

dvm360™

Find it all here.

Veterinary economy may be bouncing back

The 2015 numbers are encouraging, but now is not the time to rest, experts say.

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November 2015 | Volume 46 | Number 11 | dvm360.com

The

dvm360 leadership CHALLENGE THE F-WORD

word

Is the word "feline" practically taboo in your practice? Are you frustrated because you've tried things that haven't worked? Are you really more of a dog person? You're not alone. Check out the 2015 dvm360 Feline Care Survey for data and strategies from your veterinary peers.

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Technician hero mingles with the stars in Hollywood **page 36**



Unfriendly fungi: Five types of mushrooms that are toxic to pets **page 46**



Protect patients from pharmacists' errors with these 10 tips **page M1**

Buster's playmates miss him.



It won't be for long, because you prescribe PREVICOX.®

Who isn't sad when a dog is in too much osteoarthritis pain to play? So trust PREVICOX as your go-to NSAID because PREVICOX:

- **Provides efficacy both pet owners and veterinarians notice**

In a field study, after 30 days of use:

- 96% of pet owners saw improvement in their dogs¹
- In 93% of dogs, veterinarians saw improvement¹

- **Rapidly absorbed—detected in plasma levels within 30 minutes²**

- **Convenient with once-daily dosing**

See brief summary on page 03



Previcox[®]
(firocoxib)

PUT RELIEF IN MOTION

Important Safety Information

As a class, cyclooxygenase inhibitory NSAIDs may be associated with gastrointestinal, kidney or liver side effects. These are usually mild, but may be serious. Pet owners should discontinue therapy and contact their veterinarian immediately if side effects occur. Evaluation for pre-existing conditions and regular monitoring are recommended for pets on any medication, including PREVICOX. Use with other NSAIDs, corticosteroids or nephrotoxic medication should be avoided. Refer to the full Prescribing Information for complete details.

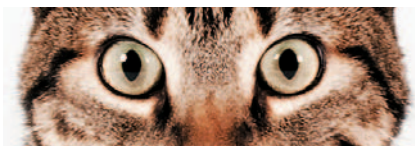


REFERENCES: 1. Pollmeier M, Toulemonde C, Fleishman C, Hanson PD. Clinical evaluation of firocoxib and carprofen for the treatment of dogs with osteoarthritis. *Vet Rec.* 2006;159(17):547-551. 2. Data on file at Merial.

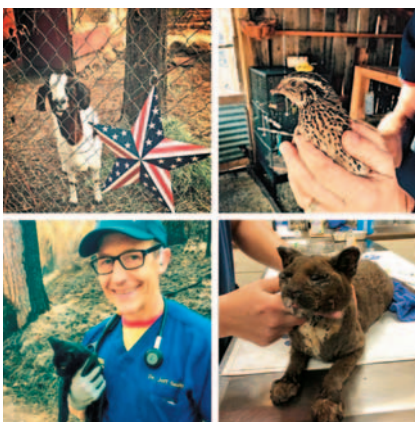
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The **f** word
 leadership CHALLENGE THE F-WORD

ON THE COVER
Feline facts



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CHEWABLE TABLETS

Brief Summary: Before using PREVICOX, please consult the product insert, a summary of which follows:

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

Indications: PREVICOX (firocoxib) Chewable Tablets are indicated for the control of pain and inflammation associated with osteoarthritis and for the control of postoperative pain and inflammation associated with soft-tissue and orthopedic surgery in dogs.

Contraindications: Dogs with known hypersensitivity to firocoxib should not receive PREVICOX.

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

For oral use in dogs only. Use of this product at doses above the recommended 2.27 mg/lb (5.0 mg/kg) in puppies less than seven months of age has been associated with serious adverse reactions, including death (see Animal Safety). Due to tablet sizes and scoring, dogs weighing less than 12.5 lb (5.7 kg) cannot be accurately dosed.

All dogs should undergo a thorough history and physical examination before the initiation of NSAID therapy. Appropriate laboratory testing to establish hematological and serum baseline data is recommended prior to and periodically during administration of any NSAID. Owners should be advised to observe for signs of potential drug toxicity (see Adverse Reactions and Animal Safety) and be given a Client Information Sheet about PREVICOX Chewable Tablets.

For technical assistance or to report suspected adverse events, call 1-877-217-3543.

Precautions: This product cannot be accurately dosed in dogs less than 12.5 pounds in body weight. Consider appropriate washout times when switching from one NSAID to another or when switching from corticosteroid use to NSAID use.

As a class, cyclooxygenase inhibitory NSAIDs may be associated with renal, gastrointestinal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Dogs that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for adverse events are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached and monitored. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed. Since NSAIDs possess the potential to produce gastrointestinal ulceration and/or gastrointestinal perforation, concomitant use of PREVICOX Chewable Tablets with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. The concomitant use of protein-bound drugs with PREVICOX Chewable Tablets has not been studied in dogs. Commonly used protein-bound drugs include cardiac, anticonvulsant, and behavioral medications. The influence of concomitant drugs that may inhibit the metabolism of PREVICOX Chewable Tablets has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy. If additional pain medication is needed after the daily dose of PREVICOX, a non-NSAID class of analgesic may be necessary. Appropriate monitoring procedures should be employed during all surgical procedures. Anesthetic drugs may affect renal perfusion, approach concomitant use of anesthetics and NSAIDs cautiously. The use of parenteral fluids during surgery should be considered to decrease potential renal complications when using NSAIDs perioperatively. The safe use of PREVICOX Chewable Tablets in pregnant, lactating or breeding dogs has not been evaluated.

Adverse Reactions:

Osteoarthritis: In controlled field studies, 128 dogs (ages 11 months to 15 years) were evaluated for safety when given PREVICOX Chewable Tablets at a dose of 2.27mg/lb (5.0 mg/kg) orally once daily for 30 days. The following adverse reactions were observed. Dogs may have experienced more than one of the observed adverse reactions during the study.

Adverse Reactions Seen in U. S. Field Studies

Adverse Reactions	PREVICOX (n=128)	Active Control (n=121)
Vomiting	5	8
Diarrhea	1	10
Decreased Appetite or Anorexia	3	3
Lethargy	1	3
Pain	2	1
Somnolence	1	1
Hyperactivity	1	0

PREVICOX (firocoxib) Chewable Tablets were safely used during field studies concomitantly with other therapies, including vaccines, anthelmintics, and antibiotics.

Soft-tissue Surgery: In controlled field studies evaluating soft-tissue postoperative pain and inflammation, 258 dogs (ages 10.5 weeks to 16 years) were evaluated for safety when given PREVICOX Chewable Tablets at a dose of 2.27 mg/lb (5.0 mg/kg) orally approximately 2 hours prior to surgery and once daily thereafter for up to two days. The following adverse reactions were observed. Dogs may have experienced more than one of the observed reactions during the study.

Adverse Reactions Seen in the Soft-tissue Surgery Postoperative Pain Field Studies

Adverse Reactions	Firocoxib Group (n=127)	Control Group* (n=131)
Vomiting	5	6
Diarrhea	1	1
Bruising at Surgery Site	1	1
Respiratory Arrest	1	0
SQ Crepitus in Rear Leg and Flank	1	0
Swollen Paw	1	0

*Sham-dosed (pilled)

Orthopedic Surgery: In a controlled field study evaluating orthopedic postoperative pain and inflammation, 226 dogs of various breeds, ranging in age from 1 to 11.9 years in the PREVICOX-treated groups and 0.7 to 17 years in the control group were evaluated for safety. Of the 226 dogs, 118 were given PREVICOX Chewable Tablets at a dose of 2.27 mg/lb (5.0 mg/kg) orally approximately 2 hours prior to surgery and once daily thereafter for a total of three days. The following adverse reactions were observed. Dogs may have experienced more than one of the observed reactions during the study.

