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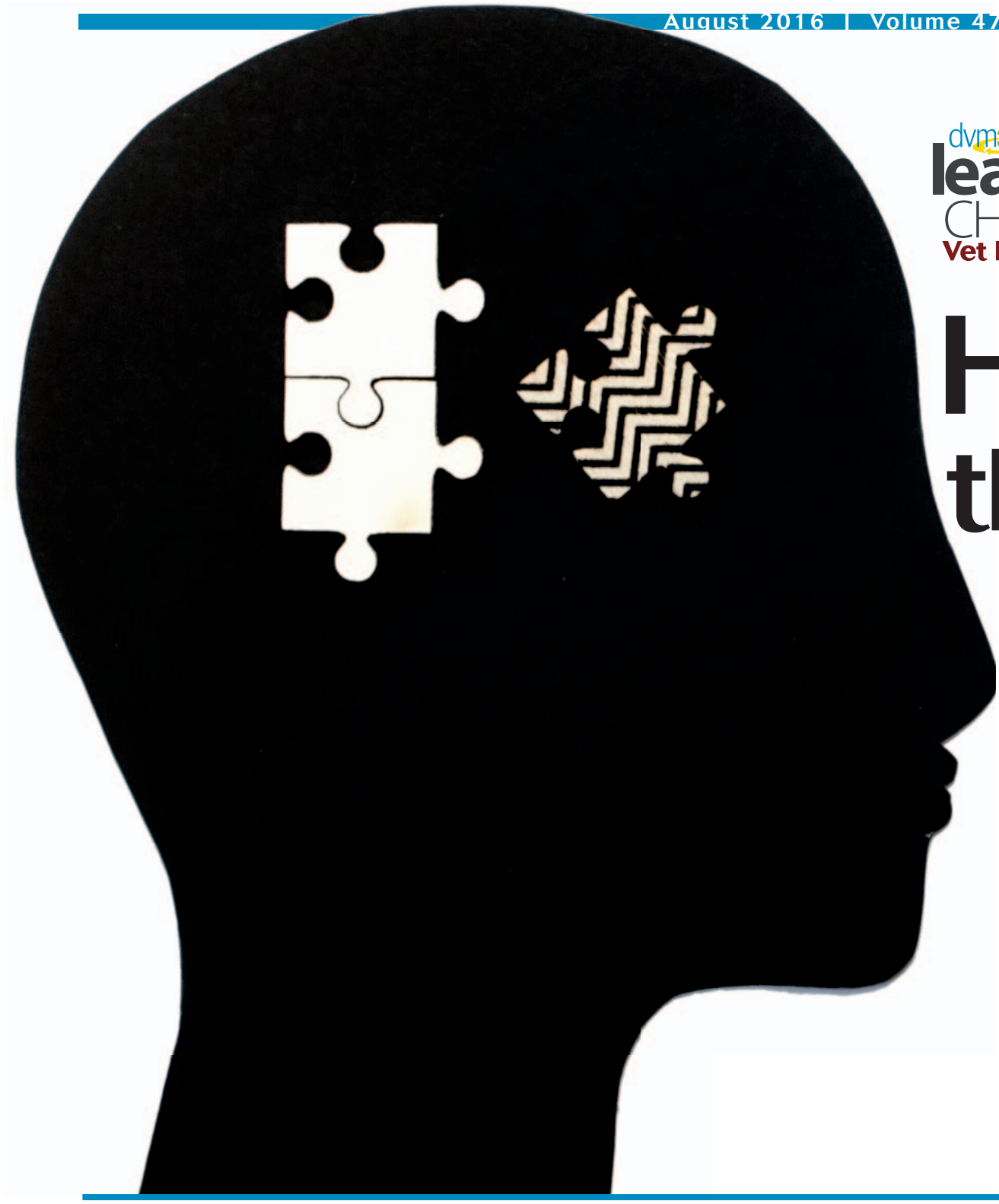

dvm360 leadership CHALLENGE
Vet Life Hacks

Hacking the DVM brain

Is there a shortcut to personal change and transformation? These experts say veterinarians need to cut themselves some slack—then cut out their bad habits.

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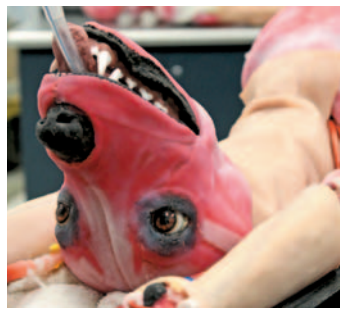

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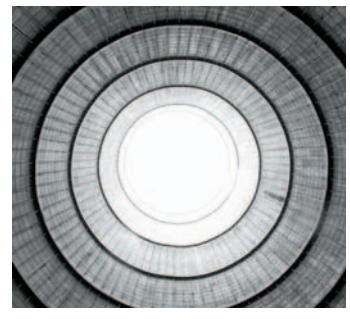

Ask yourself: Do you work in an emotional silo?
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Volume 47, Issue 8

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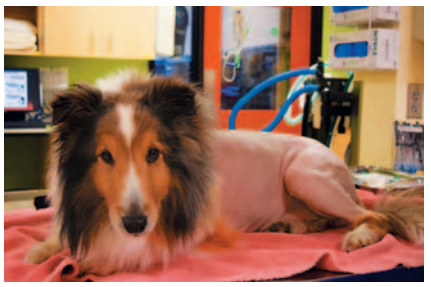

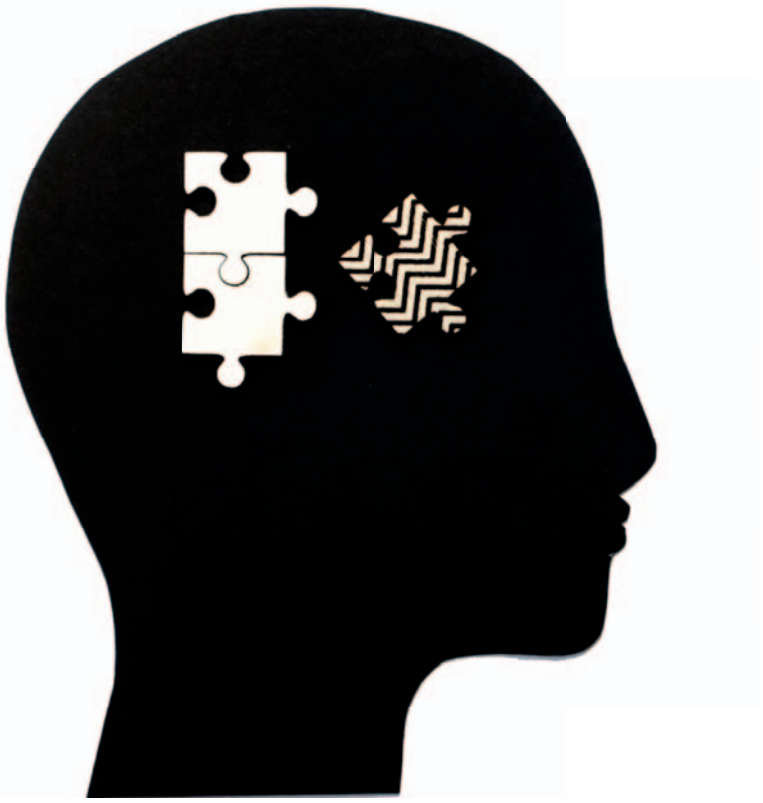

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My favorite life hack ever

This strategy isn't easy, but the results—when I manage it—are definitely powerful.

This month you're going to be reading a lot about "hacks" in dvm360 magazine and its sister publications, *Vetted* and *Firstline*. First, we take a high-level view of at the veterinary psyche in dvm360, examining whether there are certain aspects of being in the career you're in that make your approach to change and transformation different from average folks. Then in the other magazines and on dvm360.com, we're focusing on tips, tricks and strategies (think lifehacker.com and other similar collections of geniusy shortcuts and life-improvement tips) that make your veterinary journey easier, more rewarding and more fun.

In that spirit, I thought I'd offer up my favorite hack of all time for productivity and task-oriented well-being. It's called "eating the frog." I've written about this concept before, but a reader introduced me to the ranine terminology, and I have since learned that the idea originated with Mark Twain.

With appreciation to that long-ago reader and the estimable Samuel Langhorne Clemens himself, here's how it works: The idea is that you tackle the biggest, ugliest, most nauseating task on your to-do list before you do anything else. (For me, that's usually a difficult phone call.) Because, as Twain said, "Eat a live frog first thing in the morning and nothing worse will happen to you the rest of the day."

I know there's a frog hopping around somewhere that I need to gobble up when I get into a low-energy slump, when my mind drifts, when I make lists instead of doing anything on them, when I'm not even a bit excited about the work in front of me. I may not be actively avoiding an unpleasant task, but if I stop long enough to examine the source of my dispiritedness, there's usually a slimy, icky chore croaking at the bottom of some well in the shadows of my task list.

Tackle the biggest, ugliest, most nauseating task on your to-do list before you do anything else. As Twain said, "Eat a live frog first thing in the morning and nothing worse will happen to you the rest of the day."

Once I do tackle that sucker, the results are pretty amazing. Everything else seems easy by comparison and, just like Twain promised, the day gets way better.

Sometimes I now even go frog-hunting. If I'm in a bad mood or having a hard time getting motivated, I intentionally look for something to do that's not fun but necessary. Once I'm through it, everything is brighter.

Variations on "eat the frog" include sayings like "Do the thing that's hard to do and the power will follow" and "We don't run away from fear; we run straight toward it." In other words, stop avoiding already.

This hack is easy to say, not easy to do. But the next time you're frustrated, try tackling that frog. You might be surprised what a frog-free day can do for you. **dvm360**

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Michigan appeals court finds in favor of Dr. Jan Pol

Overturns disciplinary action ordered by state regulatory board in relation to negligence, incompetence findings. *By Katie James*

Disciplinary action taken against Jan Pol, DVM, star of Nat Geo Wild's *The Incredible Dr. Pol*, by the Michigan Licensing and Regulatory Association (LARA), in regard to an administrative complaint filed against him in 2014, has been overturned on appeal. The Michigan Court of Appeals found 3-0 in favor of Pol, overturning the $500 fine and year of probation LARA had ordered.

The complaint, filed by Eden Myers, DVM, who was concerned about the treatment of a patient featured on the television show, resulted in charges of negligence and incompetence at the administrative hearing. The patient in question, a Boston terrier named Mr. Pigglesworth, had been hit by a car and suffered from lacerations, a broken pelvis and an eye that was hanging from the socket.

During surgery to remove the eye, suture the eye socket closed and suture a cheek laceration, Pol didn't wear sterile surgical attire, according to Myers' complaint. Also at issue was the fact that Pol's unlicensed son, Charles, assisted in the surgery and that Pol did not provide intravenous therapy to the dog during the surgical procedure or a warming support in the dog's postoperative kennel, according to the complaint.

In the appeals court's decision, in which judges refer to the "curious case of Mr. Pigglesworth," the judges seem perplexed that Pol was reprimanded when the dog in question survived and its owners were happy with its care. They found that the sanctions imposed by the regulatory board were not supported by the evidence given.

"We cannot conclude that the administrative decision in this case is supported by competent, material and substantial evidence on the whole record. The evidence submitted does not establish a clear standard of care that respondent violated," the court's opinion states. "Given the numerous references in the [proposal for decision] that go outside the scope of the allegations in the complaint, references to items not in the record, and the hearing officer's own opinion as to the need for mandatory continuing education and a formal standard of care, it can even be said that the decision is ultimately arbitrary and capricious."

> *"We cannot conclude that the administrative decision in this case is supported by competent, material and substantial evidence."*
> *—Michigan Court of Appeals*

Pol told dvm360 in a statement that he is "pleased but not surprised" by the ruling of the State of Michigan Court of Appeals to overturn the findings of the Michigan Bureau of Health Care Services board.

"The ruling reaffirms what I have always known, that the care we gave Mr. Pigglesworth was appropriate and saved the dog's life," Pol says. "I will continue to advocate for commonsense, affordable vet care within the veterinarian community. I am thankful for the support I received from the farmers and ranchers who are my clients, and for National Geographic Channel for standing with me on this issue."

A spokesman for LARA declined to comment, saying that the board needs to review the decision with the Michigan Attorney General's office. Myers told dvm360 that she did her part and the authorities in Michigan took it from there. "The profession of each state gets to regulate itself as the community of that state sees fit," she said. "Michigan gets to be the way Michigan wants to be." **dvm360**

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Last-minute snuggle spares Ollie the collie from euthanasia

Emergency veterinary team in Portland, Oregon, diagnoses tick paralysis just before dog is put down. *By Rachael Zimlich*

A baffling, sudden illness that almost ended tragically for Ollie the collie had a happy ending, thanks to a last-minute discovery by an extern at DoveLewis Emergency Animal Hospital in Portland, Oregon.

The 10-year-old collie was in good health when he was suddenly struck by a degenerative paralysis that progressed over the course of a week. His owners worked with their regular veterinarian, spending over $1,500 on diagnostics and medications to no avail. Ollie couldn't walk, urinate or defecate on his own, and his owners even had to visit the veterinarian to have his bladder drained. Nothing seemed to help.

"They felt that the only option was euthanasia," says Adam Stone, VMD, an intern at DoveLewis.

DoveLewis offers free euthanasia for clients who've exhausted their resources and are seeking a peaceful end to pet suffering.

"When owners come to us at that point, they've often made their decision. We have to walk a fine line between grilling them and allowing them to peacefully help the animal move on," says Stone. But in Ollie's case, Stone felt he had to ask a few more questions than usual. "What struck me as odd was that it was degenerative, and it was getting worse with every day that passed."

Typically, degenerative conditions progress over a much longer period, Stone says. Acute trauma had been ruled out, but there was something that stood out to Stone in the initial assessment.

"We found out that they had been on a hunting trip a few

>>> Dr. Adam Stone of DoveLewis hospital with his dog, Durban.

>>> After doctors removed an offending tick from Ollie, they gave him a complete body shave to make sure he didn't have any other ticks hidden in his fur.

PHOTOS COURTESY OF DOVELEWIS EMERGENCY ANIMAL HOSPITAL

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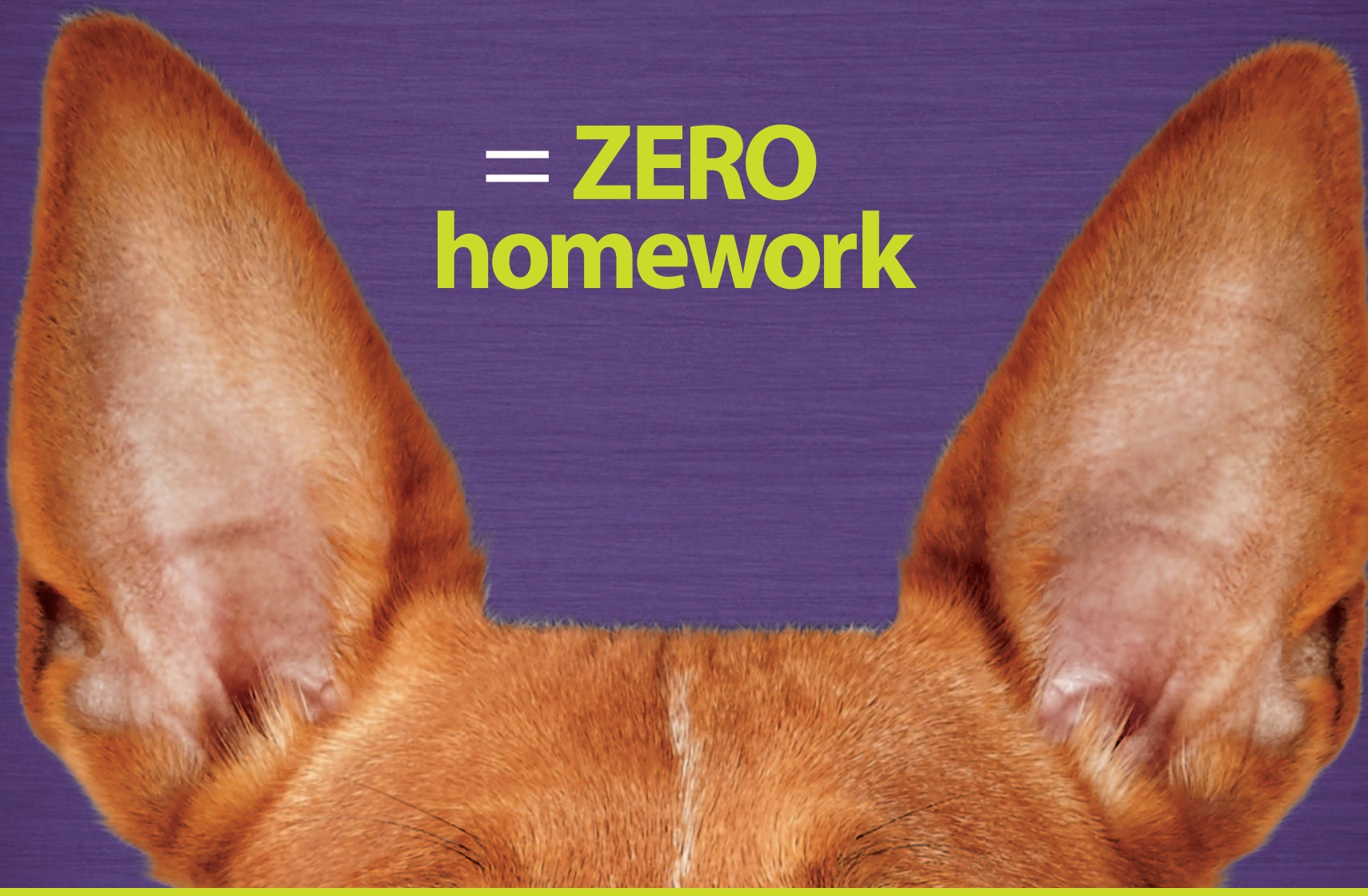

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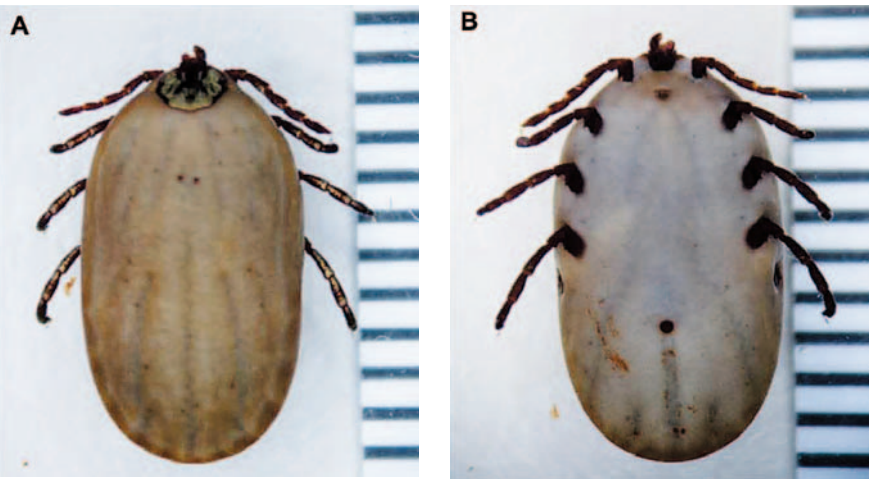
See brief summary on page 10

>>> Owner Al Meteney (left), extern Neena Golden and Dr. Adam Stone check out Ollie after his near-miraculous recovery.



>>> Image A and B show the top and bottom view of the bloated tick found on Ollie.

"An extern was petting the dog, and that's when we found the tick. We pulled it off and I instantly thought of tick paralysis."
—Dr. Adam Stone, DoveLewis Emergency Animal Hospital

weeks prior. An extern was petting the dog, and that's when we found the tick," Stone says. "We pulled it off and I instantly thought of tick paralysis."

Hoping the dog's owners would trust him to give his theory a shot, Stone says he convinced them to give Ollie a little more time.

"They had been coming to terms with it for almost a week at that point," he says. "I was glad that they took another shot at it."

The longhaired Ollie was shaved and his bladder was emptied. No other ticks were found, and they sent Ollie home. The next morning—just 10 hours after the tick was removed—Ollie's owners awoke to the sound of his nails clicking across the floor as he beckoned them to let him outside to urinate on his own.

They brought Ollie in to visit DoveLewis later that day, and Stone says it was a relief to see him recover so well and so quickly.

"It's always nice to find a single medication or quick fix to what seems to be a deadly condition," Stone says.

Tick paralysis is a rare condition caused by a buildup of a neurotoxin emitted in the saliva of certain species of female ticks, Stone says. The neurotoxin prevents nerves from activating muscles throughout the body but usually dissipates within 12 to 72 hours once the tick is removed.

"A lot of people think it's Lyme disease but it's not," says Stone, adding that Ollie had been on a tick preventive and had been tested during initial diagnostics for tick-borne illness.

Stone says this case is a reminder than no tick preventive is completely effective and that multiple treatments should be used in areas prone to heavy tick populations.

"This dog had actually been treated with tick medication," Stone says. "No medication is going to kill 100 percent of ticks. I recommend animals in rural areas or going hunting use multi-modalities, like a topical plus a flea and tick collar." **dvm360**

Rachael Zimlich is a freelance writer in Cleveland, Ohio, and a former news reporter for dvm360.

Bow-killing veterinarian's motion for new trial denied

Administrative law judges overseeing the case find Kristen Lindsey failed to show good cause. *By Katie James*

Kristen Lindsey, DVM, the Texas veterinarian infamous for shooting a cat with a bow and arrow, has been denied a partial retrial. In June 2016, Lindsey's lawyer filed a motion for a partial new trial and to strike the testimony of an expert witness who testified on behalf of the Texas Board of Veterinary Medical Examiners (TBVME).

During the administrative hearing, William Folger, DVM, MS, DABVP (feline), feline regent for the American Board of Veterinary Practitioners, was called to discuss the pain and suffering the cat had likely experienced. He also testified that he believed the cat was still alive when Lindsey posed for the photo, local media reported at the time of the hearing. Lindsey had maintained that the cat died instantaneously in her testimony.


Kristen Lindsey

The new trial motion asserted that Folger was inconsistent in the testimony he presented at the hearing and statements he'd made on the Veterinary Information Network (VIN) website. Folger had also displayed animosity toward Lindsey, comparing her to Hannibal Lecter and calling her a lunatic, the motion states.

On July 18, the administrative law judges assigned to the case denied Lindsey's motion, stating that she had failed to show good cause to grant the motion and that the motion for the partial new trial was premature. "Pursuant to the Administrative Procedure Act, a motion for rehearing must be filed 'no later than the 25th day after the date the decision or order that is the subject of the motion is signed.' No decision or order concerning this case will issue until the Proposal for Decision is issued, reviewed, and acted upon by the Board," the order states.

The case involving Lindsey began more than a year ago, and centers around a graphic photo she posted on her Facebook account in April 2015 that bragged about shooting a cat with a bow and arrow.

"My first bow kill ... lol," the post read, accompanying the photo of the veterinarian smiling and holding the cat by an arrow which appeared to be shot through its head. "The only good feral tomcat is one with an arrow through it's [sic] head! Vet of the year award ... gladly accepted."

Though there was a crush of public outrage from all corners of the world, an Austin County grand jury found there was insufficient evidence to charge Lindsey with criminal animal cruelty in connection with her actions. However, the TBVME found her in violation of the Veterinary Practice Act and moved to revoke her license.

A mediation session aimed at resolving the case was unsuccessful, and a hearing before administrative law judges took place on April 25-26, 2016. Testimony was heard from witnesses called by both Lindsey and the TBVME. After that hearing, just before the June 10 deadline for final arguments, Lindsey filed the motion for the partial new trial.

The TBVME's response to Lindsey's motion asserted that the motion didn't meet the required elements to reopen evidence, that she hadn't shown good cause for a partial new trial and that there was no basis to strike Folger's testimony. The TBVME asked that the motion be denied by the administrative law judges overseeing the case.

