managed to prevent the risk of diversion, through such measures as restriction of access and the use of drug accountability procedures appropriate to the clinical setting. Rare cases of self-administration of propofol have been reported, including dose-related fatalities.

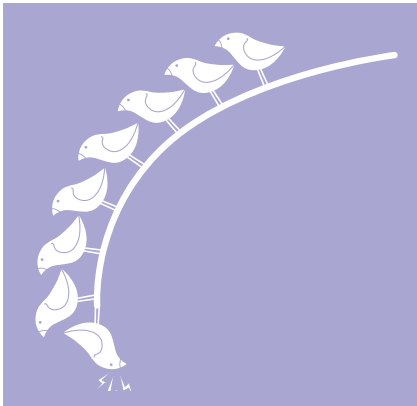
The material safety data sheet (MSDS) contains more detailed occupational safety information. For customer service, and/or a copy of the MSDS, call 1-800-633-3796. To report adverse effects, call 1-800-422-9874.

NADA 141-070 • Net Contents: 20 mL • NDC 0859-2387-01

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oversupply issues will push the profession past the point of no return. Dennis McCurnin, DVM, MS, DACVS, James Wilson, DVM, JD, Mark Cushing, JD, and Paul Pion, DVM, DACVIM, debated this hot topic.

8 Fairness to Pet Owners Act introduced in U.S. Senate

This bill would require veterinarians to provide clients with written prescriptions for pet medications regardless of whether such a prescription is requested by the client. It would also prohibit veterinarians from charging a script-writing fee or asking clients to sign a liability waiver related to writing the script.



9 Learning goodbye: Veterinarians fill a void by focusing on end of life care

Veterinarians focusing on hospice and euthanasia care are stepping into an area that a growing number of clients are requesting.



10 Oregon veterinarian imprisoned in Southeast Asia

A dream trip turned into a nightmare for Stacey Addison, DVM, after she was imprisoned in a Timor Leste jail for being a witness to a crime. Under Timorese law, Addison could be held for a year without being charged, leaving her unable to return to the U.S. [dvm360](#)



Introducing FDA Approved

Simbadol™
(buprenorphine injection)

Once-daily



24-hour



surgical pain control



- The first and only buprenorphine **FDA approved for cats**
- Demonstrated safety and efficacy in **more than 200 cats** treated with SIMBADOL
- Up to 3 once-daily subcutaneous doses for a **total of 72 hours of pain control**

INDICATION: SIMBADOL is indicated for the control of postoperative pain associated with surgical procedures in cats.

IMPORTANT SIMBADOL (buprenorphine injection) SAFETY INFORMATION

WARNINGS, PRECAUTIONS and CONTRAINDICATIONS: Due to serious human safety and abuse concerns, including physical or psychological dependence, life-threatening respiratory depression and additive CNS depressant effects, read the full prescribing information before using this drug, including the complete Boxed Warning. **Not for use in humans. Hospital staff should be trained in the handling of potent opioids and should avoid accidental exposure.** For subcutaneous (SQ) injectable use in cats. Opioid excitation has been observed up to 8 hours after anesthetic recovery. Use with caution in cats with impaired hepatic function. SIMBADOL has not been evaluated in breeding, pregnant, or lactating cats, in cats younger than 4 months of age or moribund cats. Do not use in cats with known hypersensitivity to buprenorphine hydrochloride or any of the components of SIMBADOL, or known intolerance to opioids.

ADVERSE REACTIONS: In two controlled field studies, the most frequent adverse reactions with SIMBADOL were hypotension, tachycardia, hypothermia, hyperthermia, hypertension, anorexia, and hyperactivity. Less frequent but serious adverse reactions included two deaths following apnea and two reports of presumptive post-anesthetic cortical blindness. See the full prescribing information for a complete list and additional details of adverse reactions for each field study.

See the Brief Summary of full prescribing information, including the complete Boxed Warning for human safety, on following page 14.

Zoetis plans to purchase Abbott Animal Health

Deal, which includes veterinary products PropoFlo, Simbadol and AlphaTRAK, expected to close in first quarter of 2015, officials say.



1.8 mg/mL
For subcutaneous use in cats

BRIEF SUMMARY: Before using SIMBADOL, please consult the full prescribing information, a summary of which follows.

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

HUMAN SAFETY WARNING

Abuse Potential
SIMBADOL contains buprenorphine (1.8 mg/mL), an opioid agonist and Schedule III controlled substance with an abuse potential similar to other Schedule III opioids. Buprenorphine has certain opioid properties that in humans may lead to dependence of the morphine type. Abuse of buprenorphine may lead to physical dependence or psychological dependence. The risk of abuse by humans should be considered when storing, administering and disposing of SIMBADOL. Persons at increased risk for opioid abuse include those with a personal or family history of substance abuse (including drug or alcohol abuse or addiction) or mental illness (suicidal depression).

Life-Threatening Respiratory Depression
Respiratory depression, including fatal cases, may occur with abuse of SIMBADOL.

Additive CNS Depressant Effects
SIMBADOL has additive CNS depressant effects when used with alcohol, other opioids, or illicit drugs that cause central nervous system depression.

Accidental Exposure
Because of the potential for adverse reactions associated with accidental injection, SIMBADOL should only be administered by veterinarians or veterinary technicians who are trained in the handling of potent opioids.

See Human Safety for detailed information.

INDICATION: SIMBADOL is indicated for the control of postoperative pain associated with surgical procedures in cats.

DOSAGE AND ADMINISTRATION: The dosage of SIMBADOL is 0.24 mg/kg (0.11 mg/lb) administered subcutaneously once daily, for up to 3 days. Administer the first dose approximately 1 hour prior to surgery. Do not dispense SIMBADOL for administration at home by the pet owner (see Human Safety).

CONTRAINDICATIONS: SIMBADOL is contraindicated in cats with known hypersensitivity to buprenorphine hydrochloride or any of the components of SIMBADOL, or known intolerance to opioids.

WARNINGS: For subcutaneous (SQ) injectable use in cats.

Human Safety: Not for use in humans. Keep out of reach of children. Because of the potential for adverse reactions, hospital staff should avoid accidental exposure and contact with skin, eyes, oral or other mucous membrane during administration. SIMBADOL contains buprenorphine, a mu opioid partial agonist and Schedule III controlled substance with an abuse potential similar to other Schedule III opioids. SIMBADOL can be abused and is subject to misuse, abuse, addiction and criminal diversion. SIMBADOL should be handled appropriately to minimize the risk of diversion, including restriction of access, the use of accounting procedures, and proper disposal methods, as appropriate to the clinical setting and as required by law. Abuse of SIMBADOL poses a hazard of overdose and death. This risk is increased with concurrent abuse of alcohol and other substances including other opioids and benzodiazepines. Buprenorphine has been diverted for non-medical use into illicit channels of distribution. All people handling opioids require careful monitoring for signs of abuse. Drug abuse is the intentional non-therapeutic use of a prescription drug for its rewarding psychological or physiological effects. Abuse of opioids can occur in the absence of true addiction. Naloxone may not be effective in reversing respiratory depression produced by buprenorphine. The onset of naloxone effect may be delayed by 30 minutes or more. Doxapram hydrochloride has also been used as a respiratory stimulant.

PRECAUTIONS: Hyperactivity (opioid excitation) has been observed up to 8 hours after anesthetic recovery (see ADVERSE REACTIONS). Safety has not been evaluated in moribund cats. Use in such cases should be based on the risk-benefit assessment of the veterinarian. Use with caution in cats with impaired hepatic function. The use of SIMBADOL has not been evaluated in breeding, pregnant, or lactating cats, or in cats younger than 4 months of age.

ADVERSE REACTIONS: In two controlled field studies, the following adverse reactions were reported.

Adverse Reactions in Two Field Studies				
Adverse Reaction ^a	SIMBADOL (N = 224)		Control (N = 226)	
	During Surgery ^b	After Surgery	During Surgery ^b	After Surgery
Hypotension ^c	68 (30.4%)	51 (22.8%)	60 (26.5%)	40 (17.7%)
Tachycardia ^d	55 (24.6%)	73 (32.6%)	30 (13.3%)	44 (19.5%)
Hypothermia (≤98.0°F)	38 (17.0%)	1 (0.4%)	47 (20.8%)	0
Hyperthermia (≥103.0°F)	1 (0.4%)	91 (40.6%)	0	33 (14.6%)
Hypertension ^e	10 (4.5%)	40 (17.9%)	17 (7.5%)	18 (8.0%)
Anorexia	0	40 (17.9%)	0	35 (15.5%)
Hyperactivity	0	26 (11.6%)	0	11 (4.9%)
Reduced SpO ₂ (≤90%)	8 (3.6%)	1 (0.4%)	11 (4.9%)	0
Bradycardia (≤90 beats/min)	5 (2.2%)	1 (0.4%)	4 (1.8%)	1 (0.4%)
Tachypnea (≥72 breaths/min)	0	5 (2.2%)	1 (0.4%)	6 (2.7%)
Arrhythmia	1 (0.4%)	1 (0.4%)	2 (0.9%)	0
Blindness	0	2 (0.9%)	0	1 (0.4%)
Apnea/Death	1 (0.4%)	1 (0.4%)	0	0
Ataxia	0	1 (0.4%)	0	0
Hyperesthesia	0	1 (0.4%)	0	0

- a. Cats may have experienced more than one type or occurrence of an adverse reaction. Cats experiencing the same reaction both during and after surgery are presented in both time periods.
- b. During surgery is the time from the administration of the anesthetic induction agent until discontinuation of the gas anesthetic.
- c. Hypotension is defined as a mean blood pressure of ≤60 mmHg during surgery and ≤90 mmHg after surgery.
- d. Tachycardia is defined as a heart rate of ≥180 beats per minute during surgery and ≥200 beats per minute after surgery.
- e. Hypertension is defined as a mean blood pressure of ≥120 mmHg during surgery and ≥160 mmHg after surgery.

To report suspected adverse events, contact Abbott Animal Health at 1-888-299-7416, FDA at 1-888-FDA-VETS or FDA online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

EFFECTIVENESS: The effectiveness of SIMBADOL was demonstrated in two randomized, masked, placebo-controlled, multi-site field studies involving client-owned cats of various breeds. A descriptive, interactive pain assessment system was used by the trained assessor over the 72-hour post-operative period to determine pain control, and treatment success was defined as a cat that completed the 72-hour post-operative period without rescue analgesia. A statistically significant difference (P ≤ 0.005) in the number of successes in the treatment group over the placebo control group was observed. The results of two field studies demonstrate that SIMBADOL is effective and has an acceptable safety margin for the control of postoperative pain in cats.

HOW SUPPLIED: SIMBADOL (buprenorphine injection) is supplied in a carton containing one 10 mL amber glass vial. Each multidose vial contains 1.8 mg/mL of buprenorphine.

NADA 141-434, Approved by FDA
SIMBADOL is a trademark of Abbott Laboratories.
Manufactured for: Abbott Laboratories, North Chicago, IL 60064 USA
Product of United Kingdom

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Zoetis Inc. has announced a \$255 million deal to acquire the animal health assets of Abbott. The agreement, expected to close in the first quarter of 2015 pending regulatory and legal review, will expand Zoetis’ companion animal portfolio and diagnostics business with Abbott Animal Health’s oncology, blood glucose monitoring, anesthesia, wound care, fluid therapy

\$4.6 billion

Zoetis’ reported revenue generation in 2013.

and nutritional products.

“The addition of Abbott Animal Health assets is an excellent complement to the Zoetis companion animal business and addresses the challenges our customers face today in effectively raising and caring for animals that are living longer and receiving more intensive medical and surgical treatment,” says Zoetis CEO Juan Ramón Alaix in a company release.

“This acquisition strengthens our pain portfolio and our diagnostics business so we can deliver more customized solutions to veterinarians.”

Zoetis Group President Kristin Peck says Zoetis’ scale and global presence will expand both the reach and penetration of both the Zoetis and Abbott brands. With this acquisition, Zoetis adds PropoFlo, Simbadol and AlphaTRAK as well as other products that serve the veterinary surgical suite.

No other terms of the transaction have been disclosed. Zoetis generated annual revenues of \$4.6 billion, in 2013. Abbott serves people in more than 150 countries and employs approximately 69,000 people. **dvm360**

Man armed with cane accused of assaulting staff, threatening to kill veterinarian

One employee pushed, another repeatedly punched by suspect distraught over death of dog, police say.

Charles Kingman Jr., 61, is accused of entering Burnham Veterinary Clinic, near Willows, California, on the afternoon of Nov. 10 visibly angry and threatening to kill Leroy Burnham, DVM. Employees reported to the Glenn County Sheriff's Office that Kingman, tried to hit people with a cane as he searched for Burnham, who was performing a medical procedure at the time.



Charles Kingman Jr.

Off-duty Glenn County Service Officer Ben Niblack happened to be at the clinic when the assault occurred. Niblack struggled with Kingman, eventually wrestling the cane away from the suspect, as Meghan Niblack, a clinic employee, called 911. She then ran outside the clinic with her two young children, who were also at the clinic.

The sheriff's press release says Kingman forced his way past Niblack, pushing Lynn Burnham, 59, "violently into a wall." Niblack was unable to stop Kingman as the suspect continued toward the rear of the animal hospital yelling that he was going to kill the veterinarian.

Kingman encountered clinic employee Rudy Alvarez-Romo, whom he punched in the face

Kingman forced his way past Niblack, pushing Lynn Burnham "violently into a wall." Niblack was unable to stop Kingman as the suspect continued through the hospital, yelling he was going to kill the veterinarian.

and knocked to the floor, police say. "Kingman got on top of Romo and began throwing punch after punch toward Romo's face," the press release states.

Niblack told authorities he was able to grab Kingman and subdue him with a control hold until deputies arrived. Kingman told deputies he was upset over the death of his 5-year-old dog, which he had brought to the clinic two weeks prior to the assault.

Kingman was arrested for assault and threatening a crime with intent to terrorize and held on \$152,000 bail at the Glenn County Jail. [dvm360](#)

IN BRIEF | News

Euthanasia of dog leads to family shooting outside veterinary clinic

A man in Tuscaloosa, Alabama, shot himself and his adult son Monday with a pistol in 69 South Veterinary Clinic's parking lot after taking his dog there to to be euthanized.

The father, 58, suffered a self-inflicted gunshot wound to the stomach. The same bullet also hit his 25-year-old son in the arm, says Tuscaloosa County Metro Homicide Unit Sgt. Dale Phillips. It is not clear if the incident was intentional or an accident.

The two men were hospitalized, and the incident is under investigation. No one else on site was harmed in the incident.

A clinic representative declined comment. [dvm360](#)



Concerned for your safety at work?

For ways to secure your clinic and keep your team members safe find a list of resources from safety protocol to security equipment at [dvm360.com/clinicsafety](#).

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NO CALIBRATION**

"The TONOVET is superior in accuracy to the Tono-Pen XL for the detection of ocular hypertension and/or glaucoma"

- **Vet Ophthalmol. 2013, McLellan et al -**

"I have found the TONOVET accurate, reproducible and very easy to use. It requires no calibration and minimal maintenance while using standard AA batteries."

- **E. Dan Wolf, DVM, ACVO Diplomate**
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How well are veterinary students **prepared** to *make* business decisions?

Here's a special look at the nonclinical content in veterinary curriculums accross the nation. *By Katie James*

"Veterinary students just aren't prepared for the 'real world.' Students and new graduates don't know how to manage their debt or practice finances. And it's the fault of veterinary schools. They aren't teaching students to manage debt or practice medicine in the real world."



The editors at *dvm360* and its sister publication *Veterinary Economics* have heard these remarks from veterinary experts for years. So, we thought we'd do the legwork and see if it's true. We surveyed U.S. veterinary schools to find out what they offer—required or optional—and whether students take advantage of this nonclinical content. Below you'll find a recap of some of the more innovative things veteri-

nary schools are doing to provide a rock-solid business foundation for students to use in the "real world." To read the full results of the survey, visit dvm360.com/bizanalysis.

Colorado State University

When surveyed, the Colorado State University College of Veterinary Medicine was in the process of hiring a financial educator dedicated to help veterinary students improve their personal finance acumen and to decrease their debt. In August 2014, the college also hired Pamela O'Grady, career services manager, to help students with employment. The college also offers an optional 18-credit business certificate program and a combined MBA/DVM program, which accepts five students annually.

Tufts University

The Cummings School of Veterinary Medicine at Tufts University works with American Student Assistance, a nonprofit organization dedicated to financial literacy for students, to bring a finance professional to campus twice each academic year. The school also offers one-on-one sessions to each of its fourth-year students to review their loan portfolio and discuss repayment options and strategies. Just prior to graduation, there is a one-week mandatory session that fourth-year students take called "Take Charge of Your Professional Life."

University of Florida

The University of Florida's College of Veterinary Medicine offers an optional business certificate that includes courses on entrepreneurship for veterinarians, a veterinary practice clerkship elective, special projects in veterinary business and an equine-practice-based clerkship.

University of Georgia

Students at the University of Georgia College of Veterinary Medicine have the opportunity in their fourth year to complete a rotation in a veterinary practice management externship program. A partnership between the college and the university's small business development center (SBDC), overseen by Jeff Sanford, SBDC's director of entrepreneurial studies, pairs students with a local practice to work in the areas of finance, budgeting, marketing, personnel management, workflow evaluation and cost-benefit analysis. The students prepare a comprehensive report for the practice owners on the health of the business.

University of Minnesota

David Lee, DVM, MBA, of the University of Minnesota College of Veterinary Medicine, has created a budget simulator for students to use to prepare for postgraduation debt repayment and realistic budgeting. Students input factors such as salary, student debt, credit card debt and personal savings, and they receive a summary and analysis of their financial situation. The simulator is found at www.finsim.umn.edu.

Students also meet with the Office of Student Finance at the beginning and end of their time in the program.

University of Missouri

At the University of Missouri College of Veterinary Medicine, veterinary personal finance expert Fritz Wood, CFP, gives a four-hour lecture on personal and practice financial health. A university financial aid officer is assigned to the veterinary college and is on site for students to directly address loan or financial aid questions. This officer provides an exit strategy and planning session addressing scheduling loan repayment and forgiveness. dvm360

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**CHANGE THEIR FOOD.
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Report implicates contaminated feed in deaths of three horses

Horse owners, equine center seek large settlement from Lakeland Animal Nutrition as result of monensin poisoning. *By Julie Scheidegger*

Down and bleeding from the nose, Rudy, a 15-year-old gelding thoroughbred, was found on Oct. 19 where he was boarded at Masterpiece Equestrian Center in Davie, Florida. His temperature measured 102, with tachycardia and jugular pulse.