Adverse Reactions Seen in the Orthopedic Surgery Postoperative Pain Field Study

Adverse Reactions	Firocoxib Group (n=118)	Control Group* (n=108)
Vomiting	1	0
Diarrhea	2**	1
Bruising at Surgery Site	2	3
Inappetence/ Decreased Appetite	1	2
Pyrexia	0	1
Incision Swelling, Redness	9	5
Oozing Incision	2	0

A case may be represented in more than one category.

*Sham-dosed (pilled).

**One dog had hemorrhagic gastroenteritis.

Post-Approval Experience (Rev. 2009): The following adverse reactions are based on post-approval adverse drug event reporting. The categories are listed in decreasing order of frequency by body system:

Gastrointestinal: Vomiting, anorexia, diarrhea, melena, gastrointestinal perforation, hematemesis, hematachezia, weight loss, gastrointestinal ulceration, peritonitis, abdominal pain, hypersalivation, nausea

Urinary: Elevated BUN, elevated creatinine, polydipsia, polyuria, hematuria, urinary incontinence, proteinuria, kidney failure, azotemia, urinary tract infection

Neurological/Behavioral/Special Sense: Depression/lethargy, ataxia, seizures, nervousness, confusion, weakness, hyperactivity, tremor, paresis, head tilt, nystagmus, mydriasis, aggression, uveitis

Hepatic: Elevated ALP, elevated ALT, elevated bilirubin, decreased albumin, elevated AST, icterus, decreased or increased total protein and globulin, pancreatitis, ascites, liver failure, decreased BUN

Hematological: Anemia, neutrophilia, thrombocytopenia, neutropenia

Cardiovascular/Respiratory: Tachypnea, dyspnea, tachycardia

Dermatologic/Immunologic: Pruritis, fever, alopecia, moist dermatitis, autoimmune hemolytic anemia, facial/muzzle edema, urticaria

In some situations, death has been reported as an outcome of the adverse events listed above.

For a complete listing of adverse reactions for firocoxib reported to the CVM see:

<http://www.fda.gov/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/ucm055394.htm>

Information For Dog Owners: PREVICOX, like other drugs of its class, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with drug intolerance. Adverse reactions may include vomiting, diarrhea, decreased appetite, dark or tarry stools, increased water consumption, increased urination, pale gums due to anemia, yellowing of gums, skin or white of the eye due to jaundice, lethargy, incoordination, seizure, or behavioral changes. **Serious adverse reactions associated with this drug class can occur without warning and in rare situations result in death (see Adverse Reactions). Owners should be advised to discontinue PREVICOX therapy and contact their veterinarian immediately if signs of intolerance are observed.** The vast majority of patients with drug-related adverse reactions have recovered when the signs are recognized, the drug is withdrawn, and veterinary care, if appropriate, is initiated. Owners should be advised of the importance of periodic follow up for all dogs during administration of any NSAID.

Effectiveness: Two hundred and forty-nine dogs of various breeds, ranging in age from 11 months to 20 years, and weighing 13 to 175 lbs, were randomly administered PREVICOX or an active control drug in two field studies. Dogs were assessed for lameness, pain on manipulation, range of motion, joint swelling, and overall improvement in a non-inferiority evaluation of PREVICOX compared with the active control. At the study's end, 87% of the owners rated PREVICOX-treated dogs as improved. Eighty-eight percent of dogs treated with PREVICOX were also judged improved by the veterinarians. Dogs treated with PREVICOX showed a level of improvement in veterinarian-assessed lameness, pain on palpation, range of motion, and owner-assessed improvement that was comparable to the active control. The level of improvement in PREVICOX-treated dogs in limb weight bearing on the force plate gait analysis assessment was comparable to the active control. In a separate field study, two hundred fifty-eight client-owned dogs of various breeds, ranging in age from 10.5 weeks to 16 years and weighing from 7 to 168 lbs, were randomly administered PREVICOX or a control (sham-dosed-pilled) for the control of postoperative pain and inflammation associated with soft-tissue surgical procedures such as abdominal surgery (e.g., ovariohysterectomy, abdominal cryptorchidectomy, splenectomy, cystotomy) or major external surgeries (e.g., mastectomy, skin tumor removal $\leq 8\text{ cm}$). The study demonstrated that PREVICOX-treated dogs had significantly lower need for rescue medication than the control (sham-dosed-pilled) in controlling postoperative pain and inflammation associated with soft-surgery. A multi-center field study with 226 client-owned dogs of various breeds, and ranging in age from 1 to 11.9 years in the PREVICOX-treated groups and 0.7 to 17 years in the control group was conducted. Dogs were randomly assigned to either the PREVICOX or the control (sham-dosed-pilled) group for the control of postoperative pain and inflammation associated with orthopedic surgery. Surgery to repair a ruptured cruciate ligament included the following stabilization procedures: fabellar suture and/or imbrication, fibular head transposition, tibial plateau leveling osteotomy (TPLO), and 'over the top' technique. The study (n = 220 for effectiveness) demonstrated that PREVICOX-treated dogs had significantly lower need for rescue medication than the control (sham-dosed-pilled) in controlling postoperative pain and inflammation associated with orthopedic surgery.