Michelle Griffin, the TBVME's attorney, tells dvm360 that at the earliest the administrative law judge's proposal for decision could be considered and voted on at the next TBVME board meeting on Oct. 18, 2016. However, the board expects that the case will not be heard until the Jan. 24, 2017, full board meeting. **dvm360**

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A remodel to remember in Cape Cod

With its bold rooflines and floor-to-ceiling windows, this veterinary hospital could easily be mistaken for an upscale beach house.

By Ashley Griffin

The team at Veterinary Associates of Cape Cod in South Yarmouth, Massachusetts, just doesn't quit. That's right, they remained fully operational throughout a 7,980-square-foot renovation, kept clients and pets happy during the process and took home a 2016 Hospital Design Merit Award to boot.

How'd they pull it off? Thomas Burns, DVM, owner of this veterinary hospital—which could easily be mistaken for a gorgeous beach house—reveals some of the secrets to their success.

Go after what you want

If you know exactly what you want in your new hospital, don't be afraid to come right out and express your vision—no matter how crazy it may seem. Your architect will work with you on whittling down your wish list and setting realistic goals, but first you have to share your dream.

For example, when Burns approached Warren Freedenfeld, AIA, of Rauhaus Freedenfeld & Associates in Boston, he had five guidelines in mind:

1. Design a state-of-the-art veterinary hospital and boarding facility on the existing site of the 40-year-old practice.

2. Add some serious curb appeal, integrating elements of the charming Cape Cod vernacular design.

3. Make the hospital visible from Mid-Cape Highway.

4. Stick to a limited budget.

5. Oh, and don't close our doors during any part of the process.

Burns admits that it was difficult to

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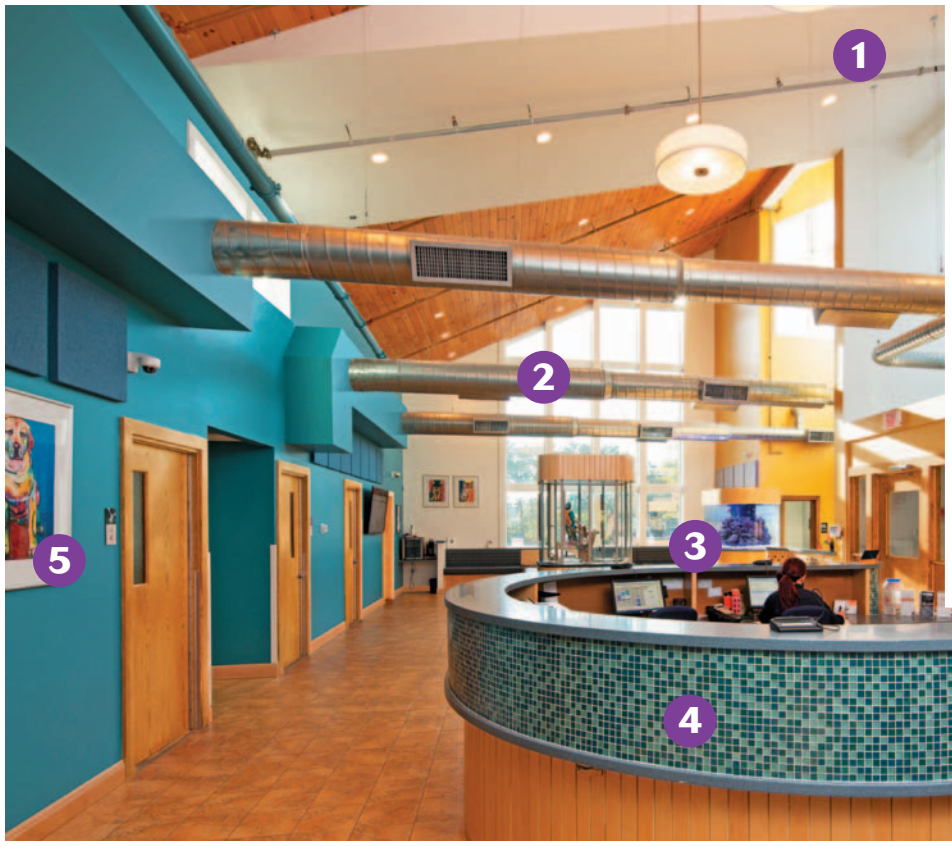
>>> The treatment area was expanded and rearranged to provide better doctor/staff workflow and visibility from the practice manager's office, ICU and the pack-and-prep area. Some of the new treatment room features included custom cabinetry, finishes and lighting. Cost-saving tip: Use what you've got. Existing equipment was utilized to contain costs, including two stainless steel treatment tables. A dental area was added to isolate messy procedures.

>>> In his veterinary renovation project, Dr. Thomas Burns wanted to blend modern influence with traditional Cape Cod architecture. He also wanted to gain visibility from Mid-Cape Highway and bring more natural light into the practice. We'd say installing the 30-foot-high bold rooflines complete with dozens of rectangular windows definitely achieved these goals. "We have much more ambient light during the day, and many people comment that the facility looks beautiful while illuminated at night," Burns says.



>>> Welcome to this warm reception area with unique cathedral ceilings (1) and large open spaces (2). The custom reception desk, with designated areas for check-in and checkout (3), is in the prime position for monitoring the entire area—including the clinic's retail alcove. Ocean-colored mosaic tile (4) decorates the front desk and pet paintings (5) line the surrounding walls.

>>> For the first time in the history of veterinary care, cats will not want to leave the exam room. Well, not this exam room anyway. "The dramatic new cat exam room incorporates a surrounding network of custom cat play structures," explained Warren Freedenfeld, AIA, in the hospital's competition entry notebook. We're talking a carpeted "catwalk" (1) that wraps around the room, a spiral staircase cat tree (2), a towel warmer and custom bench seating (3) for clients and cats. If you look out the window (4), you'll also spot bird feeders that are a perfect distraction for feline patients.

stay open during the renovation and addition phases. However, it helped that his clients were understanding and very encouraging throughout the process.

"I think some of our clients may have even felt part of the process, helping us to evolve to the next level of patient and client care," Burns says. "Done right, it can even bond clients further to your facility."

There weren't any secret plans in this hospital. His team shared the vision for the new facility with clients early on through architectural renderings in the lobby and social media platforms.

Share the good news

The Veterinary Associates of Cape Cod team is very social. In fact, they took to Facebook to announce when new sections of the remodeled clinic were complete. One of their posts revealed that the eight (there were five originally) exam rooms were renovated and ready for patients. (Check out their posts at **dvm360.com/CapeCod**.)

"Get clients enthused early in the process about your plans," Burns says. "Soon they will become your biggest cheerleaders throughout the process."

Planning your own design project? Check out the Hospital Design Conference Aug. 24 to 26 in Kansas City. Visit **thecvc.com/hd** to learn more. **dvm360**

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

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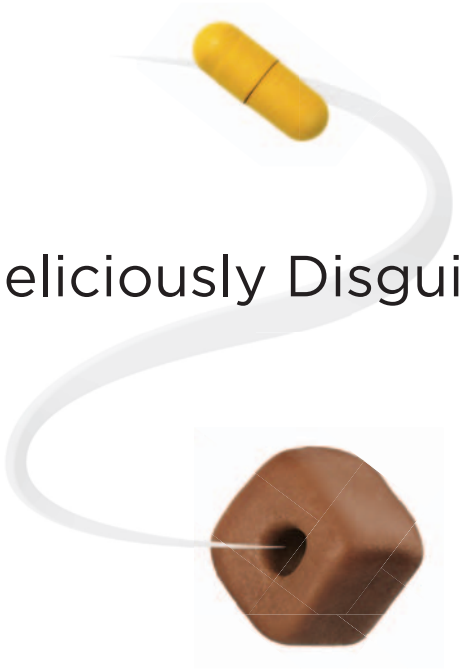

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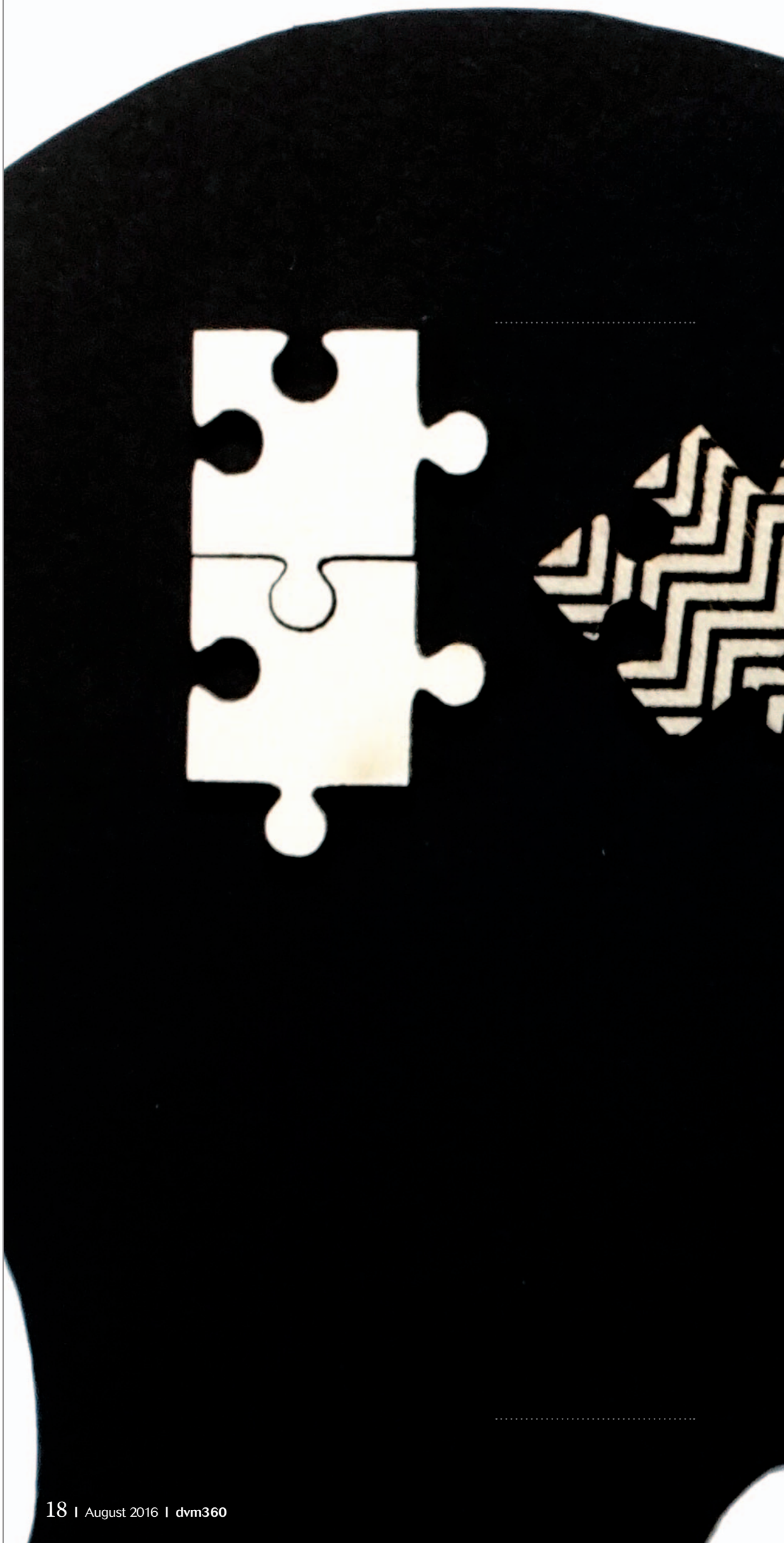

Hacking the DVM brain

Is there a shortcut to personal change and transformation? These experts say veterinarians need to cut themselves some slack—then cut out their bad habits. *By John Lofflin*

Dr. Jane Smith owns a large companion animal practice in Nirvana Corners, USA. (Her name and practice name have been changed to protect ... well, you'll see.) She's a high producer. She's beloved by clients. Staff members call her brilliant.

But some of them also call her "Dr. Jekyll and Mr. Hyde" behind her back. They say she's dismissive. She throws frequent tantrums. She'll cut you to the bone with insensitive comments. Turnover in her clinic is high. New hires are cautioned by those who stay to be careful. "Make her mad and she'll crush you," they warn.

As it turns out, the walls had ears in this practice, and they belonged to Shawn McVey, a seasoned interpersonal communication consultant. And Dr. Smith, McVey says, managed to accomplish one of the most difficult tasks human beings confront: personal change. It wasn't easy. It wasn't quick. In fact, it took three tough years for Dr. Smith to change how she dealt with those she employed and, not incidentally, depended on for practice success.

When it comes to personal change, most veterinarians—most humans, in fact—would rather express anal glands or clean kennels. This is why someone like Barbara Brewer Welsch, DVM, PhD, will have a job as long as she wants.

Change is hard

"Neuroscience has shown pretty well that our brain tends to go to the negative. It's an evolutionary survival mechanism to worry and be on guard all the time," Welsch explains. "When we do that we create certain pathways that lead us to subconsciously perform the same stupid behaviors over and over again.

"If we don't work to decide that we're going to be successful at something or we're going to be happy about our life, if we just carry on as if leaving it up to fate, we tend to move toward the negative and believe it's not possible," she continues. "'I can't get my work-life balance better. I can't get in better shape. I'm not happy.' Change takes work. It takes effort. And it takes uncovering what's in the unconscious. And a lot of us don't even have time to think about what's in the unconscious."

dvm360 leadership CHALLENGE Vet Life Hacks

Hack your life

We asked veterinary speakers and experts from all walks of life at a recent CVC for their favorite hacks for better patient care and easier client interactions—watch them now at dvm360.com/CVChacks.

CVC unconventional

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NOT ALL FLEA AND TICK CHEWS ARE CREATED EQUAL

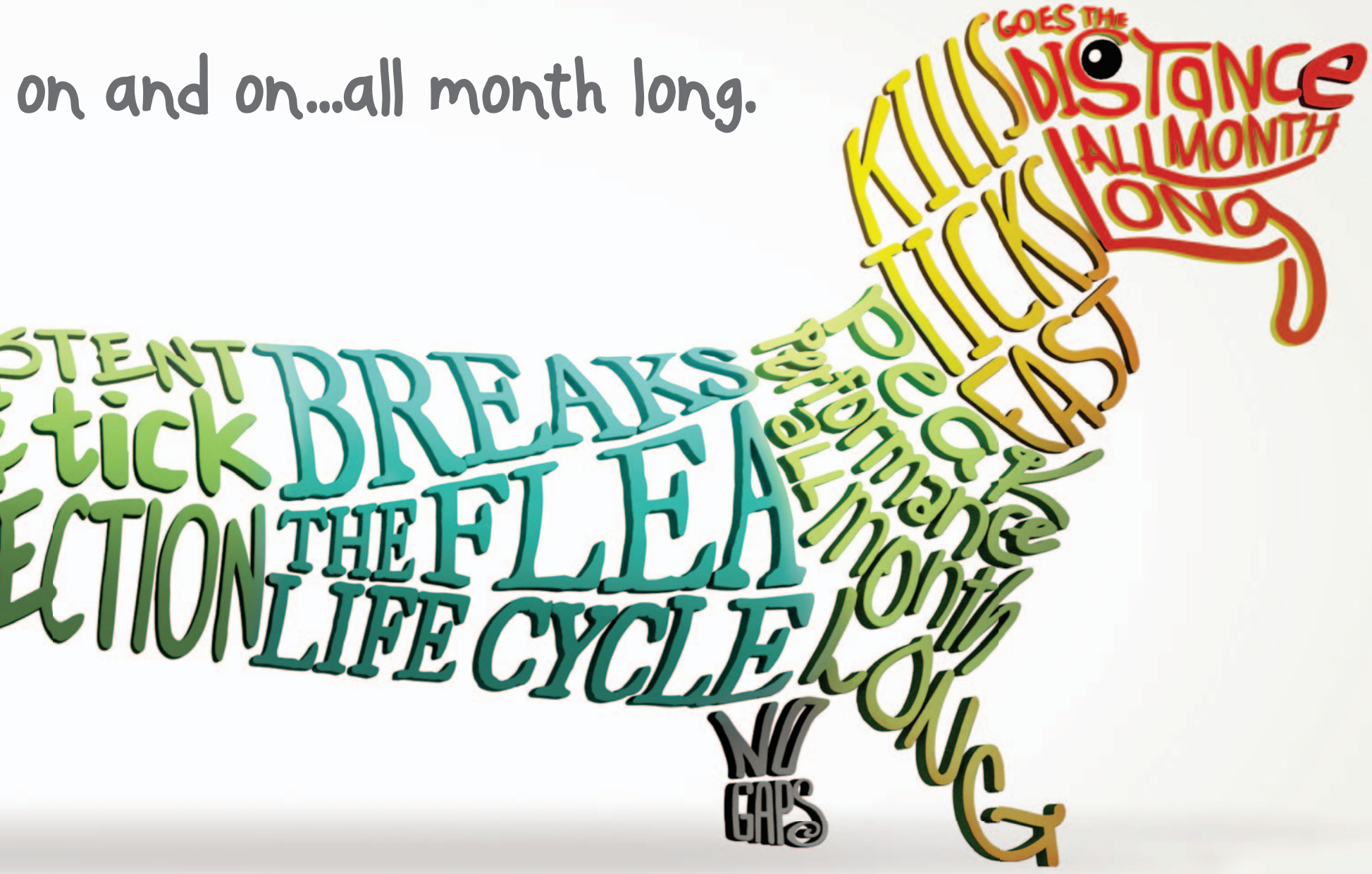
Flea and tick protection that goes on and

IMPORTANT SAFETY INFORMATION: Simparica is for use only in dogs, 6 months of age and older. Simparica may cause abnormal neurologic signs such as tremors, decreased conscious proprioception, ataxia, decreased or absent menace, and/or seizures. Simparica has not been evaluated in dogs that are pregnant, breeding or lactating. Simparica has been safely used in dogs treated with commonly prescribed vaccines, parasiticides and other medications. The most frequently reported adverse reactions were vomiting and diarrhea. See full Prescribing Information on the back of the next page and at **www.zoetisUS.com/SimparicaPI**.

*Studies show Simparica starts killing ticks in 8 hours and is ≥96.9% effective for 35 days against weekly reinfestations of *Amblyomma americanum*, *Amblyomma maculatum, Dermacentor variabilis*, and *Rhipicephalus sanguineus*.[1-6]

References: 1. SIMPARICA (sarolaner) [package insert]. Kalamazoo, MI: Zoetis, Inc; 2015. **2.** Zoetis. Dose Confirmation of Sarolaner Administered Orally Against Induced Infestations of *Amblyomma maculatum* on Dogs (A166C-US-12-128, 2014; A166C-US-12-129, 2014). **3.** Zoetis. Dose Confirmation of Sarolaner Administered Orally Against Induced Infestations of *Amblyomma americanum* on Dogs (A166C-US-12-130, 2014; A166C-US-12-131, 2014). **4.** Zoetis. Dose Confirmation of Sarolaner Administered Orally Against Induced Infestations of *Dermacentor variabilis* on Dogs (A166C-US-12-132, 2014; A166C-US-12-133, 2014). **5.** Zoetis. Dose Confirmation of Sarolaner Administered Orally Against Induced Infestations of *Rhipicephalus sanguineus* on Dogs (A166C-US-12-135, 2014; A166C-IE-13-160, 2014; A166C-US-13-303, 2014; A166C-AU-14-419, 2014). **6.** Zoetis. Knock-down and Speed of Kill of Sarolaner Administered Orally Against Induced Infestations of *Amblyomma maculatum* on Dogs (A166C-US-13-318, 2014).

on and on...all month long.



Introducing Simparica

Monthly chewables for dogs that offer persistent protection from fleas and ticks.[1]

Simparica *acts fast*—it starts killing fleas within 3 hours and ticks within 8 hours*—and keeps going strong for 35 days* **without losing effectiveness at the end of the month.**[1]

Simparica™
(sarolaner) Chewables

Dogged Protection

Fetch more information about Simparica from Zoetis Customer Service at 1-888-ZOETIS-1 or 1-888-963-8471.

See brief summary on page 22

zoetis

Simparica™
(sarolaner) Chewables

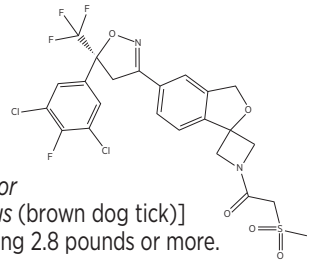
FOR ORAL USE IN DOGS ONLY

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

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

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

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



Indications:
SIMPARICA kills adult fleas, and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of tick infestations [*Amblyomma americanum* (Lone Star tick), *Amblyomma maculatum* (Gulf Coast tick), *Dermacentor variabilis* (American dog tick), and *Rhipicephalus sanguineus* (brown dog tick)] for one month in dogs 6 months of age or older and weighing 2.8 pounds or more.

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

Dosage Schedule:

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

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

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

SIMPARICA should be administered at monthly intervals.

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

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

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

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

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

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

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

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

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

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

Table 1. Dogs with adverse reactions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

How Supplied:
SIMPARICA (sarolaner) Chewables are available in six flavored tablet sizes: 5, 10, 20, 40, 80, and 120 mg. Each tablet size is available in color-coded packages of one, three, or six tablets.

NADA #141-452, Approved by FDA

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Welsch made a major personal change herself 13 years ago when she decided to leave the clinic where she had practiced since graduating from Ohio State in 1980 and pursue a degree in psychology. Today she maintains a small veterinary hospice practice but most of her career is spent counseling veterinary students at the University of Florida where she is an assistant clinical professor in the department of psychology and staff psychologist at the Counseling and Wellness Center in the College of Veterinary Medicine.

Change takes work. It takes effort. And it takes uncovering what's in the unconscious. And a lot of us don't even have time to think about what's in the unconscious.
—Barbara Brewer Welsch DVM, PhD

"As a psychologist and a veterinarian I'm in helping professions," Welsch reasons. "That makes us very different from entrepreneurs and bankers. We tend to put others ahead of ourselves more than people who are not in helping professions. That may make change harder."

Kimberly Pope-Robinson, DVM, says she found herself becoming the "queen of cynicism" surprisingly early in her veterinary life. "It was during my first internship," she says. "It might even have been my senior year in clinics. It happened very quickly. In veterinary school you become analytical and perfectionist, and it becomes obvious that medicine is not black and white—it's very gray. You have to become comfortable with gray, and gray is a scary place. In order to cope with it, I became cynical and angry. I could throw you under the bus and make a joke about you faster than anybody."

But that negative coping mechanism didn't work. It slowly ate away at her passion. A dozen years later, she says, change was possible when she decided to give herself permission to leave veterinary practice behind.

GETTY IMAGES/LEWIS MULATERO

The day you don't eat, don't drink, don't pee for 12 hours—and lose it emotionally

Kimberly Pope-Robinson, DVM, has learned to be willing to be vulnerable. She remembers a day in her practice life 10 years ago—a time when she was seeing 40 to 50 clients a day—when three technicians called in sick.

The dental unit had stopped working, and one of the sick technicians was the only one who knew how to fix it. Surgeries backed up while she and the staff members tried to figure it out. Three unexpected procedures, including a hit-by-car, complicated the afternoon.

"It was that day when you go the whole day," she says. "You don't eat, you don't drink, and you don't pee for 12 hours. You make every single decision. It's 'Dr. Pope, so-and-so is on Line 1 and wants to talk to you about the blood results' and 'Dr. Pope, they can't do the oral meds' and 'Dr. Pope, she wants you to explain the same thing to her husband' and 'Dr. Pope, the radiography machine isn't working.' We all hate those days."