The horse managed to stand, but hung his head with subdued mentation. Rudy's condition progressed to trembling and shaking, when he collapsed and died. Rudy was one of three horses that died or was euthanized with similar clinical signs between Oct. 16 and 20 at the ranch and riding school. The common factor was their feed.

Necropsies performed on two of the three horses by Serena Craft, DVM, DACVP, Kyle R. Taylor, DVM, PhD, and Joanna Hyland DVM, MS, DACVP, found evidence consistent with acute ionophore toxicity. The feed, produced by Kentucky-based Lakeland Animal Nutrition, showed high levels of monensin. Known on the retail market as Remensin, the medication is commonly added to cattle feed in order to promote growth but can be toxic to horses.

"Horses are extremely sensitive to ionophore toxicity, and myocardial damage typically predominates over skeletal muscle damage in this species," Hyland wrote in the necropsy report. "Clinical signs in equids include, but are not limited to, signs of colic, apprehension, shifting or fidgeting, sweating, myoglobinuria and muscle tremors." Additional signs seen in the other two horses included hind limb paralysis and dragging toes.

Both necropsies found cardiac damage consistent with monensin poisoning. Rudy's death was attributed to terminal cardiac damage resulting in acute congestive heart failure. Further testing by the Florida Department of Agriculture and Consumer Services found that four of nine tests of Lakeland feed sampled from Masterpiece Equine Center were contaminated



Dallas, one of three horses that died at Masterpiece Equine Center in Davie, Florida, as a result of contaminated feed.

with monensin. A fifth sample tested positive for both monensin and lasalocid, another ionophore additive that's toxic to horses.

Lakeland Animal Nutrition voluntarily recalled four of its horse feeds Oct. 22 after accusations of contamination began. Specific lots of Signature Status Pellet and LAN 10 Pellet were pulled from shelves and the company ceased production of equine feeds indefinitely. The company has since announced it will no longer manufacture equine feeds but focus on its core livestock business.

"We are committed to working with the Masterpiece Equestrian family to bring restoration in the midst of their tragic losses," reads the Lakeland Animal Nutrition's website. "Although we can never replace their horses or take away the pain of this tragedy, we are working with their representatives to expedite a resolution."

Masterpiece Equestrian Center's lawyer, Andrew B. Yaffa, is counting on it. He says this is a case of absolute liability that should be resolved without litigation; however, he adds, "Should they play games, we will not hesitate to initiate litigation against them."

Yaffa would not provide an amount that would satisfy horse owners and ranch owners. It has been reported

that horses boarded at Masterpiece, a high-level training school for show and jumping horses and riders, can be worth anywhere from \$35,000 to hundreds of thousands of dollars. He says the case has substantial value, citing the loss of high-value horses "along with a total loss of a business that is struggling to survive now that all of its horses have been rendered useless and are deteriorating before their eyes."

Yaffa says 19 horses are permanently disabled due to consumption of the Lakeland feed. The irreversible effects of the poisoning are attested to in Hyland's necropsy report. "Myocardial lesions in monensin toxicity are not reparable and the probability of lasting cardiac insufficiency is high in horses exposed to sublethal doses," she wrote.

The Lakeland website says an internal investigation is underway in addition to the investigation by the Florida Department of Agriculture and Consumer Services. "Our thoughts are with the Masterpiece Equestrian family, and, although their horses could never be replaced, we are committed to doing all we can to bring comfort to them in their suffering."

Yaffa says he remains hopeful for a settlement. "I have had some positive communications and am hopeful they will do the right thing," he says. **dvm360**

Partnership offers returning military dogs free veterinary care

American Humane Association, Red Bank Veterinary Hospital and The United States War Dogs Association launch initiative to come to aid of retiring military and contract working dogs.

American Humane Association (AHA), The United States War Dogs Association and Red Bank Veterinary Hospital have launched an initiative to care for battle-field canines, with Red Bank providing free specialty veterinary care to all retiring military working dogs and contract working dogs. The combined effort underscores dogs' critical roles in the military.

By sniffing out devastating IEDs and enemy weapon caches, each dog saves an estimated 150 to 200 human soldiers. However, their value extends beyond official duties because they become companions for their military comrades. Dogs also provide comfort and a reminder of home for their brothers and sisters in arms, according to an AHA release.

Despite their contributions, the furry service members can face struggles after retirement. Regulations prohibit federal funds from covering their medical care. In light of this, AHA representatives addressed Congress this summer and challenged the private industry to recognize the situation and create a program to help.

"At our Capitol Hill briefing in July we not only called on the Congress to ensure a safe ride home and happy retirement for all military working dogs and contract working dogs, but we also asked the private sector to step up and establish a veterinary care fund for these dogs after they come home," says Robin Ganzert, AHA's president and CEO.

"We and U.S. War Dogs Association are honored to see that the Red Bank Veterinary Hospital have answered our call to ensure a healthy retirement for these canine heroes."

Dr. Anthony DeCarlo, VMD, co-founder of Red Bank Veterinary Hospital, says the program acknowledges the dogs' sacrifices. The group will use its five hospitals across New Jersey to provide specialty care for these dogs as they retire from military duty.

"For more than 25 years, Red Bank Veterinary Hospital has been a leader in providing veterinary care to the animals of New Jersey, but we now want to be known as the leader in veterinary care for our veteran dogs," DeCarlo says. "American Humane Association and the U.S. War Dogs Association have done laudable work in helping to bring home these heroes and give

them the recognition they deserve, and it is the least we can do to use our world-class team of veterinary professionals to provide whatever care the dogs may need."

Ron Aiello, president of The United States War Dogs Association, says the military considers dogs essential, but they are not guaranteed medical care.

"We are pleased to work with American Humane Association and Red Bank Veterinary Hospital to provide essential, lifesaving veterinary care for these brave four-legged warriors," Aiello says. [dvm360](#)



Military working dog Maxi, a Belgian Malinois, served two years in Japan with handler Cpl. Jonathan Cavender.

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Veterinary clinic in Ferguson vandalized during intense protest

Two veterinary clinics endure public outcry after grand jury decision is announced in Ferguson. *By Julie Scheidegger*

On the morning of Tuesday, Nov. 25, a dozen businesses smoldered after a night of protest and violence in Ferguson, Missouri. Glass fronts of buildings lay shattered—evidence of the previous night’s destruction witnessed by daylight.

Veterinary assistant Rachael Anglin came in to work early. Dellwood Animal Clinic, located near the southwest corner of Chambers Road and West Florissant Avenue, is mere blocks from Canfield Drive, where white police officer Darren Wilson shot and killed 18-year-old African American Michael Brown in August. The St. Louis County grand jury decision not to indict Wilson on criminal charges Nov. 24 sparked a night of intense public outcry that, in part, evolved into looting and vandalism.

Anglin found the front window of the clinic broken out when she arrived the next morning. “Across the street, Prime Beauty was burnt to the ground,” she told *dvm360*.

Fortunately, there was no looting. She said the three dogs and two cats that were on site overnight were secure and unharmed. The clinic closed for the day on Nov. 25 while Anglin waited

for someone to come and board up the window.

The staff had left the clinic Nov. 24 at 4:30 p.m. in anticipation of the grand jury’s decision. All Anglin could do was watch the news from her home in Bellefontaine, which is located about 15 minutes from the clinic. “All we could do was hope that they didn’t get us,” Anglin said.

Anglin had attended a meeting in preparation for a possibly riotous night. “I was hoping it was going to be better, but you never know,” she said. It was reported that approximately 12 buildings were set on fire, including Prime Beauty and a TitleMax just around the corner from the veterinary clinic. Looting was also reported at the O’Reilly Auto Parts nearby.

East on Chambers Road to Florissant Avenue, a Little Caesars and a Walgreen’s had been torched. Those two buildings sit about a block from Ferguson Animal Clinic, 483 Airport Rd. The phone went unanswered at that clinic the morning of Nov. 25.

“Everybody’s looking at the damage and whether they’re going to rebuild or not,” Anglin said. Dellwood Animal Clinic plans to be open for the foreseeable future. *dvm360*



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Surgical services at military veterinary clinics suspended

Move is aimed at emphasizing routine exams to improve access to basic care and health of bottom line while still keeping costs low.

The U.S. Army Public Health Command announced in November that it has temporarily suspended surgical procedures at all military veterinary clinics. Originally, Army, Navy, Air Force and Marine Corps installations were tasked with providing basic physicals, vaccinations, registrations and sick call hours for veterinary patients. Now, it's estimated that 100 to 150 military clinics have expanded their services to include surgical procedures, including spays and neuters, dental work and tumor removals.

Army Lt. Col. Matt Takara, animal medicine program manager for the

Public Health Command, says in military publications that this expansion has required military clinics to hire more civilian providers and to reduce the number of routine appointments available. The bottom line has also been affected, as the facilities do not receive taxpayer support. While all services are provided at a greatly reduced cost for active duty personnel, retirees and their families, the clinics rely on revenues from routine exams to cover basic operating expenses.

"[This will] greatly increase the number of service members and families we provide support to within

our military communities and generate the profits required to cover our basic operating expenses," Takara told *Military Times*. Clinics also raised prices from \$25 to \$35 for a basic exam and increased prices for flea and tick medications and heartworm pills.

"While we strive to keep our prices as low as possible, we must generate enough revenue to cover our operating costs. These changes are occurring globally, but our goal is to increase access to care and provide more wellness and sick call appointments to our military families' pets," Takara said. [dvm360](#)

Find it all here

dvm360.com

New York veterinary practices share experience with massive snowstorm

A snowstorm dumped 74 inches of snow and closed Animal Eye Care of Western New York in Depew, New York, for days. Payloaders were hired to remove the snow (see right).

Veterinary clinics in the snowed-in region were forced to close or weigh the risks of opening. Many opened with limited staff and urged pet owners to call first before even attempting a trek to the clinic.

On [dvm360.com](#) you can view the important, but also light-hearted, Facebook posts veterinary clinics used to communicate with their clients during this emergency. Check out the slideshow at [dvm360.com/snow](#).



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AAEP foundation, Markel award scholarships to vet students

Each student to receive \$2,500.

Eight veterinary students were awarded \$2,500 as part of a program to provide financial support for future equine practitioners on behalf of the American Association of Equine Practitioners (AAEP) and Markel insurance company. The students were recognized at the AAEP's 60th annual convention in Salt Lake City, Utah, on Dec. 7.

The annual scholarship program, now in its 26th year, was designed to honor students who have proven to be advocates for equine welfare and exceptional academic achievers. They are nominated by representatives from their colleges with references from AAEP members and clinical instructors. In addition to academic excellence, nominees are evaluated by their leadership abilities and involvement with the health and welfare of horses. Each school may nominate one fourth-year veterinary student who intends to enter private practice. More than \$400,000 has been awarded to 186 students since the scholarship program's inception in 1989.

The recipients of the 2014 awards are:

- > Zachary Badura, Iowa State University
- > Elodie Huguet, University of Georgia
- > Rebecca Legere, Kansas State University
- > Molly Muedeking, Royal Veterinary College
- > Stephanie Regan, University of Florida
- > Holly Roessner, Michigan State University
- > Esther Rogers, Auburn University
- > Bailee Stanton, University of Saskatchewan

"Markel has been a leader in equine insurance for many years," said AAEP Foundation Chairman Jeff Berk, VMD. "We can't thank Markel and its dedicated team enough for continuing its leadership by supporting this scholarship program. Equine veterinary students need help now more than ever, and Markel's dedication is so important in helping these students during difficult economic times." **dvm360**

MU veterinary professor endows fellowship to further research in exercise and health

Frank Booth Fellowship will provide awards to veterinary and medical graduate students.

Dean Neil Olson of the University of Missouri College of Veterinary Medicine says professor Frank Booth, PhD, jogs to



Dr. Frank Booth

work, between his offices and to conduct his errands. An expert on genetic motivations for exercise and activity in humans and animals,

Booth has made it his life's work to research the unhealthy effects of physical inactivity on the brain and the body's aerobic capacity.

To further his mission, he gave the university \$1 million to fund research into physical activity and health and to endow the Frank Booth Fellowship in Physical Activity and Health in perpetuity. Booth is a professor in the College of Veterinary Medicine, School of Medicine and MU Dalton Cardiovascular Research Center.

The Frank Booth Fellowship,

which will be funded by an estate gift from Booth, will provide awards for second- and third-year graduate students who are engaged in research on physical health and exercise at the MU Health Activity Center.

"We are so grateful to Frank for his generosity, not only because it helps ensure this important area of research will continue, but also because it speaks volumes when our faculty members take such pride in our institution and believe in our work that they personally invest in it," Olson says in a university release.

Two research priorities will include studying what motivates people to be active or inactive in their daily life and research into which genes cause humans to lose their ability to remain active as they age.

"My goal with this gift is to support continuing research on the effects of exercise and to help communicate the importance of exercise to overall health, including the prevention of chronic diseases," Booth says. **dvm360**



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Heritage poultry: Veterinarian in North Carolina raises the species America forgot

Dr. Julie Gauthier raises seven varieties of turkey, geese, ducks and chicken, helping conserve breeds that have nearly disappeared.

By Julie Scheidegger

The best time of day at Chickcharney Farm in Wake Forest, North Carolina, is afternoon. Work is done and the remaining light of the day is golden. Julie Gauthier, DVM, MPH, DACVPM, steps out onto her 10 acres with a cup of coffee. “I love the fall—leaves are on the ground and the turkeys are looking glorious,” she says. Gauthier says the time of year around Thanksgiving at Chickcharney Farm is particularly spectacular. “I just like being out there and watching them.”

A veterinary epidemiologist with the U.S. Department of Agriculture (USDA), Gauthier raises two varieties of heritage turkeys on her farm: the Narragansett and the Beltsville. This is in addition to two heritage varieties of geese, two varieties of ducks and one variety of heritage chicken. Her flock started years ago with just six chickens in the backyard. Now on a mission to conserve heritage poultry, her flock has grown considerably.

“Poultry can be an obsession for a lot of people, including me,” Gauthier says. “Chickens are a gateway drug. Ducks, geese and turkeys are really interesting as well.”

In fact, she finds turkeys fascinating. “The turkeys are charming,” she says. “They’re really personable creatures. They’re curious. “When I go outside, the chickens could care less, but the turkeys are always right there trying to figure out what you’re doing. They’re much more willing to



>>> Veterinary epidemiologist Dr. Julie Gauthier raises heritage poultry, including Magpie and Saxony ducks, Delaware chickens, and Narragansett and Beltsville turkeys, at Chickcharney Farm in Wake Forest, North Carolina. Gauthier, an import risk analyst at the U.S. Department of Agriculture, also co-wrote *Chicken Health for Dummies*.

interact with people. [Their curiosity] is their method of dealing with strange things in their environment.”

Gauthier’s scientific perspective and approach to genetic conservation sets her apart from others who may simply appreciate heritage birds.

“A lot of people are interested in how pretty the birds are, but you have to have an eye for how they’re built,” she says. She values the genetic traits associated with good egg laying and strong legs that help a bird get around with ease.

And if the worst case scenario occurs, such as a disease outbreak, her veterinary background serves her well. She has learned to quickly assess why the situation happened.

“The only good medicine when you’re a flock keeper is prevention,” she says. “My training as a veterinarian and in public health helps me to see that. Not just what antibiotic should I use, but how did this happen in the first place?”

Chicken Health for Dummies

Gauthier admits that when she was in veterinary school, learning about poultry medicine was limited to attending a weekend workshop.

“There wasn’t a lot of opportunity when I was in school,” she says. Gauthier graduated from Michigan State University School of Veterinary Medicine in 1993 and went on to earn her master’s degree in public health from Yale University.

“There’s a huge gap out there” when it comes to poultry medicine, she says. “There are poultry consultants who work with commercial poultry who really know their stuff. Then there are these backyard folks and they have no one to go to. They take them to small animal veterinarians—we don’t know anything!”

Gauthier says there’s a real and growing need for veterinary expertise as the number of people keeping backyard flocks increases. “There a lot of do-it-yourself stuff going on out there,” she says. “It’s dangerous for the chickens and for the people.” She should know. She wrote the book on it.

Gauthier co-wrote *Chicken Health for Dummies* with Rob Ludlow, which came out in January 2013.

“There’s a lot of mistakes being made

now—that doesn’t have to happen,” she said. “They didn’t happen in the past because people had knowledge.”

For example, some uneducated flock keepers are allowing chickens to free-range around old houses, where they pick up lead paint. People don’t realize what they’re exposing themselves and



Interested in backyard poultry?

CVC Washington, D.C., 2015 will offer three CE sessions on the topic. For more information on attending, head over to thecvc.com/dc.

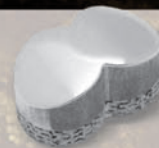
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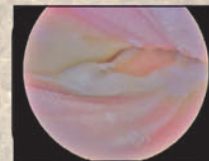
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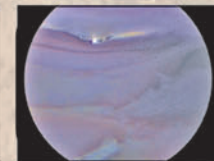
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their animals to. “They’re checking the Internet and talking to each other and using over-the-counter treatments,” Gauthier says.

She says *Chicken Health for Dummies* was her chance to get some quality information out there. With Gauthier’s interest in poultry, doing the writing and research for the book was fun. “It’s amazing to look into that world ... or maybe just people who are obsessed with poultry think that’s interesting,” she says with a laugh, acknowledging that she’s in the minority—even among veterinarians—when it comes to her intense interest in poultry issues.

While the lack of veterinarians going into food animal medicine is old news, the issue becomes more urgent considering the burgeoning interest in hobby farming. “There’s a big need and I’m not sure how it’s going to be filled,” Gauthier says.

Realistically—financially—she understands the problem. “There are not

enough veterinarians willing to serve that niche and there’s good reason for that,” she says. “People can’t afford to spend money on modern diagnostics for farm animals.

“It’s tough to be that old-model community veterinarian who’s doing everything, but there’s still that need and I think it’s growing,” she continues. “I don’t know what the answer is. It’s a public health concern as well as animal welfare.”

In the meantime, she does her little bit on her 10 acres. “I do a lot of teaching out of here,” she says. She hosts workshops for local flock owners; she hosts a veterinarians’ workshop. “I often have veterinary students want to come out and do flock procedures,” she says.

Diversity concerns

The Narragansett and Beltsville turkeys happily foraging on Gauthier’s farm are the future of their breeds.

The Narragansett was found on Thanksgiving tables in New England 150 years ago. The Beltsville small white was developed by the USDA Agricultural Research Service during the 1930s as a response to consumer requests for a smaller, “clean-dressing” table bird.

Popular through the 1940s and 1950s, they became nearly extinct as consumers gravitated toward larger turkeys for the holidays and the industry began producing turkey products year-round.