Animal Safety: In a targeted animal safety study, firocoxib was administered orally to healthy adult Beagle dogs (eight dogs per group) at 5, 15, and 25 mg/kg (1, 3, and 5 times the recommended total daily dose) for 180 days. At the indicated dose of 5 mg/kg, there were no treatment-related adverse events. Decreased appetite, vomiting, and diarrhea were seen in dogs in all dose groups, including unmedicated controls, although vomiting and diarrhea were seen more often in dogs in the 5X dose group. One dog in the 3X dose group was diagnosed with juvenile polyarthritis of unknown etiology after exhibiting recurrent episodes of vomiting and diarrhea, lethargy, pain, anorexia, ataxia, proprioceptive deficits, decreased albumin levels, decreased and then elevated platelet counts, increased bleeding times, and elevated liver enzymes. On histopathologic examination, a mild ileal ulcer was found in one 5X dog. This dog also had a decreased serum albumin which returned to normal by study completion. One control and three 5X dogs had focal areas of inflammation in the pylorus or small intestine. Vacuolization without inflammatory cell infiltrates was noted in the thalamic region of the brain in three control, one 3X, and three 5X dogs. Mean ALP was within the normal range for all groups but was greater in the 3X and 5X dose groups than in the control group. Transient decreases in serum albumin were seen in multiple animals in the 3X and 5X dose groups, and in one control animal. In a separate safety study, firocoxib was administered orally to healthy juvenile (10-13 weeks of age) Beagle dogs at 5, 15, and 25 mg/kg (1, 3, and 5 times the recommended total daily dose) for 180 days. At the indicated (1X) dose of 5 mg/kg, on histopathologic examination, three out of six dogs had minimal periportal hepatic fatty change. On histopathologic examination, one control, one 1X, and two 5X dogs had diffuse slight hepatic fatty change. These animals showed no clinical signs and had no liver enzyme elevations. In the 3X dose group, one dog was euthanized because of poor clinical condition (Day 63). This dog also had a mildly decreased serum albumin. At study completion, out of five surviving and clinically normal 3X dogs, three had minimal periportal hepatic fatty change. Of twelve dogs in the 5X dose group, one died (Day 82) and three moribund dogs were euthanized (Days 38, 78, and 79) because of anorexia, poor weight gain, depression, and in one dog, vomiting. One of the euthanized dogs had ingested a rope toy. Two of these 5X dogs had mildly elevated liver enzymes. At necropsy all five of the dogs that died or were euthanized had moderate periportal or severe parazonal hepatic fatty change; two had duodenal ulceration; and two had pancreatic edema. Of two other clinically normal 5X dogs (out of four euthanized as comparators to the clinically affected dogs), one had slight and one had moderate periportal hepatic fatty change. Drug treatment was discontinued for four dogs in the 5X group. These dogs survived the remaining 14 weeks of the study. On average, the dogs in the 3X and 5X dose groups did not gain as much weight as control dogs. Rate of weight gain was measured (instead of weight loss) because these were young growing dogs. Thalamic vacuolation was seen in three of six dogs in the 3X dose group, five of twelve dogs in the 5X dose group, and to a lesser degree in two unmedicated controls. Diarrhea was seen in all dose groups, including unmedicated controls. In a separate dose tolerance safety study involving a total of six dogs (two control dogs and four treated dogs), firocoxib was administered to four healthy adult Beagle dogs at 50 mg/kg (ten times the recommended daily dose) for twenty-two days. All dogs survived to the end of the study. Three of the four treated dogs developed small intestinal erosion or ulceration. Treated dogs that developed small intestinal erosion or ulceration had a higher incidence of vomiting, diarrhea, and decreased food consumption than control dogs. One of these dogs had severe duodenal ulceration, with hepatic fatty change and associated vomiting, diarrhea, anorexia, weight loss, ketonuria, and mild elevations in AST and ALT. All four treated dogs exhibited progressively decreasing serum albumin that, with the exception of one dog that developed hypoalbuminemia, remained within normal range. Mild weight loss also occurred in the treated group. One of the two control dogs and three of the four treated dogs exhibited transient increases in ALP that remained within normal range.

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 NADA 141-230, Approved by FDA
 Rev. 07-2012

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 veterinarians*



*Millward Brown Veterinary Tracker, 2014

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Helps nutritionally manage diarrhea associated with stress, antibiotic therapy and diet change

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f-word

Don't shy away from the F-word in veterinary practice. When it comes to felines, whether it be four, five or 400, look in the *dvm360* sister publications to find the love for these furry friends—and even their owners—with free (or almost) cat-friendly practice fixes to get finicky felines to feel at home and make their medical care far better.



Veterinary economics

> **FOUR** kinds of cat owners: New data from Trone Brand Energy shows which cat owners to focus on, which cat owners to forget and which cat owners might turn into great, responsible clients.

> **FREE** (almost) cat-friendly practice tweaks: Cat-friendly hospital design doesn't always come with a big price tag. Find a few low-cost fixes to wow finicky felines in reception and exam rooms.

> **FIND** the love: Whether your love for cats could use a pick-me-up or a serious jump-start, here are personal stories from veterinarians on why their feline affection doesn't flag.

Veterinary medicine

> Do those of the feline persuasion leave you a little skittish? We'll show you how to flip your script and fix your relationship with cats by taking a hard look at the (often incorrect) language we use to describe cats and how accurately veterinarians and team members can assess how a cat is feeling.



> Calm cat owners lead to calmer cats. Use these 8 steps to help cat owners "chillax" already.

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Veterinarians rally to help California wildfire victims

Doctors distribute food, help treat burned animals amidst one of the worst wildfires the state has experienced. *By Jessica Vogelsang, DVM*

For a man running on four hours of sleep a night for the past week, Grant Miller, DVM, has a lot of energy. “I’m sorry I’m late calling you back,” he says with a laugh. “Things have been crazy.”

Miller is calling from his car, driving through the ashy wasteland that used to be Middletown, California. Life is now divided into before and after Sept. 12, 2015, the day the Valley Fire swept through Lake County. After chewing through 80,000 acres and almost 2,000

structures, killing four people and untold numbers of animals, this fast-moving wildfire now ranks among the worst in California history.

As unit director of the California Veterinary Medical Reserve Corps, Miller was prepared for disaster across the state, but this time it hit close to home. The night of the fire, Miller was in contact with his friend and fellow equine veterinarian Jeff Smith, DVM, who hunkered down in his home in Middletown as the fire roared through.

Stopped at road blockades, Miller was unable to reach Smith to bring supplies until the next day. “Whenever you take away the infrastructure—power, roads, communication equipment—there are going to be issues in responding,” Miller says.

Firestorms are violent and unpredictable, generating their own wind systems that lift embers and disperse them randomly into the distance. Smith emerged from his home to find it was only one of eight houses left standing in his neighborhood. Racing down back roads to avoid getting

turned back by emergency personnel, Smith arrived at the Middletown Animal Hospital to see it, too, had miraculously survived.

With no immediate help in sight, Smith and a small crew of family and neighbors filled his truck with bales of hay and buckets of water, driving around town and throwing them down whenever they spotted animals. With fencing melted and flames still active, the surviving animals were panicked and scattered.

Miller finally arrived with supplies the following morning, driving past hundreds of miles of downed power lines and a scene he can only describe as “apocalyptic.” He pauses as he tries to describe what he saw on the way, the destruction and animal suffering, before deciding he can’t put it into words.

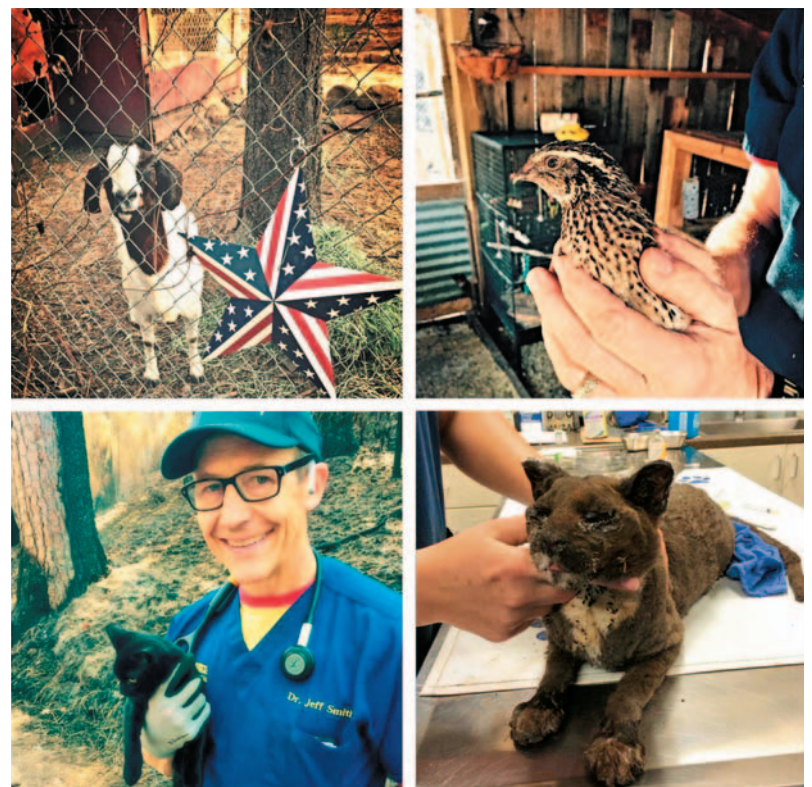
When Miller pulled up, Smith had already opened the doors of his clinic to treat any animals who needed it, free of charge. Volunteers from the University of California, Davis, soon arrived to assist in rounding up roaming animals, and the patients came



>>> Drs. Grant Miller and Jeff Smith treated animals left behind in the fire's wake.