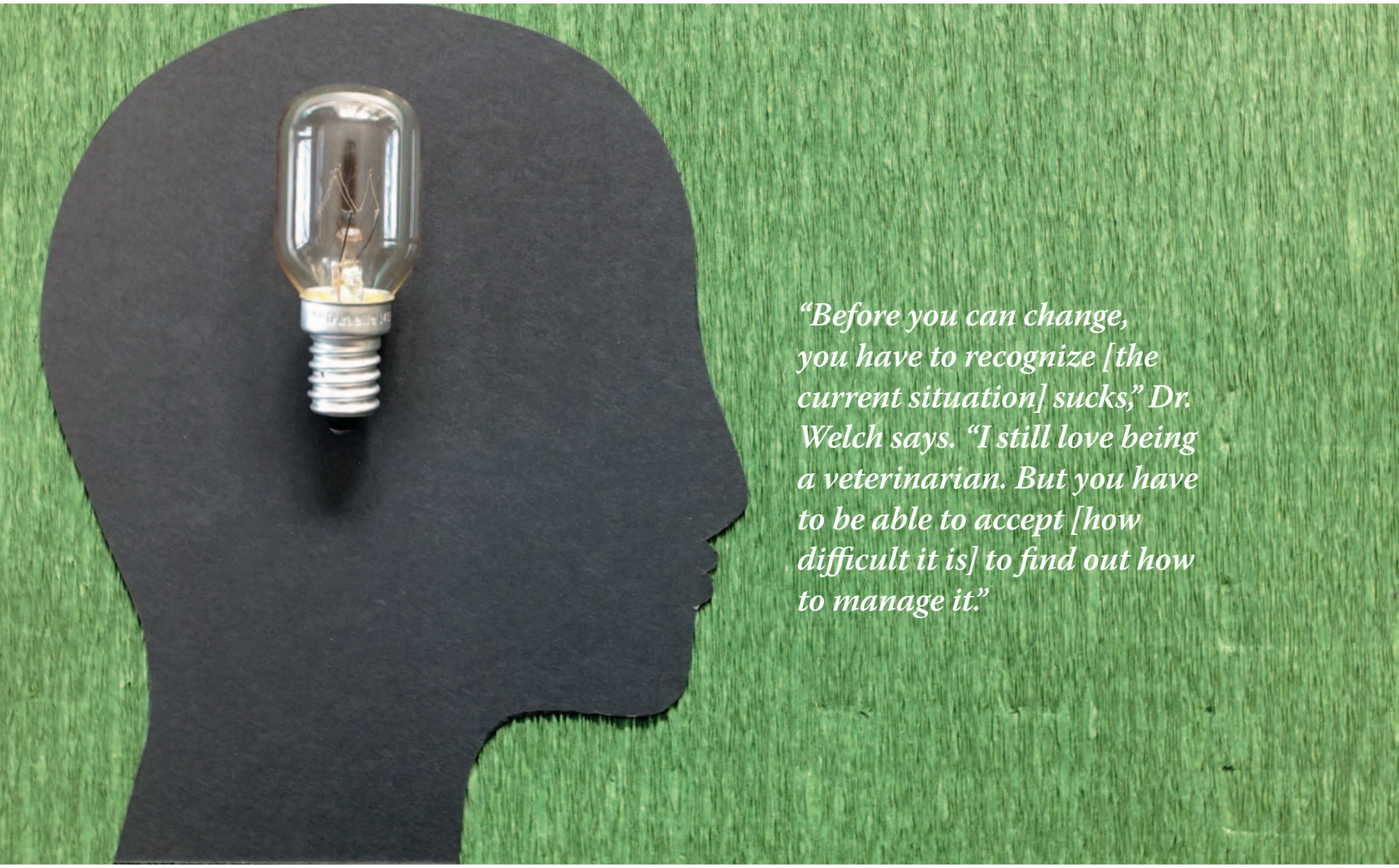
At day's end Pope-Robinson was facing four hours of records to complete when a patient—a kitten—needed a bandage change. In this corporate practice, brown gauze was used for everything and was definitely required for this bandage. But there was no brown gauze in her bandage tote. Staff members told her there was no brown gauze in the hospital.

"And I say, there's no way this hospital doesn't have brown gauze," she says. "We're a $2 million gross hospital. We. Have. Brown. Gauze."

At that point Pope-Robinson became "a tornado of frenzy," she says. She flew around the hospital opening every drawer and every cabinet and hauling out everything inside. When she finished, she looked back and saw the massive mess she'd made. And she did not find brown gauze.

"My brown gauze moment is the time I lost my emotional crap in the hospital," she says. "When I tell this story to veterinarians, I can see people in the audience laughing in a nice way because they're thinking of a time when they did it."

She tells them, here's the deal: None of you judged me for my actions. So why do you judge yourself?



"Before you can change, you have to recognize [the current situation] sucks," Dr. Welch says. "I still love being a veterinarian. But you have to be able to accept [how difficult it is] to find out how to manage it."

Sort of. Two years later she's working one-on-one with veterinarians and speaking to groups about how to change the grind and reconnect with the passion.

"Before you can change, you have to recognize [the current situation] sucks," she says. "I still love being a veterinarian. But you have to be able to accept [how difficult it is] to find out how to manage it."

So is there a shortcut, a life hack for change? Although they come from a variety of theoretical perspectives, experts in personal change agree on one first step: awareness.

Learning to know yourself

It may seem odd that a person who knows at a glance that a dog has hip dysplasia can't see the behaviors that are holding him back. The same person who knows precisely what's causing a cat's pain can't identify the trigger for her own emotional pain. And that's a problem. Experts say self-awareness is the essential first step in personal change. It stands to reason—and to theory—that you can't make a significant change if you don't know what needs to be changed.

"The first step is to identify what needs to change, and then to be aware of when you're actually doing what it is you want to change," Welsch explains. "Let's say you're afraid of cats. You get depressed when cats are on your schedule. You don't even know why. Or your father was a big football player and he was mean to you, so every time you see a big guy coming into the exam room, you become much more timid.

"First, you figure out, 'I want to change this behavior of feeling down when I go in the room and there's a cat.' Second, you have to catch yourself doing or feeling it. Those first two steps can be in the unconscious for many people." Welsch adds that understanding where the behavior comes from can help people forgive themselves for behaving or feeling a certain way.

But in a typical veterinary hospital, time to think about yourself and your behavior is scarce. Ann Marie DelSignore, who counsels veterinary students at Auburn University, thinks veterinarians' perfectionism contributes to the problem.

"Perfectionists just will not stop sometimes," she says. "They need to keep going to validate themselves. They're trying to avoid feeling anything negative about themselves. If you ask them if they have a problem, they say, 'No, this is just what I do.' It's a classic avoidance mechanism."

The hack here, she says, is just to stop, take a moment and be reflective: "Check in on yourself," she says.

Of course, today's technological environment makes disconnecting difficult, so DelSignore suggests using the technology in your back pocket to do it. She tells perfectionist students to set an alarm every day or even several times a day: "I tell them to stop when it goes off and ask yourself, 'What am I doing this moment? What am I focused on?'"

Checking in, she says, is good for concentration. It also fights procrastination. Students tell her they sometimes discover they've just lost an hour when they check in.

Welsch thinks she left veterinary medicine to study psychology because it was the only way she could slow down and allow herself time to reflect. "We're so busy, we don't allow ourselves time to be with ourselves," she says. "And some of us are running away from thinking about ourselves. We don't want to know. But you need to tune in and be quiet long enough to listen to what your body's trying to tell you."

These experts say a key way veterinarians can become more self-aware is to tune in to their body when they feel emotionally challenged during the day. "The body remem-

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Reference: 1. CEESA Q4 2015: CIRD Market Q4 YTD. Boehringer Ingelheim Vetmedica, Inc. March 2016.

10 takeaway tips for CHANGE

If you—or those around you—are unhappy with your habits or your emotional responses, here is the advice from the story from four experts to get you thinking ...

1. Remember that personal change can be hard. Be nice to yourself.

2. Remember that human brains are hardwired to be negative. Recognize that change could take a while.

3. Reflect and introspect. Take time to learn about yourself, the things that trigger bad responses and why. The reasons behind those triggers could be small or they could be serious past trauma. Self-awareness is necessary—and it's a process.

4. Start feeling your body. Start feeling your emotions. This can be hard or scary if those emotions are strong, so remember tip one.

5. If you are a high achiever (hello, veterinarians!), accept that even high achievers find change difficult.

6. Accept what is. Accept your emotions. Accept your failings. Accept your humanity.

7. Learn to recognize when you're feeling particularly angry, sad, lonely or overwhelmed, and don't hide from those feelings. Go discharge some of that energy at the gym or in meditation or talking to a close friend.

8. Don't get caught in the cycle of "I shouldn't do that. But I did it. Now I feel guilty and can't help doing it again. Now I feel even more guilty." Accept some inevitable backsliding, don't beat yourself up for it and try again.

9. Set healthy boundaries. Know your limits. Just because you care a lot doesn't mean you don't have limits to your time and energy.

10. Be honest with yourself about what you need to change, for yourself and others.

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POWERFUL so it keeps killing fleas and ticks all month long

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Dogs love it![1]

NexGard
(afoxolaner) Chewables

See brief summary on page 28

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

[1] Data on file at Merial.

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"We're so busy, we don't allow ourselves time to be with ourselves. And some of us are running away from thinking about ourselves. We don't want to know. But you need to tune in and be quiet long enough to listen to what your body's trying to tell you."

—Ann Marie DelSignore, Auburn University veterinary student counselor

bers," Welsch explains. "It remembers traumas from the past. Sometimes I can access that when I'm sitting with a client and I say something like, 'What happens in your body when you see a cat? or 'when you see that big man?' Where is it in their body, and what does it feel like?'"

Tuning in to one's body is a way to put words to problem, she says. Knowing that a stressor creates a pain in your chest—or a hollow feeling in your head, or a knot in your gut—can lead to understanding the underlying reason for stress, the original moment when you became afraid of cats or a big person pushed you around. The idea is that recognizing the original moment will help you learn to change your reaction to it.

But first you may need to become aware of the hidden "benefit" of the behavior you want to change. "Human beings do what works," DelSignore says. "People in helping professions are usually high-achieving and self-critical. They've probably used frustration to achieve. They've always wanted to do more. They've always felt they've never accomplished the optimal result. These frustrations have actually worked for them."

In counseling graduate students, she works to help them recognize the hidden benefit of all that anxiety or frustration. "This is one of my favorite moments," she says. "The person goes, 'Whoa! You know, I never thought of it that way before.' It's exciting for them and for me to see the light go on."

Showing generosity—to yourself

The counselors who spoke with dvm360 all emphasize self-acceptance as a key to making change. You know why your chest tightens. You know when it happens. You know you want to change your behavior. But you can't. You backslide. You get so mad at yourself you want to just give up.

Exactly the wrong move. It may seem counterintuitive, but if you want to change a behavior, you have to let yourself off the hook. This technique has a name: acceptance and commitment therapy. "You teach someone how to accept what they have in life," Welsch explains. "The question becomes how they can get along with what they're committed to."

For example, some veterinarians feel deep-seated anger about pet owners who won't pay for the best veterinary care—anger that leads to irritability or other behaviors they want to change. "You have to accept that some people won't pay the same for their dog's care that they will for their child's care," Welsch says. "I know a lot of young veterinarians who are idealistic who get angry and upset and resentful. But people don't have that kind of money. I think you're much better off if you just accept that's how it is."

That leaves commitment—commitment to purpose. "You accept what is and then commit to a high purpose in life," Welsch says. "You ask yourself why you're here. If you're a veterinarian, you're here to relieve animal suffering. In my hospice practice, I try to relieve the pain for humans who lose a pet, too." With your purpose as a guide, she says, you push to change what you can and accept what you can't "without dwelling on it."

Acceptance also means recognizing how difficult the job of change is and not giving up because you can't do it consistently at first. Welsch asks clients to identify the "bits" about a dreaded task they enjoy. If you're having trouble getting to the gym, identify something about going to the gym you like. If you prefer cats to dogs, identify something about puppies you like. It's a simple way to hack your dread in a way that makes it more palatable.

Pope-Robinson also sees acceptance as essential—acceptance of yourself. "We need to accept our emotions and find self-forgiveness," she says. "How do you start that? Many of us have a

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"We're not very good at knowing what emotions we're feeling or what body sensations we're feeling," Welsch says. "We're mental giants, because we're very good at school and taking tests and making diagnoses, but veterinarians aren't quite as good at accessing some of the other stuff."

feeling of shame because we feel we're failing and we're dipping below what I call the 'fear of failure' line. So we have to have empathy for ourselves before we can move forward."

Above all, to make change, Pope-Robinson says, you have to quiet anxiety and your fear of the unknown. She points out that veterinarians never know what sort of day will greet them when they walk into the clinic in the morning. Add to that, she says, the way perfectionists are driven, and you have an anxiety collision just waiting to happen. Compassion fatigue might arise or some primary psychological trauma. "The first thing you have to do is accept it," she says. "Recognize it, accept it and manage it."

Of course, all this is harder than it sounds. Pope-Robinson encourages veterinarians "to recognize they're not alone, they're normal and they have permission to find the path." That path, she says, is specific to the individual but always must begin by accepting the way things are: "You have to be able to accept it to find out how to manage it. You have to realize you can't live that idealistic vision that we all think you can live. You can't be everything to everybody."

Relearning how to feel

Fact: If you can't access your emotions, you can't get a lever on change. And for some veterinarians, the key to hacking change is restarting their emotions. Welsch recalls her years as a veterinary student.

"To get into veterinary school is so competitive," she says. "I learned to just push through everything, to not think about how I was feeling. I learned to be the good student and get good grades."

There's nothing in the veterinary school curriculum that lends itself to introspection, she continues, because students are so focused on memorization. And those kinds of patterns carry over into professional life. "We're not very good at knowing what emotions we're feeling or what body sensations we're feeling," Welsch says. We're mental giants, because we're very good at school and taking tests and making diagnoses, but veterinarians aren't quite as good at accessing some of the other stuff."

Besides having to "wall off" from the emotional challenge of euthanasia and dealing with grieving pet owners, veterinarians may also have to bottle up energy from a client screaming at them or a dog biting them. One way to manage such stress, Welsch says, is to find ways to "discharge the energy," a concept she has embraced from the work of psychologist Peter Levine.

A trip to the gym or other physical activity may help. Meditation may help. Standing in the middle of the floor shaking might help—it happens sometimes in Welsch's office—but is probably not as acceptable in the middle of the clinic. The key is to get in touch with your body, recognize what you're suppressing, then find a way to let it out. The idea is that the body is capable of healing itself.

Setting healthy boundaries

As a counselor, DelSignore is—like veterinarians—a member of a helping profession with all the behavioral pitfalls that come with the job. Avoiding those pitfalls, or changing the behaviors they cause, takes a good measure of self-care, she says.

"One thing we do here [in the counseling office] is set our own boundaries," she says. "We have different thresholds for what is doable for us. For some it might be seeing eight clients a day. Others have to stop at four. But we have wait lists, and the temptation is that once we've reached our boundary, we want to take someone off of another counselor's wait list. But we have to stay true to what keeps us functional."

DelSignore offers a major hack for staying engaged in the clinic. "When I come to work each day I leave my life outside the door," she explains. "That way I can stay focused. And when I go home, I leave the office behind and just do home stuff. I don't even look at personal phone stuff at work."

Being honest with yourself about your problems

Remember angry, judgmental Dr. Smith from the beginning of this article? Shawn McVey helped her develop

what he calls "emotional intelligence" within three years. It wasn't easy. "People don't change," McVey argues, "until they're in enough pain."

The anonymous feedback he offered her from the staff was uncomfortable, but she needed to hear it. "In veterinary practice the owner is never challenged," McVey explains. "It's a hierarchical environment. Owners rarely get any negative feedback from staff members. It can become a fear-based environment."

McVey has spent his career helping develop interpersonal skills in veterinary practices. And the challenge of developing emotional intelligence can be tough for veterinarians and managers to face. But when their behavior is creating a fight-or-flight reaction in the clinic and they finally become aware of it, they will, McVey hopes, have reached the point of pain and change.

Dr. Smith went through a period of tears, anger, shock and "not liking the messenger" when she was given the task of transforming her interpersonal work relationships. But McVey showed her the evidence—something many veterinarians need in order to be convinced of the necessity of change.

"Self-awareness is the key. You have to become aware of how you affect the people around you," he says. "You have to develop self-management. You have to be able to say to yourself, 'I can't do that anymore.'"

Dr. Smith did move the needle. And if the bottom line is any indication, by all means she moved it dramatically. Her practice went from $21 million to $60 million. Her team learned how to give feedback. Turnover approaching 30 percent was stilled. The best and the brightest didn't leave anymore.

McVey thinks the key was hacking Dr. Smith's core beliefs. Like almost everyone else, Dr. Smith tended to see other people as basically good or basically bad—the latter of which meant they were dangerous and in need of control. You can't develop a healthy relationship in a practice, McVey says, until you can appreciate others for what's good in them.

By definition, emotional intelligence requires you to bring your emotions out of the dark and into the light. Pope-Robinson agrees with the need to let emotions out of the (veterinary practice) bag: "We need to stop ignoring and suppressing our emotions. Our emotions are our passion. By suppressing our emotions, we're basically telling our passion to go away." **dvm360**

John Lofflin is a journalism professor and freelance writer in Kansas City, Missouri, and a longtime contributor to dvm360.

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The lowdown on cannabis in veterinary medicine

Fresh from the Nestlé Purina Companion Animal Nutrition Summit, a look at what we know about this plant's powers in pets. *By Heather Lewellen, DVM*

Whether it's been awhile since you studied marijuana toxicosis in veterinary school or you just saw a case of it earlier this week, the dialogue about this substance is evolving—from "illegal and toxic" to potentially beneficial for a variety of medical conditions.

Susan G. Wynn, DVM, CVA, of BluePearl Georgia Veterinary Specialists, discussed this controversial therapy at the 2016 Nestlé Purina Companion Animal Nutrition Summit.

Yes, it's true that a 2012 study reported a fourfold increase in the number of dogs treated for marijuana intoxication between 2005 and 2010, following the legalization of medical marijuana in Colorado.[1] So brushing up on your treatment skills would be a good idea.

But how do you handle an oncology client who asks if Buddy would benefit from marijuana? Here's what you need to know about potential medical uses.

The basics

Wynn says findings in archeological sites suggest that cannabis has been in use for 10,000 years. Hemp and marijuana are two different subspecies of *Cannabis sativa L.* and contain more than 480 unique compounds, 85 of which are cannabinoids. The two primary cannabinoid compounds are cannabidiol (CBD) and delta-9-tetrahydrocannabinol (THC). Hemp contains primarily CBD, which is not psychoactive and has antianxiety, antipsychotic, antispasmodic and antibacterial properties. Marijuana contains higher levels of THC, which is psychoactive and has euphoretic, analgesic, anti-inflammatory, antiemetic, antioxidant, antipruritic and cholagogic properties.

So how do cannabinoids cause an effect on us and our pets? The endocannabinoid system of vertebrate animals was described only after THC led to the discovery of the receptor and following this, anandamide, a natural cannabinoid receptor agonist, was discovered in 1992. Wynn says the highly complex endocannabinoid system's effects can be summarized as "relax, eat, sleep, forget and protect."

At least five endogenous endocannabinoids have been described. They are long-chain polyunsaturated fatty acids that affect appetite; impair cognition, time perception and short-term memory; and lead to incoordination, sleepiness and enhanced body awareness. Cannabinoid receptors of different types are located in various organs throughout the body.

Into the weeds

So what can cannabis be used to treat medically? In people, its effects are being studied on these conditions.

> Cancer. Malignant tissues tend to express higher numbers of cannabinoid receptors than nonmalignant tissues, says Wynn, and binding those receptors can trigger cancer cell death.

> Nausea and vomiting. Synthetic cannabinoids are approved for use in treating nausea and vomiting in patients receiving chemotherapy.

> Pain. Cannabinoids are effective in controlling both acute and chronic pain by modulating nociceptive signals in the central and peripheral nervous systems. The analgesic results of CBD may be primarily due to anti-inflammatory effects.

> Inappetence. The endocannabinoid system is involved in both the homeostatic and hedonistic aspects of food intake. The hyperphagic effects of cannabinoids are clearly produced by THC and may be at least in part modulated by CBD. The opioid, serotonergic and dopaminergic pathways are involved. This has been mainly studied in human patients receiving chemotherapy and in rats.

> Inflammatory bowel disease. THC and CBD have potential benefits in the gut. CBD has significant anti-inflammatory and antispasmodic effects, and THC may help reduce intestinal permeability.

> Others. Other proposed clinical uses for cannabis include treatment of anorexia nervosa, epilepsy or seizure disorders, anxiety, diabetes mellitus, glaucoma and infection with methicillin-resistant *Staphylococcus aureus* and other bacteria.

Wrapping it up

Cannabis is currently a DEA Schedule 1 drug (no medicinal use with high abuse potential), but there is federal legislation pending in Congress to reschedule it. It should be noted that veterinarians in all states are prohibited from prescribing medical marijuana. But pet owners are allowed to administer cannabis to their animals, and products containing CBD obtained from industrial hemp plants, rather than medical marijuana, are available legally.

Wynn says, "Although veterinarians cannot recommend cannabis, they can assist clients in the following ways: One, advise on toxicity, as dogs have a higher number of brain receptors for cannabinoids, potentially making them more sensitive to cannabis compared with people. Two, discuss legal cannabis options in which high CBD products may be appropriate." **dvm360**

Reference

1. Meola SD, Tearney CC, Haas SA, et al. Evaluation of trends in marijuana toxicosis in dogs living in a state with legalized medical marijuana: 125 dogs (2005-2010). *J Vet Emerg Crit Care* 2012;22:690-696.

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References: 1. Bravecto [prescribing information]. Summit, NJ: Merck Animal Health; 2014. **2.** Rohdich N, Roepke RKA, Zschiesche E. A randomized, blinded, controlled, and multi-centered field study comparing the efficacy and safety of Bravecto™ (fluralaner) against Frontline™ (fipronil) in flea- and tick-infested dogs. *Parasit Vectors*. 2014;7:83. **3.** Freedom of Information Summary, NADA 141-426. Approved May 15, 2014.

Please see Brief Summary on page 34.

MERCK Animal Health

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BRIEF SUMMARY (For full Prescribing Information, see package insert)

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

Indications:
Bravecto kills adult fleas and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*) and the treatment and control of tick infestations [*Ixodes scapularis* (black-legged tick), *Dermacentor variabilis* (American dog tick), and *Rhipicephalus sanguineus* (brown dog tick)] for 12 weeks in dogs and puppies 6 months of age and older, and weighing 4.4 pounds or greater.

Bravecto is also indicated for the treatment and control of *Amblyomma americanum* (lone star tick) infestations for 8 weeks in dogs and puppies 6 months of age and older, and weighing 4.4 pounds or greater.

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

Warnings:
Not for human use. Keep this and all drugs out of the reach of children. Keep the product in the original packaging until use, in order to prevent children from getting direct access to the product. Do not eat, drink or smoke while handling the product. Wash hands thoroughly with soap and water immediately after use of the product.

Precautions:
Bravecto has not been shown to be effective for 12-weeks duration in puppies less than 6 months of age. Bravecto is not effective against *Amblyomma americanum* ticks beyond 8 weeks after dosing.

Adverse Reactions:
In a well-controlled U.S. field study, which included 294 dogs (224 dogs were administered Bravecto every 12 weeks and 70 dogs were administered an oral active control every 4 weeks and were provided with a tick collar); there were no serious adverse reactions. All potential adverse reactions were recorded in dogs treated with Bravecto over a 182-day period and in dogs treated with the active control over an 84-day period. The most frequently reported adverse reaction in dogs in the Bravecto and active control groups was vomiting.