Nearly all Americans feast on the commercially produced broad-breasted white turkey for their Thanksgiving or Christmas meal. This fact is a concern for Gauthier.

“There is one variety that is commercially raised around the world and three companies that control the breeding stock,” she says.

Gauthier explains it this way: “Think if there was only one breed of dog. That would concern people.”

She says livestock is going the same direction as plant-based agriculture—the number of varieties used is decreasing, along with genetic diversity and the number of companies producing the products. “We need to maintain our choices and hang on to the vast genetic diversity that our ancestors had,” she says.

So she does things the old-fashioned way. Her operation won’t feed

the masses. She sells only 15 to 25 birds each year.

“It’s a very old-fashioned way to do it,” she says. “The way you would have done it 150 years ago.”

She processes the turkeys at home, which she says results in less stress for the animal. Not only is this an issue of humane treatment, she says, but also of food quality. “I do it by hand,” she

“There is one variety of turkey that is commercially raised around the world and three companies that control the breeding stock. Think if there was only one breed of dog. That would concern people.”

—Julie Gauthier, DVM, MPH, DACVPM

says. “I try to produce something that really looks great and tastes great.”

The ill-fated birds are chosen early in the fall. Gauthier holds back the most ideal genetic specimens to keep the flock going.

“The ones that don’t make the cut are processed for meat,” she says. “It’s a necessary market for them. You need to show people that these birds are fabulous to eat.”

She says her business plan is modest—the birds need to support themselves. She sells and ships hatching eggs and chicks nationwide to further their breeds.

“I hate to say this, but the meat is a by-product of the operation. My mission is to hang on to these birds, so I need to keep a large population to keep them genetically healthy.” **dvm360**

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Low-cost; business-savvy

> Continued from page 1

Working with the working class

Danielle Rastetter, DVM, owner and chief veterinarian at Pets In Stitches in Miamisburg, Ohio, worked for a nonprofit shelter for five years before striking out on her own. The shelter's services were based on financial need, but Rastetter says there were still too many pet owners left in the middle.

"I felt the community still had a population of people that didn't qualify for the need-based assistance but still needed help," she says.

With the help of her husband and his business management degree, along with support from her local small business association, Rastetter opened her practice in 2011. While the practice is still in a "growth phase," Rastetter says she can now pay her husband a practice manager salary and employ a full-time registered veterinary technician, a full-time front office assistant, a part-time veterinary assistant and a part-time disease control aid. She's still working on paying herself a salary.

In addition to providing low-cost services at her practice, Rastetter works with area shelters, often getting referrals from them for pet owners who don't qualify for need-based assistance.

When she first opened, Rastetter says, her business plan called for 25 to 30 patients per day. But the current average is 11. "I didn't really expect how many clients would come in and purchase additional services," she says. "When we get to full growth we will probably get to 22 per day."

Rastetter says she needs to perform 15 sterilizations per day to meet her overhead in the practice. To meet her own personal expenses, however, she works as a relief veterinarian and with a local mobile vaccination clinic.

She has never had a personal confrontation with another veterinarian about her low-cost practice, but Rastetter says clients have relayed negative comments from other veterinary professionals who imply that her practice offers a lower standard of care.

Rastetter says she tries to counter anything negative she hears with a positive response. "I work very hard at collecting testimonials and encouraging clients to post on review sites," she says. "So someone looking us up is going to run into a lot of positive things."

Rastetter also has been very careful not to encroach on the business of the local veterinary community, keeping her services limited. She offers vaccines, heartworm and micro-chipping under the umbrella of spay-neuter, but she refers clients to traditional clinics for booster shots or any other services.

"I want our local veterinary community to feel as though we're not stepping on their toes in that way," Rastetter says.

In return, some local veterinarians send her

cases. In fact, two nearby veterinarians send her all their spay and neuter cases. Rastetter says she performs some complicated sterilizations for practices who believe she has the expertise—an opinion not shared by all. People are used to auxiliary services in human medicine but not veterinary medicine, she explains.

"They ask us, 'Is it a real veterinarian doing the surgery?' They're worried because they're not used to this," she says. "With time and continued positive feedback, we'll become more known and more accepted."

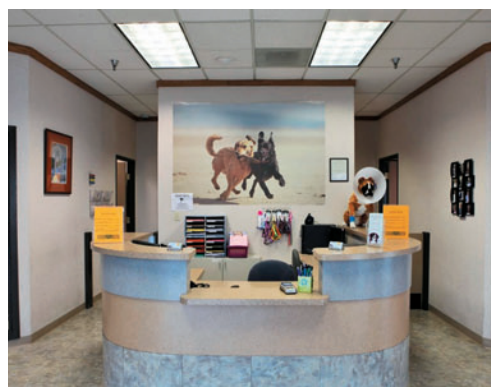
Occasionally, Rastetter sees other issues

"The biggest issue we have is those who have questioned whether or not the services we're offering at the spay-neuter clinic are the best medicine or best practices," Taylor says.

In reality, he says, there is no variation between the service offered at his clinic and what clients would get at a traditional practice. "A lot of people chalk up rates to their standard of care," he says. "So we try to put as much information out there about the differences. The procedure doesn't change." The cost savings at his clinic come from low overhead and specialization in one service, he adds.



>>> The team at Mercy Animal Hospital in Gardendale, Alabama, keeps a lid on costs through the practice's low overhead and focus on providing just one specialized service.



>>> Spay-Neuter Las Vegas was founded in 2009 after a local law was passed requiring that all pets be sterilized by 4 months old.



requiring veterinary care while performing a sterilization. In those cases she refers the client to another veterinarian or, if she takes care of the problem during the sterilization, she keeps the regular veterinarian informed every step of the way.

"We're trying to make this affordable for the community and encourage full-service relationships," she says.

New practice, old problems

Wesley Taylor, practice manager at Mercy Animal Hospital in Gardendale, Alabama, says his clinic has heard from many traditional veterinarians who ask how they can afford to offer their services for such a low cost.

The spay-neuter clinic is affiliated with a traditional full-service veterinary hospital. Since it opened Oct. 6, business has tripled, he says—but the number of sterilizations at the traditional clinic has not changed. Many clients at the low-cost clinic are new clients or existing clients who had put off sterilization because of the cost.

The clinic now performs 10 to 15 sterilizations per day, four days per week. The goal is to do 80 per week, but Taylor says the clinic can meet its overhead with four cases per day. The clinic employs one full-time veterinarian, a full-time veterinary technician, two veterinary assistants and a full-time receptionist. A kennel assistant position has yet to



>>> Dr. Taryn Griffith, owner of Spay-Neuter Las Vegas.

be filled, and the clinic has room to double as business grows. Costs for a feline neuter start at \$50, and service fees top out at \$95 for a canine spay. The fees are all inclusive, including pain medication and any take-home medications, Taylor says.

In Alabama, Taylor adds, nonprofit spay and neuter clinics are facing shutdown from the state, and there are only six practices left

that specialize in these services. Alabama is a contentious environment for these clinics, with the state veterinary medical association and practice owners association battling over low-cost services.

“We’re not in it for any greedy purposes,” Taylor says. “This is an issue that needs to be address, and we want to address it.”

The clinic targets pet owners obtaining animals from rescues and shelters and gives patrons of those organizations a 25 percent discount. Exceptionally large shelter organizations can receive a discount of up to 50 percent. “If we’re not actively working to adjust the program and making it affordable, then it’s a hindrance rather than a help,” Taylor says.

A changed career and a new perspective

Taryn Griffith, DVM, owner of Spay-Neuter Las Vegas, bought her practice two years ago. The founder, Melanie Brazil, DVM, started the clinic to combat a terrible pet overpopulation problem in Nevada. With few low-cost options and a law instituted in Clark County in 2009 that requires sterilization of every pet by the age of 4 months, Brazil recognized a great need.

Griffith says the law has been credited with a nearly 32 percent decline in euthanizations in Clark County, where one shelter alone sees more than 40,000 pets surrendered in a single year. “An integral part of that is having an option for people who want to do the right thing but who just can’t afford it,” Griffith says.

Griffith, who worked for a decade in private practice before buying the spay and neuter clinic, says this isn’t the career she imagined for herself.

“I never thought in a million years I would go into spay and neuter,” she says. “But so many people can’t afford to take care of their pets and too many turn to euthanasia when it isn’t warranted. It’s frustrating. So I started looking for other options.”

Griffith says she has found new purpose in battling pet overpopulation. “I felt in full service that I wasn’t appreciated that much, and here a lot of the clients appreciate how we’re helping them,” she says. “It’s brought back that enjoyment of what I do.”

She says traditional veterinarians may sometimes feel like low-cost clinics are stealing from them. But many of the patients Griffith sees—even those who are 7 or 8 years old—have never been to a veterinarian before. “The ma-

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jority of the clients we see would not be able to have their clients spayed or neutered if we didn't provide the service," she says.

The practice gets referrals from vaccination clinics and shelters, and Griffith refers clients to full-service hospitals when needed. "We are not full-service veterinarians. We are not a substitute for a family doctor," Griffith says. "The minute they get sick, we tell them they have to go to a full-service veterinarian."

But as much as she tries to have a good rapport with the local veterinary community, her efforts haven't gone far, Griffith admits. Last year she sent letters to more than 50 local veterinarians explaining her desire to have a network of local providers to refer cases to. She asked for business cards and fliers to keep at her practice. Out of 50, only eight replied.

"Those eight were definitely appreciative and we refer back and forth," Griffith says. But she laments the fact that more practices don't see the benefit of what her clinic could offer them.

"If full-service clinics changed their view of us they'd realize it could be a great partnership," Griffith says. "It could be a great source of referrals for them."

Griffith says her clients have been told by other veterinarians that she won't provide good care for their pets or give them pain medication, and that's why her costs are so low. But Griffith says her cost burden is lower because she doesn't have to keep all the medications and supplies on hand that a traditional practice does.

Her clinic employs two full-time veterinarians and performs 20 to 40 surgeries per day. She manages to cover all her costs, and the cheapest service is \$40 for a feline neuter. Griffith doesn't plan for much growth, since she has no desire to feel rushed or overtaxed.

"We only have enough to feel we can get it done in a comfortable amount of time without feeling too rushed or fatigued," Griffith says. "I know I'm never going to get rich doing this. I don't want to book 80 surgeries per day and run my staff into the ground and make myself sore and tired."

Griffith says she wishes traditional practices would view spay and neuter clinics as a complement rather than competition, much in the way primary care physicians refer cases to the OB/GYN. When it's all you do, you can do it well and efficiently, she says. Veterinarians have no problem referring cases to specialists for other matters, and

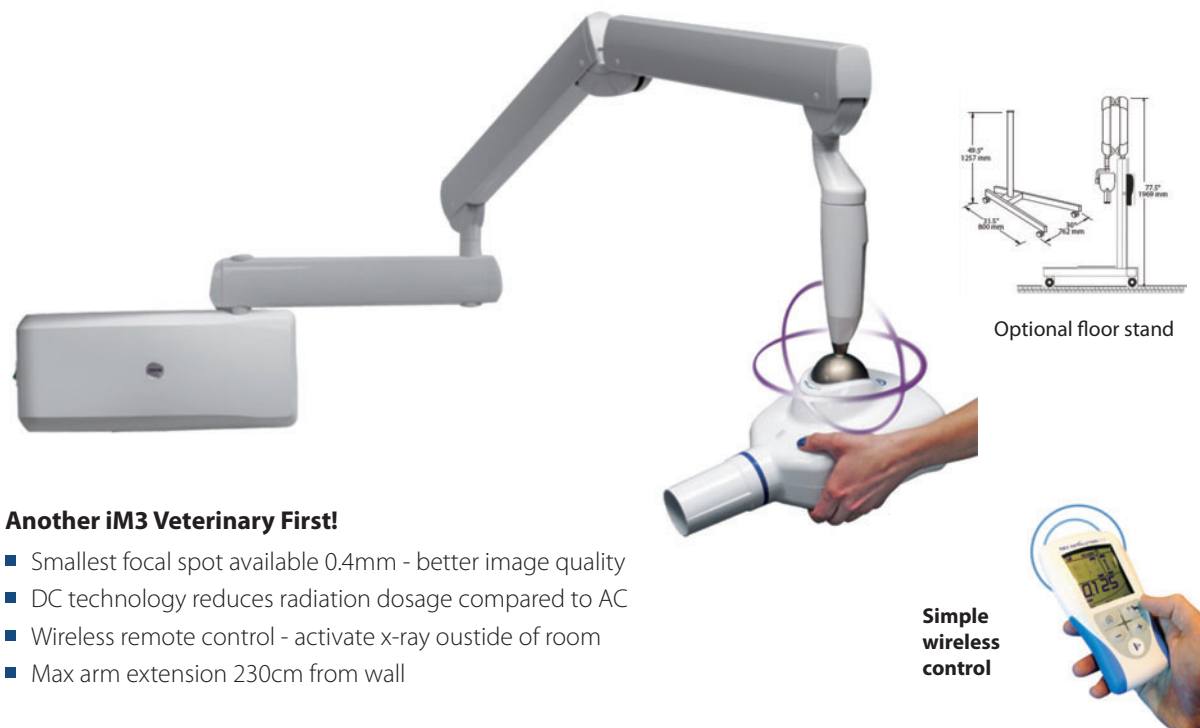
Griffith says she doesn't understand the issue with spay and neuter clinics not falling under the same rules.

"We're going strong, we're not going anywhere," Griffith says, adding that she believes more cities and counties will begin to pass sterilization laws similar to what was enacted in Clark County, making practices like hers a necessity. "This is the way of the future." **dvm360**

"Many people can't afford to take care of their pets and turn to euthanasia when it isn't warranted. It's frustrating."

—Dr. Taryn Griffith

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NEWS | Cover story

Veterinarian imprisoned in Southeast Asia

> Continued from page 1

ing in hostels and using local transportation.

"She kept a journal of all the birds and animals and her Facebook page was loaded with hundreds of exotic animals—jaguars, sloths, orangutans, bats, caiman and on and on," Kero says. "She was disappointed that she didn't see an orangutan in the wild in Borneo, although she was able to see them at a preserve."

Addison's dream trip turned into a nightmare in Timor-Leste, however. Timor-Leste, also known as East Timor, is an island nation that shares a border with Indonesia. It was colonized by Portugal in the 1500s, occupied by Japan during World War II, occupied again by Portugal and eventually taken over by Indonesia before gaining independence in 2002. Its judicial system is still developing, experts say—as Addison is now experiencing.

According to Addison's posts on Facebook,

"She is not charged with anything and has no court dates. Under their law, she can be kept for one year without charge."

—Bernadette Kero, Addison's mother

she crossed the land border from Indonesia on Sept. 5 and was one of two passengers in a private SUV acting as a taxi to Dili, the nation's capital. The other passenger asked to stop at a local DHL office to retrieve a package on the way. When he returned to the taxi, police, acting on a tip that the package contained drugs, stopped the SUV and arrested everyone inside.

Addison says on Facebook that she, the other passenger and the driver were taken to a police station where her bags and person were searched, all personal medications were tested for drugs and a urine test was performed. All tests came back negative. She was released after an apology from the officers, who told her they had to search her because she was in the same car as the suspect, but now they knew she wasn't involved. The officers then drove her to a hotel.

An hour and a half later, however, police returned to the hotel and arrested Addison again. She was held in the Dili Detention Center for four days, then released after a preliminary hearing. At that hearing the judge ordered Addison's passport held until further investigation had been completed.

Without warning, Addison was arrested again on Oct. 28 and has been in prison ever since. According to media reports, the court detained her again because there was a warrant for her arrest, though the reason for the warrant remains unclear. Addison's family has hired an attorney

in Timor-Leste who has filed numerous petitions and appeals, but he has not received a response.

Kero says the arrest was illegal because of a lack of due process, as neither Addison nor her lawyer was notified of the warrant or impending arrest, which is required under Timorese law. The lawyer has also filed appeals based on human rights violations. "She is not charged with anything and has no court dates," Kero says. "Under their law, she can be kept for one year without charge."

The country has recently removed all its foreign advisors, Kero continues. The lawyer has told Kero that the prosecutor and judge in Addison's case have both been removed due to gross negligence in an unrelated case and left the country. Before the second arrest, Addison had been in contact with the U.S. embassy in Dili, she says on Facebook, but they could offer only limited assistance—the United States cannot interfere with the judicial process of another country.

A Facebook page, Help Stacey, has been created to garner support for Addison's release, along with a Twitter account, @HelpOurStacey, and a Change.org petition. Dr. José Ramos-Horta, former president of Timor-Leste and a Nobel laureate, has visited Addison in prison and offered his help, according to CNN. Kero also suggests contacting state representatives and the U.S. State Department to ask them to offer their assistance in getting Addison released.

On Dec. 8, the Help Stacey Facebook page shared an update on her situation from her mother. After months of waiting, the case has been assigned a new prosecutor, and Addison, her lawyer and members of the U.S. Embassy will meet for questioning about the crime, Kero writes. While waiting in prison, Addison has been reading, writing and studying Indonesian so she can communicate better.

However, she has struggled with health issues and weight loss, her mother reveals. Addison has been treated at a local clinic for a recurring abscess and intestinal problems.

The confirmation of U.S. Ambassador Karen Stanton to Timor-Leste in November was an encouraging development. Kero writes that she received a call from Stanton after she met with Oregon Senators Jeff Merkley and Ron Wyden regarding Addison's situation, and Stanton said Addison would be her top priority as she assumes her post. [dvm360](http://dvm360.com)



Don't miss out

Developments on Dr. Stacey Addison's situation were continuing to come in at press time, so be sure to check for updates on dvm360.com.



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¹ Of dogs showing a preference in two studies, all dogs preferred HEARTGARD Plus Chewables to TRIFEXIS™ (spinosad + milbemycin oxime) beef-flavored chewable tablets; Executive Summary VS-USA-37807 and VS-USA-37808.

² Opinion Research Corporation, Heartworm Prevention Medication Study, 2012. Data on file at Merial.

³ Ask your Merial Sales Representative for full guarantee details.

See brief summary on page 32

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Vaccination changes have hurt client visits and hospital revenue

Recommending shots every three years rather than every year has negatively impacted the veterinary profession, along with broader economic factors.



CHEWABLES

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

INDICATIONS: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae (*Dirofilaria immitis*) for a month (30 days) after infection and for the treatment and control of ascarids (*Toxocara canis*, *Toxascaris leonina*) and hookworms (*Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*).