>>> A sign directed people to the fire and animal help station at Middletown Animal Hospital.



>>> Photos show what Dr. Jeff Smith, bottom left, and other volunteers faced during their response.



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*Bravecto kills fleas, prevents flea infestations, and kills ticks (black-legged tick, American dog tick, and brown dog tick) for 12 weeks. Bravecto also kills lone star ticks for 8 weeks.

IMPORTANT SAFETY INFORMATION: The most common adverse reactions recorded in clinical trials were vomiting, decreased appetite, diarrhea, lethargy, polydipsia, and flatulence. 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 lone star ticks beyond 8 weeks after dosing.

Reference: 1. Bravecto [prescribing Information]. Summit, NJ: Merck Animal Health; 2014.

Available by veterinary prescription only.

Please see Brief Summary on following page.

www.BravectoVets.com



NADA 141-426, Approved by FDA



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>.

How Supplied:

Bravecto is available in five strengths (112.5, 250, 500, 1000, and 1400 mg fluralaner per chew). Each chew is packaged individually into aluminum foil blister packs sealed with a peelable paper backed foil lid stock. Product may be packaged in 1, 2, or 4 chews per package.

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141487 R2



pouring in. First sheep and goats, then dogs and cats. By day seven, horses and cows began to trickle in as well. Smith treated them all.

About an hour away, UC Davis stood ready to assist with the most severely affected animals. “Without the disaster, we never would have gotten this level of collaboration,” Miller says. “UC Davis has taken in over 70 burned animals—mostly cats. They are functioning as a referral center.”

With only 40 percent of the structures in Middletown still standing, Smith’s immediate concern was for the long-term welfare of the community. Lake County is California’s poorest. “This land is not going to be capable of sustaining animals for a very long time,” Miller says. “They were economically depressed to begin with, now they’ve lost everything.”

Smith has vowed to remain open to treat all the fire victims without payment. “We’re estimating over the next four to six months he will be absorbing the costs,” Miller says. “Burns are not quick fixes. His clinic is going to be the last option remaining when everything else is gone.”

But Miller remains in awe of the community hope remaining. “You can burn a community, but you can’t kill a community,” he says. “I do not know how they’re going to survive, but people can combine together and make things work.”

Miller says he needs to call a group from a local Jeep club. “They asked how they could help,” he says, “so I’m making them transport donations.” He has been on the phone all evening. He has no plans to stop; there’s still too much work to do. One week in, they are still finding cats huddled in melted cars.

“You see these animals and you know how much they have suffered,” Miller says. “You just want so badly to turn things around for them, and you would move heaven and earth to make it happen.”

More than anything, Middletown needs financial donations. All Wells Fargo locations nationwide can receive donations; and a GoFundMe account has been set up as well (find it at dvm360.com/Middletown). “If there was ever a chance for somebody to do a lot of good with a little gesture, it would be now,” Miller says. “This is going to go to the animals.”

The fire is contained, and Dr. Smith

plans to keep providing free care to affected animals. dvm360

Dr. Jessica Vogelsang, known as Dr. V among her readers, is a regular contributing author for a number of well-known publications. Visit her award-winning blog at pawcurious.com for more from Dr. V.

“You can burn a community, but you can’t kill a community ... people can combine together.”

—Dr. Grant Miller



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Veterinary economy may be **bouncing back**

The 2015 numbers are encouraging—especially those second-quarter figures—but now is not the time to rest, experts say. *By Sarah A. Moser*

Year-to-year, 2015 is posting much better numbers for veterinarians than the previous few years. Business is up 6 percent to 8 percent across the board, industry consultants report.

“Without a doubt, the industry is seeing an upswing,” says Tom McFerson, CPA, ABV, principal of Gatto McFerson CPAs in Santa Monica, California. Gatto McFerson surveys 175 California practices each month on revenue issues



Tom McFerson, CPA



Gary Glassman, CPA

and have done so since 2008. These numbers make the situation clear. From August 2014 to August 2015, practice revenues are up 8 to 10 percent.

Those numbers jibe with what *Veterinary Economics* Editorial Advisory Board member Gary Glassman, CPA, of Burzenski & Co. P.C. in East Haven, Connecticut, has found. Glassman reports revenue increases of 6 percent total from year to year in the Southeast corner of the United States. Services sales are up 6.9 percent, and product sales have risen 4.9 percent. His firm also reports a jump in new client numbers.

“The change in invoice numbers and new clients is the biggest I’ve seen in a while,” Glassman says. “We saw this uptick in business start about 12 months ago, with the second quarter of 2015 being the best yet.”

Glassman also reports that a survey his firm conducted of 85 hospitals across the nation shows an average increase in revenue of 8.7 percent for services in 2015, with practices doing



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quellin[®]

(carprofen)

soft chewable tablets

Non-steroidal anti-inflammatory drug
For oral use in dogs only

BRIEF SUMMARY:

Before using quellin soft chewable tablets, please consult the product insert, a summary of which follows:

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

PRODUCT DESCRIPTION: quellin (carprofen) is a non-steroidal anti-inflammatory drug (NSAID) of the propionic acid class that includes ibuprofen, naproxen, and ketoprofen.

INDICATIONS: quellin is indicated for the relief of pain and inflammation associated with osteoarthritis and for the control of postoperative pain associated with soft tissue and orthopedic surgeries in dogs.

CONTRAINDICATIONS: quellin should not be used in dogs exhibiting previous hypersensitivity to carprofen.

WARNINGS: Keep out of reach of children. Not for human use. Consult a physician in cases of accidental ingestion by humans. **For use in dogs only.** Do not use in cats. All dogs should undergo a thorough history and physical examination before initiation of NSAID therapy. Appropriate laboratory tests to establish hematological and serum biochemical baseline data prior to, and periodically during, administration of any NSAID should be considered.

PRECAUTIONS: As a class, NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Effects may result from decreased prostaglandin production and inhibition of the enzyme cyclooxygenase which is responsible for the formation of prostaglandins from arachidonic acid. When NSAIDs inhibit prostaglandins that cause inflammation they may also inhibit those prostaglandins which maintain normal homeostatic function. These antiprostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease more often than in healthy patients. Carprofen is an NSAID, and as with others in that class, adverse reactions may occur with its use. The most frequently reported effects have been gastrointestinal signs. Events involving suspected renal, hematologic, and neurologic, dermatologic, and hepatic effects have also been reported. Concomitant use of carprofen with other anti-inflammatory drugs, such as other NSAIDs or corticosteroids, should be avoided because of the potential increase of adverse reactions, including gastrointestinal ulcerations and/or perforations. Carprofen is not recommended for use in dogs with bleeding disorders, as safety has not been established in dogs with these disorders. The safe use of carprofen in animals less than 6 weeks of age, pregnant dogs, dogs used for breeding purposes, or in lactating bitches has not been established.