Percentage of Dogs with Adverse Reactions in the Field Study

Adverse Reaction (AR)	Bravecto Group: Percentage of Dogs with the AR During the 182-Day Study (n=224 dogs)	Active Control Group: Percentage of Dogs with the AR During the 84-Day Study (n=70 dogs)
Vomiting	7.1	14.3
Decreased Appetite	6.7	0.0
Diarrhea	4.9	2.9
Lethargy	5.4	7.1
Polydipsia	1.8	4.3
Flatulence	1.3	0.0

In a well-controlled laboratory dose confirmation study, one dog developed edema and hyperemia of the upper lips within one hour of receiving Bravecto. The edema improved progressively through the day and had resolved without medical intervention by the next morning.

For technical assistance or to report a suspected adverse drug reaction, contact Merck Animal Health at 1-800-224-5318. Additional information can be found at www.bravecto.com. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at http://www.fda.gov/AnimalVeterinary/ SafetyHealth.

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Reference: Bravecto [prescribing information] Summit, NJ: Merck Animal Health; 2014

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>>> Petco has clarified that the health check performed by its groomers is not a substitute for a visit to the veterinarian.

Pet superstore adjusts advertisement after veterinary complaints

AVMA persuades Petco to adjust messaging after veterinarians express concern over 7-point health check.

After a recent advertising campaign by Petco revealed the retailer's 7-Point Pet Care Check conducted by in-store groomers, many veterinarians expressed concern, according to a post from the American Veterinary Medical Association (AVMA). Concerns from AVMA members regarding the ads—specifically that anything out of the ordinary discovered during a pet's grooming visit should be assessed by a veterinarian and treated as necessary—came forward soon after the advertisements debuted online and on television, according to the AVMA.

"Petco has assured us that appropriate and timely referral for veterinary services is a key pillar of training for the grooming staff in implementing Petco's new 7-Point Pet Care Check. Unfortunately, that message did not come through clearly in Petco's advertising campaign," says an AVMA@Work blog post. "Petco and the AVMA agree that grooming visits are not a substitute for routine checkups and preventive care provided by veterinarians."

The new program was launched on May 17. In addition to asking for age, activity level, diet, health concerns, medications and vaccinations, groomers will now also be looking at the pet's eyes, ears, nose, mouth and teeth, paw pads, skin and coat and underside for any odors, irritation, or other signs that could possibly indicate health issues.

"The 7-Point Pet Care Check is designed to assess the pet from nose to tail, making sure every pet appears healthy on the outside and also visually looking to identify any possible issues pet parents may need to address with a veterinarian," says a Petco company press release.

Petco has since adjusted the information online for the company's new campaign, adding the disclaimer: "The 7-Point Pet Care Check is not a substitute for regular examinations and care from a licensed veterinarian." The national pet retailer will also incorporate appropriate messaging for its television commercials, though it may take longer to accomplish, according to the AVMA. dvm360

PHOTO COURTESY OF PETCO.COM

N.J. politician introduces statewide declaw ban

Mirroring legislation in Hawaii and New York, this New Jersey bill would make declaw procedures a crime under animal cruelty law.

By Brendan Howard, Business Channel Director

New Jersey Assemblyman Troy Singleton (D-Moorestown) has introduced legislation that would make feline declawing an animal cruelty crime in the state.

If the bill passes, veterinarians—or anyone else—performing an onychectomy or flexor tendonectomy procedure on a cat could face a fine of up to $1,000, six months in jail and a potential civil fine of $500 to $2,000.

Only declaws deemed necessary for a therapeutic purpose, such as removal of cancerous tumors, and conducted by a licensed veterinarian would be exempt. In those cases, New Jersey veterinarians would be required to file a written statement with the state Department of Health explaining why the declaw was done and the name and address of the cat's owner.

"Therapeutic purpose," the legislation continues, "shall not mean cosmetic or aesthetic reasons or reasons of convenience in keeping or handling the animal." The legislation does not address the worry that some cats may be given up to animal shelters or abandoned in lieu of declawing.

In contrast, the AVMA's policy on declawing of domestic cats directly addresses some of the complicated issues at work in the debate surrounding feline declaws:

The AVMA strongly encourages client education prior to consideration of onychectomy. It is the obligation of the veterinarian to provide cat owners with a complete education with regard to the normal scratching behavior of cats, the procedure itself as well as potential risks to the patient. Onychectomy is an amputation and should be regarded as a major surgery. The decision to declaw a cat should be made by the owners in consultation with their veterinarian. Declawing of domestic cats should be considered only after attempts have been made to prevent the cat from using its claws destructively or when its clawing presents an above normal health risk for its owner(s).

The New Jersey bill mirrors the language of similar proposals introduced last year in the Hawaii and New York state legislatures. **dvm360**

New Jersey Assemblyman Troy Singleton

Elsewhere in feline declaw news

Two other states have seen the introduction of feline declaw legislation: Hawaii and New York. Like the New Jersey bill, these bills were introduced early last year, carried over to this year and have yet to see a scheduled vote.

Pet insurer reveals common dog-park mishaps

Soft-tissue injuries and sprains top list of reasons for veterinary visits.

Summer is here, and dog lovers are relying heavily on local dog parks so their four-legged family members can play and socialize. But with the increasing popularity of off-leash dog parks, helping your veterinary clients keep safety measures top of mind is paramount.

The most common injury seen by veterinarians annually is soft tissue injuries or sprains, which affected nearly 24,000 insured dogs last year, according to a release from Nationwide. Head trauma from dogs crashing into objects or one another accounted for the most expensive condition, with an average cost of $591 per pet.

"The dog park is a great place for dogs to socialize and exercise, but there are safety measures dog owners need to be aware of," says Carol McConnell, DVM, MBA, vice president and chief veterinary medical officer for Nationwide. "Many of the medical conditions on our dog park-related injury list can be avoided by taking necessary precautions."

Here are the most common dog park-related medical conditions and their costs for clients, according to data from Nationwide's claims database:

> Sprains and soft tissue injuries: $225

> Lacerations or bite wounds: $361

> Kennel cough/upper respiratory infection: $174

> Insect bites: $143

> Head trauma: $591

> Hyperthermia or heat stroke: $579.

Pet owners can help ensure their dog's safety by paying attention to their pet at all times, keeping current on vaccinations, microchipping their pet and maintaining the identification information on their dog's collar. **dvm360**

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References: 1. Levy SA. Use of a C6 ELISA test to evaluate the efficacy of a whole-cell bacterin for the prevention of naturally transmitted canine *Borrelia burgdorferi* infection. *Vet Ther*. 2002;3(4):420–424. **2.** Chu HJ, Chavez LG, Blumer BM, Sebring RW, Wasmoen, TL, Acree WM. Immunogenicity and efficacy study of a commercial *Borrelia burgdorferi* bacterin. *J Am Vet Med Assoc*. 1992;201(3):403–411. **3.** Levy SA, Lissman BA, Ficke CM. Performance of a *Borrelia burgdorferi* bacterin in borreliosis-endemic areas. *J Am Vet Med Assoc*. 1993;202(11):1834–1838. **4.** Levy SA, Millership J, Glover S, et al. Confirmation of presence of *Borrelia burgdorferi* outer surface protein C antigen and production of antibodies to *Borrelia burgdorferi* outer surface protein C in dogs vaccinated with a whole-cell *Borrelia burgdorferi* bacterin. *Intern J Appl Res Vet Med*. 2010;8(3):123–128.

Boehringer Ingelheim

Boehringer Ingelheim, Merial announce plans to merge

BI to trade consumer healthcare business for Sanofi's animal health division—aka Merial—company representatives say.

Sanofi and Boehringer Ingelheim announced in late June that they've signed contracts allowing them to move forward with an exchange of Sanofi's animal health business (Merial) and Boehringer Ingelheim's Consumer Healthcare business. The transaction is expected to close by the end of 2016, pending approval by regulatory authorities. The integration of the companies into their new respective parent companies would start after closing, according to a release from the two companies.

Andreas Barner, chairman of the board for Boehringer Ingelheim, says the transaction "demonstrates the consistent orientation of our business towards innovation-driven sectors." Likewise, Sanofi CEO Olivier Brandicourt, MD, says the move positions his company to become a leader in consumer healthcare.

The transaction includes a cash payment from Boehringer Ingelheim to Sanofi of €4.7 billion ($5.18 billion) to reflect the difference in value of the two businesses.

On the animal health side, combining Merial and Boehringer Ingelheim's portfolios in anti-parasitics, vaccines and pharmaceutical specialties would make the combined company more competitive in key segments of the industry and bring more value and innovation to customers globally, representatives say. The Boehringer Ingelheim Animal Health business would more than double its sales to approximately €3.8 billion ($4.19 billion) based on 2015 global sales.

Lyon, France, and Toulouse, France, will be the operational centers for Boehringer Ingelheim's animal health business, with business operations, R&D and manufacturing facilities in Lyon and the production site in Toulouse. As the U.S. market is an important part of Merial's business, Boehringer Ingelheim will pay particular attention to sustain the momentum of the U.S. operations, company officials say. **dvm360**

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[1] Independant market research conducted by Fairfax Agricultural Research and Marketing, 2015
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[4] Alfaxan USA FDA Approved Leaflet

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See brief summary on page 38

Realistic dog model created in effort to replace cadavers in canine surgery education

Company seeks to place the synthetic cadavers in all accredited veterinary schools worldwide through crowdfunding campaign.

Could canine cadavers for veterinary surgical teaching become a thing of the past? If SynDaver has anything to say about it, the answer is yes.

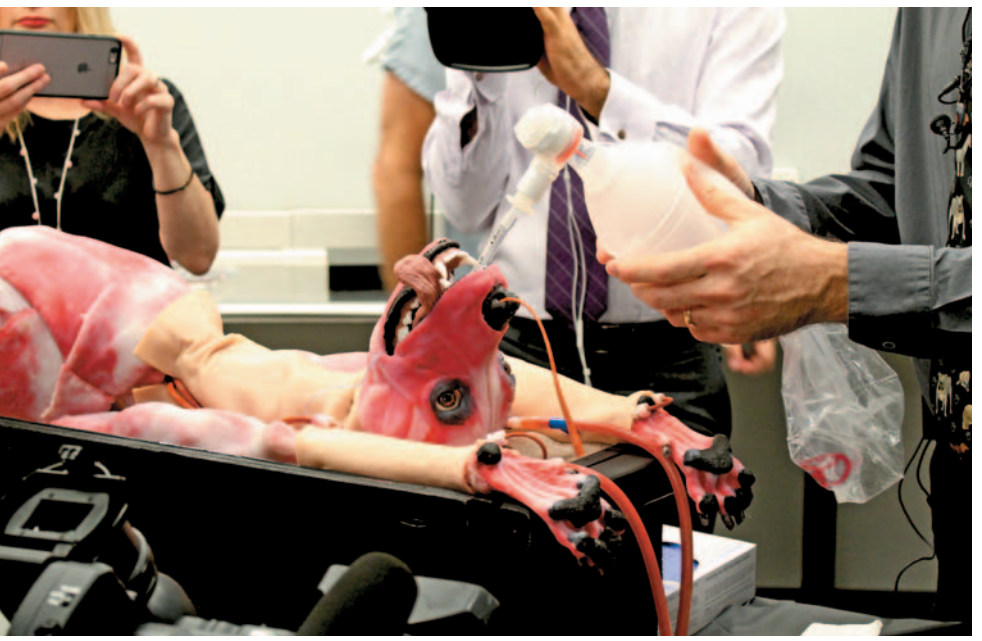
The company, which already produces a line of synthetic humans, has developed a synthetic canine model with the hopes of providing 20 synthetic cadaver dogs free to each accredited veterinary teaching hospital in the world through a $24 million crowdfunding program.

SynDaver, based in Tampa, Florida, worked with the University of Florida's College of Veterinary Medicine to make the cadaver as lifelike as possible, according to a release from the company. The synthetic cadaver is made of water, fiber and salt. Each cadaver is anatomically correct and features lifelike fat, fascia planes, bones, muscles, ligaments, joints and all body systems.

The skinless dog not only mimics the feeling of living tissue but breathes, has a heartbeat and can be programmed to simulate various diseases and medical complications. The skin even bleeds when surgical cuts are made, since the cadaver has a circulatory system.

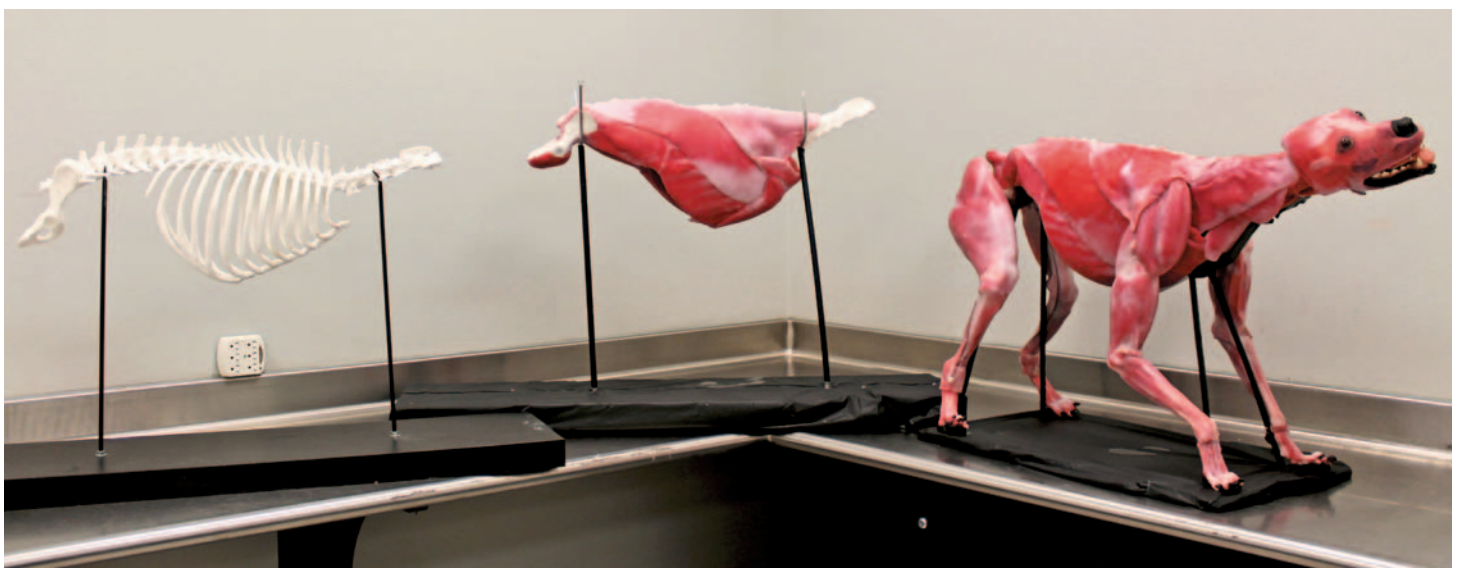
Michael Blackwell, DVM, MPH, former chief veterinarian of the U.S. Public Health Service and current senior director of veterinary policy for the Humane Society of the United States, is on board with the product. "A significant number of students do not care to be involved in terminal surgery procedures or the use of live animals when there is an alternative," he says in the release. "I am so happy to have this change because that is where we need to be today."

What about other synthetic animal models? The company says if it exceeds the $24 million in crowdfunding, it will begin work on cat models next, then horses and cows. **dvm360**



>>> Recumbent and ready. The canine model created by the company SynDaver breathes, necessitating ventilation.

>>> Look at those eyes! A close-up of the canine synthetic cadaver, with a synthetic human model visible in the background.



>>> In the flesh. The complete synthetic canine model.

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Delighted by the drones, 'looking forward' to the future

The uses of drones in the veterinary world made what used to be a dream seem like a brilliant possibility for this reader. What's next?

When I was a veterinary student in the early 1980s, "drone" was something a toxicology lecturer did on and on. In my first years of ambulatory equine and bovine practice, I ran a packed cell volume (PCV) on the farm by taping the blood tubes to the fan of my truck engine, a resourceful trick I learned from one of my mentors.

What a glorious ride it has been, perched on the crest of the wave that has swept us forward in medical knowledge and technological advancement over the span of my career. I left the large animal milieu for companion practice decades ago, but my colleagues in that realm today obtain blood analyses in minutes on a handheld device. They can diagnose pregnancy in cattle and horses with the aid of portable ultrasound. The advent of digital technology has revolutionized our profession, and I feel fortunate to have been a firsthand witness and beneficiary.

I was intrigued and delighted when I came across the insightful article by Rolan Tripp, DVM, on the use of drones (hovering aircraft, not loquacious professors) as tools available to today's practicioner, holding great promise for the future. (See "The future of veterinary medicine: Drones in veterinary practice" in the June issue.)

More than once back in the day I found myself at a remote outpost ministering to a sick patient and wishing I had in hand a particular medicine or implement with which to render care. The idea that today I could simply punch a few buttons on my cell phone and direct that bottle of calcium be zoomed to me pronto via drone is stupefying! I can only imagine the bewildered countenances of some of my long-since-departed farmer clients if they could somehow be retrieved from the beyond to bear witness to such an event.

Dr. Tripp conjured up cunning uses for drones that never occured to me—aids in diagnosing equine lameness, vaccination of animals at pasture and wildlife observation, to name a few. One wonders what other modern-day apparatuses might be brought to bear in the delivery of our services.

Thank you for this fascinating look ahead—given the accelerated pace of evolution that I have been priveleged to witness over the last 35 years, I think it behooves us to continue this forward-looking perspective. The best way to predict one's future, it is said, is to create it. In that spirit I will "look forward" to more of Dr. Tripp's creative glimpses into the future of our great profession.

Michael R. Haas, VMD, MS
Medical Director
VCA AVH Animal Hospital
Pen Argyl, Pennsylvania

It's not the DVM's job to monitor sketchy clients

"Veterinarians do not need to be worrying about personal issues in people's homes," this dvm360 reader says.

In a recent installment of "The Dilemma" (see "Grandma's big secret" in the June issue of dvm360 magazine), Dr. Marc Rosenberg states that veterinarians should, for all intents and purposes, investigate the home lives of people receiving controlled drugs, stating in the last paragraph, "It's not a lot to ask."

Yes, in fact, it *is* a lot to ask. Our job is to do the best we can to treat the animals in our care, not to cure all of society's ills.

In the same issue, there was an extensive article on veterinarian suicides. Maybe Dr. Rosenberg should consider that part of the problem with our profession is the ever-increasing stack of things we need to worry and stress about. We do not need to be worrying about personal issues in people's homes. We can't fix everything, and a teenager stealing Frosty's meds is one of the things we can't fix.

Not my circus, not my monkeys.

John David Hopkins, via Facebook

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How rude!

A nasty client and two ticked-off techs

Is it the practice owner's job to put a stop to insulting client behavior that's directed toward his team members?

Dr. Sims has been practicing in an affluent California suburb for 16 years and knows the pros and cons of owning a suburban upscale practice. Pro: Clients have the means to provide necessary cutting-edge care for their pets. Con: Clients can be entitled, outspoken and demanding. Dr. Sims' employees—two associate veterinarians, six technicians and two receptionists—are pretty familiar with this clientele.

Enter Leah Kinney, a 20-year client of the practice. She's a retired sales executive in her late 70s who dotes on her two beloved cats. She provides them excellent medical care whenever necessary and never minces words in the exam room.

Recently, one of Ms. Kinney's cats, Susie, underwent leg surgery and has been receiving follow-up cold laser therapy twice a week. Susie's treatments are being administered by veterinary technicians Joyce and Randi. On several occasions Leah has told the technicians they're putting on weight and those extra pounds aren't attractive on young women. Recently she told Joyce her work scrubs were dirty and this was unprofessional for seeing clients. She also commented to Randi that more time in church and less time partying would help her find a guy. The technicians had finally had enough.

They confronted Dr. Sims and asked him to speak to Leah. Being insulted was not in their job description, they said. They went on in great detail about their frustration. Finally, they sat quietly and waited for Dr. Sims' response. They expected the usual sage medical insight as well as good counsel on matters of a personal nature. Dr. Sims' response was not what they expected.

He told Joyce and Randi that he clearly understood how upsetting this client's comments were. But, he continued, they were both adult professionals and it was not the boss's responsibility to tell a client not to be rude. They were perfectly capable of telling Ms. Kinney that her comments were out of line and needed to stop. Dr. Sims went on to say that if a client threatened a staff member with bodily harm or made racial or ethnic slurs, he would intervene immediately. Other kinds of offensive client interactions, however, needed to be handled by the staff member him- or herself, just as they would if they encountered an offensive service person in any retail setting.

The technicians accepted the advice but were disappointed. They agreed it was a boss's job to protect them from abuse in the workplace. It didn't matter whether the abuser was a coworker or a client. They had always believed that Dr. Sims had their back, but now they weren't so sure.

Does Dr. Sims need to fight his employees' battles, or should they deal with their own client issues individually?

Rosenberg's response:

This is a professional work setting—Dr. Sims is not the father, and technicians aren't children. Often supervisors do intercede in these types of situations. Unfortunately, that leads to supervisors exerting more control and staff members surrendering their own control. Highly trained professional staff members must be allowed to make job-related decisions if they are to learn and improve. This applies to medical as well as personal interactions.

I agree with Dr. Sims. He didn't let his technicians down—he empowered them. The skills they will acquire by professionally dealing with this rude client will serve them and allow them to grow into the capable, high-functioning medical professionals they want to be. **dvm360**

Dr. Marc Rosenberg is director of the Voorhees Veterinary Center in Voorhees, New Jersey. 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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Dr. Greenskin's client conundrum continued

Check out the conclusion of our tale of a new associate's startling encounter over an estimate with a long-standing client.

When we last saw newbie associate Dr. Greenskin, she was holding the reins of the clinic while Dr. Codger was away on a quick vacation. She had just diagnosed a gastrointestinal obstruction (a piece of corncob) in one of Mr. Sketch's young pups—upon which Mr. Sketch, a longtime client of Dr. Codger's, had stormed out the door amid a stream of choice words relating to Dr. Greenskin's surgical estimate. You can catch the complete account at **dvm360.com/MrSketch**.

The hospital is hushed and subdued in the wake of Mr. Sketch's enraged departure, and the image of his very sick puppy wrapped in his arms is haunting the whole team. Dr. Greenskin manages to trudge her way through the afternoon appointments, but she just can't shake the feeling that she has done something horribly wrong—the scenario plays over and over in her head. She feels justified that she made a rapid and correct diagnosis. It's not her fault that the pup ate a corncob, and it's not her fault that the client can't afford the appropriate care. Still, she feels she let that puppy down, and she knows her boss will have something to say about the situation.

This brings her to her next stressful dilemma: to call or not to call the boss? This is Dr. Codger's first vacation with his family in nearly a decade. Does Dr. Greenskin interrupt the boss' sacred time away, proving yet again that she can't be trusted to

ILLUSTRATION BY RYAN OSTRANDER

run the clinic? Or does she risk not calling, potentially setting herself up for a serious reprimand when Dr. Codger finds out about the incident from someone else?

Trepidation on line 3

As it turns out, she doesn't have to make the decision. The young veterinarian is sinking deeper into her chair in the doctor's office when the receptionist barges in and announces that Dr. Codger is on line 3.

The hospital is subdued in the wake of Mr. Sketch's enraged departure, and the image of his very sick puppy wrapped in his arms is haunting the whole team. Dr. Greenskin can't shake the feeling she's done something wrong.

Oh boy. Dr. Greenskin lets herself marinate in the feeling of dread for a few seconds, watching the hold light blink on the 1980s desk phone. But then she manages to grab hold of the well-worn handset. Muttering a frail "Hello?" she flinches while waiting for the reaming that surely lies ahead.

"I'm proud of you, Greenskin!" Dr. Codger bellows.

Dr. Greenskin feels her muscles relax and her anxiety start to melt away as Dr. Codger explains his long history with Mr. Sketch, acknowledging what a difficult client he is.

"Look, I'm coming back to town tonight early because my wife isn't feeling well," he continues. "I'm going to work out a deal with Sketch and have him bring the puppy back. If you don't mind staying late, we can take care of that pup together."