DOSAGE: HEARTGARD® Plus (ivermectin/pyrantel) should be administered orally at monthly intervals at the recommended minimum dose level of 6 mcg of ivermectin per kilogram (2.72 mcg/lb) and 5 mg of pyrantel (as pamoate salt) per kg (2.27 mg/lb) of body weight. The recommended dosing schedule for prevention of canine heartworm disease and for the treatment and control of ascarids and hookworms is as follows:

Dog Weight	Chewables Per Month	Ivermectin Content	Pyrantel Content	Color Coding On Foil Backing and Carton
Up to 25 lb	1	68 mcg	57 mg	Blue
26 to 50 lb	1	136 mcg	114 mg	Green
51 to 100 lb	1	272 mcg	227 mg	Brown

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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I completely agree with the Dr. Christopher Allen’s assessment of the ProSal formula in today’s economic climate (“Put ProSal out to pasture”, November 2014). In describing the economic factors that have led to the financial decline of our veterinary profession, however, I feel that one of the most important contributors wasn’t mentioned, which is the fact that the veterinary profession went from recommending annual vaccinations to recommending every-third-year vaccinations instead. This was a professionwide medical decision that unfortunately led to financial consequences. Combined with the current trend to vaccinate humans less often as well, this has led to a huge decline in clients bringing in their pets annually for physical exams and preventive care. An offshoot of this is that many animals are never presented until their illness or condition is so advanced that the owner cannot afford the diagnostic workup or treatment required. In turn, this has led to an unnecessary increase in euthanasia as a default option. If an annual visit were still the norm, many of these animals would be diagnosed in early stages, the owners would have

more opportunity to be educated about early symptoms, and problems could be averted or resolved with less overall cost to the owner and a better outcome for the pet.

This drop in veterinary patient visits combined with the economic recession and flat recovery rate are the biggest factors contributing to the decline in practice revenue and the inability of veterinary teams—owners, associates and staff members—to be paid a more deserving income. With hospital revenues unable to keep up with costs and inflation, it has become impossible to increase salaries in an appropriate manner without having to lay people off.

As a profession, we seem to be treading water and not doing ourselves any favors by continuing to encourage additional veterinary schools to pump out more students that will face little choice in employment and only be guaranteed huge financial debt. This perpetuates the dilemma of a profession that continues to be underpaid, from the kennel worker to the practice owner.

Sandra M. Wing, DVM
Wolfeboro, New Hampshire

TWEET & greet

dvm360 readers react to trending topics via Twitter

>> A farewell to Dr. Sophia Yin (November 2014)

DrMartyBecker @dvm360

A farewell to Dr. Sophia Yin from @dvm360. -her loss still hurts my heart. She is missed.

drmcdoles @dvm360

This article answers some of the gut wrenching questions I’ve had about Dr. Yin’s death. I’ve needed this discussion.

dogbehavanswers @dvm360

It’s important to celebrate the lift of Dr. Sophia Yin, but also understand her death to prevent future tragedies.

The solution to low-cost clinics lies within the profession

State board harassment caused veterinarians to ignore needy clients.

Who caused the proliferation of low-cost spay-neuter clinics owned by charitable 501(c)3 organizations? We did.

Some veterinarians were already performing low-cost spays and neuters as well as vaccination and basic healthcare clinics. The problem they encountered was that the state veterinary boards would try to shut them down. Such veterinarians could count on fines, license restrictions, probation and other harassment from their state board. This created a shortage of low-cost providers that the low-income clients needed.

So the profession began ignoring low-income clients. The fact that we were

not serving this group opened the door to charitable organizations. If veterinarians weren't going to help the underserved, then humane societies and rescue groups would fill the need. And today we see a proliferation of low-cost providers of veterinary services.

The state veterinary boards started this problem. They can stop it by ending the harassment of veterinarians who want to provide low-cost services. Low-cost clinics owned by veterinarians will charge higher prices than the 501(c)3 groups and at the same time outcompete them for business.

*Gerald Dobesh, DVM
Omaha, Nebraska*

Shelters hurt the profession

More value needs to be placed on animals and their healthcare.

Shelters consistently devalue animals and our profession by not meeting a standard of care with their surgeries. They're unprofessional and I couldn't disagree more with your coverage (dvm360 Leadership challenge: Working with shelters, November 2014). Yes, we need to work with these groups; however, they are in the

wrong and our profession has kindly bowed down too many times on topics such as vaccines being sold over the counter and now abdominal surgeries. An ovariohysterectomy performed on a human is more than \$20,000. I propose that if our prices went up instead of down, the overpopulation problem would be corrected because of more value and worth being placed on animals. I am disappointed with your stance and these articles.

Name withheld

Latest surveys missing key factors

There's a saying: "When the going gets tough, the tough conduct another survey" ("Good news, bad news for profession's economics," December 2014). Some of the current surveys appear to be cobbled together by a panel of economists and statisticians with little knowledge of the facts on the ground. The conclusions of these experts are as convoluted and esoteric as to cause the average reader to wonder how pertinent they could possibly be to the problems being addressed. Oversupply of veterinarians and existing practices' reluctance to

hire, apparently, were not even considered in the latest survey I read.

I suggest the following three-question quiz be given to every veterinarian who has graduated in the past four years: (1) Are you currently employed full-time with benefits and regularly scheduled hours? (2) If yes, what is your yearly salary? (3) What is the total amount of your student loan debt?

This simple test should go a long way in ascertaining the *true* economic state of the profession.

*Richard H. McCormick, DVM
Miami, Florida*



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The circle of life— and professional identity

10 steps to respond to an unstable business model. *By Suzanne Parsel, DVM, MBA*

Many veterinarians are concerned about the economic sustainability of the profession. But I can't help but notice that discussions are focused primarily on the companion animal market. Yes, the companion animal sector represents 50 percent of the veterinary services industry, and wields a lot of economic muscle, yet companion animals are not the only focus of veterinary profession.

It seems that we're seeking a 20th-century professional identity that no longer exists. In light of climate change, increasing incidence of global zoonotic disease and the need to increase global food supplies by 70 percent by 2050, we'd be wise to return to our original mandate in service of the

This is not about responding to the career desires of incoming veterinary students who've watched too many episodes of Emergency Vets.

public health. Healthy animals sustain healthy people. This is One Health.

We need to break down siloes across all sectors of the profession, including companion animal, equine, food animal, industry, public practice, wildlife and ecosystems health, global food security and academia.

What the problem is not

The problem is not how to increase demand for veterinary services in the companion animal sector or how to decrease the supply of veterinarians into the marketplace. A basic precept of economics is that supply and demand are in direct relationship to one another and seek equilibrium in response to other market factors. Therefore, we're asking the wrong questions and implementing "fixes" in the wrong places. We need to go back to business basics and assess the market needs:

- What are society's needs for veterinary services?
- Where are the pain points?
- Where are there opportunities for innovation in the market?
- What are the market's current

needs for veterinary services?

➤ Are there jobs available that are responsive to society's needs for veterinary services?

➤ What's going on in the external economic environment that gives clues about the future of veterinary services?

➤ How does the current veterinary workforce need to be equipped in order to be agile and responsive to market needs?

➤ What kind of skills and brainpower do we need to recruit into veterinary schools to respond to the public health demands of society?

Our professional identity

Even before James Herriot came on the scene with his fabulous books, veterinarians enjoyed the public's adoration with a far-reaching halo effect. If we want to sustain our reputational capital as a profession, we are well poised to be the heroes and heroines in the face of global climate change and the massive systemic effect that's having on global public health.

In the Disney movie *The Lion King*, a really smart lion named Mufasa says something like, "We're all connected to the circle of life." Therein lie the seeds of our new professional identity. We need to realign our professional identity in response to the realities of the external economic environment. This is not about responding to the career desires of incoming veterinary students who've watched too many episodes of *Emergency Vets*. The answers lie in the collaboration across all sectors of the veterinary services industry and for members of these sectors to respond holistically and systemically to the needs of society and the marketplace.

Responding to needs

So how do we respond to our professional misalignment with the demands of society and fix this business model? How can we better communicate the full spectrum of exciting, rewarding career paths that exist outside of companion animal practice?

What we need is a sustainable infrastructure to support a new veterinary

services business model based on One Health functionality.

Step 1: Change begins by accepting responsibility for the current condition of our profession. Pogo said, "We've met the enemy, and he is a us"—which underscores the foundational concept of systems thinking; that is, we are part of the system. No single entity has the knowledge, authority, resources or perspective to fix the problems facing the U.S. veterinary profession—not the AVMA, AAVMC, CDC, NIH, NAS, the animal health industry, regional, state or national governments or agencies, not global nongovernment organizations such as the FAO, WHO or the World Veterinary Association or the Bill and Melinda Gates Foundation. But do we need all of these entities to collaborate and work together? The answer is yes, absolutely.

Step 2: Let go of superficial solutions based on increasing patient visits to the veterinary clinic.

Step 3: As part of the system, we have the power to influence change by changing ourselves. Change starts with getting clear about our professional identity and our purpose.

Step 4: Develop a shared vision and definition of One Health.

Step 5: Establish sustained communications across the industry.

Step 6: Start investing knowledge and financial resources into a thorough analysis of system function and system structure of the veterinary services sector by using system thinking modeling tools and computer simulations.

Step 7: Identify leverage points in the system structure to free up opportunities for market-responsive innovations that drive change towards a new One Health-based veterinary services paradigm.

Step 8: Implement those changes.

Step 9: Reevaluate alignment with our professional identity and purpose.

Step 10: Reiterate steps 5 through 10. **dvm360**

Dr. Suzanne Parsel is owner of Caney-stone, a consulting firm in Little Rock, Arkansas. She writes about One Health.



Veterinary medicine to save the world

For real-world examples of veterinarians who are thriving in the realm of One Health, check out this *dvm360* series, which takes a close look at how veterinary medicine benefits people, not just animals. Read it now at dvm360.com/savetheworld.



4 ways veterinarians need to protect themselves legally

You may know what brick-and-mortar items a clinic needs, but have you ever considered protecting your intellectual property as well?

One of the many reasons I love my job is that I have the opportunity to meet interesting people with new and unconventional business ideas. Even though some of the entrepreneurs I consult with are not veterinarians, there's always some connection with the animal health field. It's inspiring to see what sorts of new enterprises smart folks in our field are cooking up every day.

At the same time, it's pretty common for individuals who are highly trained in science to be unfamiliar with the most fundamental concepts of business planning and business structure. How could it be otherwise? There's so much science to learn and so little time. There is barely space in a STEM (science, technology, engineering and math) curriculum to squeeze in the humanities, let alone business law or basic tax accounting.

So, for fledgling animal health entrepreneurs, veterinary clinic first-timers and even self-employed per-diem relief veterinarians, let me take this opportunity to outline some of the business structures, liabilities and protections young entrepreneurs in the veterinary field should know as they incubate their cutting-edge ideas.

Liability protection

Veterinarians and others who are thinking about starting a practice

or any other type of business somehow innately know that they should consider forming some sort of legal entity within which their new activity should operate. They've heard about LLCs, subchapter S and C corporations, and they find it all very confusing. Really, it's not.

Just remember this guiding principle: In the legal world, the ultimate question in any dispute is "Who has to take (financial) responsibility?" Whether an automobile air bag explodes and

hospitalizes a soccer mom or a client punches out one of your drug representatives in your clinic parking lot, someone is harmed and somebody must pay. Business entities exist to help give the business owner some cover when somebody sues.

When the lawsuits begin, the search for money starts. Business entities (corporations, limited liability companies and so on) are formed in large part to create a "straw man" who can bear



the brunt of a lawsuit, insulating the person who owns the business. For example: A client is severely injured by one of the dogs in your waiting room. The client sues you for \$10 million, wins \$2 million, and your insurance limits are \$1 million. Who is liable for the second million? If your clinic does business without a corporate or other “straw man,” the person liable is *you*. Go directly to bankruptcy; do not pass “go.”

On the other hand, if your clinic is incorporated, the business corporation gets hit for the \$1 million excess verdict. The injured client’s law firm seizes every single asset owned by the corporation: All the used kennels, your 15-year-old fully depreciated x-ray machine, and even the rusty forceps in the cold tray. However, your personal bank account is insulated and is unavailable to satisfy the debt.

So look into getting your clinic, pet hotel or startup laser scalpel business protected by a straw man. In the event of an unexpected injury or assault at your business premises (or elsewhere), personal insurance may not be enough to keep your personal assets safe.

Noncompetition and nonraiding contracts

While the protection of business proprietary rights is frequently demonized, this strategy is not absolutely evil—as few things are. Proprietary rights such as client lists, referral sources, good employees and practice goodwill *are* worthy of safeguarding—as long as the steps used in creating the safeguards are fair and reasonable in light of the circumstances.

Let’s say you borrow a million bucks and open a veterinary practice. The risk is enormous. Once you’ve interviewed scores of potential veterinary associates and hundreds of potential receptionists and technicians, is it right that any one of those associates should be entitled to hire away half a dozen of your best staff members and walk off with the client list it took you years to develop?

It sure doesn’t sound fair. But it also isn’t fair for you to strong-arm your associates into signing a document that effectively makes yours the only clinic within 100 miles where they can work for years to come.

So here’s a business tip for practitioners and entrepreneurs alike: If the law

permits it, get that noncompete and anti-employee raiding clause. Make it fair, make it *realistic*, and make it closely conform to the proprietary interest you need to protect.

Intellectual property protection

You don’t know how successful you are going to be. It’s hard to tell whether you’re really as clever as you think you are. That’s why they invented statutory protections for entrepreneurs, including health and science professionals.

My firm recently did business formation work for a practitioner who had come up with a revolutionary way to provide preventive veterinary care services in sparsely populated communities. She also had a very interesting and descriptive name for her system. How will she keep one of her associates from racing off to rural Nevada and opening up a company with an identical concept, name and logo?

First, she will reserve all rights to such intellectual property to her own business, specifically referring to it in all employment agreements. She will also take steps to avail herself of state trademark and service mark laws. She may even seek patent and/or federal trademark protection if the system and its software, name or logo qualify. And she will look into the process for doing so *while her proprietary concepts are still fresh*. Once they are appropriated, they’re far more difficult and expensive to protect.

If you have a really clever name for your pet care service system, you can protect it against use by others. Who knows—you may want to franchise the idea, and it will be a lot easier if you don’t have to compete against others who’ve already appropriated your compelling little name or jingle.

Insurance

One of my veterinarian clients recently developed a unique system for providing blood components to private veterinary practices. Before setting foot into a single customer clinic, this smart entrepreneur sought advice on the best way to protect herself from liability associated with the startup.

We put together contract documents and some other protective systems. I asked her to tell me about exactly how and where the work would be carried out. The promo-

tional demos are done at her site and in CE seminars. The service itself is carried out at each subscriber clinic. Knowing that info helped me guide her in something very important: where to get the numerous categories of insurance she would need in order to protect herself and her family from business-related risks. Here is a taste of coverage categories she would need to consider:

- > A fire and liability business package for her site if she is carrying out client meetings there.

- > Malpractice coverage if the process *could constitute* the practice of veterinary medicine.

- > Worker’s compensation coverage, even if her state permits her to opt out because she has no employees. If she is injured while providing the service, her private health insurer could disclaim coverage due to the work-related nature of the injury.

- > Business automobile coverage. If an accident occurs on the way to or from a customer clinic visit, a conflict may result when her private auto insurer tries to claim that her personal injuries were work-related and therefore should be paid by her employer (that is, herself).

- > Additional business automobile and bailment coverage if she will be transporting animals or other people’s employees.

- > Business liability insurance to protect herself specifically in relation to injuries to others (including customer clinic employees) while she is carrying out her services.

- > Product liability insurance to protect herself against breaches in sterility protocols, contamination and so on that could arise in delivery of her service.

- > And also, not last but certainly not least, she should have disability coverage. The likelihood of disability associated with work is vastly greater than death associated with work. Even though young entrepreneurs usually feel indestructible and invincible, they can end up in the hospital. And they can end up broke if they can’t work and don’t have disability protection. **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.



DATA SUGGEST veterinary market *will improve* in 2015

Forecasts predict an increase in GDP and consumers' disposable income.

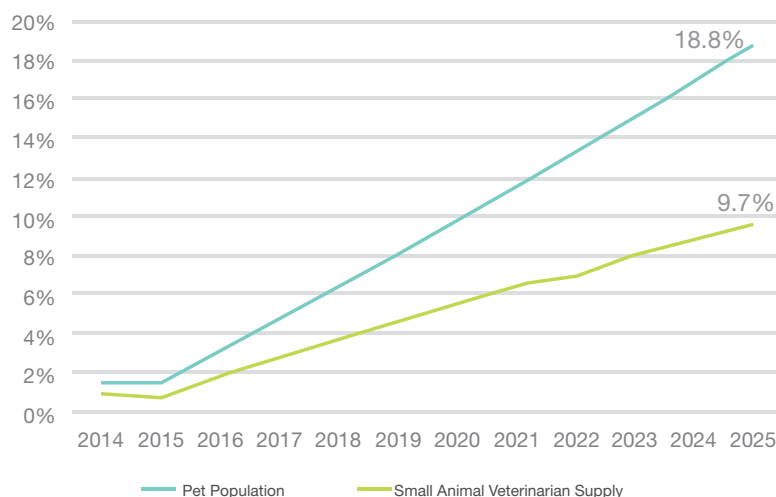
Recent indicators tracked by the AVMA's Division of Veterinary Economics suggest that the challenges confronting veterinary practices the past few years are improving.

More veterinarians are being absorbed into the workforce, more practices are operating at what they believe is full capacity and veterinary compensation has finally resumed growing. However, there are still practices operating well below optimal levels, there continues to be many veterinarians that want to work more hours for greater compensation and, even with recent increases, compensation has still

disposable income has not risen. The good news is that all evidence suggests that this is likely to change in 2015.

The Congressional Budget Office estimates that GDP will grow 3.4 percent this year and in 2016, and the GDP gap will close by 2018. The Conference Board, a global, independent business research association working in the public interest which produces an index of leading indicators and has consistently and accurately predicted the nation's recessions and recovery, has predicted that the U.S. economy will continue to gain strength 12 to 18 months into the future.

Predictions: Growth in pet population vs. supply of small animal veterinarians



Source: AVMA Veterinary Economics Division

not returned to pre-recession levels.

The economic recovery has entered its sixth year. The difference between what the country's total gross output should be and its real level sparks considerable debate. The gap is estimated to be between \$600 and \$900 billion annually, depending on the source. This gap in the U.S. gross domestic product (GDP)—the measure of the value of all final goods and services produced—has allowed the economy to grow without allowing increases in the average worker's wage. Accordingly, consumers'

Interpreting the impact of economic growth

All other factors aside, strong growth in GDP should translate into increased demand for veterinary services. Does this mean all veterinary practices will see an improvement next year? Unfortunately, the caveat of "all other factors" will likely determine whether a strong growth in the GDP will translate into an increased demand for veterinary services. More importantly, how will an increase in the demand for

Text continues on page 42 >

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Specialist's rewards to referring doctors raise questions about kickbacks.