ADVERSE REACTIONS:

During investigational studies for the caplet formulation with twice-daily administration of 1 mg/lb., no clinically significant adverse reactions were reported. Some clinical signs were observed during field studies which were similar for carprofen caplet and placebo treated dogs. Incidences were observed in both groups: vomiting (4%), diarrhea (4%), changes in appetite (3%), lethargy (1.4%), behavioral changes (1%), and constipation (0.3%).

For a copy of the Material Safety Data Sheet (MSDS) or to report adverse reactions call Bayer Veterinary Services at 1-800-422-9874. For consumer questions call 1-800-255-6826.

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March 2015

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BAY070115

“Our business is definitely better than it was during the recession. It certainly seems like our clients are more willing and able to do the diagnostics we recommend and to provide the care their pets need than they have been in recent years.”

—Tanya M. ten Broeke, DVM, owner, Gladstone Veterinary Clinic

9.4 percent in total sales from April to June of this year. “These numbers indicates pretty strong growth for veterinary practices,” Glassman says.

Veterinary Associates of Manning in Manning, Iowa, a small-town mixed-animal practice, bears those numbers out. The practice, owned by Rexanne Strueve, DVM, has seen a revenue increase of up to 8 percent year over year. Strueve says her practice hasn't hit these revenue increases every month over the same month the previous year, but on average each quarter things are looking up. “The overall economy has improved some, certainly, but we have had to work hard internally to make these numbers happen,” Strueve says.



Tanya M. ten Broeke, DVM

“Offering more payment options as well as new treatments has helped our rural practice thrive.” Tanya M. ten Broeke, DVM, owner of Gladstone Veterinary Clinic in Milwaukee, Oregon, indicates an improving economy as well. “Our business is definitely better than it was during the recession,” ten Broeke says. “It certainly seems like our clients are more willing and able to do the diagnostics we recommend and to provide the care their pets need than they have been in recent years.”

What's behind the change?

If your practice is on the rise as well, don't pat yourself on the back too hard. Experts say these changes have a lot to do with the general improvement in the economy as well as what practices are doing personally. “Certain practices are doing things that help, but overall the real estate market is doing better, the stock market has improved, unemployment is down,” McFerson says. “Most veterinary practices are still a bit behind where they were before the crash, but the future is definitely looking up. Appointment books are fuller, invoices are higher, but now's not the time to get comfortable.”

Glassman says the improvement is anything but industry-based. Overall, you can expect 7 to 9 percent growth in any business this year, with mature businesses posting 4 percent to 5 percent growth on average, he says.

This is all great news. But Glassman agrees that now is not the time to coast. “Don't sit back



Rexanne Strueve, DVM

and think these changes that are producing good results is a function of what's been done internally,” he says. Glassman says veterinary hospitals must go back to business fundamentals to maintain and move forward.

Ten Broeke knows the economy won't fix it all. For her part, her practice is focusing on many factors to keep business growing. “We are working on training a team that's on the same page, that can talk to clients about the benefits of doing certain diagnostics and treatments,” she says. “If clients don't know the options, they can't go for them. It starts and ends with the well-trained team.”

Strueve echoes those sentiments. She attributes much of her practice success with a vigorous focus on internal marketing, teamwork and other strategies that draw in business. Also, offering more payment options and pet health insurance has carried the practice through difficult financial times. “Our business is increasing, even during the hard times, while not taking on more accounts receivable and not extending credit to clients,” she says. “We're always looking for new ways to help clients pay for the services their pets need, and we're working together as a team to offer the best care possible.”

Glassman says that's exactly what practices need to be doing now—and in the future, no matter what the economy brings. “Stay vigilant; you can't sit back on your laurels and expect that the improving economy will take care of your business needs,” he says. “It certainly helps, but you have to maintain that relationship and give the best quality of care to really make a difference. The economy furthers what you can do, making that ‘yes’ proposition even easier, but there's never a time to get too comfortable.” [dvm360](#)

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

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See brief summary on page 12

Texas board seeks to revoke Kristen Lindsey's license

Despite lack of criminal indictment, TBVME charges veterinarian accused of killing cat with a bow and arrow with animal cruelty.

The Texas Board of Veterinary Medical Examiners (TBVME) has filed its formal complaint with the State Office of Administrative Hearings in regards to Kristen Lindsey, DVM, now notoriously associated with killing a cat with a bow and arrow and bragging about it on social media. The board is seeking revocation of her license.

In June, much to public dismay, an Austin County grand jury declined to indict Lindsey on animal cruelty charges due to what it cited as a lack of evidence to convict. However, the facts and evidence presented at an informal conference before the Texas board's enforcement committee in August was apparently enough to find Lindsey in violation of the Veterinary Licensing Act and the board's rules.

For the TBVME, there seems to be no ambiguity regarding her guilt. The complaint states, "Respondent [Lindsey] shot an orange, male cat through the head using a bow and arrow." Further, the complaint criticizes Lindsey for boasting of the kill on her Facebook page and refers to the cat as "Tiger," which TBVME says was owned by Bill and Claire Johnson who lived across the street from Lindsey's home. These are the same allegations the Austin County district attorney said the grand jury could not confirm.

The board states in its complaint that an indictment or conviction of

a legal violation is not needed for the enforcement of the Veterinary Licensing Act. Referring to Texas penal code, the TBVME concluded, "Respondent intentionally, knowingly, or recklessly killed or caused serious bodily injury to Tiger in a cruel manner without the Johnsons' effective consent. Therefore, Respondent committed animal cruelty."

Although the state's occupations code relates to criminal convictions, the board asks the licensing authority to use it as guidance. The board believes the actions it finds Lindsey guilty of directly relate to her occupation. "Veterinarians occupy positions of public trust, and a veterinary license assures the public that a licensee is fit to hold that position," the complaint states. "... A veterinary license offers a unique opportunity to commit animal cruelty."

The complaint goes on to state that not only is animal cruelty "at odds" with the practice of veterinary

medicine, but that in documenting her actions and presenting them to the public as the actions of an exemplary veterinarian on social media, Lindsey herself connected her own professional

"There is no sanction, short of revocation, that the Board can impose that would sufficiently protect the public from [Lindsey's] poor professional character.

—excerpt from the TBVME formal complaint against Kristen Lindsey



Bow kill backlash
Go back to the beginning when accusations against Lindsey created a firestorm online, and follow the legal and professional fallout at dvm360.com/lindsey.

practice with her actions.

The TBVME concluded its complaint by declaring that there is no sanction short of revocation that would sufficiently protect the public from Lindsey's poor professional character. An administrative hearing regarding the complaint is yet unscheduled, but it is anticipated to take place in February. [dvm360](#)

BluePearl to join Mars Petcare, owner of Banfield

Mars Petcare and BluePearl have announced that BluePearl, a national provider of specialty and emergency veterinary care with 53 U.S. locations, has agreed to join Mars Petcare, one of the largest pet nutrition and pet health providers in the world.

Once the transaction is completed, BluePearl will join Banfield Pet Hospital in the Mars family, enabling Mars to pro-

vide high-quality care across the entire companion animal healthcare sector, company leaders say.