Dr. Greenskin is glad to comply and hangs up the phone in utter relief. She quickly logs on to her mobile DVR app and sets *Game of Thrones* to record.

A cutting-edge conversation

Later that night, the duo is chatting on a more professional level than ever before. Dr. Codger is running anesthesia and letting his protégé handle the surgery—and not an hour too late, as the jejunum is about to perforate. Dr. Greenskin is doing a wonderful job with her small intestinal resection while Dr. Codger passes some wisdom on to the young vet, giving a bit of surgical advice along the way.

"There are a lot of things that they ain't gonna teach you in vet school," he says. "That Mr. Sketch, I've known him for a long time. Like it or not, his relationship with animals has helped me build my practice. Of course he has taken advantage of me from time to time, and I probably give in too much when he asks for help with a bill. The thing is, we need to know our clients and appreciate that they're the reason we're able to keep our jobs and our businesses. Mr. Sketch breeds these dogs as his own business and not much more.

"Over the years, though, he has listened to me and improved his husbandry," Dr. Codger continues. "He does a very decent job as far as breeders go, and it has been my own conviction to help him out once in a while. You're going to have a unique relationship with each of your clients. Sometimes you have to rely on your heart and your instinct to decide what's best. We're not always right, but we will thrive as long as we're always trying to do our best."

The lesson sinks in as Dr. Greenskin places the last skin suture. It's very late and both doctors are exhausted. Yet they're thankful for being able to do what they love.

"Go home, Greenskin. I'll stay and take care of the pup tonight. I'm going away again next weekend, so you'd better be ready!"

Editor's Note

Are you having a tough time adjusting to your old crotchety employer? Is your new inexperienced associate just not fitting in at your practice? Please send stories, ideas and comments to dvmnews@advanstar.com. All emails will be kept confidential, but the scenario may be featured in an upcoming installment of Old School, New School. dvm360

Dr. Jeremy Campfield works in emergency and critical care private practice in Southern California. This series originally appeared in Pulse*, the publication of the Southern California Veterinary Medical Association.*

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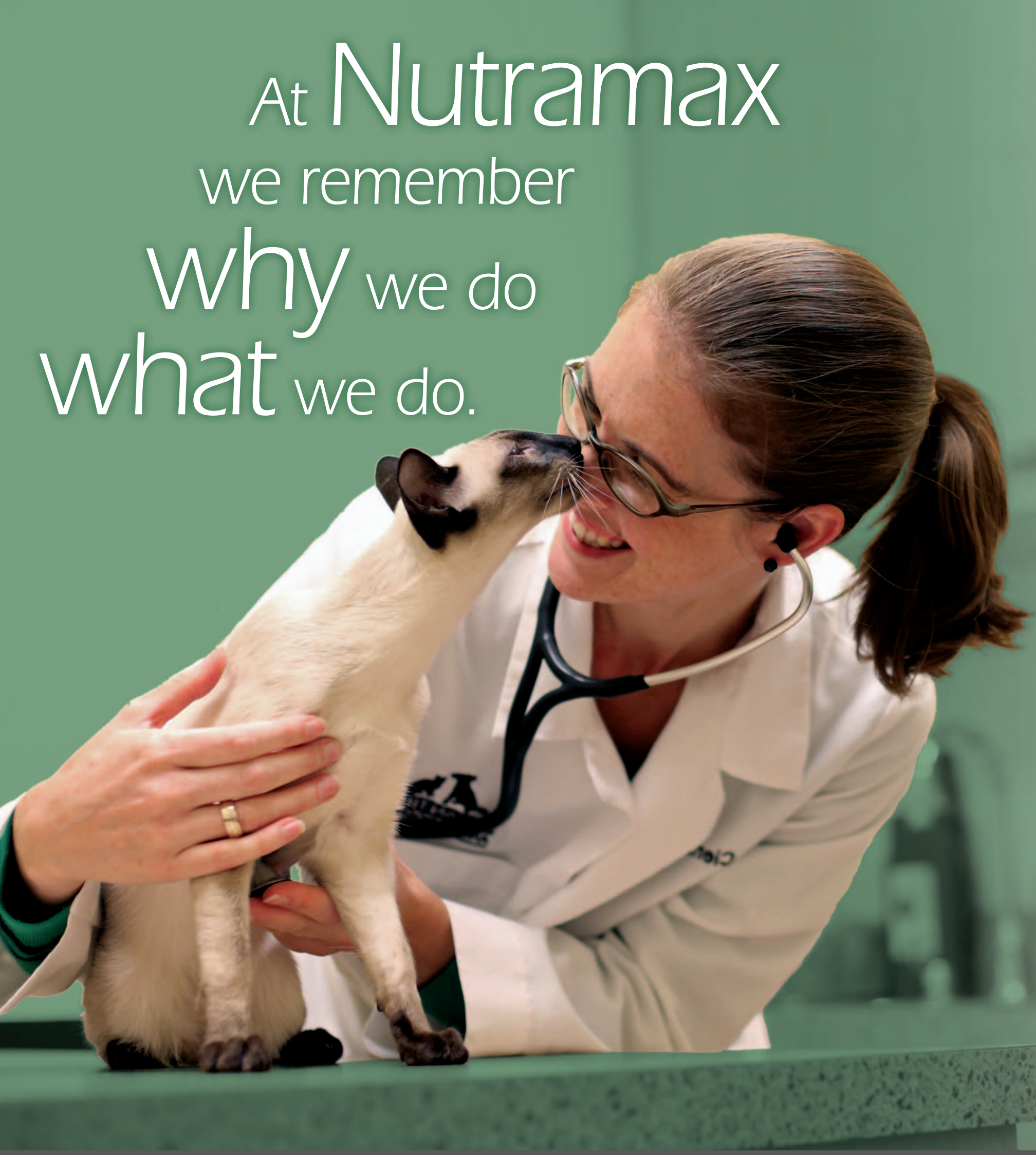

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>>> You don't need to beg or roll over to enjoy the rewards of a successful partnership. Start the conversation early and be clear about your interest and expectations.

Associate buy-ins: No tricks, just treats

To find out whether or not there's chemistry between a practice owner and a newly hired associate, you need to walk a fine line.

Seasoned, experienced associates who've been in practice for a few years tend to go into job interviews with a different set of goals than younger pups. They may have a more attentive eye to the future, the practice environment they really want and, ultimately, a picture of where they hope to retire. As an old practitioner I used to know always said, "They've been beaten up a few times."

So for those doctors—and their potential employers—I pose this question: Why beat around the bush when talk rolls around to a buy-in or partnership? The job seeker isn't a kid anymore and presumably there's a reason why a practice would be seeking an experienced associate instead of a recently minted practitioner. I don't see why either party should be shy about broaching partnership or ownership, and I'd recommend getting specific.

If a buy-in is on the minds of both owner and associate, the best time to start discussing theoretical price,

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dvm360 Clinical Rounds:

Insulinoma in a senior pit bull

When a dog presented to the University of Tennessee emergency department with a possible pancreatic mass, the Clinical Rounds team came to his aid. Here's a look at a few different perspectives.

By Jeanne Larson, DVM, DACVIM (oncology), Lauren Adelman, DVM, Federica Morandi, DMV, MS, DECVDI, DACVR, Lisa Viesselmann, DVM, Christian Latimer, DVM, Lani Bower, DVM, Emily Manor, DVM

Insulinomas are uncommon in dogs and rare in cats. These tumors arise from the pancreatic beta cells and produce high levels of insulin. The hallmark of an insulinoma is a normal or elevated blood insulin concentration in the presence of a decreased blood glucose concentration. Insulinomas are most common in middle-aged to older dogs, and large-breed dogs are over-represented.[1] Canine insulinomas are commonly malignant, and metastatic spread is often seen to the regional lymph nodes and liver, although metastasis to the lungs is rare.[1]

Case presentation

A 13-year-old castrated male pit bull

>>> When a senior pit bull presents with a rare tumor, the University of Tennessee emergency veterinary team is on the case.

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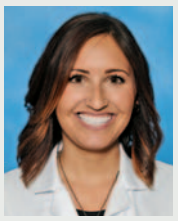
The medical perspective

By Lauren Adelman, DVM

The pancreas is composed of two main tissue types: the acini that secrete digestive enzymes into the duodenum and the islets of Langerhans that contain alpha, beta, delta and pancreatic-polypeptide cells (Figure 1).



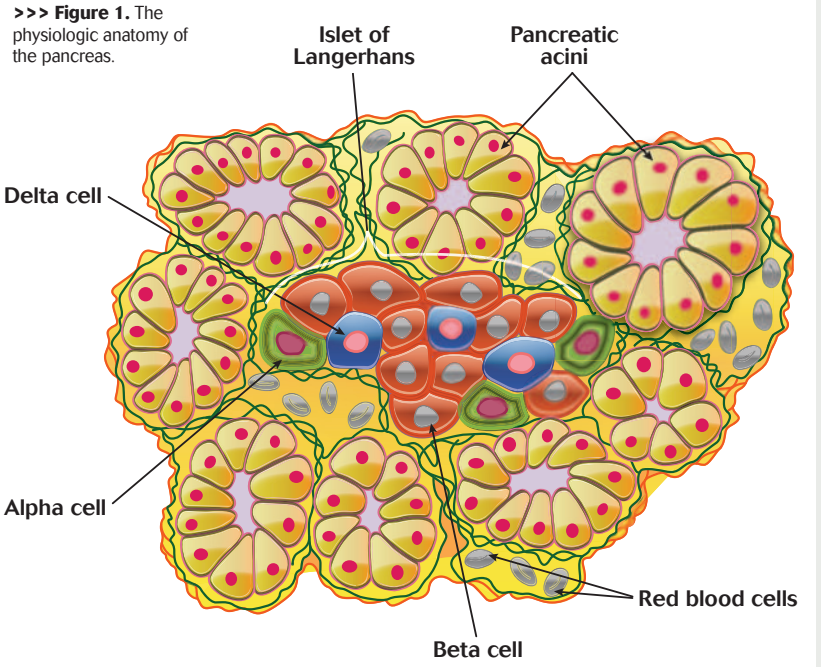
Dr. Lauren Adelman

The alpha cells make up about 25% of all islet cells and secrete glucagon, which raises the blood glucose concentration.[1] The delta cells make up about 10% of the total cell population and secrete somatostatin, a polypeptide that decreases insulin and glucagon production and motility of the stomach, duodenum and gallbladder.[1] Beta cells make up most of all islet cells (60% to 75%) and secrete insulin, the major glucose-lowering hormone, along with amylin, whose function remains unclear.[1]

Insulin promotes uptake, storage and use of glucose by a variety of tissues, including the liver, muscle and adipose tissue. In the liver, insulin promotes glycogen synthesis and decreases gluconeogenesis. Insulin also promotes both fat and protein synthesis and storage. The blood glucose concentration is normally maintained within a narrow physiologic window between 70 and 110 mg/dL.[2] When the blood glucose concentration becomes too high (greater than 100 to 110 mg/dl), insulin secretion from beta cells increases. In contrast, when the blood glucose decreases below a certain threshold (about 60 mg/dl), insulin secretion stops, thereby raising blood glucose back to normal concentrations.

Insulinomas are functional insulin-secreting tumors arising from the beta cells of the islets of Langerhans. These neoplastic beta cells secrete insulin continuously and are not responsive to the normal negative feedback of hypoglycemia.[2] As a result, patients experience intermittent and recurrent periods of hypoglycemia. Compensatory mechanisms for hypoglycemia include inhibition of insulin secretion and release of counter-regulatory hormones (glucagon, catecholamines, growth hormone and glucocorticoids).[3] Most clinical signs result from the effect of hypoglycemia on the brain (neuroglycopenia) or hypoglycemia-induced release of catecholamines. Clinical signs of neuroglycopenia include weakness, ataxia, nervousness, disorientation, dullness and seizures.[3] Clinical signs related to catecholamine release and stimulation of the sympathetic nervous system include tremors, increased appetite and nervousness.[3] Signs of hypoglycemia may also be exacerbated by excitement, exercise or fasting.[4]

>>> Figure 1. The physiologic anatomy of the pancreas.



Differential diagnoses for insulinoma include other causes of hypoglycemia in dogs. These can be organized into four major categories.

> The first category includes conditions that result in excess secretion of insulin or insulin-like factors, including islet cell hyperplasia and paraneoplastic syndromes of nonpancreatic tumors (i.e. hepatocellular carcinoma, leiomyoma, lymphoma).[2,3]

> The second category includes diseases resulting in decreased glucose production such as extreme malnutrition or starvation, neonate or toy breed hypoglycemia, hepatic insufficiency (portosystemic shunt, glycogen storage disease, cirrhosis), hormone deficiency (i.e. hypoadrenocorticism, hypopituitarism, growth hormone deficiency) and hunting dog hypoglycemia.[2,3]

> The third group of conditions result in hypoglycemia secondary to increased glucose consumption such as that which occurs with sepsis, extreme exercise, polycythemia, periparturient hypoglycemia and artifact secondary to prolonged storage of blood before separation of serum and plasma.[3]

> The fourth category includes exogenous substances that may result in hypoglycemia, such as insulin overdose, xylitol toxicosis and a variety of drugs that have been reported to result in hypoglycemia in human patients (sulfonylurea, propranolol, high-dose aspirin, acetaminophen and many others).[2,3]

Clinical suspicion of insulinoma is based on appropriate clinical signs and documentation of hypoglycemia with concurrent elevated insulin. Further diagnostic workup may include imaging to document the presence of a pancreatic mass and histopathology. **dvm360**

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ILLUSTRATION BY MATHEWS ALBERT

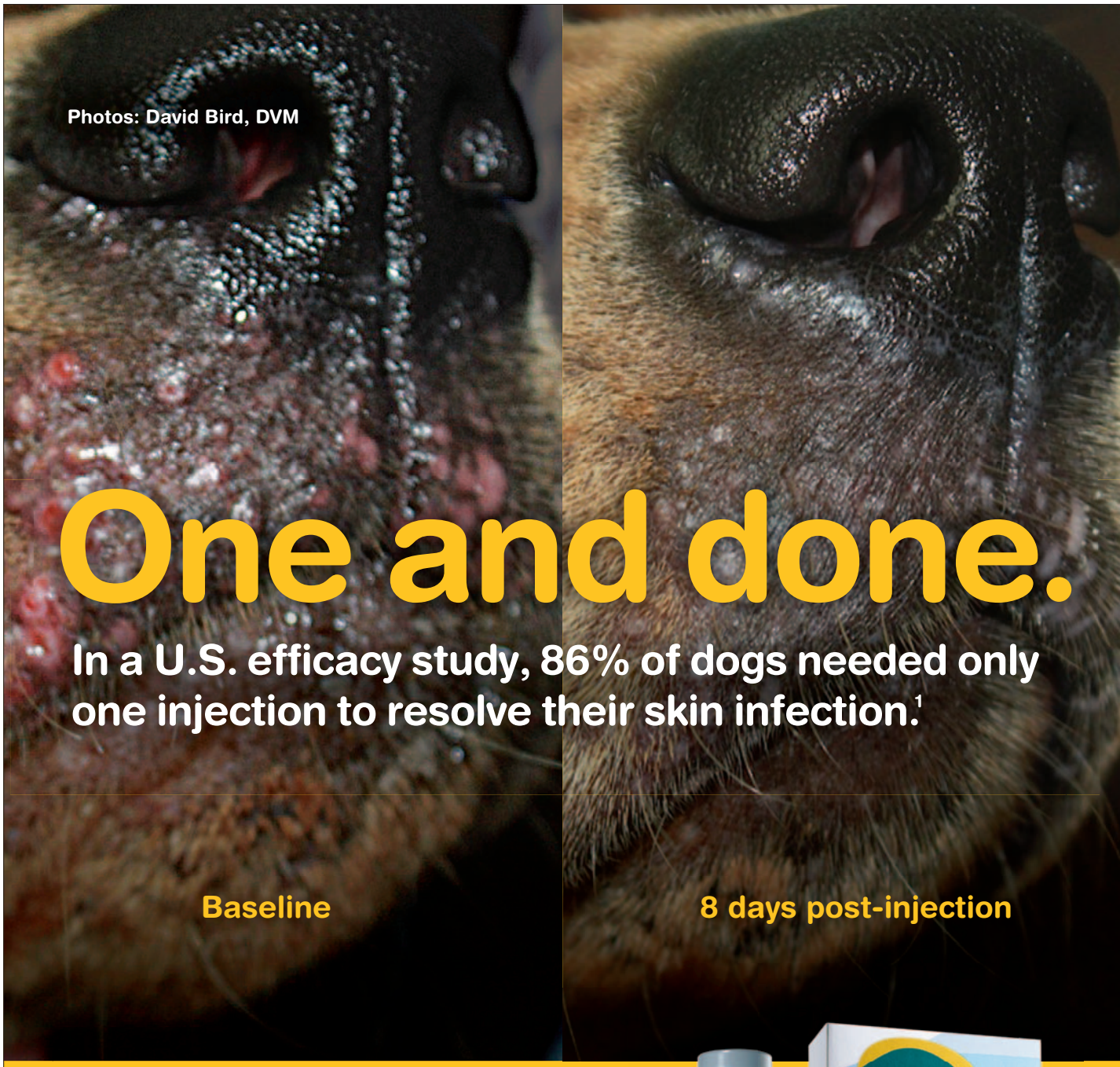
was referred to the University of Tennessee (UT) Veterinary Medical Center Emergency department for seizure activity secondary to hypoglycemia. The patient had a three-day history of hind end weakness and collapse. An abdominal ultrasonographic examination performed by his referring veterinarian revealed a possible pancreatic mass. At the time of presentation to UT, the patient's blood glucose concentration measured too low to read. On physical examination, the patient was laterally recumbent, minimally responsive and had intermittent nystagmus. Emergency treatment included intravenous dextrose, dexamethasone and a glucagon continuous rate infusion (CRI). Frequent feedings were administered once the patient was more alert.

Tumor staging and treatment

The next day, the patient was anesthetized for an abdominal computed tomography (CT) scan, which revealed a 1-cm nodule in the left limb of the pancreas and one mildly enlarged lymph node near the pancreatic body. While the patient was still anesthetized, he was taken to surgery and underwent a partial pancreatectomy and liver biopsy. The mildly enlarged lymph node was not identified at surgery. Postoperatively, the patient had a slow recovery and displayed twitching, jaw clenching and weakness despite a normal blood glucose concentration. There was concern for residual neurologic defects due to a long period of hypoglycemia prior to treatment. The patient slowly improved over five days of hospitalization. He was discharged for monitoring at home, and a low carbohydrate diabetic diet was prescribed. Histopathologic examination of the pancreas revealed an insulinoma with vascular invasion. A liver biopsy showed benign hepatic glycogenation.

Follow-up

The patient was rechecked periodically by his referring veterinarian. He did well clinically and had normal blood glucose concentrations for 10 months. After that time, he developed lethargy and weakness, and had a blood glucose concentration of 60 mg/dl at a recheck. Because of recurrence of signs and hypoglycemia, he was referred to the UT Medical Oncology department for further evaluation. A three-view thoracic and abdominal radiographic examination and ultrasonographic evaluation were performed, which revealed no conclusive evidence of tumor recurrence or metastasis. However, ultrasonographic examination of the abdomen was hampered by gastrointestinal (GI) contents and gas because the patient could not be fasted before the scan due to concern for worsening of clinical signs. Therefore, an abdominal CT scan was recommended to more fully evaluate the abdomen. Prednisone was prescribed at a dose of 0.25 mg/kg twice daily. The patient was discharged from the hos-



pital while additional diagnostic tests were considered by the clients.

That evening, the patient developed an acute onset of seizure activity. The patient was seen by his referring veterinarian, who documented a blood glucose concentration of 20 mg/dl, and intravenous dextrose and dexamethasone were administered. The patient was then transferred back to the UT Emergency department the following day, where additional treatment included a glucagon CRI. An abdominal CT scan was performed, which revealed a new 1.1-cm pancreatic nodule, hepatic nodules and regional lymphadenopathy, consistent with recurrence of the pancreatic tumor and development of metastatic disease. Given the extent of cancer within the abdomen, surgical resection was considered impossible. Medical management was continued and diazoxide was prescribed. However, due to refractory hypoglycemia despite intensive medical management, the patient was humanely euthanized the next day. **dvm360**

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Clinical pathology perspective

By Lisa Viesselmann, DVM

Cytologic samples of pancreatic masses suspected to be insulinomas are obtained most commonly via percutaneous ultrasound-guided or intraoperative fine-needle aspiration (FNA). Impression smears of surgical biopsy samples can also be used. Recently, an endoscopic ultrasound-guided FNA technique has also been introduced.[1] Aspiration of the pancreas has been shown to result in minimal tissue trauma with a low incidence of adverse effects and frequently yields samples of adequate diagnostic cellularity.[2] Ultrasound-guided FNA does not appear to cause increases in pancreatic lipase or trypsin-like immunoreactivity or to cause clinical signs of pancreatitis.[3]

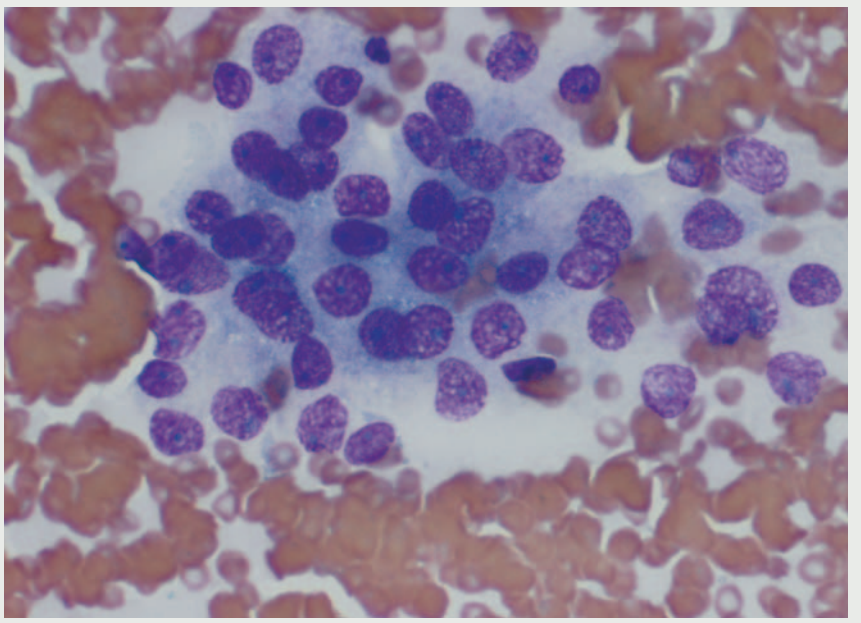
Dr. Lisa Viesselmann

Cytologic samples of insulinomas are often highly cellular and appear similar to many other endocrine and neuroendocrine neoplasms. Insulinoma cells are fragile, so cytologic samples are characterized by large numbers of free, round nuclei in a sea of pale basophilic to amphophilic cytoplasm ("naked nuclei" morphology) (Figure 3).