Dr. Lee Ray was a boarded ophthalmologist who had recently left a large specialty practice to launch his own endeavor. He announced his presence to local veterinarians and mailed small continuing education publications to local practitioners to publicize his services. Dr. Ray soon developed a loyal following of referring veterinarians. He communicated well and was an excellent specialist.

In a bid to further increase his referrals, Dr. Ray became innovative with his solicitations. He offered to see referrals promptly and generate immediate referral reports. In addition, he volunteered to visit general practice clinics, provide lunch and educate staff members. These sessions allowed him to share the latest ophthalmology techniques and refresh practice teams' ocular diagnostic skills.

Dr. Ray initiated other novel practices as well. Realizing that some of his specialty instruments were expensive and it was not common for referring veterinarians to own them, he established a lending policy where a local practitioner could sign out one of his diagnostic instruments and use it temporarily. His referring veterinarians liked this arrangement, and his practice continued to grow.

However, Dr. Ray was not embraced by the entire veterinary community. Other specialists claimed his referral program was unethical and unprofessional. Competitors accused him of using a sophisticated kickback scheme to boost referrals. For one thing, Dr. Ray's lunch-and-learns saved veterinarians from paying fees for RACE-approved continuing education sessions, his critics contended, as many states accept lectures by boarded

specialists as continuing education.

Plus, borrowing sophisticated ophthalmologic equipment also allowed the referring veterinarians to do exams and charge fees that they normally would not be able to do. Opponents believed it would have been different if this perk were offered to all local practitioners, but limiting the offering to his own referring veterinarians constituted an unethical monetary incentive, they claimed.

Ray countered that his efforts were aimed at educating and improving his referring veterinarians' diagnostic skills. It benefited patients, clients and the clinicians themselves. He believed his accusers were acting petty and could offer the same opportunities to their stables of referring veterinarians. Nevertheless, his specialty colleagues filed a state board action against Dr. Ray for unprofessional behavior in the form of soliciting referrals by offering monetary advantages to those who used his services.

What decision do you believe the state veterinary board should reach in this case? Is Dr. Ray an innovative ophthalmologist or a veterinary specialist skirting the ethics code in order to increase his business?

Rosenberg's response

Unfortunately, increased competition often produces venomous controversy. Veterinarians aren't allowed to accept monetary incentives in exchange for directing their clients to specific veterinary facilities or clinicians. This, in effect, is a kickback. It's not illegal in the business world, where it's often labeled a "finder's fee." However, this practice doesn't always arise from the best interests of the pet and pet owner.

I believe Dr. Ray was displaying energy and innovation. His offerings were benefiting the referring veterinary staff, the pet and the pet owner. Still, the referring veterinarians using his services were indeed saving money on continuing education fees and generating additional income from his instrument lending policy.

The letter of the ethical law could certainly consider Dr. Ray's actions to be a unique form of monetary compensation in exchange for a referral. But in reality, veterinary staff members were being educated, clients and pets were benefiting from

this education, and diagnostic accuracy was being enhanced through the instrument lending policy.

In my opinion, Dr. Ray was assisting the veterinary community in a positive and constructive way, and the greater good was truly being served. I am sorry his specialist colleagues disagreed. **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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10 lessons

for veterinarians from **Steve Jobs**



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Embracing risk, anticipating change were among Apple co-founder's guiding principles.

Do you have the latest iPhone (or wish you did)? Are you hankering for a new and improved iPad? Have you looked at the soon-to-be-released iWatch? If you answered yes to any of these questions, you're a walking testament to the genius of Steve Jobs. Apple's late co-founder envisioned these and other technologies before we even knew we needed them.

Now imagine that Jobs had worked with animals instead of computers. Where would our industry be if we had a visionary like him setting the direction? What service or product would our clients be seeking that they'd never imagined needing? Consider the developments we might have seen!

Now, I don't want to take anything away from the industry leaders who have improved upon, repurposed and brought to market products and services layer by layer and iteration by iteration. The problem is that most, if not all, veterinary offerings have been just that—iterative and incremental improvements.

I don't know if there will be another Steve Jobs, but I am pretty sure there has never been anyone like him. People who create fascinate me, and I'm always looking for what defines unique people.

I recently read a blog on entrepreneurship titled "21 Life Lessons from Steve Jobs" by Nick Scheidies, which was originally published in *The New York Times*. These are my favorite tips; I think we can apply them in our practices, our industry and our lives.

1 Skate to where the puck is going to be. In 2007 Jobs said, "There's an old Wayne Gretzky quote that I love. 'I skate to where the puck is going to be, not where it has been.'"

As the veterinary industry rapidly changes, it's important to look for the open spots on the ice and take charge of a new direction.

2 Learn from others. Jobs spent years as a young man at Hewlett-Packard. By the time he was 21, he had worked for HP and Atari, which gave him the opportunity to hone the vision and skills that would give rise to Apple.

3 Start early. Now is best. The future does not begin at some point a few months or years down the road. The future begins now.

4 Travel the world. Travel broadens a person's perspective, expands an individual's sense of needs versus wants, and lets you see what's possible.

5 Expect greatness. People tend to rise to their own expectations. Don't include mediocrity in your business plan. Strive for excellence.

6 Don't value money. Success is not based on financial success but on fulfillment, happiness and the joy that comes from a job well done. The pursuit of wealth will not often lead to joy, but the pursuit of joy and happiness will result in a different sort of wealth.

7 Take risks. Focus on future opportunities rather than current successes. Don't just improve on what you know but step out of your comfort zone to pursue new services, new models and new business structures.

8 Have a higher purpose. Buddha said, "We are what we think. All that we are arises with our thoughts. With our thoughts, we make the world." Strive for your efforts to make the world a better place.

9 Remember you'll be dead soon. Jobs said, "Remembering that I'll be dead soon is the most important tool I've ever encountered to help me make the big choices in life. Because almost everything—all external expectations, all pride, all fear of embarrassment or failure—these things just fall away in the face of death, leaving only what is truly important." Our time on this earth is short. Make it matter.

10 Put a dent in the universe. Jobs once said, "We're here to put a dent in the universe. Otherwise, why else even be here?" I have always believed we should leave the world better or at least no worse than we found it.

While you and I might not have the genius and vision of Steve Jobs, we can still seek to aim high and make a differ-

ence. What do you want your impact to be? Having a higher purpose doesn't just help you find success. It makes true success possible. [dvm360](#)

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

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¹ Cerrato S, Ramió-Lluch L, Fondevila D, et al. (2013). Effects of Essential Oils and Polyunsaturated Fatty Acids on Canine Skin Equivalents: Skin Lipid Assessment and Morphological Evaluation. *Journal of Veterinary Medicine*. 1-9.

² Blaskovic M, Rosenkrantz W, Neuber A, et al. (2014). The effect of a spot on formulation containing fatty acids and essential oils on dogs with atopic dermatitis. *The Veterinary Journal*. 199(1):39-43.

³ Bensignor E, Nagata M, Toomet T. (2010). Preliminary multicentric open study for dermocosmetic evaluation of a spot-on formulation composed of polyunsaturated fatty acids and essential oils on domestic carnivores. *Pratique medicale et chirurgicale de l'animal de compagnie*. 45:53-57.

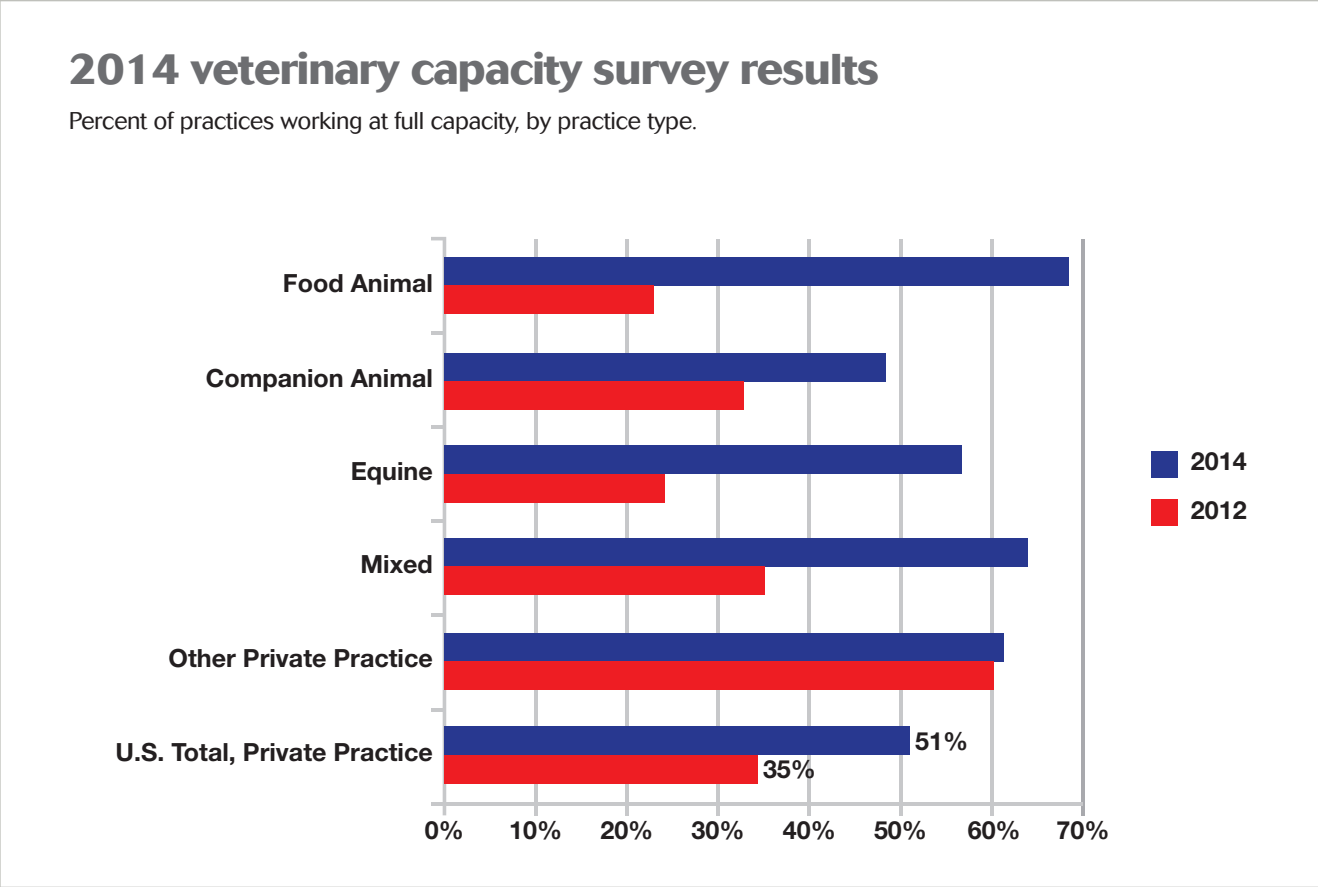
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<Continued from page 37



veterinary services translate into an increase in veterinary compensation?

Based on the Bureau of Census' population growth forecast and AVMA's determination of the demographic characteristics that influence pet ownership, U.S. pet population growth will continue to outpace the growth in the number of veterinarians. However, the percentage of pets visiting veterinary practices has been declining for a decade. The average visit includes the purchase of four services, and at least two are a wellness exam and vaccination(s).

In a recent study commissioned by AVMA, the price elasticity—the effect changing price has on the quantity consumed—of demand for the wellness exam was estimated to be slightly greater than 1 (see the Sept. 1, 2014, issue of *JAVMA*). This means for every 1 percent that you raise your exam price, demand will decrease 1 percent.

The income elasticity of demand was found to be a little bit less than 1 for pet owners who don't believe the wellness exam is very important, and 0.3 for those who do believe it is necessary.

What does this mean to you? It means that raising the price of the wellness exam may reduce the number of clients to such an extent that revenue from wellness exam visits will decline.

An increase in consumer income will only slightly increase the demand for wellness exams for pet owners who view the exam as important, but it would substantially increase the demand for the pet owners who do not believe it is important.

A statistical relationship exists between GDP per capita and veterinary compensation. For every \$1,000 decline in per capita GDP, veterinary compensation has declined by roughly \$1,700. This relationship indicates a connection between GDP and the market for veterinary services and veterinarians.

Food animal, equine

Both the total number of food animals and the number of small scale food animal owners fell precipitously during the recession. Not only did demand for meat decline as a result of lower per capita income, but droughts, high feed prices and forage shortages pushed animal production profitability into very low or negative territory, especially for small scale producers, adversely affecting the demand for veterinary services.

With the economy improving, demand has returned. However, we still have a historically low number of food animals. With cheaper feed and plenty of forage available, expansion in the industry, especially among small scale

producers, is occurring. This, plus the increase in value of each animal, will increase the demand for veterinary services. Veterinarians involved in food animal medicine noted the greatest reduction in excess capacity in their practices over the last two years.

Equine practitioners also noted solid gains in the number of practices now working at full capacity when compared to two years ago. The market for horses has improved. Cheaper grain and more abundant forage have certainly helped expand that demand.

Take-away for veterinarians

We need to keep in mind that all markets are national, but all veterinary practices are local. A rising GDP will help all markets, some more than others. Because some states, cities and certain business types feel the impacts of the economy more quickly than others, the effect of strong GDP growth on any specific veterinary practice will vary considerably. That said, the next 12 to 18 months should be a period of strong financial improvement for veterinary practices.

If your practice isn't benefiting from that improvement, take a careful look at your local economic conditions as well as your practice's operations. **dvm360**



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.

MEDICINE | Gastroenterology

Flatulence in dogs: *Annoyance or sign of GI illness?*

Persistence in finding the cause and crafting a solution can help keep owners content and pets in their homes. *By Ed Kane, PhD*

Being the owner of both a boxer and a bulldog with flatulence, Claudia Kirk, DVM, DACVN, DACVIM, a professor at the University of Tennessee College of Veterinary Medicine, can relate to the challenges excess flatus provides to pet owners. Episodes of flatus make living in close quarters with pets less than enjoy-

able, especially when the foul odor is enough to clear a room.

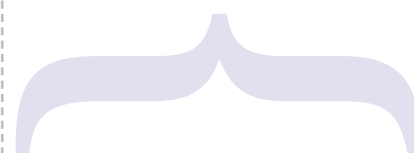
Flatus, a byproduct of bacterial fermentation, often results from dietary causes—highly fermentable fiber, indigestible carbohydrates, dietary indiscretions or a sudden diet change, Kirk says. Plus, some breeds seem to be predisposed to the condition, with

boxers, bulldogs, Boston terriers and other brachycephalic breeds among the most notorious.

Aerophagia: yes or no?

Kirk says she sees increased intestinal gas in dogs with aggressive or competitive eating behaviors, which promote aerophagia. Dogs that “wolf” their food

>>> Am I in trouble? Boxers are notorious for their noxious-smelling gas problems.



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Some definitions

Flatulence: Marked by excessive formation of gases in the stomach and small intestine.

Flatus: Gas expelled through the anus.

Prebiotic: A substance that, when consumed produces microorganisms in the GI tract.

Probiotic: Microorganisms that provide health benefits when consumed.

Resistant starch: Any starch that is not digested in the small intestine but passes to the large bowel, where it becomes a substrate for bacterial fermentation. Examples: potatoes, yams, pasta, brown rice and corn.

down may burp, have borborygmi and possibly experience increased flatus because of large amounts of swallowed air. However, aerophagia alone does not cause the odiferous flatus that is so objectionable to owners, she says.

Dottie Laflamme, DVM, PhD, DACVN, a nutritionist with Nestlé Purina PetCare in St. Louis, says she hasn't seen evidence to support the idea of aerophagia as a contributor to flatulence. Air coming in may cause a dog to eructate, or burp, but the suggestion that the air moves down the GI tract to the lower bowels to cause flatulence is open to question. "There is some evidence in regard to aerophagia and bloat, but intestinal gas is really a different phenomenon," Laflamme says.

Jillian Haines, DVM, MS, assistant professor of small animal internal medicine at Washington State University College of Veterinary Medicine, agrees. "One study looked at dogs to observe how quickly they ate their food, how 'greedy' they were," she says.¹ "This greedy consumption did not appear to affect whether or not

they would become flatulent. We think it might be a contributing cause, but we have to wonder why they are not able to eructate the gas normally. They should be belching, not expelling the gas anally unless there is something else going on with their stomach or further down the GI tract causing fermentation in the lower bowel. We don't really know."

Common culprits

The most common dietary sources for flatus formation are indigestible carbohydrates, especially soluble and fermentable fibers, and less-digestible meat products. High-meat products in particular can cause foul-smelling gas due to higher levels of indoles, phenols and sulfur derivatives. Here are some other specific dietary ingredients, physiological conditions and behavioral tendencies that may promote flatulence in dogs:

> **Food allergies.** "A very high percentage of dogs that have food allergy or food hypersensitivity have flatulence as a sign," Haines says. "Putting them



>>> **Garbage gut:** Dietary indiscretion can be one cause of flatulence in dogs.

on highly digestible, novel or limited protein diets does not necessarily stop that problem. It might in some cases, but it does not necessarily do so.”

> Beans. Soybeans and other bean meals are often suggested as a cause of flatulence in people and dogs. However, allowing the gut to adjust to any given diet—with or without soy—will reduce the predisposition for gas production, whereas sudden dietary changes can increase gas in some dogs, Laflamme says.

> Dietary indiscretions. Dogs that get into the garbage, raid the cat food or cat box, or surf the local pasture for “horse nuggets” are at greater risk due to GI upset or consumption of fermentable substrates, both of which are associated with flatulence.

> Table scraps. “One always has to look at table scraps, Haines says. “Owners must not forget that their dogs may be lactose intolerant, therefore a piece of cheese might be a potential source of gas.” Joe Wakshlag, DVM, PhD, DACVIM, DAVCSMR, associate professor of clinical nutrition at Cornell University College of Veterinary Medicine, agrees. He recommends that owners curb table foods and treats to 10 to 20 percent of total energy intake and consider treats that are complete and balanced in their nutritional makeup.

GI-associated illness and flatulence

Certain medical disorders will also increase the risk of flatulence. “When a patient has a GI disorder that involves malabsorption of nutrients in the intestine, those malabsorbed nutrients act as substrates for fermentation in the colon,” Kirk says. “That will lead to both gas production as well as increased odor.”

For example, boxers and French bulldogs are predisposed to histiocytic ulcerative colitis, Haines notes.²⁻³ “We suspect it’s due to an invasive *E. coli* infection that responds to treatment with enrofloxacin,” she says. “A change in the bacterial microflora in the colon may affect gas production as well, and the gas could potentially worsen the condition.”