In a release from Mars, BluePearl CEO Darryl Shaw said, "This agreement is a natural fit for us—Mars is an iconic, family-owned organization with a very significant commitment to pets. Once completed, this exciting development will enable us to make key investments

in our people, facilities, systems and infrastructure, allowing us to continue to grow and drive up standards of veterinary care." He added that BluePearl would continue to operate as a separate, distinct business unit.

Completion of the transaction is subject to necessary regulatory approvals, and financial terms have not been disclosed. [dvm360](#)

Women's leadership group announces new board members, 2016 programming

The Women's Veterinary Leadership Development Initiative (WVLDI) has appointed three new members to its board of directors. These new members are:

> Dr. Lisa Greenhill, associate executive director for institutional research and diversity at the American Association of Veterinary Medical Colleges (AAVMC)

> Dr. Kathleen Ruby, director of counseling and wellness skills development at the Washington State University College of Veterinary Medicine

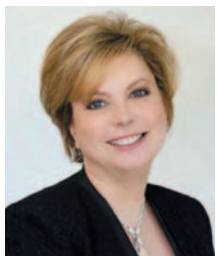
> Dr. Lorrie Gaschen, associate dean for diversity and faculty affairs and professor and section chief of diagnostic imaging at the Louisiana State University School of Veterinary

Medicine.

"We are excited to expand the WVLDI's focus on wellness and diversity through the appointments of Drs. Greenhill, Ruby and Gaschen," says WVLDI President Karen Bradley, DVM, in a release from the organization.



Dr. Karen Bradley, WVLDI president



Dr. Stacy Pritt, WVLDI president-elect

Stacy Pritt, DVM, WVLDI's president-elect, says individuals are invited to join the board of directors based on their experience, expertise and desire to work with others to see all veterinarians achieve their potential while working to promote female leaders in the veterinary profession.

All new board of director terms will start on January 1, 2016, which is when Pritt will begin her tenure as president and Rachel Cezar, DVM, will begin serving as president-elect. Pritt and Cezar are active within the American Veterinary Medical Association (AVMA) and other veterinary medical organizations.

In January, the WVLDI will make presentations at the AVMA Veterinary Leadership Conference. This will

be followed by educational sessions at the Western Veterinary Conference and AAVMC Annual Conference in March and the AVMA National Con-

vention in August. The organization's leaders will be presenting sessions at the CVC veterinary conferences in 2016 as well. [dvm360](#)

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Diabetes alliance releases resources, tools

Three companies have partnered to help educate and raise awareness about this important disease during November.

November is National Pet Diabetes Month, and veterinary practices are being invited to use free educational tools provided by the Diabetes Pet Care Alliance to raise awareness about the disease and educate clients.

Comprising Merck Animal Health, Nestlé Purina PetCare and Zoetis, the alliance offers resources to help pet owners understand diabetes. Quizzes, frequently asked questions, personal

stories, brochures, useful terms and other materials can be found by visiting www.usa.petdiabetesmonth.com. Veterinary practices can order an educational kit that includes a brochure and a waiting room poster.

It's estimated that one in 230 cats and one in 300 dogs suffers from diabetes, according to the website. The condition is underdiagnosed in pets, and cats are more likely to suffer from Type 2 diabetes. [dvm360](#)



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Charging for at-home **diabetic monitoring**

At-home blood glucose monitoring has become a valuable tool clinically, often generating a more accurate picture of how a pet is doing than when curves are performed in the clinic. Inspired by their upcoming Learn Then Earn session at CVC San Diego, Dec. 3, veterinary endocrinologist Dr. David Bruyette and financial consultant Dr. Karen Felsted have a frank talk about the best way to charge—or not charge—clients for consultations while they're performing at-home monitoring for their diabetic pets. Watch the video by scanning the QR code on left or by visiting dvm360.com/diabetescharge.



THE ESSENTIALS: Tools for treating diabetes cases

Cats are most commonly affected by this endocrine disease, but dogs can be affected as well. We've gathered our best content on diagnosing and—usually more complicated—managing your veterinary patients with diabetes mellitus. Visit dvm360.com/diabetesessentials. You'll find tips on which insulin to use, how to best monitor glucose control, what to tell owners to help them best maintain regulation at home and more.



Download the client handouts “My dog has diabetes—now what?” and “My cat has diabetes—now what?” at dvm360.com/diabeteshandout. And find out how the whole veterinary team can send diabetic pets home with confidence at dvm360.com/diabetesconfidence.

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*Blue Buffalo Co., Ltd., July 2015 Consumer Study

The f word

Felines. They hide their illnesses and injuries, and they hate coming to see you. If you're a dog person, you may have mixed feelings yourself about seeing them. And as for their owners, well, how many times have you heard, after presenting your treatment estimate, "Seriously? It's just a cat!" So there are many reasons cats aren't living the healthiest lives possible. In fact, we believe that if these noble (but often hilarious) creatures are going to get the care they need to live long, comfortable lives, it's pretty much up to you—regardless of your feelings toward felines, no one else is going to advocate for them the way you can.



CAT TIPS FROM *dvm360* READERS

We designated a feline day once a week.

Provide sedation for fractious cats (pretreat with gabapentin)

Offer a welcoming atmosphere and cat-loving employees—we need to talk "cat talk."

We could make it easier for people to bring their cats to us, such as open scheduling—"Come in when you catch them."

dvm360 survey takes the feline pulse

We started this Leadership Challenge by asking you—our readers—a number of cat-related questions: what’s the status of the feline portion of your practice, how do you personally feel about cats, and what are your protocols and practices are for feline pain. (And just because we were curious, we asked about declaw-

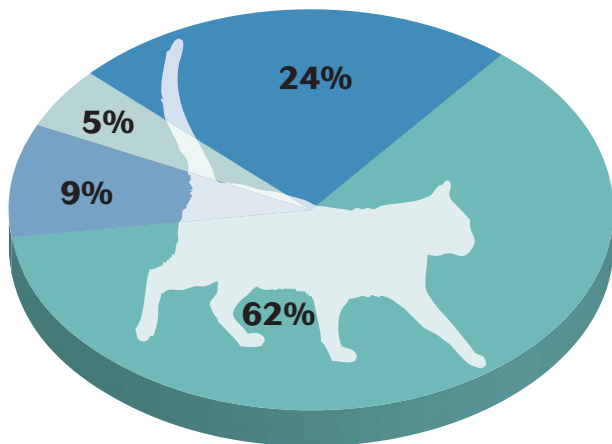
ing.) We received responses from 784 veterinarian readers.

Some interesting results: Despite the intense level of activism surrounding feline onychectomy, most of you are still providing declaws. We know that many of you would prefer not to, but you’re also pragmatists who would rather keep a cat out of a shelter and provide top-level

pain control. Also, while 97 percent of you say you personally like cats, almost 20 percent of you don’t own a single feline. And finally, you fall into two almost equally proportioned groups: those who like both species equally and those who prefer cats or dogs over the other.