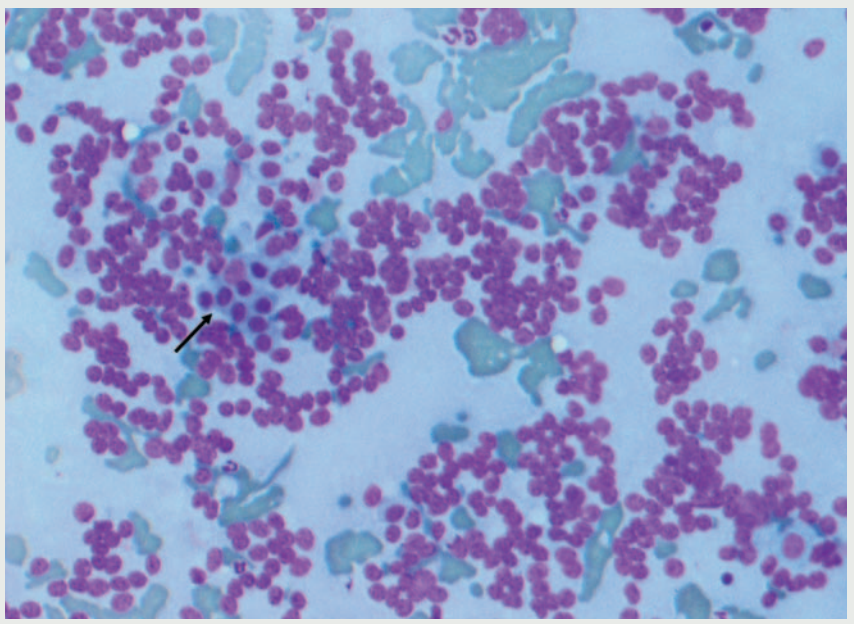
Occasionally, cells will be present in loose clusters, but their cytoplasmic borders are usually indistinct. Intact cells are equivalent in size to or larger than the diameter of a neutrophil, with centrally located, round to oval nuclei. The chromatin is usually finely to coarsely stippled, and a single distinct nucleolus is often visible (Figure 4).

Clear, discrete, punctate cytoplasmic vacuoles are variably present. Mild to moderate anisocytosis and anisokaryosis and occasional binucleation, nuclear molding and mitotic figures may be seen. However, the cells often lack striking features of malignancy, even in cases of carcinoma.[4] Therefore, cytologic appearance is not predictive of biologic behavior in these tumors. As stated previously, insulinomas are frequently malignant, and metastatic lesions have a similar cytologic appearance to the original tumor.

Insulinomas are typically interpreted cytologically as neuroendocrine tumors. Other pancreatic neuroendocrine tumors include glucagonomas, gastrinomas, pancreatic polypeptide-secreting tumors and somatostatinomas, and these are generally indistinguishable from insulinomas cytologically.[5] Carcinoids, chemodectomas, apocrine gland anal sac adenocarcinomas and thyroid tumors also have a neuroendocrine appearance. Therefore, cytologic findings from a suspected insulinoma must be interpreted in light of the patient's history, clinical signs, imaging results and other laboratory findings.



>>> Figure 4. A fine-needle aspirate of a pancreatic insulinoma in a dog (not the dog in this case) (Wright's stain; 500x). The cells are loosely packeted, but cytoplasmic borders are indistinct. The nuclei contain finely to coarsely stippled chromatin with one to two prominent nucleoli.



>>> Figure 3. A low-power view of a pancreatic fine-needle aspirate from a dog (not the dog in this case) with an insulinoma (Wright's stain; 200x). The sample is highly cellular, and large numbers of free nuclei appear in a sea of pale basophilic cytoplasm. A small cluster of intact cells is present (arrow), but the remainder of the cells have been broken. This "naked nuclei" morphology is commonly seen with neuroendocrine tumors. The nuclei have a uniform appearance, with minimal anisokaryosis.

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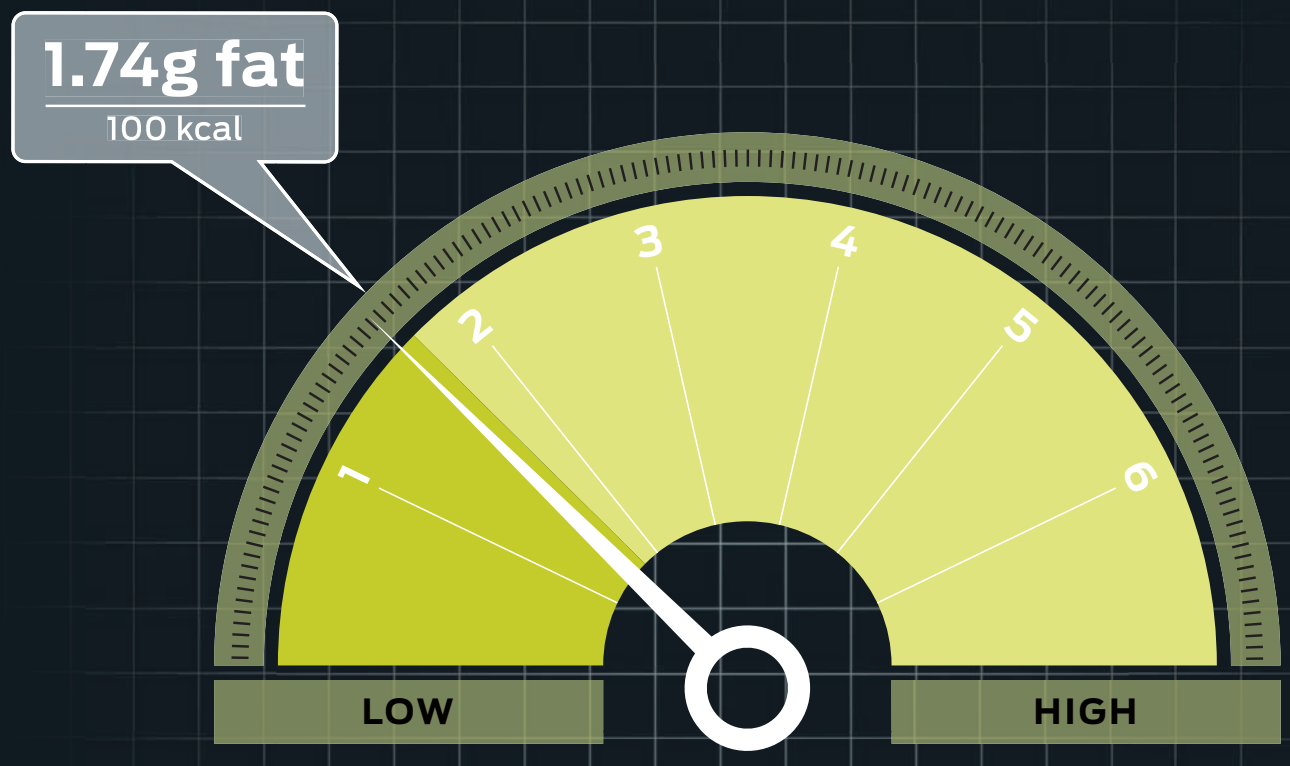

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Anatomic pathology perspective

By Lani Bower, DVM

Islet cell tumors arise from one of the five microscopically indistinguishable cell types composing the pancreatic islet. Insulinomas arising from the beta cell are the most common hormonally functional islet cell tumor presented for histologic evaluation. Most of these tumors are behaviorally aggressive, commonly metastasizing by the time of diagnosis.

Dr. Lani Bower

Grossly, many islet cell tumors are light tan to yellow, making them rather difficult to distinguish from the surrounding normal pancreatic parenchyma (Figure 5).[1]

Most range from microscopic to 3 cm, while few may be significantly larger and irregularly lobulated with hemorrhage (Figure 6).

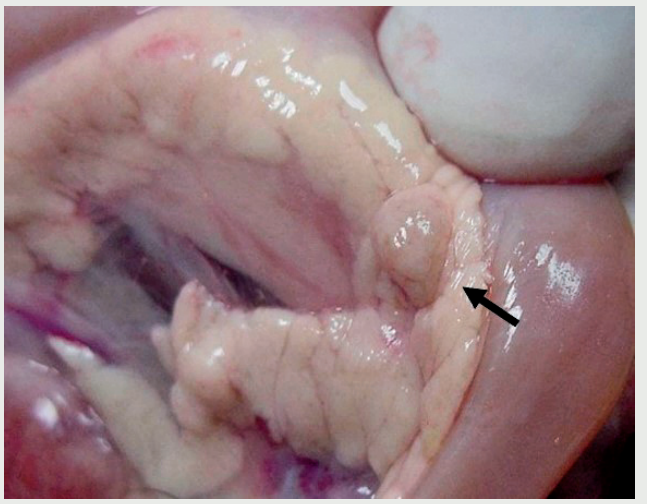
Gross appearance does not always correlate with extent of local invasion and metastasis (Figure 7).

Common sites of metastasis include the regional lymph nodes, liver, mesentery and omentum.[1] Occasionally, there can be multiple primary pancreatic tumors.

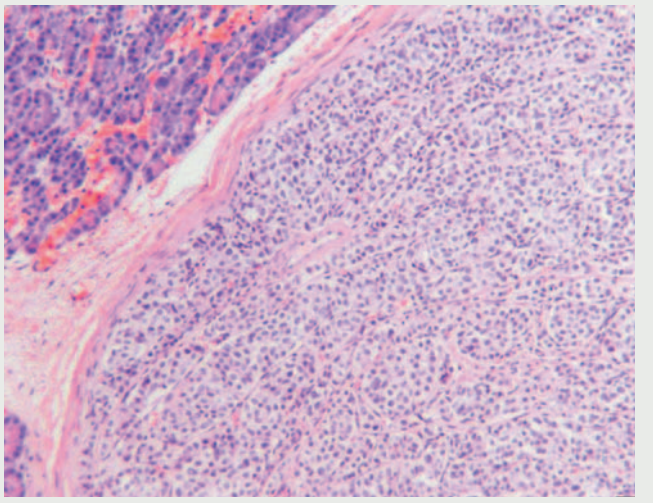
Histopathologic examination is needed to diagnose an islet cell tumor and evaluate for invasiveness. These tumors are often sharply demarcated from the adjacent parenchyma and are surrounded by a partial to complete thin fibrous capsule (Figure 8).

Lobules are separated by fibrous trabeculae and are composed of polygonal cells in packets, nests, rows and, less often, form rosettes (Figure 9) and acini. Islet cell tumors are often minimally pleomorphic with low numbers of mitotic figures;[2] thus, malignancy is determined most often by evaluating for invasion through the fibrous capsule into the surrounding parenchyma, mesentery or vascular invasion.[3]

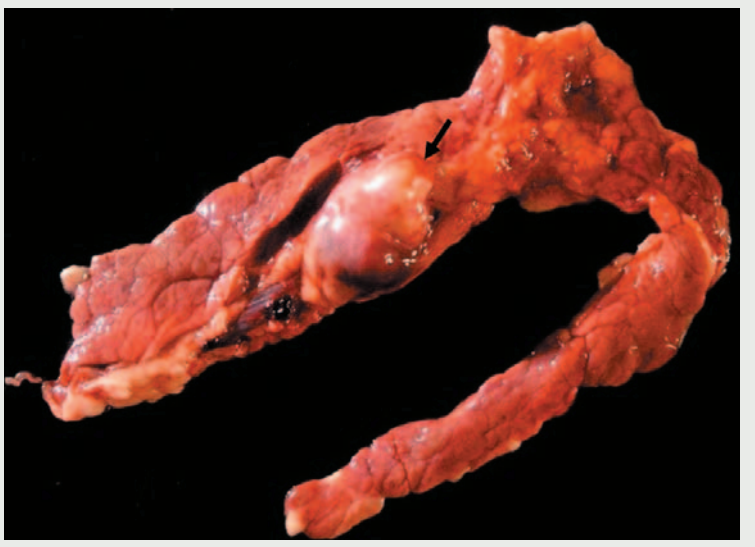
Islet cell tumors may be difficult to differentiate from pancreatic exocrine carcinomas grossly and sometimes histologically. Immunohistochemistry is necessary for a definitive diagnosis and may be particularly useful in cases without a clinical history consistent with hyperinsulinemia. Most insulinomas stain positive for insulin, neuron-specific enolase (NSE) and chromogranin A.[4]



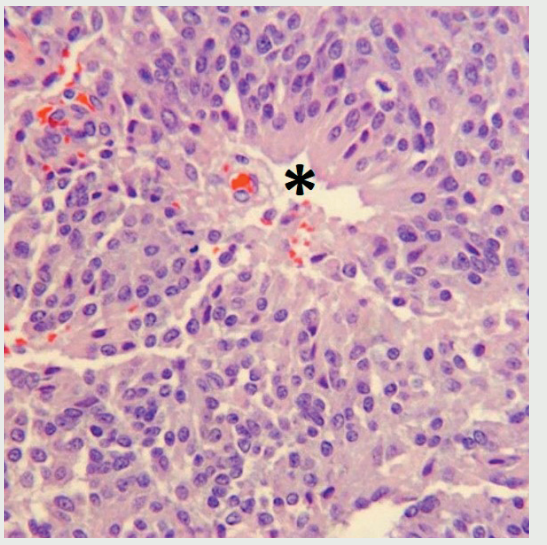
>>> Figure 5. An islet cell tumor from another patient (arrow).



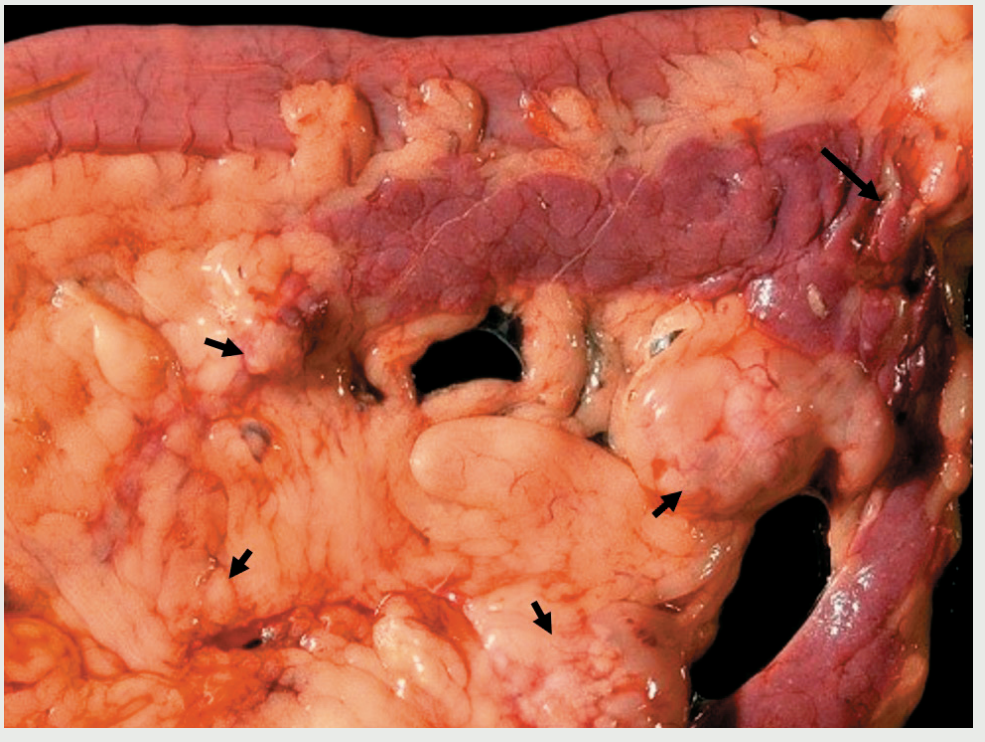
>>> Figure 8. An islet cell tumor from the dog in this case. Neoplastic cells are surrounded by a thin fibrous capsule. Normal pancreas is in upper left.



>>> Figure 6. An islet cell tumor from another patient (see black arrow).



>>> Figure 9. An islet cell tumor from the dog in this case. Polygonal cells are arranged in rows and packets. Rosettes are composed of neoplastic cells palisading around a clear space (see asterisk).



>>> Figure 7. An islet cell tumor from another patient (long arrow) with mesenteric and lymph node metastasis (short arrows).

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Update on diagnosing *Malassezia* dermatitis in dogs

When it comes to this itchy fungus, you've either got it or you don't.

You have a skin scraping sample from a itchy dog under the microscope. Hey, you spot one *Malassezia* organism. Is that enough to make a diagnosis? How many per high power fields are significant again?

Throw out the previous guidelines embedded in your synapses and realize that grading *Malassezia* based on cytologic examination is of no use, says Paul Bloom, DVM, DACVD, owner of the Allergy, Skin and Ear Clinic for Animals in Livonia, Michigan. Indeed, he says the American College of Veterinary Dermatology (ACVD) has officially made this declaration.

"The ACVD has a position statement that states either dogs have *Malassezia* or they don't," says Bloom. "So when you're evaluating a dog for *Malassezia* on the skin, if you find any *Malassezia* at all, it's enough to treat, even if you only find one or two in 10 or 20 oil fields."

Bloom compares it with *Demodex* species infections in dogs. These mites are a normal part of the fauna on a dog's skins, yet finding any *Demodex* species on examination of a skin scraping means you better start in on a treatment plan.

Speaking of treating demodicosis, read about the new weapons in your arsenal at **dvm360.com/newdermdrugs**. (Hint: It's the isoxazolines you're using for flea and tick prevention.) **dvm360**

>>> Is the hunt for this fungal infection hounding you? (Getty Images)

University of Florida veterinarians save dog with pulmonic stenosis

Rumple, 2-year-old Havanese, undergoes human stenting procedure.

Veterinarians at the University of Florida (UF) Small Animal Hospital recently treated a 2-year-old Havanese named Rumple for a life-threatening heart condition by performing a procedure often performed in human medicine, according to a university release. The small dog was brought to the UF veterinary cardiology service with severe pulmonic stenosis, which involves a narrowing of the pulmonary artery and obstructs blood flow from the right ventricle of the heart. A team of veterinary cardiologists and human pediatric doctors worked together to save the dog's life.

Veterinary cardiologists at the university typically treat 10 to 15 dogs per year with pulmonic stenosis by passing a catheter from a vein through the right ventricle into the narrowed part of the artery, and then inflate a balloon to relieve the obstruction and allow normal blood flow to the lungs, says Simon Swift, VetMB, CSAC, DECVIM (cardiology), assistant professor of cardiology at the UF College of Veterinary Medicine, in the release. This standard approach didn't work with Rumple.

Rumple's care team considered using a valve stenting technique or a surgical approach that would have opened up the dog's artery, but ruled both procedures out. Swift then came up with another idea.

"We discussed Rumple's problem with our pediatric interventional cardiology colleagues at UF Health and agreed that the best option for Rumple would be to use a hybrid technique, where we'd place a bare metal stent mounted on a balloon but use a direct approach that involves entering the heart directly within the chest," Swift says in the release. "This would give us a more direct route to place the stent. As we inflate the balloon, it opens the stent, relieving the obstruction."

This technique is commonly used to treat the same condition in young human patients. Swift assembled a team of veterinarians and human pediatric cardiologists from the UF Health Congenital Heart Center. After Rumple's chest had been opened surgically, the team used ultrasound to determine where to place the needles and wires needed to allow the best access for the stent. They positioned the stent, inflated and deflated the balloon, and used contrast dye to test that the obstruction had been cleared, the release states.

>>> Rumple (photo courtesy of the University of Florida)

"We were able to observe fantastic blood flow with no obstruction," Swift says. "We knew straightaway that we had been successful."

The dog recovered well from the surgery, and the following day Swift was able to measure a large reduction in blood pressure using echocardiography, giving further evidence that the obstruction had been removed.

Rumple's owner, Ligia Sandi, says the dog is doing well. "He's feeling like his old, happy self for the most part now," she says. "We are doing everything that we can to ensure that he has a long, happy life with us." dvm360

GETTY IMAGES/ALES KRAMER

Your pet swallowed *what*?

Weird tales from the world of veterinary radiography.

"Rubber duckie, you're the one ... " Yeah, Ernie from Sesame Street was definitely on the same page as veterinary radiologist Dr. Anthony Pease when he thinks back on the weirdest (or coolest?) things he's seen in imaging cases.

"[I had a radiograph] of a gas-filled stomach, and it looked just like a rubber duckie," Pease says. That's because it was. "It was as beautiful a rubber duckie as you could imagine. It was almost like we'd put it there ... amazing," he says.

Another radiograph looked a lot like an eating utensil (dog owners confirmed). "The owners thought they could put some peanut butter and the pill on the spoon, and the dog swallowed the entire spoon," Pease says.

But the best one is Pease's ultra-favorite ultrasound example. It's a noisy one. "It was a fluid-filled plastic structure, a squeaker toy," Pease says. "You could actually see the fluid flowing back and forth inside of [the toy as we moved the ultrasound wand]."

The best part? Surgery: "They opened up [the dog] and before they opened up the intestine, they actually pressed it and it still squeaked."

If you want to see the glee with which Pease talks about rubber duckies, spoons and squeaker toys (trust us, you do), go to **dvm360.com/weird**. dvm360

EQUINE | Pain management

A pain in the joint:
Using HA for equine inflammation

A proactive approach with hyaluronic acid may help delay onset of osteoarthritis in racehorses and other equine athletes. *By Ed Kane, PhD*

Due to routine exercise and racing, the knees, hocks, fetlocks and stifle joints of racehorses are highly susceptible to acute stress and painful inflammation. This trauma creates soreness, lameness, synovitis and, depending on management and degree of damage, may potentially lead to osteoarthritis (OA).

The horse's joints—where bone ends meet—are susceptible to wear and tear, damage and disease. In a healthy horse's joint, articular cartilage covers the bone ends in the interior of the joint and the synovium lines the inside of the joint capsule. Both cartilage and synovium are bathed in joint fluid. The bathing of the joints in synovial fluid, which is rich in hyaluronic acid (HA), helps to alleviate friction in healthy joints. But the prolonged

>>> The stress of action, training, racing and joint movement can create wear and tear, tenderness, soreness and painful inflammation in the joints of a horse.

GETTY/IMAGES/CHARLES MANN

>>> Research conducted on horses with traumatic joint disease has shown that injectable HA can lead to improvement in lameness scores, clinical signs and joint disease.

stress of action, training, racing and joint movement can create wear and tear, tenderness, soreness and painful inflammation.

As a result, joint disease is fairly common in racehorses. Disturbances within the joint due to athletic training can result in inflammation within the synovial membrane, or synovitis. This inflammation may produce increased amounts of joint fluid that is less effective at lubricating the joint, which can lead to swelling, soreness, pain and lameness in the horse.

The inflammatory cascade compromises the integrity of the joint cartilage, resulting in degeneration of the joint and the development of osteoarthritis. Due to excessive concussion, a variety of enzymes, cytokines, prostaglandins and free radicals—a cascade of inflammation to the joint—is produced. Osteoarthritis is the end result of acute injury to the joint, producing progressive loss of articular cartilage on the bone surface.

Common treatment medications

Jeff Blea, DVM, of von Bluecher, Blea, Hunkin Equine Medicine and Surgery in Sierra Madre, California, also former president of the American Association of Equine Practitioners, says that in racehorses he uses hyaluronic acid both intravenously (IV) and intra-articularly (IA). "When we inject joints to treat disease or symptoms, we often combine the HA with corticosteroids," he says. "We tend to use intravenous HA on a weekly basis or when we're nearing a high-stress event such as breezing or racing."

Blea says horses often experience clinical signs such as synovitis, heat in the joint or effusion even when there is no radiographic evidence of pathology. In these cases he treats horses with intravenous hyaluronic acid or intramuscular (IM) polysulfated glycosaminoglycans (PSGAGs). "The intravenous drugs such as hyaluronic acid and the PSGAGs are pretty effective therapies to treat a lot of the clinical symptoms related to early osteoarthritis in the athletic horse," he says.

Research conducted at Colorado State University on horses with traumatic joint disease has shown that injectable HA can lead to improvement in lameness scores, clinical signs and joint disease, Blea says. "Because these horses are training daily, breezing weekly and most probably racing every three to four weeks, their joints are going to be affected by a lot of pressure and stress," he says. "It behooves us to be proactive by treating these early signs of joint disease with therapies like IV hyaluronic acid and/or PSGAGs."

Of course, when you decide to inject a joint, there are a number of different methods using the different products. "I'm more comfortable with injecting intra-articular hyaluronic acid with a corticosteroid," Blea says. "I get better results. I think the joints do better. I think the horses do better. As athletes, they constantly go through the rigors

"If you equate human physical therapy to equine rehabilitation, we're catching up by leaps and bounds. We're treating racehorses similar to human athletes."