Another disorder that causes malabsorption is inflammatory bowel disease (IBD). Any breed can experience IBD, but some are predisposed to the condition, including Wheaten

terriers and Yorkshire Terriers.⁴ Haines says that with IBD, the GI tract is infiltrated with inflammatory cells such as lymphocytes and plasmacytes. The inflammation leads to alterations in intestinal contents and disruptions of normal microflora, potentially causing bacterial overgrowth, which affects the intestine’s ability to absorb nutrients normally. But does all of this cause gas?

“At least from a clinical perspective, flatulence is not one of the major clinical signs we see in these dogs,” Haines says. “At least it’s not one of the most concerning signs, as opposed to weight loss, vomiting, diarrhea, inappetence and protein loss—those are the things we really worry about.”

When gas is a result of IBD, however, “treatment of the underlying disease will likely be needed to resolve the flatulence,” Haines says.

“Parasites, small intestinal bacterial overgrowth and canine parvovirus infection may also cause flatulence by the same method of disturbing the normal ability of the intestine to absorb nutrients,” Haines says. “Antibiotic use could also affect the microflora, leading to flatulence.”

When Haines is presented with a dog with excessive foul flatulence, she first looks for an underlying cause based on history and physical exam. “Animals that have abdominal pain or distention, vomiting or other signs of illness are more likely to have an underlying GI disease,” she says.

Diagnosis

Haines’ team uses GI imaging—often ultrasound—as well as blood tests to look for conditions such as exocrine pancreatic insufficiency (EPI), IBD or pancreatitis. Tests she relies on include serum trypsin-like immunoreactivity (TLI) to assess for EPI and canine pancreatic lipase immunoreactivity (cPLI) to assess for pancreatitis. Her team may also test serum cobalamin and folate concentrations to check for evidence of disease in the small intestine, either from bacterial production of folate or decreased absorption of cobalamin. She says endoscopic or surgical biopsies are often needed to further evaluate for IBD.

“There are potentially some motility disorders that could cause flatulence,” Haines continues. “These may show up on ultrasound or on radiographs, but some can be very difficult

to definitively diagnose.”

If Haines and her team don’t see any evidence of GI disease, they turn to medical management of the flatulence. There are few medications available to treat flatulence, though one study looked at a combination of activated charcoal, yucca and zinc acetate.⁵ “That seemed to help with the hydrogen sulfide gases, the ones that are particularly malodorous, which obviously affect the owners,” Haines says.

Dietary management

Laflamme says there are several nutritional approaches veterinarians and pet owners can try to decrease flatulence. “Changing the microflora or changing the type and amount of nondigestible foodstuffs entering into the large intestine may have an effect,” she says. “Anytime we change the diet in any way, shape or form, a byproduct is going to be a change in the GI microflora. We can selectively look for dietary changes that will induce a positive change as opposed to a negative change.”

Haines calls this area a medical “gray zone.” “We often think we’re on top of things, but sometimes we’re not,” she admits. “We have long talked about the nondigestible oligosaccharides in some foods like soy products. However, when a study looked more closely at soy products,⁶ they actually found that those oligosaccharides didn’t appear to be the cause of flatulence.”

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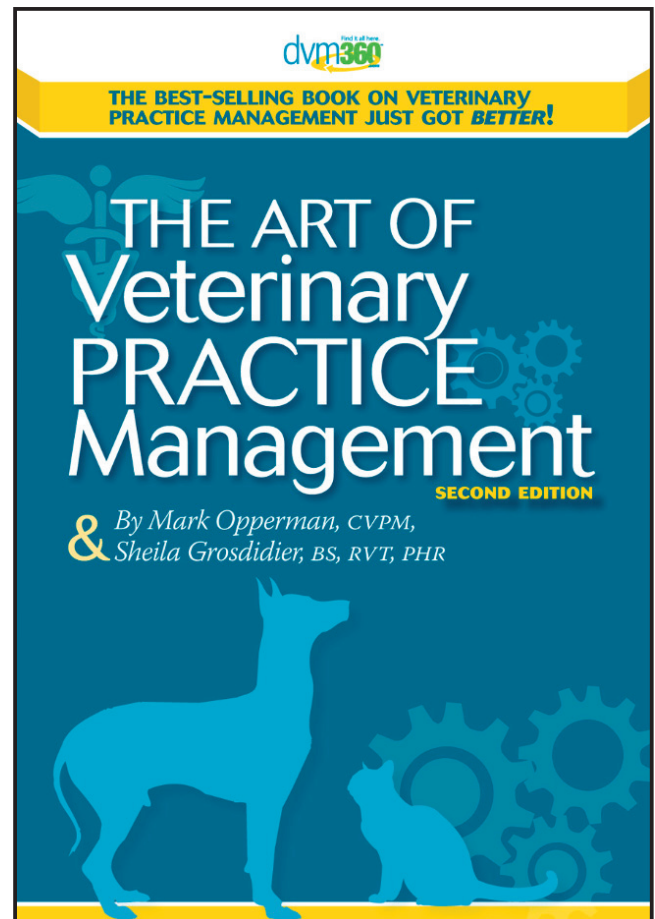
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Still, she says, her team takes a careful diet history and often recommends a change to a lower-fiber, more digestible food. “It doesn’t have to be excessively low, just lower in fiber than the current diet,” Haines says.

“Some of the intestinal [therapeutic] diets can be helpful—though one has to look at them carefully, as sometimes the fat content can be too high for the individual pet,” Haines adds. “Novel protein or hydrolyzed diets are a good choice because a dog with flatulence may have food allergies [or hypersensitivity] as an underlying cause. Some commercial canned diets might contain guar gum or resistant starches that contribute to flatulence. One has to be very cognizant of what’s in the diet.”

Wakshlag says solving the flatulence problem requires both substrate utilization and changing the microflora at the same time. “Protein that escapes digestion is thought to be one of the major substrates for clostridial bacteria,” he says. “Those bacteria tend to utilize it and/or break it down, and when that happens you get the more malodorous flatulence. The thought is that the protein maldigestion will cause the malodor, but in the end anything that causes fermentation (e.g., soluble fibers) will cause a lot of gaseous emissions to occur.

“If you’re trying to decrease flatulence, I would definitely not be prescribing a high-soluble-fiber diet,” Wakshlag continues. “I’m also probably going to moderate the protein to some degree. It depends on the individual dog, what that dog is eating, his disease condition, and what you’re trying to mitigate within that particular animal. If the protein is the problem for a patient, we’re looking for increased protein digestibility. So in general, if flatulence is problem, one is looking for the most digestible diet.”

Prebiotics and probiotics
Laflamme emphasizes that flatulence is an individual and somewhat idiosyncratic response. “You have to find the diet that works for the individual dog, and because we know it’s the microflora causing the gas, prebiotics, probiotics and moderate-fiber diets may have a positive effect,” she says. “Sometimes a veterinarian will suggest a highly digestible diet as a way to reduce the flatulence, but another approach would be a ‘lite’ [low-cal-

orie] or moderate-fiber diet. These diets will have a prebiotic effect. They provide substrate for the beneficial microflora, enhancing their numbers and reducing the gas.”

A recent paper presented at a European Society of Veterinary and Comparative Nutrition conference noted a statistically significant reduction in flatulence associated with a probiotic treatment.⁷ “In theory, you’re altering the microflora that is producing the gas,” Laflamme says.

Environmental management

Despite absence of evidence of effectiveness, decreasing the amount of air swallowed may help some dogs. Owners can also look for ways to decrease stress associated with eating. “Allowing a predisposed dog to eat by itself in a quiet place lowers excitement while eating,” Haines says. “Competitive eating is a potential problem, so ensure there are no other dogs around to incite the dog to eat more quickly and gulp more air.”

Feeding smaller, more frequent meals can also decrease the amount of air that dogs swallow, and so can mixing dry and canned food, Haines says. With brachycephalic breeds, surgery to correct such conditions as an elongated soft palate or stenotic nares can help alleviate aerophagia.

Exercise should also be recommended. One survey of pet dogs showed that those that received the least amount of exercise had the greatest problem with flatulence, Laflamme notes.¹ “If one has a dog that has a problem with flatulence, get them out for exercise and to evacuate his bowels regularly,” she says. “That should help to reduce the gas problem as well.”

Haines agrees. “Active dogs or those that get more exercise are noted to have less flatulence,” she says. “We don’t know if the timing of exercise matters—possibly after meals, though it’s hard to say.”

Final thoughts
No matter the cause, whether it’s dietary issues or potential GI disease, flatulence in a dog can create real problems for its owner. Plus, if the condition is severe, “it can make the dog quite uncomfortable as well,” Kirk says.

Hopefully these pet owners will work with their veterinarian to treat

the dog and solve the problem, not forfeit a favored companion that can’t help releasing choking clouds of malodorous gas. Veterinarians who persist in finding a solution help ensure that their patient remains in the home and is not sent to a shelter for a behavior it can’t control. [dvm360](#)

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Suggested Reading

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Colorado State University explores stem-cell therapy for cats with severe kidney disease

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A veterinary school program pioneering a stem-cell therapy to treat feline kidney disease has launched a new clinical trial to explore stem cells' ability to improve organ function.

"It's something that more cats will have to deal with over any other disease, and we don't know enough about it," Jessica Quimby, DVM, DACVIM, PhD, the Colorado State University veterinarian leading the trial, says in a university release.

For the new clinical trial, researchers seek cat patients with renal disease—stable, stage 4 chronic kidney disease. Cats with concurrent diseases are not eligible.

In previous clinical trials, a few cats with more advanced stages of disease showed little disease progression years after treatment. The studies' findings encouraged CSU researchers to focus on the disease's later stages.

Stem cells cannot repair the irreversible kidney scarring prominent in later stages of the disease. CSU researchers hope stem cells will improve overall kidney function, even with damaged organs.

Stem cells are anti-inflammatory and promote vascular health, improving blood flow. The cells are harvested from the fat of healthy donor cats, but they are not harmed by the collection.

Patients in the clinical trial will receive three stem-cell injections, each two weeks apart. Veterinarians will run a variety of diagnostic tests before, during and after treatment to determine the treatments' effect.

Many costs for participation in the clinical trial are covered through Frankie's Fund for Feline Stem Cell Research. The fund is named after a Seal Point Siamese cat that helped CSU researchers to pioneer the stem-cell treatment for chronic kidney disease in 2009. For more information and to enroll, visit col.st/uaunI. [dvm360](https://www.dvm360.com)

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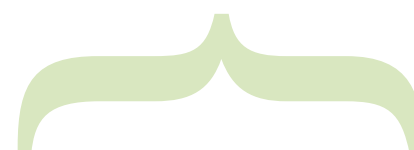
Kissing spines:

Easy to diagnose, complicated to treat

Imaging results, clinical signs and individual circumstances all play a part in addressing this increasingly prevalent condition. *By Kenneth L. Marcella, DVM*



>>> One researcher found that the highest prevalence of cases of ORDSP, or “kissing spines,” in the horses he studied occurred in competitive jumping horses.



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Overriding dorsal spinous processes (ORDSP), commonly known as “kissing spines” in horses, has become a commonly discussed and more frequent concern among sport horse owners. Lateral spinal radiographs are increasingly included in routine prepurchase examinations specifically to provide owners and potential buyers with information about this condition. Equine practitioners are being asked to address the issue through saddle fit questions, concerns about conditioning and exercise, and inquiries about treatment ranging from pain relievers and local injections to shockwave therapy and more. Recently, a number of new surgical techniques have also been developed and implemented to address ORDSP.

However, while problems of the equine back are considered a significant source of lameness and poor performance, “kissing spines” is only one potential cause of those problems and, perhaps most significantly, ORDSP does not cause gait alterations or problems in all horses that have it.

Interpreting imaging results

Tracy Turner, DVM, DACVS, DACVSMR, of Anoka Equine Veterinary Services in Elk River, Minnesota, is a board-certified surgeon, a member of the American Academy of Thermology and a member of the newly formed American College of Veterinary Sports Medicine and Rehabilitation. He has long been interested in back lameness in horses and, with his unique skill set, was in a perfect position to investigate kissing spines—its diagnosis, significance and treatment. He presented some of his research at the American Association of Equine Practitioners meeting in 2011 but has continued to look at the equine spine in his daily practice.

“Kissing spines is a radiographic diagnosis,” he says, explaining that while the condition is fairly easy to document, the actual significance for each horse is much less clear. In his original study, 4,407 horses were evaluated over seven years.¹ These horses were presented for lameness or poor performance, and back pain was identified in 310 (7 percent) during clinical examination. Seventy horses that had never shown any signs or history of

back pain were also examined, and all horses in both groups had their backs radiographed. Of the horses with clinical back pain, 212 (68 percent) had a diagnosis of kissing spines on the basis of radiographs alone, but 27 (39 percent) of the horses without back pain history had the same radiographic diagnosis.

“The presence of ‘kissing spines’ alone is not necessarily cause for concern but should be considered as a predisposing factor for back pain,” Turner concludes.

His view is echoed by other researchers as well. In a collaboration between the Norwegian School of Veterinary Sciences in Oslo and the Swedish University of Agricultural Sciences in Uppsala, researchers examined 33 riding horses without any history of lameness issues or clinical evidence of back problems.² They too found numerous abnormalities in the backs of these apparently “normal” horses using both radiography and nuclear scintigraphy.

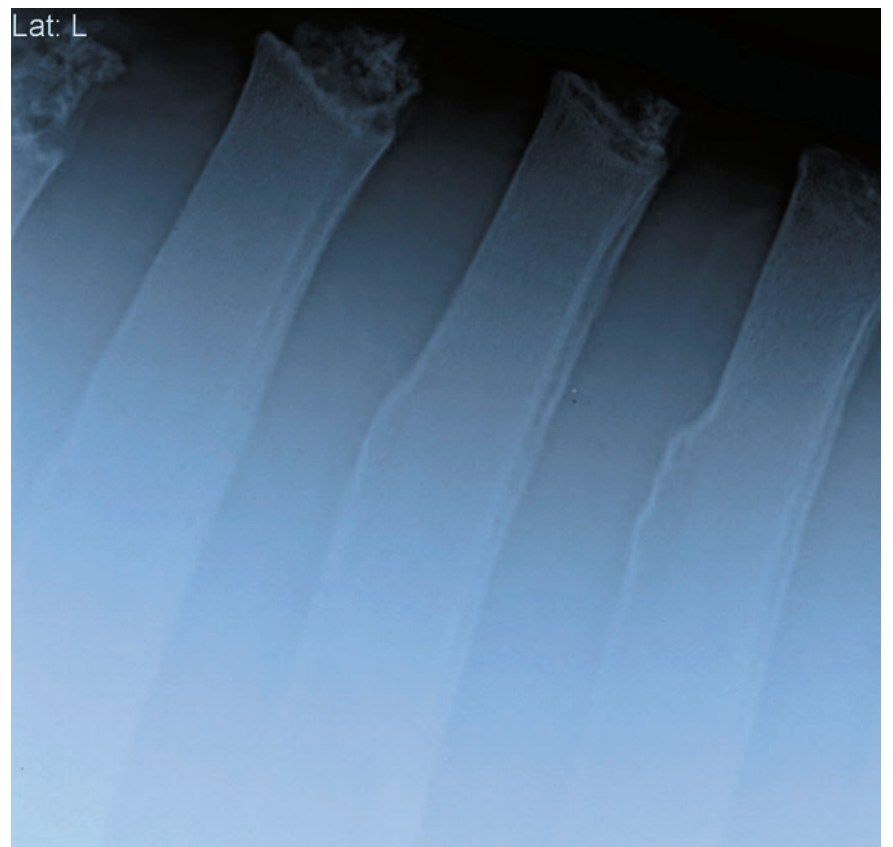
Their findings included increased radiopharmaceutical uptake, sclerosis, radiolucencies and abnormal spacing of the spinous processes. Only seven of the 33 had no evidence of any type of irregularity in the thoracolumbar spine. These research-

ers ended their study by saying, “The findings of a wide spectrum of scintigraphic and radiographic changes [among this population of normal horses] leads to the conclusion that changes within this range found in affected horses cannot be interpreted as clinically significant.”

Evaluating clinical signs

Most of the horses that clinicians evaluate for back pain present with fairly similar clinical signs despite their wide range of eventual diagnoses. Those signs can vary from overt lameness to subtle indications of avoidance and resistance. These horses are generally back-sore to touch and may refuse to accept the bit, preferring to travel with their heads up or their backs stiff, dropped and not rounded. Some may be slow to warm up when worked or unwilling to bend in one direction. Others may not take the correct lead when directed or may cross-canter. Many riders remark that their horse feels “disconnected” from front to back.

In these horses, signs can progress to rearing, bucking and even attempting to avoid any type of saddle or rider pressure on their backs. Many horses are eventually diagnosed with hock problems, hip or pelvis problems, or any number of conditions that cause



>>> A lateral spinal film from one of the author's patients. This horse is sound and in work (as an upper level jumper) without any clinical issues with its back or its performance. The dorsal spinous processes are in alignment with relatively equal spacing. The roughening on the tops of some of the processes can be normal.

compensatory back pain. In horses with back pain, it is imperative that clinicians evaluate the entire horse and that the back pain be clearly defined as a primary or secondary problem.

Turner's research showed a statistically significant overrepresentation of primary back pain in young thoroughbreds (less than 5 years old) and in dressage horses. Leo Jeffcott of the Equine Research Station of the Animal Health Trust in Newmarket, England, found that the highest prevalence of cases of ORDSP in the 443 horses he studied occurred in competitive jumping horses (39 percent).³

Turner speculates that since the discipline of dressage requires that the horse progressively use its back and hind end to perform collection and lateral movements, it predisposes some horses to problems. "During training and competition," he says, "the horse may overuse its back resulting in inflammation and pain at the sites of spinous impingement."

The most common site of those problems is at T15 or the anticlinal vertebrae. This site is where the angle of the dorsal spinous processes changes orientation and where increased rotational motion of the spine is possible. This area is also commonly just under the rider's saddle and the site of most contact and concussion, which may account for the high percentage of ORDSP problems noted in jumping horses.

In Turner's study, 191 of the 212 horses had problems with this particular spinous process, and the more processes involved (going cranially and caudally from T15 and ranging from a single process to five or more), the worse the back pain experienced by those horses. All horses in the control or nonaffected group that showed radiographic changes of kissing spines but no lameness problems had those changes at T15 as well.

Veterinary researchers and some prominent trainers are investigating a number of ideas as to why ORDSP is centered at this spot and what that might mean for treatment and—more importantly—for prevention. Jean Luc Cornille has competed internationally in dressage, steeplechase, stadium jumping and three-day eventing and he has collected numerous medals in those disciplines. He has founded Science of Motion, an organiza-

tion dedicated to applying the latest biomechanical research in ways that redefine traditional approaches to equine training.