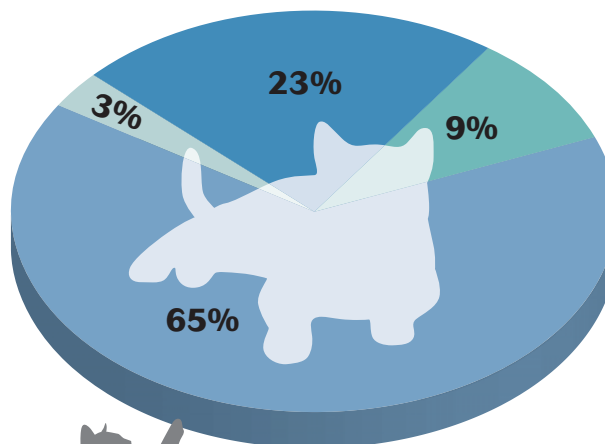
You’ll find this and more on our pages. Read on for more feline facts! [dvm360](#)

Roughly what percentage of your patients today are feline?



- Less than a quarter
- Between a quarter and half
- Half to three quarters
- All or almost all

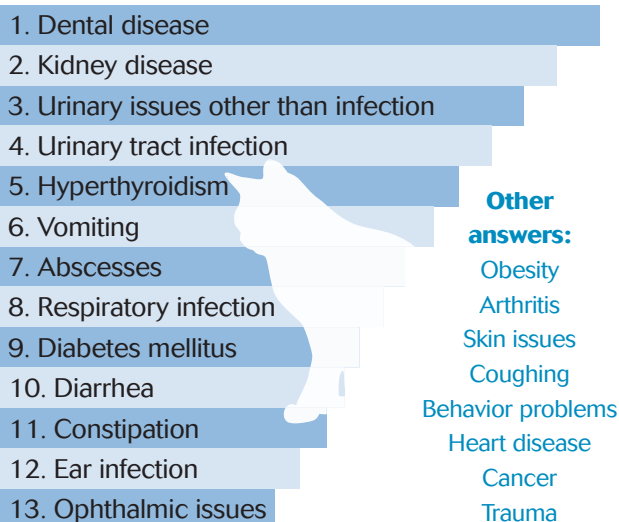
Do you think your cat visits are up, down or about the same in the last 12 months compared with the previous 12 months?



- Up
- Down
- About the same
- I don't know

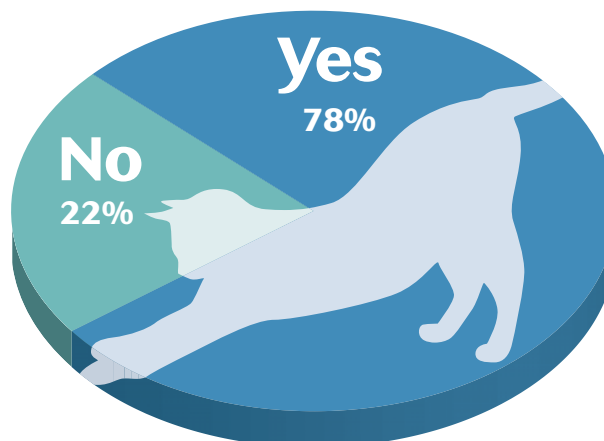
Um ... you should probably know this—or know how to look it up.

Most common feline health issues seen in practice (ranked)



- Other answers:**
- Obesity
 - Arthritis
 - Skin issues
 - Coughing
 - Behavior problems
 - Heart disease
 - Cancer
 - Trauma

Does your practice perform declaws (onychectomy) on feline patients?



Ask dog owners about their cats' health.

People need to be aware that routine visits and laboratory work may extend their cats' lives.

Talk to clients during visits about cat facts, medical advice, and fun stuff about cats—it strengthens the bond with the doctor.

Say, "Cats don't always let us know when they don't feel well."

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

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

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

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

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

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

Adverse Reactions: The most common adverse reactions reported during the course of a US field study for treatment of otitis externa in dogs treated with OSURNIA with 1 tube per affected ear(s) and repeated after 7 days were Elevated Alkaline Phosphatase, Vomiting, and Elevated AST, ALT, ALP* *Aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP). Two dogs with pre-existing elevations in ALP were reported to have an increase in liver enzymes (ALP, ALT and/or AST) at study exit. Subsequent clinical chemistries returned to pre-treatment levels in one dog, while no follow up was performed for the second dog.

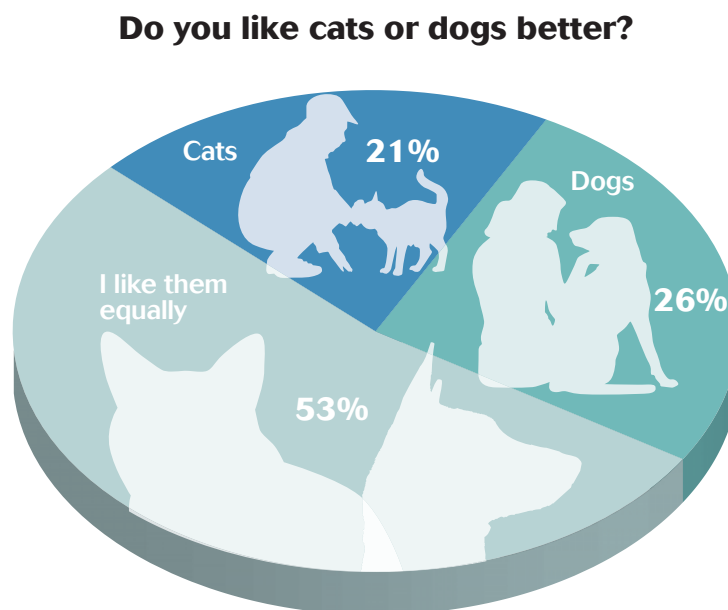
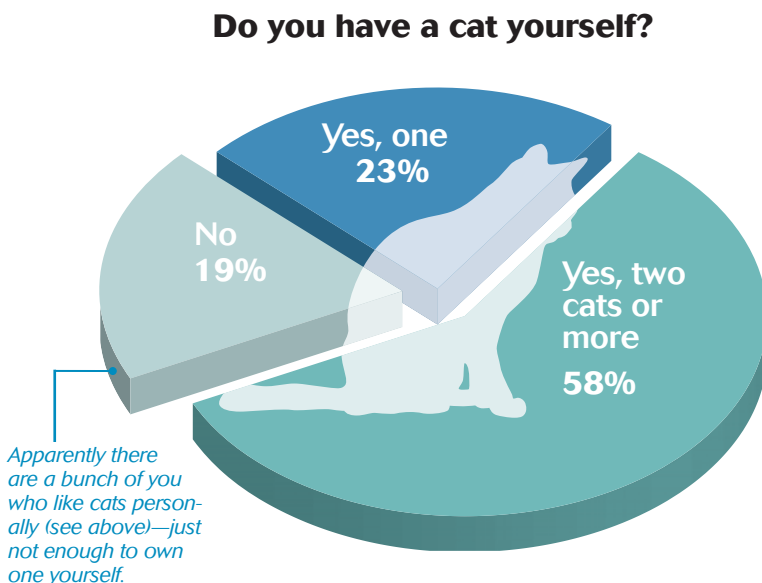
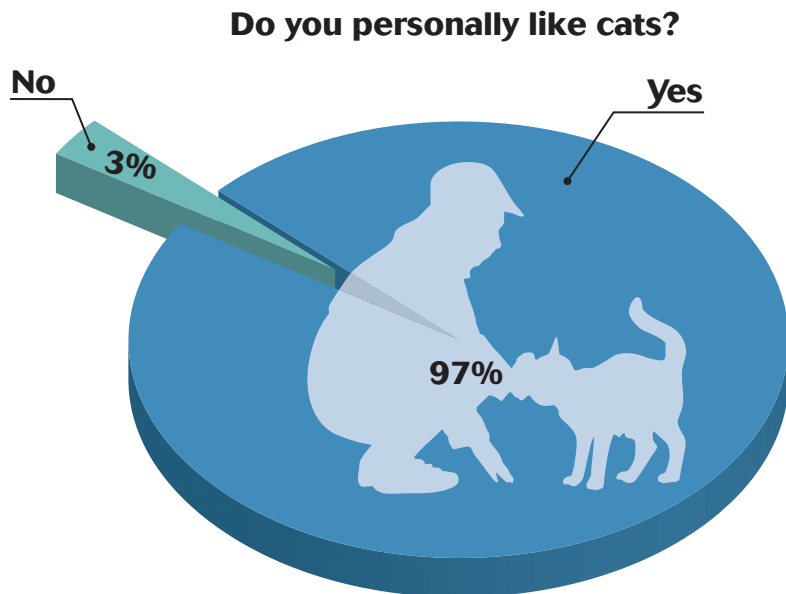
To report suspected adverse drug events, contact Elanco Animal Health at 1-800-332-2761. For additional information about adverse drug experience reporting for animal drugs, contact the FDA at 1-888-FDA-VETS or <http://www.fda.gov/AnimalVeterinary/SafetyHealth>. For technical assistance, contact Elanco Animal Health at 1-800-332-2761.