—Jeff Blea, DVM

of training and racing, and the joints are a delicate part of the horse's anatomy, subject to stress and trauma. Being proactive goes a long way rather than being reactive. By being proactive with products like HA or PSGAGs, I think you do a lot of good for the horse."

Blea says he believes that treatment of subclinical synovitis in racehorse joints with hyaluronic acid is a practical and beneficial option for preventing further development of osteoarthritis. "Osteoarthritis is a cascade of events and it is of value to be proactive in managing it," he says.

Other treatments for equine lameness, joint issues

Blea says equine rehabilitation has risen "like a Phoenix" in the past five years. "It's very similar to human physical therapy for athletes," he notes. "For racehorses, ice is commonly used as an anti-inflammatory to treat signs of joint disease or inflammation. It won't make the disease go away, but it helps treat the soreness. Human athletes are often treated in ice baths on a daily basis. The treatment is similar with racehorses."

Massage turbulators, or whirlpools, are also used but not as commonly, Blea says. Saltwater baths at 33 degrees F use salt-infused water to treat not only joint inflammation, but also sore feet. These are often small tubs with jets, like a human athlete uses a turbulator, Blea says.

A "vibe plate" has also recently become available for horses, Blea says. "It provides vibration as the horse stands on it," he explains. "These devices lack scientific research at this point, but they're being evaluated and used to be treat mild inflammatory conditions."

Other therapies such as ultrasound and lasers are also being used to treat inflammation within the limbs of the horse.

"If you equate human physical therapy to equine rehabilitation, we're catching up by leaps and bounds," Blea says. "We are treating racehorses similar to the way we treat human athletes. By being proactive you have more longevity and more soundness as the end result."

Even acupuncture is being used to treat horses. One of Blea's partners went through a program at Colorado State University to become certified in equine acupuncture, so his practice offers that modality now as well.

"If you look from the 30,000-foot view, there's a lot of progressive thinking going on in the racehorse industry regarding therapy and rehabilitation," Blea says. Besides the treatments already discussed, stem cell and biologics are also advancing and proving to be effective in treating joint disease.

"We're getting away from medication and getting back to treating with the 'old-fashioned,' hands-on manner in some respects—using massage, acupuncture, lasers—to treat inflammation and soreness to keep the athletic horse performing at his best. We don't have to go to medication in every case.

"Still, hyaluronic acid (both IV and IA), corticosteroids and PSGAGs have their place and are very beneficial," Blea concludes. "They are definitely products you use to treat specific conditions with specific expected outcomes. They're not detrimental if used judiciously, like anything else. They are effective therapeutic medications to treat early joint disease." **dvm360**

Ed Kane, PhD, is a researcher and consultant in animal nutrition. He is an author and editor on nutrition, physiology and veterinary medicine with a background in horses, pets and livestock. Kane is based in Seattle, Washington.

>>> UC Davis research has discovered that *Pistacia* trees can be toxic to horses if ingested.

UC Davis equine veterinarians warn of *Pistacia* poisonings

Leaves and seeds of pistachio-related genus can cause hemolytic anemia, death in horses.

As autumn is upon us, University of California, Davis, veterinarians are warning general practitioners and horse owners to keep animals away from *Pistacia* orchards, as the leaves and seeds of this genus can cause hemolytic anemia and be fatal if ingested.

In the fall of 2013, after the acute deaths of five mares from a large herd, two surviving mares were brought to the UC Davis veterinary hospital after two days of lethargy and icterus. The deceased horses had varying degrees of colic, ataxia, pigmenturia, pale and icteric mucous membranes, lethargy and inappetance. All died within 48 hours of initial signs, according to a UC Davis release.

While UC Davis' Equine Medicine Service worked to save the two mares, one of the veterinarians on the case, resident Rana Bozorgmanesh, BVSc, started researching the cause of the deaths. She and the service team, along with members of the toxicology department, discovered that the sick horses had access to a planted *Pistacia* orchard (containing the species *P. atlantica, P. terebinthus* and *P. chinensis*) after the fall harvest. (The most common

>>> Dr. Rana Bozorgmanesh

PHOTOS COURTESY OF UC DAVIS

species of the *Pistacia* genus is, of course, *P. vera*, or the pistachio nut.)

There were no recent changes in herd management or housing, except for the felling of the *Pistacia* orchard shortly before the first horse developed clinical signs; the owner had witnessed the horses eating from trees that had been cut down. Other horses on the property that were not allowed access to the orchard did not exhibit any signs of illness.

A site visit by Bozorgmanesh, along with veterinary students and staff, was performed to inspect the property for possible toxin exposure. Sampling of the water, hay, trees and vegetation was conducted to investigate potential intoxication as the cause of hemolytic anemia, usually associated with an oxidant toxin such as maple trees, onions or other plants associated with oxidant damage or hemolysis in horses. None of these were found on the property.

The owner was instructed to move the herd away from access to *Pistacia* trees and to administer activated charcoal to horses observed to ingest *Pistacia* leaves or seeds. Upon moving the mares to a smaller area of the property with no access to *Pistacia* trees, there were no additional illnesses or deaths.

Pistacia trees are not native to North America but are found in California as well as several other states ranging from the Southwest to the Southeast of the United States, where fertile land produces much of the world's marketable *Pistacia* products, the UC Davis release states. The California outbreak arose in the fall, the same seasonality as reported with red maple leaf toxicosis, when the leaves are wilted and falling off the trees. A similar incident with *Pistacia* has occurred in Arizona, also during a time when leaves were falling off the tree.

"While the horses had access to the trees throughout the remainder of the year, we propose the problem lies with the felled and wilted leaves," says Bozorgmanesh, who ultimately became the lead author on a piece of groundbreaking clinical research.[1] "The felled trees in the California outbreak would have allowed for easy access and ingestion of large quantities of wilting leaves and seeds by the horses, thus accentuating these effects."

In vitro studies by UC Davis toxicologists showed extracts of the seeds and leaves induced lysis of horse red blood cells in the laboratory setting. Further research is required to identify the exact pathophysiology of *Pistacia* tree toxicosis, the toxic principles involved and the quantities required to cause clinical disease in horses.

"Until that time, it is clear that horses must be isolated from these trees to prevent acute hemolytic anemia and death," adds Bozorgmanesh. **dvm360**

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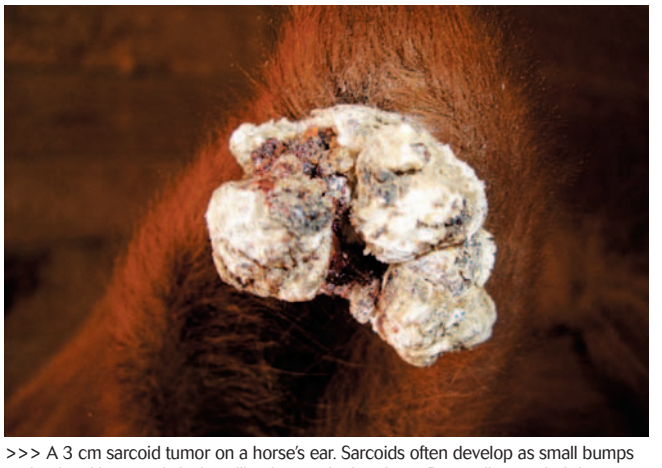
>>> Cornell's Doug Antczak, DVM, and his collaborators found that the region of chromosome 20 associated with sarcoid development is within a portion of the genome responsible for immune function.

Study has implications for treatment of sarcoid tumors in horses and human cancers

Immune system, genetic link may explain why some horses develop tumors and others don't—similar to human papillomavirus.

Sarcoid skin tumors are the most common form of cancer in horses, but little is known about why the papillomavirus behind them strikes some horses and not others. Now a new study by an international research group led by scientists at the Baker Institute for Animal Health at Cornell's College of Veterinary Medicine shows that genetic differences in immune function between horses partly accounts for these differences. The study, published in the *International Journal of Cancer*,[1] mirrors findings in humans, states a release from Cornell University, as some people have a genetic susceptibility to human papillomavirus, which can cause cervical and other types of cancer.

"Many therapies have been proposed as the 'best' treatment for sarcoids," says Cornell's Doug Antczak, VMD, PhD, who led the



>>> A 3 cm sarcoid tumor on a horse's ear. Sarcoids often develop as small bumps under the skin or scaly lesions like the one in the photo. Depending on their location on the horse's body, tumors like these can often be removed by a veterinarian. However, in certain horses sarcoids tend to regrow after surgery, sometimes to much larger tumors that are impossible to cure.

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study, in the release. In some horses, tumors develop as small bumps under the skin or as scaly lesions that can easily be removed by a veterinarian, but in other horses the problem becomes much more serious. Surgery, cryotherapy (freezing the tissue), laser treatment, injecting the tumors with drugs to kill the cells, radiation treatment and immunotherapy have all been shown to cure these recalcitrant tumors, "but some tumors tend to recur no matter what treatment is used, and there is no universal consensus on a uniformly successful therapy," says Antczak.

Antczak says it's been thought for years that bovine papillomavirus (BPV) is the most likely culprit behind sarcoid tumors. Recent work from Europe suggests variants of the BPV have become adapted to horses and are probably the cause of most sarcoids, he says.

Antczak and his team applied a genome-wide association study to compare the genetic makeup of horses with and without sarcoid tumors at more than 50,000 sites in the equine genome. They studied 82 sarcoid-bearing horses from the United States and United Kingdom and 272 carefully matched controls that did not have sarcoids. They found regions on chromosomes 20 and 22 that tended to be different in horses diagnosed with sarcoids, evidence that a horse's genes determine, in part, how susceptible it is to sarcoids.

"This is an example of more complicated genetics—multigene susceptibility," says Antczak. "More than one genetic region is associated with susceptibility to sarcoids, and they don't completely determine whether or not a horse will develop the disease once it's exposed to BPV."

This genetic link implicates the immune system in sarcoid susceptibility. The region of chromosome 20 associated with sarcoid development is within a portion of the genome responsible for immune function called the major histocompatibility complex (MHC) class II region. The MHC type associated with sarcoid susceptibility is very rare among standardbred horses, a fact that may explain why sarcoid is diagnosed so rarely in this breed.

This complex mix of virus, host genes and tumor development may have relevance to a related human condition. Tumors caused by human papillomaviruses account for more than 5 percent of cancer cases worldwide. In women with cervical cancer, an association with the MHC class II region has also been shown.

"That should make a light bulb go off," Antczak says. "It suggests there's a common mechanism in both species for susceptibility to tumor progression that may involve subversion of the host immune response. By studying this phenomenon in horses you can learn about human cancer and vice versa." **dvm360**

Reference

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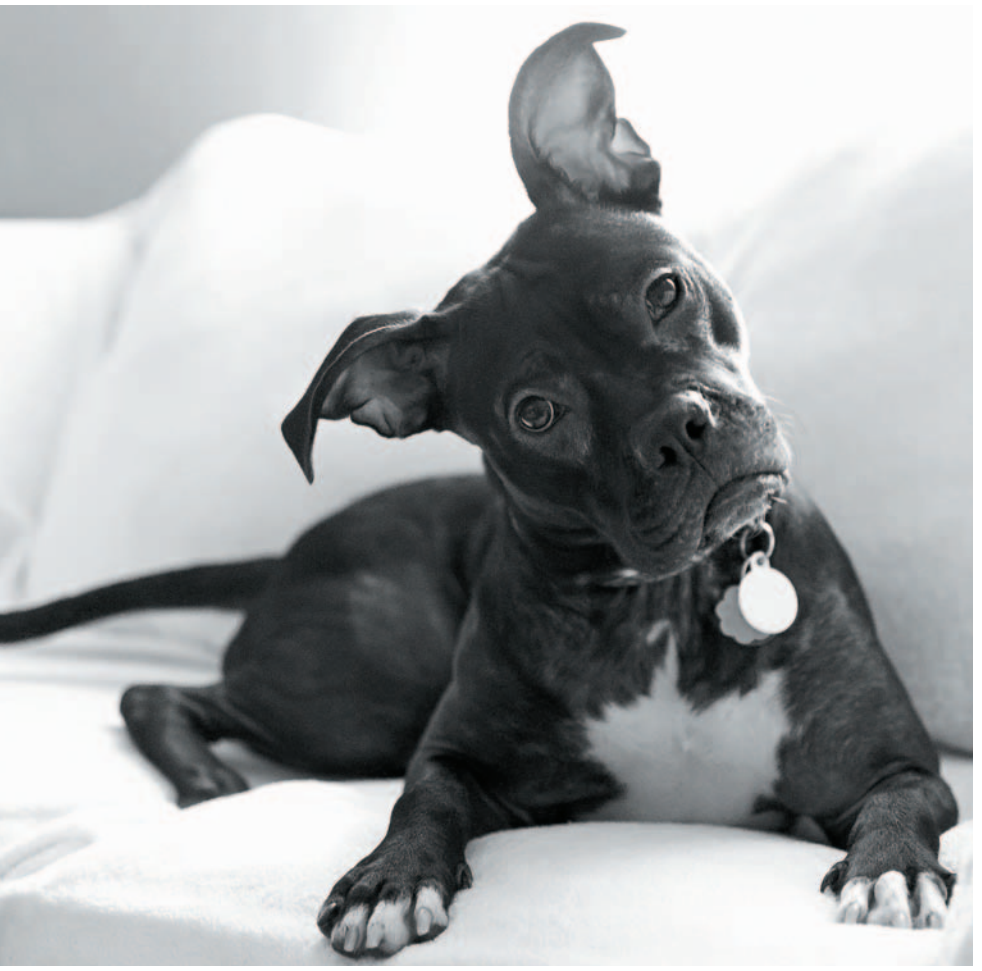

>>> Make sure it's more than "puppy love" for both the practice owner and the potential associate. Time will show whether you can grow together and make the transition to a buy-in relationship.

time frame, percentages and so on may be very early on. That way there's less chance that either the clinic or the associate will end up wasting years developing a relationship that's doomed to fail.

Careers have their own biological clock

In certain respects, the first year of the relationship between a practice owner and an experienced associate is much like dating. Both sides look superficially attractive to the other but there's no way, except for the passage of time together, to know whether there's genuine chemistry to support a long-term relationship.

On the other hand, life and career are finite. And there's genuine value for the owner and associate to share long-term goals and plans. In relationships, if two people in their 30s discuss children on their first date—one desperately wants a family and the other "just can't stand kids"—there probably isn't much point to a second date.

Similarly, during a first or second interview or an on-site practice visit, the associate should share his genuine long-term plans. If his top priority is freedom to travel and ownership has never been a goal, he should state this fact immediately and unequivocally. So if the owner is really looking for an associate-slash-exit strategy, she can move onto the next applicant. There's no point to dangling the possibility of a practice purchase in front of a ready-to-retire clinic owner if all you really want is a job.

No promises ... yet

Naturally, it doesn't make sense to imply or guarantee that an associate who's worked at the practice for less than a year will be offered a buy-in or buyout. I've hired numerous associates who showed a much different personality than the one I saw in the initial interview. Discovering and developing workplace chemistry takes time. But if an associate looks good, sounds good and appears to be genuine partner or buyer material, what's wrong with the practice owner sharing the theoretical framework of his own career trajectory?

The first year of the relationship between a practice owner and an experienced associate is much like dating. Both sides look superficially attractive to the other but there's no way, except for the passage of time together, to know whether there's genuine chemistry to support a long-term relationship.

For practice owners, the secret is to walk the line carefully between playing your buy-in candidate hunt close to the chest and leading the associate on. Consider this approach:

> Explain clearly and in general terms that you plan to take on a partner or a buyer in the foreseeable future.

> Simultaneously, explain that the associate position could develop into an equity position, but this isn't guaranteed.

> Consider constructing the employment contract to mention the potential of partnership or buyout.

> Frame any and all potential partnership/ownership language in the contract as not constituting an offer, only information.

> Also consider providing in the employment agreement some basic details of how the owner would anticipate seeing through such an offer. This could include:

- the general time frame
- the amount of ownership or percentage of stock the owner would initially be willing to part with
- how much, if any, the owner would be willing to owner-finance
- a broad range of how much the associate might expect to have to spend for the percentage that would potentially be transferred (80 to 100 percent of a year's gross, five times profit, an average of two professional appraisals, something solid that the job seeker can wrap his head around)
- whether other associates already in the practice might already have been promised buy-ins, if full ownership isn't available.

But there is one huge caveat: Remember that the person on the other side of any bargaining table—or exam table for that matter—tends to hear what he wants to hear. How often have you quoted a surgery price as about $600 to $1,000, only to have the client go ballistic when the final cost is $650 ("You told me it would be $600!")? The same phenomenon occurs when a practice owner implies that he's considering eventually selling some of his hospital to an associate "if everything works out OK and we have the same practice philosophy."

What the associate hears is, "Next year we're going to start talking numbers, and I'll be going to the bank to get financing for a 50 percent share."

So don't let this conversation become what TV's Smothers Brothers called "misconscrewed." If you fail to be clear that any discussion of partnership is "extremely preliminary," you can cause a later storm of resentment. Proceed with caution and clarity. **dvm360**

Christopher J. Allen, DVM, JD, is president of the Associates in Veterinary Law PC, which provides legal and consulting services exclusively to veterinarians. He can be reached via e-mail at info@veterinarylaw.com.

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When your clients spend the most—and the least

Does every veterinary practice in the country get crushed by a revenue drop in the winter months? We set out to prove what every wise veterinarian seems to know. *By Sean Barker and Ross Knippenberg, PhD*

During my time as an agricultural economics student at the University of Kentucky, I (Sean Barker) was lucky enough to head the marketing efforts of a feline-specific veterinary clinic in Lexington, Kentucky. I had the sometimes difficult task of identifying busy times: What time of day did we see a rush? What day of the week did we need extra staff? And, my personal favorite, what times of year could we expect to see the highest—and lowest—revenue? By the end of my seven-year experience at that practice, I felt confident in my answers: daily rush at 5 p.m., extra staff on Fridays, high revenue in the summer, low revenue in the winter.

Revenue bumps and lulls

As I began my internship at the American Veterinary Medical Association (AVMA) Veterinary Economics Division, I wondered whether the same patterns I'd seen in Lexington happened everywhere. To help answer this question, we collected data from the Bureau of Labor Statistics' (BLS) Consumer Expenditure Survey for the years 2005 through 2014. This survey collects information on the spending habits of U.S. consumers and separates the data into categories of frequently purchased items, including veterinary services. We aggregated the monthly spending observations to form a quarterly time series. The quarterly expenditures on veterinary services for a specific sample size of American consumers are illustrated in Figure 1 on page 54.

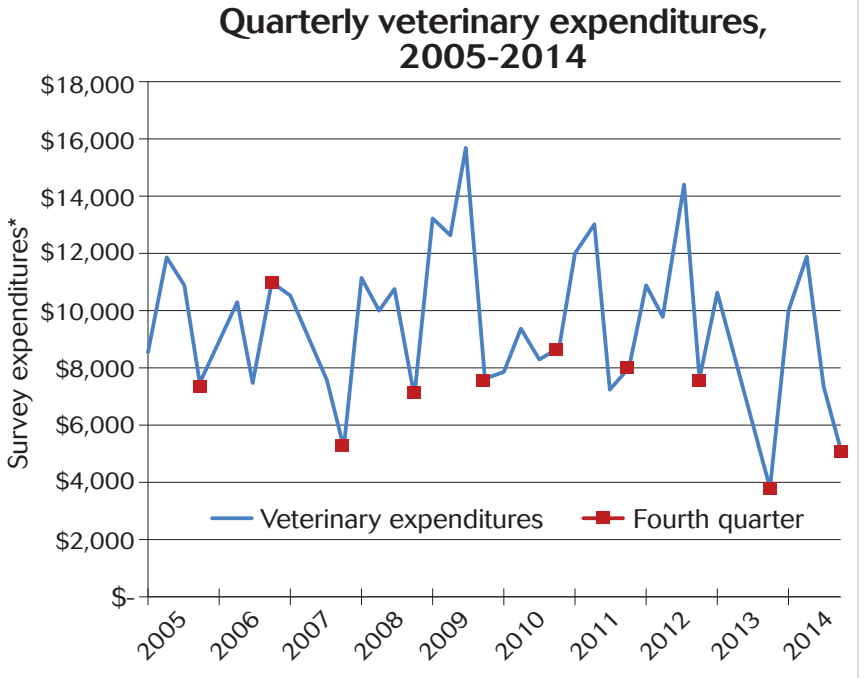
Why measure seasonality?

Seasonality is a characteristic of time series data where regular and predictable changes recur at specific intervals throughout the year. Any predictable change or pattern like that over a one-year period can be said to be seasonal.

To estimate the effect of seasonality,

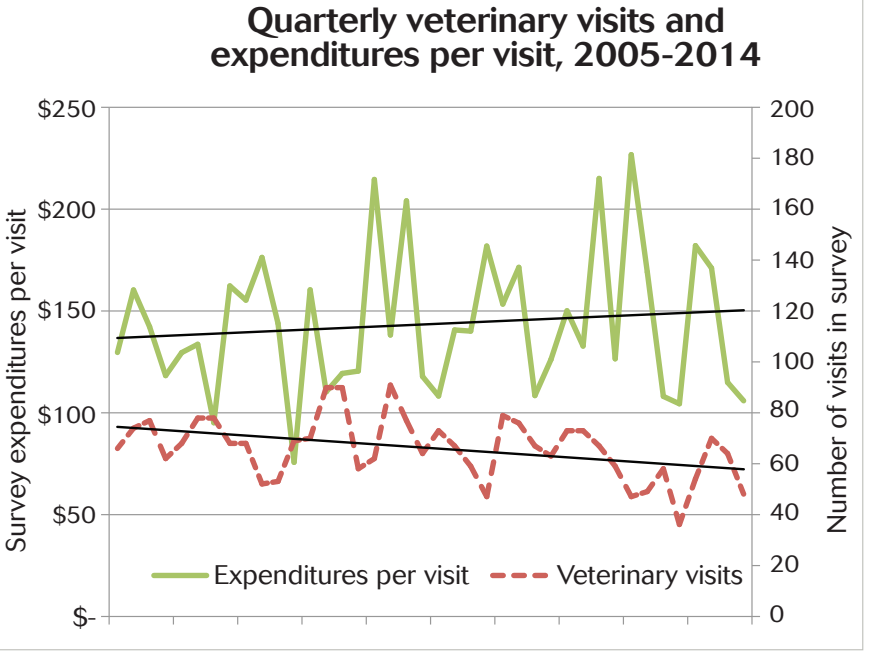
AVMA EYE ON ECONOMICS | Mike Dicks, PhD

FIGURE 1



*Total expenditures from a representative sample of U.S. consumers held constant over time

FIGURE 2



we use a statistical procedure that lets us capture the impact of first, second and third quarters on the number of veterinary visits and total expenditures. The results show that, compared to the fourth quarter, veterinary expenditures are historically higher in the first, second and third quarters by 50.8 percent, 54.5 percent and 34.5 percent, respectively. That means 27.9 percent of revenue in veterinary practices comes from the first quarter, 28.6 percent from the second, 24.9 percent from the third and only 18.5 percent from the fourth.

Understanding seasonal spending patterns in our veterinary services industry allows practice owners and managers to separate the signal (seasonal pattern) from the noise (weekly or monthly expenditures). Once you control for the effects of seasonality, another valuable piece of information emerges. Overall spending on veterinary services for a specific sample size has decreased between 2005 and 2014. Yes, the BLS found that prices of veterinary services have been steadily increasing over this period, but the amount spent at veterinary service providers is declining for the constant sample (population) size studied in the survey.

The number of visits by this constant sample size is also declining at 2.6 percent per year over this period. The ratio of these two variables, the average expenditure per veterinary visit, is noticeably increasing. This indicates that either the constant sample size has a declining number of pets or that pet owners are taking their pets to veterinary service providers less often, a trend that has been occurring for the past 20 years, according to the AVMA's published research. And those who do take their pet to veterinarians are spending more money at each visit. The consumer expenditure data in its current form cannot tell us why this is occurring, just that it is. But simply knowing the spending patterns of consumers can be a valuable tool for practice owners and managers.