"Kissing spines," Cornille says, "develop from an incorrect combination of lateral bending and transversal rotation." Though many riders may not want to hear his views, he stresses

that "the solution [to kissing spines] is to create new and adequate locomotor patterns, which can only be done with the horse in motion. Basically, competent equitation is the horse's best therapy."⁴

Turner believes that horses are not born with kissing spines. He told me, "I have radiographed the backs in a

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>>> The population of thoroughbreds less than 5 years old has been shown to display a statistically significant overrepresentation of primary back pain.

significant number of neonates and have not found evidence of ODSP at that age.” Consequently, predisposing conformation coupled with specific use and inappropriate riding technique may be the contributing factors to development of the condition.

Turner used his thermography skills to evaluate the horses in his back pain study and found this imaging modal-

graphed. Turner states, “The positive predictive value of the thermal patterns for ‘kissing spines’ is 91 percent, which is a much stronger indicator in comparison to pain on palpation in the thoracolumbar region.”

Again, other researchers agree. Doutor Fonseca and a group of researchers from the Surgery Service for Large Animals of the Veterinary

Assessing treatment options

Once a diagnosis of ORDSP is made, there are a number of treatment options available to horse owners ranging from simple saddle fitting to invasive surgery. In Turner’s study, saddle fit showed a moderate to better improvement in the performance of horses diagnosed with kissing spines in 21 of 29 horses. Some owners elected to have the affected spinous process in their horses’ backs injected with corticosteroids. Fifty-five percent of horses treated in this way showed good to excellent results.

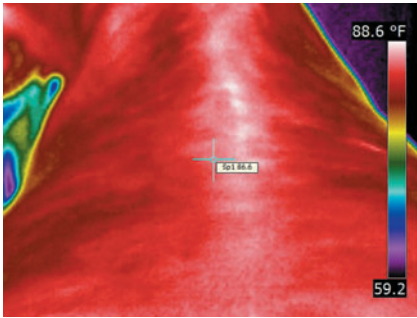
The majority of horses in that study were treated with a combination of shock wave therapy, mesotherapy and exercise (SME therapy). Shock wave therapy was performed to reduce the pain associated with impingement at the spinous processes while mesotherapy was performed to help with nerve-related pain and allow better stretch through the back muscles. Exercise was added to further help with stretch and range of motion. These components on their own were shown to be less effective than the multimodal SME approach, which showed good to excellent results in 86 percent of horses that underwent the therapy.

Turner states that “the most important aspect of any treatment regimen was the exercise program,” and the exercise must achieve the goal of the horse

Horses that showed a “hot streak” perpendicular to the thoracic spine, a “cold streak” perpendicular to the spine, or a combination “hot spot-cold streak” pattern over the back on thermography were much more likely to show evidence of kissing spines when radiographed.

ity to be “the most useful diagnostic test to differentiate ‘kissing spines’ cases from other causes of back soreness prior to radiology.”¹ Kissing spines was suspected whenever specific thermal or heat patterns were observed. Horses that showed a “hot streak” perpendicular to the thoracic spine, a “cold streak” perpendicular to the spine, or a combination “hot spot-cold streak” pattern over the back were much more likely to show evidence of kissing spines when radio-

and Animal Sciences Faculty of the Sao Paulo State University in Sao Paulo, Brazil, also investigated the use of thermography in the diagnosis of back pain in equine athletes.⁵ They found the same types of hot spots and cold streaks described by Turner and concluded, “Thermography presents a great potential as an auxiliary in back pain diagnosis because it quickly reveals the presence or absence of alterations in this region, whether inflammatory or degenerative.”

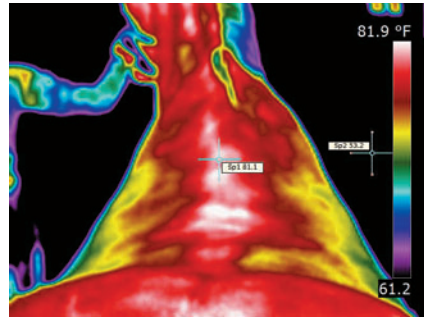


>>> A normal thermography scan of a performance horse's back. This 11-year-old warmblood has been an upper level jumper with no history of back problems or performance issues. The scan shows a thin area of increased heat (white linear strip along the midline) and symmetric heat (red area) throughout the rest of the back.

moving freely forward in a relaxed frame. It is imperative that the rider not force collection at any time. "If this goal was not achieved or attempted," he adds, "therapy simply failed."

More recently a number of aggressive surgical procedures have been developed to address the problem of kissing spines. Some procedures report resection of the dorsal spinous processes using an oscillating saw. Drs. Walmsley, Pettersson, Winberg and McEvoy of the Liphook Equine Hospital in Hampshire, U.K., report on long-term follow-up with 209 cases treated with this technique and found that 72 percent of these horses returned to full work.⁶ Another study from the Department of Veterinary Clinical Science and Animal Husbandry, the University of Liverpool, South Wirral, U.K., used an endoscopic approach to remove selected dorsal spinous processes and to resect the interspinous ligament between these processes in 10 horses.⁷ Their follow-up evaluation showed that nine horses had no complications and returned to full work within eight weeks of surgery.

Dr. Richard Coomer of Cotts Equine Hospital in Narbarth, U.K., has pioneered another surgical technique that is markedly less traumatic. He performs an interspinous ligament desmotomy (ISLD) in the standing, sedated horse. "The pain from 'kissing spines,'" according to Coomer, "comes from nerve endings where the interspinous ligament is attached to the bone."⁸ Tension and pull on the ligament from exercise and the demands placed on the horse's back in various disciplines cause reflex muscle spasms that pull the spinous processes even closer together and worsen the condition. "By cutting the ligament [between the spinous pro-



>>> A thermography scan from a horse with a complaint of poor performance and back pain. The linear white transverse stripes are associated with the impinging areas of the affected spinal processes. These thermal patterns are associated with a 91 percent predictive value for kissing spines.

cess]," explains Croomer, "the nerve stops being stimulated and the horse experiences a profound improvement in perceived pain."

In his procedure, Croomer makes a small vertical incision on one side of the affected dorsal spinous process and a Mayo scissors is used to cut the interspinous ligament. Horses are hand-walked for four weeks followed by lunging and turnout, and they return to under-saddle work in eight weeks. Coomer compared his technique with cortisone injection therapy and reported that 89 percent of horses (34 of 38) treated with injections initially resolved signs of back pain compared with 95 percent (35 of 37) treated surgically. The significant finding was that back pain recurred in 19 of the injected horses and none of the surgically treated cases, making ISLD 24 times more likely to produce long-term resolution of signs of back pain. These surgical techniques and their refinements are a promising future for the treatment of ORSDP in horses.

Summary

In conclusion, kissing spines is relatively common in both back-sore and normal horses. Its mere presence does not constitute a problem for individual horses, but it should be seen as a possible predisposing factor for future concern. Issues varying from saddle fit to rider technique and exercise regimen should be carefully evaluated and monitored to help prevent ORDSP. Correct exercise is a key element in any treatment program, and new surgical procedures may be the ultimate answer to the management of this increasingly prevalent condition. **dvm360**

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Dr. Kenneth L. Marcella is an equine practitioner in Canton, Georgia.

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Animal Health

UC-Davis provides resources for EPM

Flow chart, videos and more available to practitioners online.

While it may not seem difficult to visually identify a horse experiencing neurologic problems, diagnosing equine protozoal myeloencephalitis (EPM) can be a detailed process of evaluating the history and performing both physical examination and neurological examination of the horse. To assist veterinarians in diagnosing EPM, the Veterinary Medical Teaching Hospital at the University of California-Davis has created several resources that will help trained equine veterinarians determine if their patients are suffering from this debilitating neurologic disease.

"We discussed our EPM research and clinical activities extensively at last year's American Association of Equine Practitioners Convention," says Dr. Nicola Pusterla, DVM, PhD, DACVIM, chief of UC Davis' Equine Medicine Service, in a university release. "What we discovered was that many veterinarians wanted assistance in properly diagnosing the disease, as it can be masked as many other possible conditions."

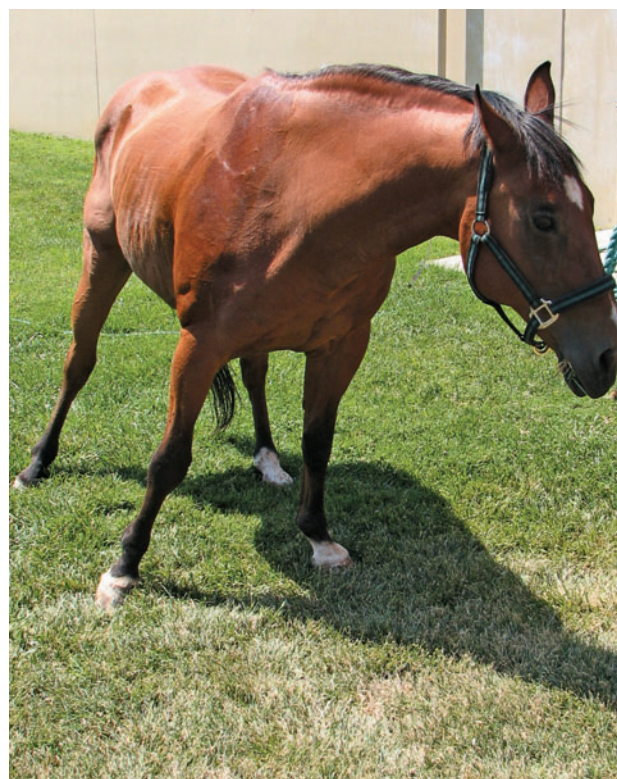
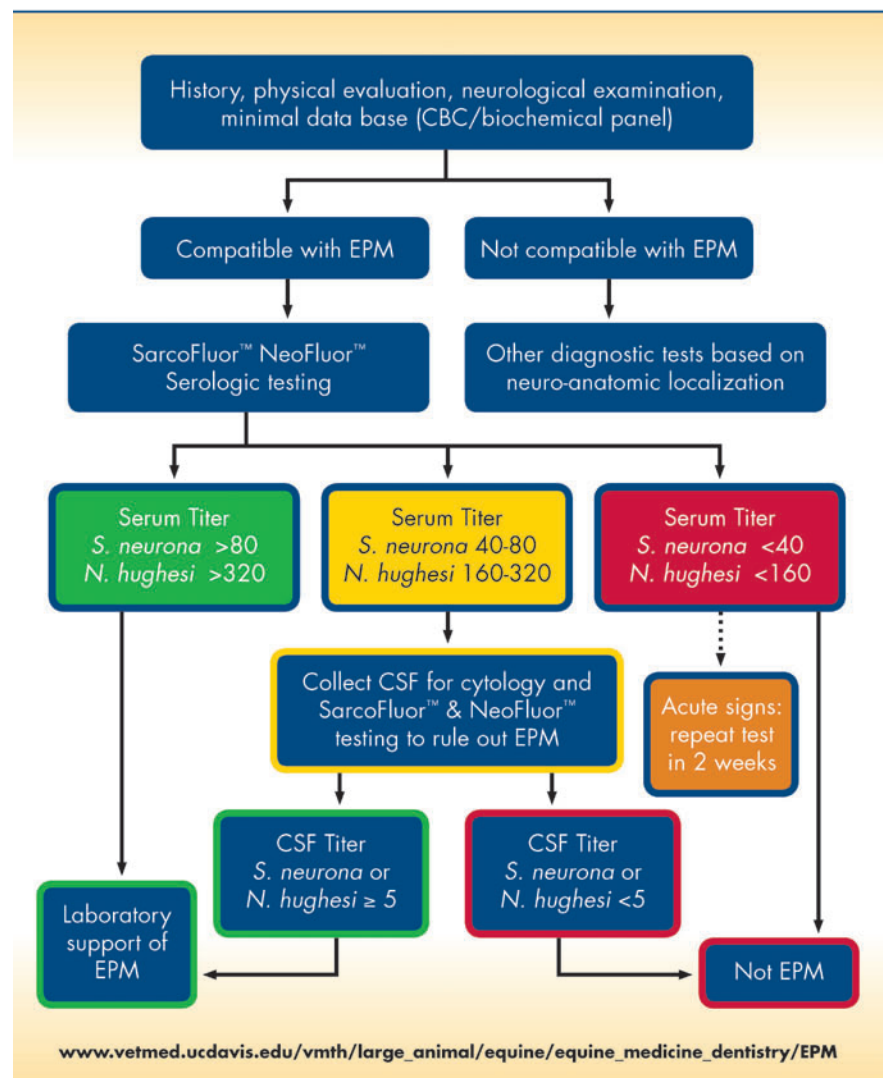
In response to these requests, UC Davis has developed a website with resources for veterinarians who suspect their patients may have EPM. The site (see vetmed.ucdavis.edu) includes:

- > A diagnostic flow chart that walks veterinarians through several steps, ultimately to a positive or negative outcome
- > A detailed procedure for performing a neurologic examination
- > Videos showing differing levels of neurologic problems in horses
- > EPM laboratory testing available at UC Davis
- > A research study outlining the prevalence of EPM throughout the United States.

After obtaining more than 3,000 diagnostic submissions, UC Davis determined that horses from 42 states were affected by parasites causing EPM. Originally believed to be a regionalized disease, EPM has proven to be far more widespread than first thought. UC Davis researchers are extending that study, believing they will find evidence of the disease spreading. [dvm360](#)



Equine Protozoal Myeloencephalitis DIAGNOSTIC FLOW CHART



>>> Above: A diagnostic flow chart from UC Davis walks veterinarians through several steps, ultimately to a positive or negative outcome.

>>> Left: A horse with EPM displaying neurologic clinical signs.



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New members join AAEP board

President, VP, treasurer and board members will serve through 2017.

The American Association of Equine Practitioners (AAEP) announced new members of its board at the association's 60th Annual Convention in Salt Lake City, according to an association release. G. Kent Carter, DVM, DACVIM, will serve as president, R. Reynolds Cowles, DVM, will serve as vice president and Jack Easley, DVM, DABVP, DAVDC, will be treasurer. Robert Franklin, DVM, DACVIM, Vivian Freer, DVM, and Katherine Garrett, DVM, DACVS, were installed as board members as well. All will serve terms that last through 2017. Here's some background on the veterinarians who will be filling these posts:

President: Carter earned his DVM degree from Colorado State University and also completed a large animal medicine residency at Texas A&M, according to the AAEP release. He became certified in internal medicine while on faculty at Purdue University. Carter joined the faculty at Texas A&M in 1984 and later served as section chief of internal medicine. Carter also founded a rotation for students dedicated to foot

care and its connection to lameness.

Vice president: Cowles is founder and past president of Blue Ridge Equine Clinic in Earlysville, Virginia. He earned his DVM degree at Oklahoma State University and a large amount of his practice focuses on lameness in race and performance horses, according to the release. Cowles is also the chair of the AAEP's Professional Conduct and Ethics Committee.

Treasurer: Easley is a private practitioner and equine dentistry specialist in Shelbyville, Kentucky, who received his DVM degree from Tuskegee University, according to the release. He was an associate professor of surgery at Kansas State University and at Virginia-Maryland Regional College of Veterinary Medicine before entering private practice. Easley is on the AAEP's Professional Conduct and Ethics Committee and Foundation Advisory Council.

Member: Franklin is the owner of The Foundry Veterinary Services in Weatherford, Texas, and a graduate of Texas A&M University. Franklin is the a founding director of the Equitarian

Initiative and co-founder of Animal Stewards International. He has served on the AAEP's Educational Programs Committee and the Western Performance Horse Drug Rules Task Force.

Member: Freer is a solo practitioner and owner of Freer Equine in Tryon, North Carolina, who earned her DVM degree at North Carolina State University, according to the release. She holds "Farrier Jam Sessions" to support the veterinarian-farrier relationship in which veterinarians and farriers work together to evaluate, radiograph, shoe and discuss two cases monthly. Freer is on the AAEP's Veterinarian-Farrier Task Force and is a volunteer instructor of Farrier Short Courses at AAEP student chapters across North America.

Member: Garrett is an associate veterinarian and director of diagnostic imaging at Rood and Riddle Equine Hospital in Lexington, Kentucky. She is a graduate of Cornell University, has authored textbook chapters and peer-reviewed journal articles, and speaks at veterinary conferences, according to the release. [dvm360](#)

Virginia Tech to host equine, food animal conference for veterinarians

Anesthesia, imaging, internal medicine on the docket.

The Virginia-Maryland College of Veterinary Medicine at Virginia Tech is hosting its fourth annual Equine and Food Animal Conference for Veterinarians at the college's Blacksburg campus Jan. 9.

Faculty members in the Department of Large Animal Clinical Sciences will give presentations on a number of equine-related topics in the morning, including the following:

- > Local anesthesia considerations for MRI of distal limbs

- > Intravenous anesthesia techniques for distal limbs

- > How to incorporate regenerative medicine therapies into equine practice

- > Insulin dysregulation

- > Current testing recommendations for pituitary pars intermedia dysfunction (PPID)

- > New techniques in equine podiatry. In the afternoon, participating veterinarians can choose between equine or food animal sessions. Equine sessions include:

- > An update on equine theriogenology in general practice

- > Biosecurity for equine practice

- > Clarification of pharmacy and

compounding rules

- > An update from the American College of Veterinary Internal Medicine.

Afternoon food animal-focused sessions include:

- > Advanced reproduction techniques in swine and small ruminants, including ultrasound

- > Pre- and post-weaning health issues in lambs and kids

- > Updates on the use of medications in food animals.

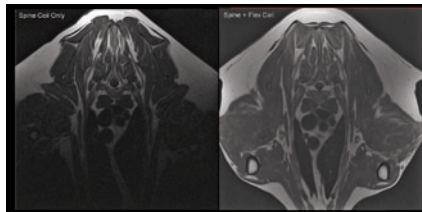
Optional tours of the college's recently renovated Veterinary Teaching Hospital will also be available for participants. For more information, call (540) 231-5825. [dvm360](#)



BlephEx Blepharitis treatment device

BlephEx, a medical device developed for the treatment of human blepharitis, is now available for veterinary use. Blepharitis is a chronic inflammatory disease of the eyelids caused by an overgrowth of normal bacteria along the lid margin. The BlephEx handpiece enables veterinary professionals to reduce scurf, bacterial debris, exotoxins and biofilm, and clean the lids of the inflammatory exotoxins that accumulate along the margins. BlephEx features a medical-grade disposable micro-sponge that spins along the edge of eyelids and lashes, exfoliating the eyelids.