Why should you care?

If you've been practicing medicine for a while, this analysis likely only confirmed what you already know: Veterinary business is slowest in the winter. However, this analysis quantifies that effect and shows what the national average looks like.

The question is, how can you use this information? Here's how: You can more confidently predict your clinic's busy and slow seasons to make better business decisions. For instance, if you or members of your staff want to take an extended amount of time off, or if you're planning a clinic remodel, it's best to schedule that in the fourth quarter. Or you could take a more aggressive approach to seasonality by offering promotions in the winter months to bring in more clients and try to smooth out the seasonal effects. You're also more likely to experience cash flow problems in the winter. Save a cash reserve during those busier months!

Making these types of decisions using your practice's business seasonality as a guide can help you make smart business decisions for your practice, a vital factor in a competitive market. **dvm360**

Sean Barker is an intern for the AVMA's Veterinary Economics Division. Dr. Ross Knippenberg is assistant director of economics at the AVMA.

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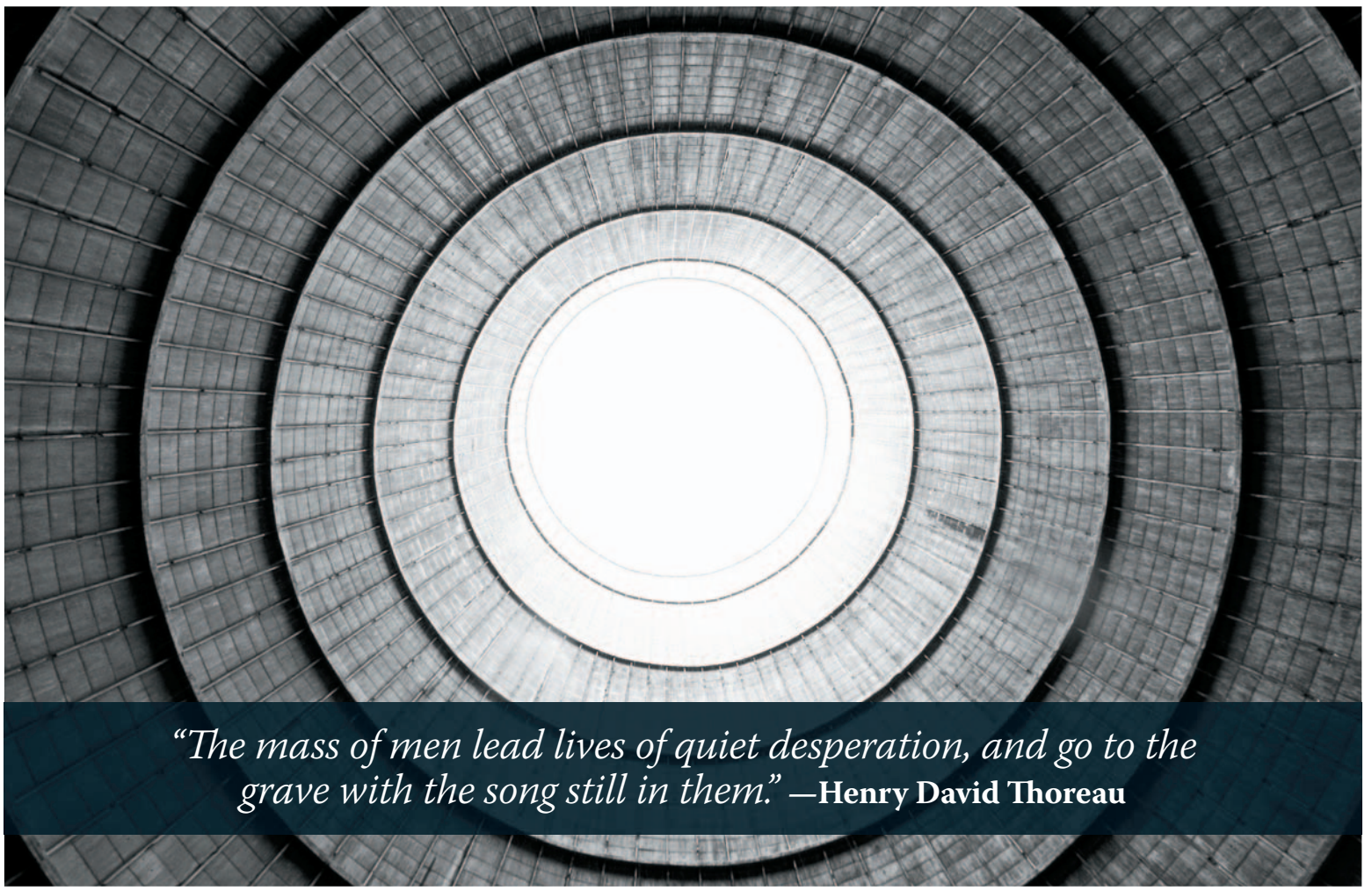
[1]Pereira GG, Fragoso S, Pires E. Effect of dietary intake of L-tryptophan supplementation on multi-housed cats presenting stress related behaviours, in *Proceedings*. BSAVA 2010.
[2]Beata C, Beaumont-Graff E, Coll V, et al. Effect of alpha-casozepine (Zylkene) on anxiety in cats. *J Vet Behav*. 2007;2(2):40-46.
[3]Kruger JM, Lulich JP, MacLeay J, et al. Comparisons of foods with differing nutritional profiles for long-term management of acute nonobstructive idiopathic cystitis in cats. *J Am Vet Med Assoc*. 2015;247(5):508-517.
[4]Lulich JP, Kruger JM, MacLeay JM, et al. Efficacy of two commercially available, low-magnesium, urine-acidifying dry foods for the dissolution of struvite uroliths in cats. *J Am Vet Med Assoc*. 2013;243(8):1147-1153. Average 27 days *in vivo* study in urolith forming cats.



"The mass of men lead lives of quiet desperation, and go to the grave with the song still in them." **—Henry David Thoreau**

Do you work in an **emotional silo?**

Compassion fatigue, brownout, burnout, depression ... so many conditions, and veterinarians may suffer from any of them. Learn the differences between each and set yourself on a path to happiness.

Some years ago I heard about a veterinarian who drove to his hospital parking lot one morning and couldn't bring himself to get out of his car and go inside his own practice. His colleague found him in his car crying. As someone who has dealt with brownout and depressive episodes that drove me from practice, affected my personal life and interfered with a life that most people envy, I can tell you such an extreme emotional response didn't just happen. It built up and evolved over years until the emotional dam broke.

Building the dam

Over my years in the profession I've known veterinarians who couldn't face another day and yet had few options. While many veterinarians experience high job satisfaction, many—including myself—have asked, "Is that all there is?" Some resolve their issues and move through them. Some leave the profession. Some struggle with disappointment and disenchantment and even depression. Some resort to the ultimate outlet and end their own lives.

Veterinary medicine is in many ways a lonely life. Veterinarians often work in emotional silos, in small groups with few peers and limited support outlets. With few emotional outlets and even less emotional support, veterinarians seem to internalize. Perhaps it's because the profession has historically been a male-dominated profession, leading to a bit of professional machismo. But regardless, we're often surprised when we learn a colleague is struggling, self-medicating or simply coming apart at the seams.

I can remember feeling that no success was enough. No matter what my clients said I wasn't good enough. One shortfall equated with total failure. The reality is people don't often talk about their issues. The result: Feelings get stuffed in a bag that either bursts or becomes too heavy to carry.

Interestingly, older veterinarians dealt with similar emotions but believed it was a feeling only they knew. Today we know that many health care professionals frequently deal with the same demons. Some

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"No man is an island, entire of itself ... any man's death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee." **—John Donne**

refer to burnout, some call it brownout. Increasingly it's referred to as compassion fatigue. Let's take a look at some of the conditions we may face working in a profession that can be emotionally draining:

Compassion fatigue

Compassion fatigue is experienced by those helping people or animals in distress; it's characterized by preoccupation with the suffering of those beings and wishing they could do more. It can create secondary stressors for the caregiver. Studies have shown that people who are attracted to caregiving professions often enter the field already compassion fatigued or almost inappropriately focused on providing care for the needs of others before caring for their own needs.

Left unresolved, the response becomes a continuum from "a bad day" to compassion fatigue, which can lead to brownout. Brownout can develop into burnout, depression, emotional blackout and a sense of hopelessness. At some point the solutions can become extreme, including suicide.

Studies confirm that caregivers experience a high level of compassion fatigue. Day in, day out, workers struggle to function in caregiving environments that constantly present emotional challenges. Unprepared, unbalanced and with few guidelines, veterinarians are prime candidates for emotional fatigue.

Brownout

Life coaches and business psychologists often talk about brownout, which is a sort of a "burnout light." Affected professionals become disengaged, demotivated and often lose interest in their jobs.

It goes beyond work. Brownout often creeps into your home life. Individuals become withdrawn and passive-aggressive. I recall feeling emotionally drained, exhausted, overloaded and down in the dumps with no energy. Increasingly practice became frustrating and disenchanting. I became cynical towards work and colleagues. Outwardly I was doing great but inside I was isolated and disengaged.

Indications of brownout

1. Working on "autopilot" but without any real interest in your job. Days lack stimulation or challenge and seem to drag by. At the end of the day you feel a lack of completion.

2. There is no vision of your own future. You are an obstruction to change. You make excuses for yourself. Minor issues become major.

3. Your health suffers. Your diet is poor; your sleep patterns are bad. Exercise is out of the question. You've lost your sense of humor and are argumentative and even aggressive with others. You have little time for friends or family. Your TV and laptop are your new best friends. You blame your boss and coworkers for their "moods."

Brownout is not as serious as burnout, but it's much more prevalent. It's been estimated that 5 percent of business executives experience burnout, while 40 percent suffer from brownout. Left unaddressed, brownout may lead to burnout and may progress on to clinical depression.

Burnout

Burnout is a term often misapplied to situations of brownout and compassion fatigue. Burnout is a term that is much like PTSD. It's associated with having experienced things beyond what most of us could cope with … beyond imaginable. For example, first responders, EMTs, trauma nurses and physicians see and hear terrors that most of us can't imagine and may be suceptible to burnout.

Depression

With depression, negative thoughts and feelings aren't just restricted to work but spread to all areas of life. Extreme symptoms of depression are low self-esteem, hopelessness and even suicidal tendencies. It affects everyday tasks at work, at home or when caring for family members. Inwardly people who are depressed become negative, find it hard to concentrate, are listless and lack creativity.

Does one thing lead to another?

It can be very difficult to determine where compassion fatigue becomes brownout, where brownout becomes burnout and where any of these conditions become depression.

What can you do if you experience these feelings or know someone who is? The key is to seek help as soon as possible. If you sense that you're suffering from compassion fatigue, chances are excellent that you are. Your path to wellness begins with one small step: awareness. With the appropriate information and support, you can embark on a journey of self-awareness and discovery. Healing begins by employing such simple practices as regular exercise, healthy eating habits, enjoyable social activities, journaling and restful sleep.

You aren't alone. Seek and accept help from family, friends and professionals. What affects us affects others. We all deserve to be happy. **dvm360**

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

VetriScience Laboratories

Gastrointestinal supplement

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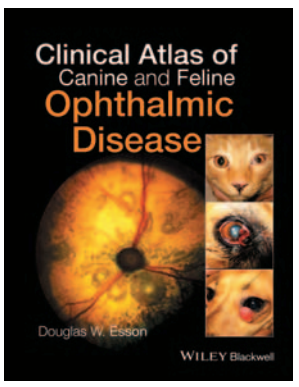

Eye Care for Animals

Ophthalmology reference text

Douglas W. Esson, BVSc, MRCVS, DVM, DACVO, and clinical director at Eye Care for Animals, has developed the Clinical Atlas of Canine and Feline Ophthalmic Disease, available on Amazon. An image-rich resource for diagnosing and treating ophthalmic conditions in clinical practice, the book contains more than 600 high-quality color photographs depicting common ocular conditions in dogs and cats. The photographs are accompanied by a clinically relevant summary detailing the diagnosis and treatment of each condition, along with a list of selected references for further reading. The layout is organized for easy reference, with conditions grouped anatomically.

For fastest response visit eyecareforanimals.com/news-events/publications

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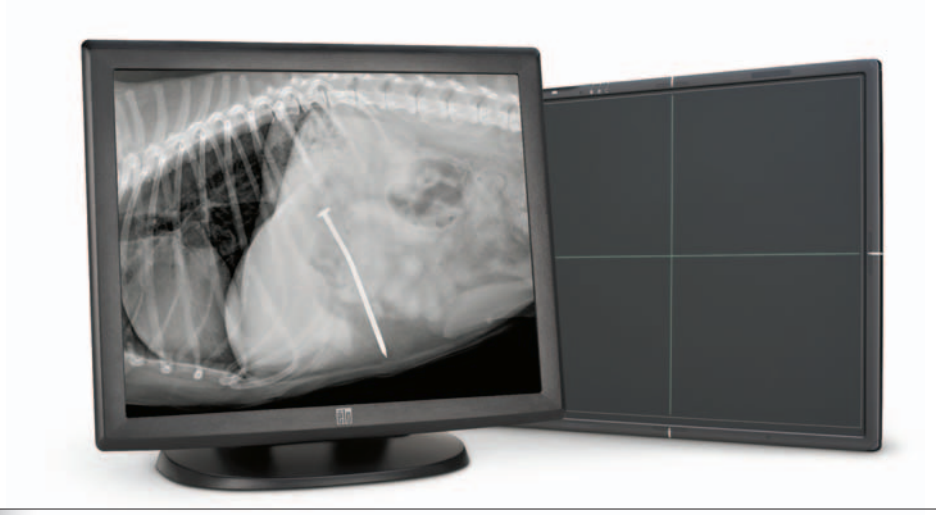

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Iowa Veterinary Specialties is located in Des Moines, Iowa and is a well-equipped facility, well established and supported by a highly skilled and dedicated staff. We are seeking full and part time veterinarians to join a fast paced, progressive Emergency Department. IVS doctors practice high-quality medicine in a friendly, supportive and professional environment. We offer competitive pay and excellent benefits. We strive for best client and patient care, exceeding expectations. Applicant must be a compassionate individual with good interpersonal skills, a positive attitude and excellent communication skills. Contact Julie Kelso at jkelso@ivsdsm.com

Michigan

Established, well-equipped animal clinic in the beautiful upper thumb area looking for an experienced mixed practice surgeon/medical vet. Practicing since the 1960s, this practice services 10,000 clients, plus has the advantage of being in the center of the Michigan tourist trade. We have an experienced support staff, highly trained and willing to lend support where needed. 2 year practical experience preferred, as well as ortho/soft tissue surgical skill. Competitive compensation with health/professional liability insurance, appropriate licenses and dues, and bonus available. Please submit resume to: hope.apples34@gmail.com or contact Rebecca Glasser @ 989 975-1200 or 989 269-8389

Practice for Sale

National

Equine: North Carolina - Add SA. Gross +/-$1m. 6,250sf, +/-5.5 acres. NC12.
Feline: Florida - 1,765sf freestanding leasehold. Turn-Key! FL84.
Feline: Florida - 2,400sf w/RE. 2-exam rooms. Estimated ADI $166K. FL86.
Feline: Missouri – 2,200sf leasehold. Upscale area! Estimated ADI +$110K. MO1.
Mixed: Iowa - 3,696sf, +/-.38 acres, 95% SA/5% LA. Estimated ADI $113K. IA1.
Mixed: Montana - 3-exam rooms. State-of-the-art equipment. Estimated ADI $125K.
Mixed: Texas - Multi-Doctor, Gross +/-$2.8M. +/-5.5acres. Turn-Key. TX5.
PS Broker
800-636-4740
psbroker.com
info@psbroker.com

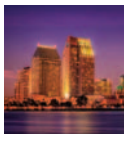
Mobile Unit for Sale

Michigan

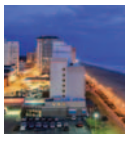
1998 Dodgen Born Free 19' Mobile Vet Clinic. 23,277 miles. Exceptionally well outfitted incl. refrigerator, wet table, generator, and five cages. Priced to sell $15,000. 912-401-0344, hello@ivmdvm.com.

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

August 26-29
CVC Kansas City
(800) 255-6864, ext. 6
thecvc.com/kc



December 8-11
CVC San Diego
(800) 255-6864, ext. 6
thecvc.com/sd



May 18-21, 2017
CVC Virginia Beach
(800) 255-6864, ext. 6
thecvc.com/vb

CVC unconventional

Here are the CE opportunities coming in the next few months

August 11-14
10th Keystone Veterinary Conference
Hershey, PA
(717) 220-1437
keystonevetconference.org

August 12-14
Animal Chiropractic Program Module 6 of 6
Dallas, TX
(800) 266-4723
ce.parker.edu/programs/animal-chiropractic-program

August 13
Laser Therapy Symposium
Annapolis, MD
(410) 268-1311
mdvma.org

September 7-11
International Veterinary Emergency & Critical Care Symposium
Athens, GA
vet.uga.edu/events/lasertherapy

September 7
North Carolina Academy of Small Animal Medicine Meeting
Sanford, NC
(910) 452-3899
ncasam.org

September 8-9
Montana Veterinary Medical Association Fall Symposium
Miles City, MT
(406) 447-4259
mtvma.org

September 11
Fall Vet Derm Seminar
Portland, OR
(503) 352-3376
skinvetclinic.com

September 14-17
Veterinary Management School (VMS)
Lakewood, CO
(800) 883-6301
aaha.org/vms

September 23-25
105th Annual KVMA Meeting/43rd Mid-America Veterinary Conference Symposium
Louisville, KY
(502) 226-5862
kvma.org

September 24-25
Infectious & Vector Borne Disease for the General Practitioner Conference
San Diego, CA
(619) 640-9583
sdcvma.org

September 27-30
41st World Small Animal Veterinary Association Congress
Dundas, Ontario, Canada
(905) 627-8540
wsava2016.com

September 30 to October 2
California VMA Annual Fall Seminar, Palm Springs
Indian Wells, CA
(916) 649-0599
cvma.net

September 30 to October 2
Alaska VMA Annual Symposium
Anchorage, AK
(208) 922-9431
akvma.org

October 6-8
ACVS Surgery Summit
Germantown, MD
acvssurgerysummit.org

October 6-9
21st Annual ABVP Symposium
San Antonio, TX
(352) 244-3731
abvp.com

October 7-9
WSVMA Pacific Northwest Veterinary Conference
Snoqualmie, WA
425-396-3191
wsvma.org

October 12-16
Wild West Veterinary Conference
Reno, NV
(703) 978-7080
wildwestvc.com

October 15-18
2016 CanWest Veterinary Conference
Banff, AB, Canada
(780) 489-5007

October 17-20
Atlantic Coast Veterinary Conference
Atlantic City, NJ
(908) 281-5108
acvc.org

October 29 to November 5
The 32nd Muller-Ihrke Veterinary Dermatology Seminar on Maui
Kapalua, HI
(530) 304-3162
eduvets.com

November 1-5
The 17th Veterinary M-E-D (Medicine, Endocrinology, Disease) Seminar on Maui
Kapalua, HI
(530) 304-3162
eduvets.com

November 3-6
2016 American Association of Feline Practitioners Conference
Washington, DC
(908) 359-9351
catvets.com/education

November 4-6
AAVMC Veterinary Health and Wellness Summit
Fort Collins, CO
(970) 491-1642
conferences.colostate.edu/

November 4-6
2016 Potomac Regional Veterinary Conference
Washington, DC
(804) 346-2611
vvma.org

November 5
GVTAA Veterinary Technician Conference
Athens, GA
vet.uga.edu/events/vettech

November 5-6
9th 3 Rivers Veterinary Symposium
Pittsburgh, PA
(888) 550-7862
pavma.org

November 6
UC Davis 2016 Feline Forum
Davis, CA
(530) 752-3905
vetmed.ucdavis.edu/ce/

November 7-8
Rhode Island VMA Scientific Seminar
Newport, RI
(401) 751-0944
rivma.org

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The beauty of barter

When it comes to bargaining, be careful what you wish for—as Dr. Brock's friend finds out.

One of my good friends, Dr. V., is a veterinarian in south Texas. Dr. V. is a character. He's one of those people who practices veterinary medicine for all the right reasons. He wants to help people and animals and he wants to have fun doing it. He recently told me a story of a client encounter that made me laugh for days.

Dr. V. goes down to the border once a month and stays for a few days taking care of the horses and livestock of the people in that region. He's done it for years. It's a totally different culture with some of the kindest and hardest-working people you'll ever meet.

Dr. V. has a way with these folks. Most of them are kind, and they're often poor and humble, but their animals still need care. Dr. V. has such a big heart that he goes out of his way to make sure they get the best care he can muster up and not lose too much money doing it. The barter system is in full force near the border. People there are used to trading goods instead of money, and Dr. V. has learned to play that game with the best of them.

Let's make a deal

The old farmer Dr. V. was visiting had two bulls that needed to be castrated and a cow with mastitis. Dr. V. told him how much it would cost (barely above what it cost him to do it). The old gentleman approved the price, and he soon had two steers and a cow with a happy udder. After the procedures were over, the farmer asked Dr. V. to do a few other procedures for free, since, of course, he had already paid for the essentials.

This is often the way things happen. The locals get the necessary things done with the money they have and then try to get the "luxury" things done with some sort of persuasion. This fella wanted Dr. V. to float the teeth of three horses, palpate 15 cows and castrate a dog. I can just imagine the rapid fire Spanish that must have been going on as these two bickered over what sort of payment would be necessary to get such things done.

After multiple offers and counter-offers, the old farmer was set firm with a cord of wood. Dr. V. was about to agree

Dr. V. wants to help people and animals and have fun doing it.

but insisted that the farmer had to help him load it in the truck. The farmer was determined that he wasn't going to trade the wood and also load it. Dr. V. was receptive, and a cord of fairly sorry wood was probably enough. But the fun of the art of barter is getting the most you can, even if you don't need it.

"OK, I will take the cord of wood and load it myself," he said. "But you have to throw in that white rooster!"

A white rooster? Really? What does Dr. V. need with a white rooster? But he was insistent. He had lost the battle on the help loading the wood, and didn't want to be the loser in the game of bartering. The old gentleman considered this for a good long while. Dr. V. giggled to himself as he went through the age-old bartering ritual with this fella.

Finally, the deal was set and Dr. V. finished working on the animals, loaded the wood and put the white rooster in the back seat of his veterinary truck. He was feeling pretty proud of himself for not being bested during a 20-minute barter.

A rooster in the hand …

But the question is, who really won? Dr. V. was staying in a rundown motel with his wife for two more nights. Where in the world was he going to keep a white rooster for two days? He arrived back at the motel and discovered the rooster had pooped all over the back seat on the trip back into town. He couldn't leave the bird in the truck all night because it would ruin everything in the cab. So, he took it into the motel and put it in the closet. The floor of the closet was concrete and Dr. V. figured that would be easier to clean than the seats of his truck.

You can just imagine what Dr. V's wife said when he came into the motel room carrying a chicken and put it in the closet. He told her that the rooster was an important part of his payment for the day, and he wanted it to be comfortable through the night and safe in the closet. After all, chickens roost at night and the closet was a perfect, comfortable place for a rooster to sleep.

You can imagine what his wife said when the rooster started crowing at 5 a.m. Not just her, but what about the folks in adjacent rooms? Dr. V. was back in the pickup at 5:15 a.m. heading toward the old gentleman's house with a large white rooster crowing in the backseat of his truck.

"Bo," he told me as he fished his story, "I thought I had finally out-bartered an old border farmer, but they always seem to get the best of me." **dvm360**

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

ILLUSTRATION BY MATT COLLINS

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