For fastest response visit blephexdvm.com



Hallmarq Veterinary-specific MRI

Hallmarq has developed a dual-coil MRI system specifically for veterinary practice. The PetVet MRI is a high-field (1.5 Tesla) MRI system featuring two radiofrequency (RF) coils, which offers veterinarians a greater scope to investigate challenging anatomical regions; an on-board RF shield, which eliminates the need for an RF-shielded room; and a zero boil-off cold head, removing the need for routine helium refills. By combining two RF coils, the PetVet MRI provides a significant boost in signal sensitivity across larger body areas.

For fastest response visit hallmarq.net



Putney Injectable meloxicam

Putney has received approval from the U.S. Food and Drug Administration's Center for Veterinary Medicine for its Meloxicam Solution for Injection (the generic equivalent of Metacam Solution for Injection). The product is one of a group of sterile injectables that Putney expects to launch within the next year.

For fastest response visit putneyvet.com



Patterson Veterinary LED lights

In a partnership with ACEM, Patterson Veterinary has added six LED models to its equipment portfolio. The lights come in a variety of sizes and intensities, providing the right amount of lighting for every area of the clinic. In addition to being easy to install and easy to use, ACEM LED lights feature control technology that allows brightness to be adjusted with a quick touch to the slide panel. The lights are available in multiple configurations, ranging from rail mounts to wall, table, ceiling or trolley mounts.

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Airnetic Oxygen system

Airnetic's line of 165-psi high-performance hybrid veterinary oxygen systems feature units that are powerful and compact, with on-site oxygen generators designed specifically for high-volume veterinary hospitals. Airnetic oxygen systems produce 20 to 60 lpm or more at 165 psi from a very small footprint, giving veterinary hospitals a new alternative to bottled or liquid oxygen. The systems are available through JD Medical Distributing.

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PRN Pharmacal Canine ophthalmic medication

PRN Pharmacal has released PetVision-Pro for dogs, an eye drop formulation that reduces lens opacity. The product is an economical, easy to administer and cost-effective alternative to surgery. The formulation is made up of amino acids and antioxidants in a preserved, sterile solution and works to dissolve glycosylated proteins. It also enhances eye lubrication and helps maintain eye health for up to six months.

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Fujifilm Medical Systems Radiation detector

Fujifilm Medical Systems has introduced a new line of digital x-ray detectors, the FDR D-EVO P-Series panels. The new panels feature dose efficiency improvements averaging 30 percent compared to Fujifilm CR and potentially even more compared to traditional DR detector designs. The panels are light and completely portable. The units fit existing standard buckys and holders. The FDR D-EVO P-Series panels are offered in various sizes.

For fastest response visit fujimed.com



EPS Metric-only oral syringes

EPS has released three new oral syringe styles designed with metric-only markings to meet recommendations from the Institute for Safe Medication Practices. The syringes are available in sizes ranging from 0.5 ml to 60 ml. They are stocked in clear with orange or blue graduations or in light-protecting, ultraviolet-inhibitant amber with white graduations. Accurate delivery of medication is assured by a rigid O-ring plunger design. The offset medication port also aids in enteral feeding applications.

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DBI Portable dental unit

DBI has added the TT-6, a complete, self-contained, compact and portable dental unit, to its product line. This unit is ideal for field dental procedures although it can also be used inside the practice or as backup unit. The TT-6 comes with a carrying case and weighs less than 9 lbs (compressor not included). It features a water-air syringe, a high-speed position, a low-speed position and a suction system. Optional equipment such as a handpiece extension for equine dental treatment and Piezo ultrasonic scaler are also available.

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Heska Corporation Diagnostics analyzer

Heska has introduced the Element HT5 Veterinary Hematology Analyzer. Complementing the Element DC Veterinary Chemistry Analyzer and the Element POC Blood Gas and Electrolyte Analyzer, the Element HT5 provides a five-part white blood cell differential as well as red blood cell and platelet parameters using laser, impedance and colorimetric technologies. The unit uses triple-angle laser-scatter detection of cell volume, complexity and granularity, and ensures precise measurement with sample pathology messaging that automatically flags abnormal results.

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IDEXX Laboratories Diagnostic software update

IDEXX Laboratories has released the IDEXX-PACS imaging software version 4.0. The intuitive, user-friendly interface replaces text with simple icons and lets practices follow their normal workflow in fewer steps. The software is touch-screen enabled so users can easily manipulate images with one hand, including pinch and zoom. Technique settings are viewable within the software and are automatically recorded in the practice's radiology log. Additional improvements include profiles organized by patient, a visual shot tree so users can click on an area of focus and access to recent cases from the home screen.

For fastest response visit idexx.com/digitalupgrade



IDEXX Laboratories Online ordering system

IDEXX has released a new ordering platform, idexx.com/order, which offers direct ordering from IDEXX for U.S. customers. The new e-commerce site offers efficiency and practice management tools and a streamlined ordering experience. IDEXX has also launched a redesigned idexx.com homepage and U.S. small animal health website, to provide easy access to product information and ideas.

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Antech Digital pathology service

Antech Diagnostics has developed a new digital pathology service, Magnifydp, powered by Aperio ePathology solutions from Leica Biosystems. The system examines digitized whole-slide images of tissues with high-resolution monitors. This allows Antech to decrease turnaround time for its veterinary clients receiving biopsy diagnoses, regardless of pathologists geographic locations. Using Magnifydp, anatomic pathologists can request an electronic assist on any biopsy for additional opinions. Through the service, any Antech pathologist can view the same tissues with variable magnification.

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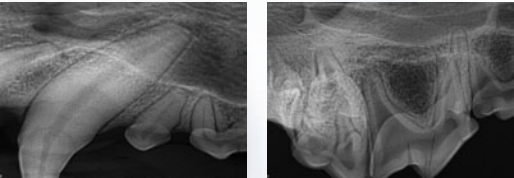


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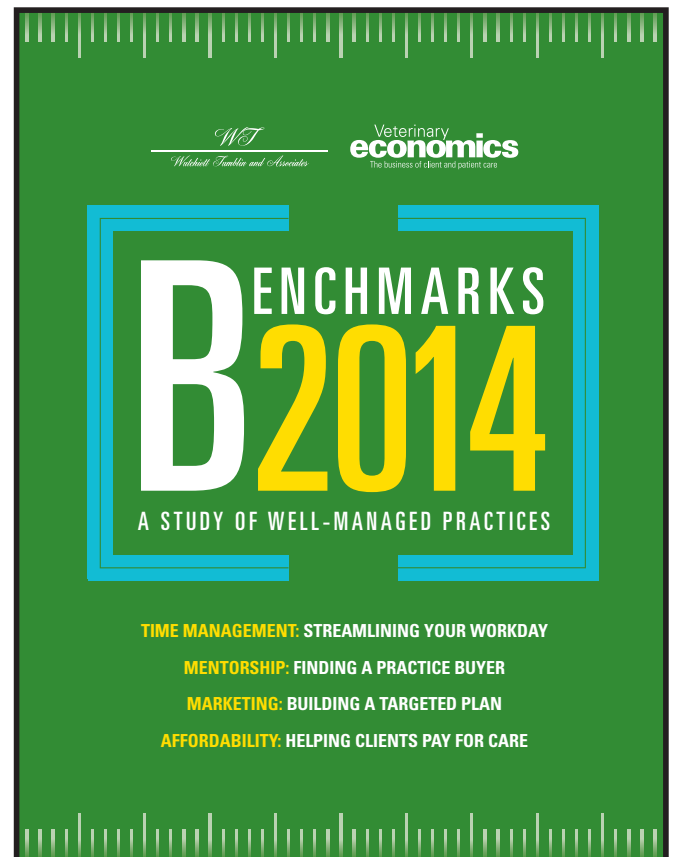
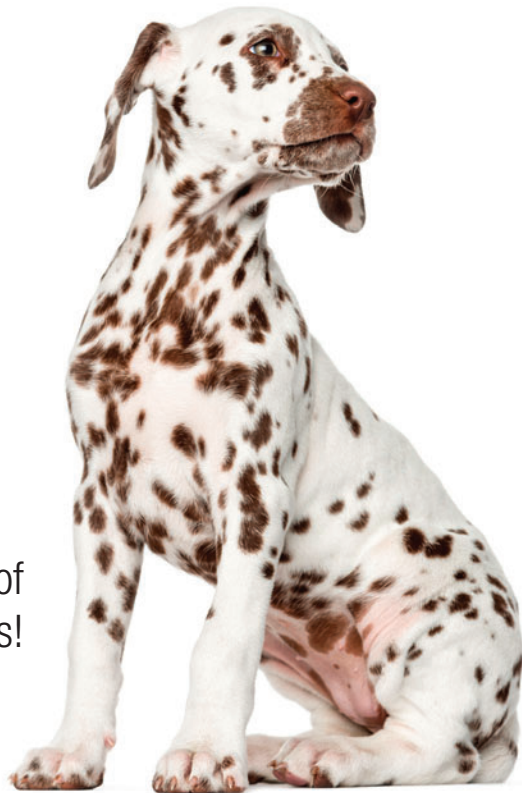
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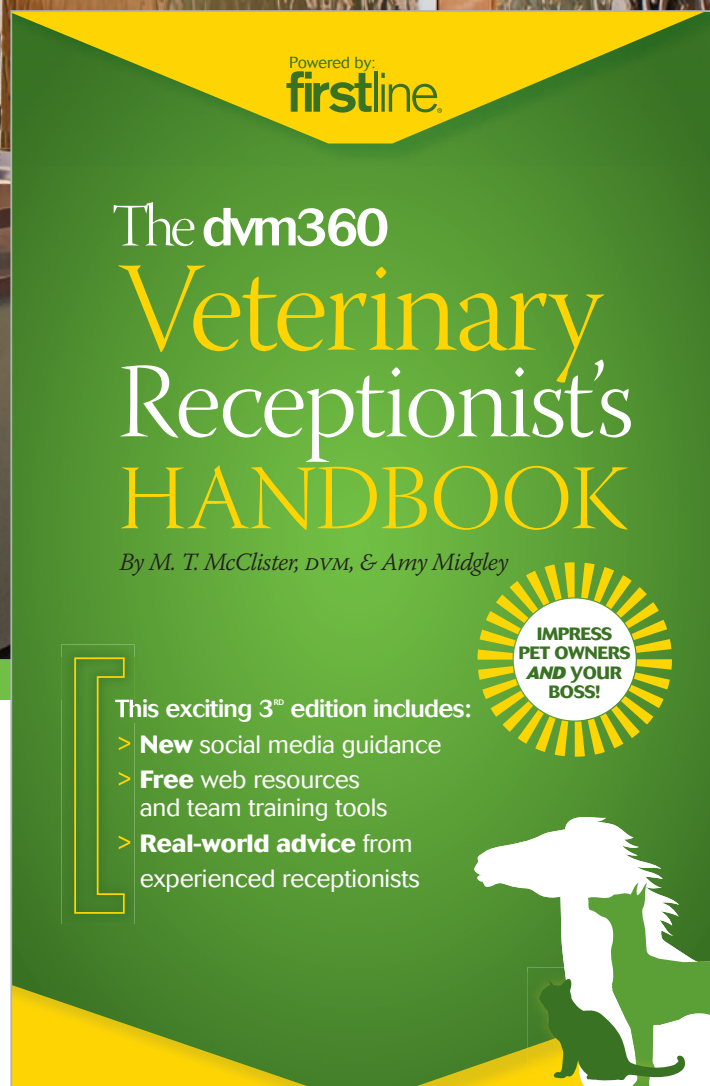


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National and international meetings

January 23-25 Multidisciplinary Advanced Therapies Symposium: Clinical Oncology Napa, CA (530) 752-3905 vetmed.ucdavis.edu/ce/	February 9-13 EURASIA Veterinary Conference Kota Kinabalu, Borneo, Malaysia 49-89-2180-2651 eurasia-vc.com/e	Feb. 28-March 7 42nd Veterinary Orthopedic Society Conference Sun Valley, ID (517) 381-2468 vosdvm.org/	March 8-10 Animal Care Conference Sacramento, CA (916) 447-1700 cvma.net	Plymouth Meeting, PA (215) 284-7050 delawarevalleyacademyvm.org
February 5 Soft Tissue Surgery Fairfax, VA (703) 733-0556	February 27 Music City Veterinary Conference 2015 Murfreesboro, TN	March 5 Internal Medicine Fairfax, VA	March 11 Neurology: Small Animal Veterinary Medicine Seminar	March 11-13 University of Pennsylvania Annual Conference Philadelphia, PA (215) 746-2421 vet.upenn.edu/about/news-and-events/

Local and regional meetings

January 24-25 West Virginia Veterinary Medical Association Winter Meeting Charleston, WV (804) 346-0170 wvma.org/event/wintermtg-charlestonwv/	(910) 452-3899 ncasam.org	February 13-15 24th Annual Alabama VMA Conference for Food Animal Veterinarians Columbiana, AL (334) 395-0086 alvma.com	February 26-28 Virginia Veterinary Conference Roanoke, VA (978) 501-2682 vvma.org	March 28-29 UC Davis Winter Conference Davis, CA (530) 752-3905 vetmed.ucdavis.edu/ce/
January 28 Maine VMA Annual Meeting Portland, ME (207) 752-1392 mainevetmed.org/eweb/startpage.aspx	February 7 Pennsylvania VMA 11th Annual Winter Conference Lafayette Hills, PA (888) 550-7862 pavma.org	February 19-22 Midwest Veterinary Conference Columbus, OH (800) 662-6862 mvcinfo.org	March 6-8 Oregon Veterinary Conference Corvallis, OR (800) 235-3502 oregonvma.org	April 11 San Diego County VMA Veterinary Conference San Diego, CA (619) 640-9583 sdcvma.org
January 30-31 Montana Veterinary Medical Association Winter Meeting Bozeman, MT (409) 447-4259 mtvma.org	February 8 Vermont VMA Winter CE Conference Burlington, VT (802) 878-6888 vtvets.org/eweb/startpage.aspx	February 22 Southwestern Indiana Veterinary Medical Association Annual Conference Evansville, IN (812) 305-1865 invma.org	March 13-15 California VMA Annual Spring Yosemite Conference Yosemite National Park, CA (800) 655-2862 cvma.net	April 24-26 West Virginia Veterinary Medical Association Spring Meeting Greenbrier, WV (804) 346-0170 wvma.org/event/greenbrier2015/
February 4 North Carolina Academy of Small Animal Medicine 1-Day Meeting Sanford, NC	February 11 Iowa VMA Winter Conference Altoona, IA (800) 369-9564 iowavma.org	February 22-26 Northern New England Veterinary Alpine Symposium Bretton Woods, NH (804) 346-2611 veterinaryskimeeting.com	March 22 Feline Medicine Seminar by Louisiana Academy of Veterinary Practice Hammond, LA (985) 687-7242 laavp.org	May 13 Massachusetts Veterinary Medical Association Spring CE Conference Marlborough, MA (508) 460-9333, massvet.org

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The spectacle of the mane event

An injury to a horse's leg results in an unusually hairy situation.

Horses are strange creatures in many ways. They don't have muscle tissue below their knee or hock, and when they have an injury that removes the skin, they get this horrible stuff we call proud flesh.

Don't get me wrong; proud flesh can be a good thing. It protects the tissue and gives it a way to heal while allowing the horse to run and move around. But if the skin damage is extensive, the proud flesh becomes excessive and terrible scars or a potentially deadly infection can occur.

The horse in this story had a severe injury. All the skin was gone from the front of the knee to the ankle. I assessed the situation and couldn't see a way to repair the massive tissue loss except to use a skin graft.

We often use a technique in horses called a punch graft. Instead of taking a giant piece of skin from somewhere on the horse and transplanting it onto the wound, we simply take 4-mm punches of skin and put them into the flesh one piece at a time.

At the time I hadn't done this procedure very often, and the book said you could take healthy skin tissue from the belly or underneath the mane. The clients didn't want to spend a lot of money, and I figured I could do the graft with the horse standing. I'd use local anesthetic and harvest the happy tissue from under the mane without the added expense of general anesthesia.

I went to work. I clipped the hair from the side of the mane and the skin just adjoining it. Scrubbed it perfectly and began transferring tissue from under the mane to the front of the leg. The procedure went wonderfully. I placed all the grafts and worked hard for the next two weeks trying to keep those tiny

pieces of healthy tissue happy in their new home on the leg.

Walking toward me from across the parking lot was a wonderfully healthy horse, with hair that Fabio would have been proud of growing from his leg.

After the two weeks had passed, the two fellows that brought the horse came to get it and I sent them home with a long list of things to do to give the grafts the best chance of survival.

About six months later, a truck pulled into the parking lot and out came those same two fellas. I could tell from a long ways off that they were laughing.

They strolled up with a bit of a smirk and a lot of laughter. I asked them how the horse had turned out and why they hadn't called like I asked them to. They just stood there and giggled. They giggled so much that I was becoming a little bit uncomfortable.

"You did the best job of fixing a giant injury of any veterinarian in the world," one of them said. "The thing is completely healed and if it weren't for a few minor details no one would ever even know there was a problem." And then they began to laugh again.

"We just were headed to a rodeo and wanted to stop and thank you so much for getting that horse back to where we could use him and didn't have to put him to sleep. But we also had to stop

and razz you just a bit," they said.

Razz me a bit? If the thing was healed and they were roping with it, what was there to razz about?

I stood there with a perplexed look on my face as one of them unloaded the horse. I was 30 yards from the trailer and the second the horse started walking toward me I knew what all the laughing was about.

It seems that when I was taking the skin from under the mane to use as the grafts, I was a little too close to the mane. There's a big difference in mane hair and normal body hair on a horse. Mane hair is large in diameter and a foot or so long. Body hair is fine in diameter and about an inch long.

Walking toward me from across the parking lot was a wonderfully healthy horse, with hair that Fabio would have been proud of growing from his leg.

It was blowing in the breeze like the hair of a *Sports Illustrated* model walking down the beach. I was flabbergasted. One of the men told me not to worry. His wife shaved her legs and he would shave his horse's. They just left it to give me a hard time and asked to use my clippers before they went to the rodeo. They were happy the horse lived and assured me they weren't upset about having a horse with two manes.

It was just then I remembered Paul. When I was a kid he worked at the cotton gin and had all the skin ripped off the palm of his hand by some equipment. They grafted skin from his fanny to his hand, and later he had butt hair growing on the palm of his hand. I always use the stomach for punch grafts now. Live and learn. **dvm360**

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

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A close-up photograph of a man and a light-colored dog lying in bed. The man is on the right, smiling with his eyes closed, wearing a dark t-shirt. The dog is on the left, looking towards the man. They are both resting on a bed with a striped pillow and blanket.

I haven't needed an alarm clock
since Brody came along.

And I wouldn't want it any other way.

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