Effectiveness: Effectiveness was evaluated in 235 dogs with otitis externa. The study was a double-masked field study with a placebo control (vehicle without the active ingredients). 159 dogs were treated with OSURNIA and 76 dogs were treated with the placebo control. All dogs were evaluated for safety. Treatment (1 mL) was administered to the affected ear(s) and repeated 7 days later. Prior to the first administration, the ear(s) were cleaned with saline but not prior to the Day 7 administration. Six clinical signs associated with otitis externa were evaluated: pain, erythema, exudate, swelling, odor and ulceration. Total clinical scores were assigned for a dog based on the severity of each clinical sign on Days 0, 7, 14, 30 and 45. Success was determined by clinical improvement at Day 45. The success rates of the two groups were significantly different (p=0.0094); 64.78% of dogs administered OSURNIA were successfully treated, compared to 43.42% of the dogs in the placebo control group.

NADA # 141-437, Approved by FDA
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Manufactured for: Novartis Animal Health US, Inc., Greensboro, NC 27408 USA
Eli Lilly and Company has purchased the Novartis Animal Health business to be combined with Elanco, Lilly's animal health division.

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How to steal your cat owners' hearts

Jeff Werber, DVM, says he was probably a dog in a previous life. Some kind of retriever, to be specific. Still, on a regular basis, the cat owners who come to his Century Veterinary Group in Los Angeles ask him if his dog clients feel left out since he likes cats better. "I've got them all fooled!" Werber says gleefully.



Dr. Jeff Werber

Actually, Werber really does love cats. He's not faking it. The "magic" is that he exclaims over and adores every cat in his exam room. "Clients don't know how to judge us medically," he says. "All they know is how much you love their pet."

And if you truly love cats, you put out a vibe that cats can read, Werber says. They are more amenable to being held and examined—something clients readily pick up on.

With Werber's practice at 65 percent dogs and 45 percent cats, he's above the industry average, even though dogs still edge out their feline counterparts. Werber caters to his cat clients by designating the short section of his L-shaped waiting room for cats, complete with a fish tank and comfy bench.

Werber also brings up his own cat in conversation, whipping out his phone to show off pics of his own feline brood and cool cat patients he's seen recently.

"When someone gets referred to me, they'll often say, 'We hear that you really love animals,'" Werber says. "Trust me, clients see it. I get more hugs than anyone I know." **dvm360**

CAT TIPS FROM *dvm360* READERS

I review the client's file and ask about other pets in the household, and I briefly discuss the benefit of wellness exams for all the pets. Too often the dogs are getting medical care and the cats are being overlooked. We have a great opportunity to both educate and schedule services by making this part of every visit.

Offer taxi service.

Treating otitis externa just got easier.

Just two doses per ear,
dosed one week apart

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The simple treatment for otitis externa*, with easy application.

- Just two doses per ear, dosed one week apart
- Same dose for every dog
- Single-dose tube with soft, flexible tip is gentle on a dog's ears
- Easy application may lead to better compliance

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OSURNIA[®] (florfenicol/terbinafine/betamethasone acetate) is for otic use only under veterinary supervision. Do not use in dogs with known tympanic perforation or a hypersensitivity to florfenicol, terbinafine or corticosteroids. Adverse reactions observed during clinical trials include vomiting, increased liver enzymes and transient loss of hearing. Please see brief summary on page 20 for additional information.

*Associated with susceptible strains of bacteria (*Staphylococcus pseudintermedius*) and yeast (*Malassezia pachydermatis*).

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Elanco

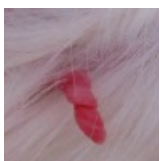
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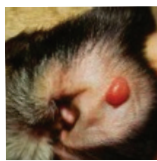


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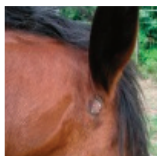
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Histiocytoma



Papillomas



Sarcoid



Distichia

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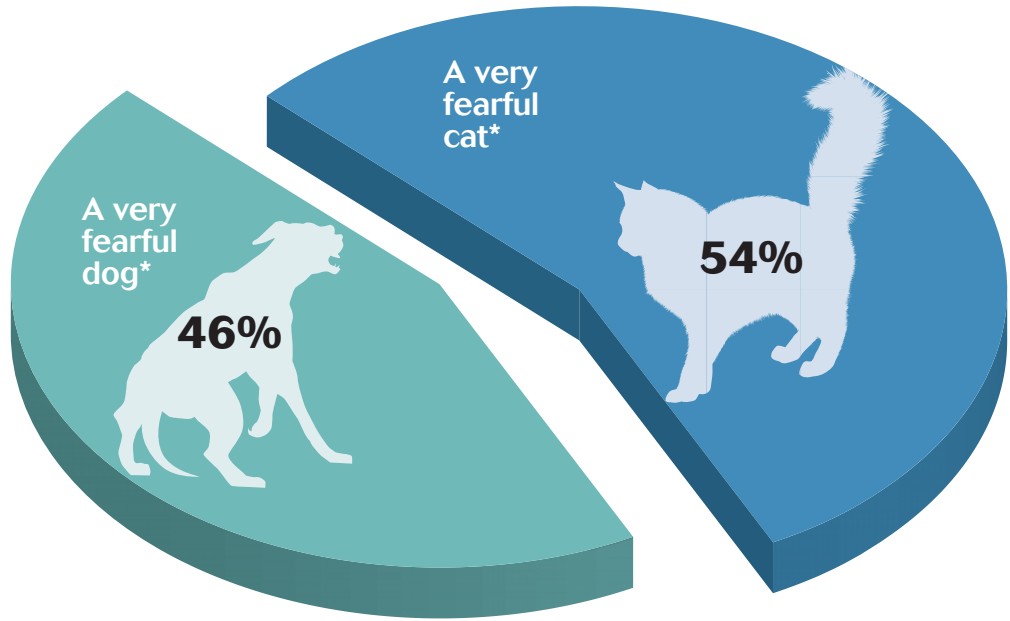


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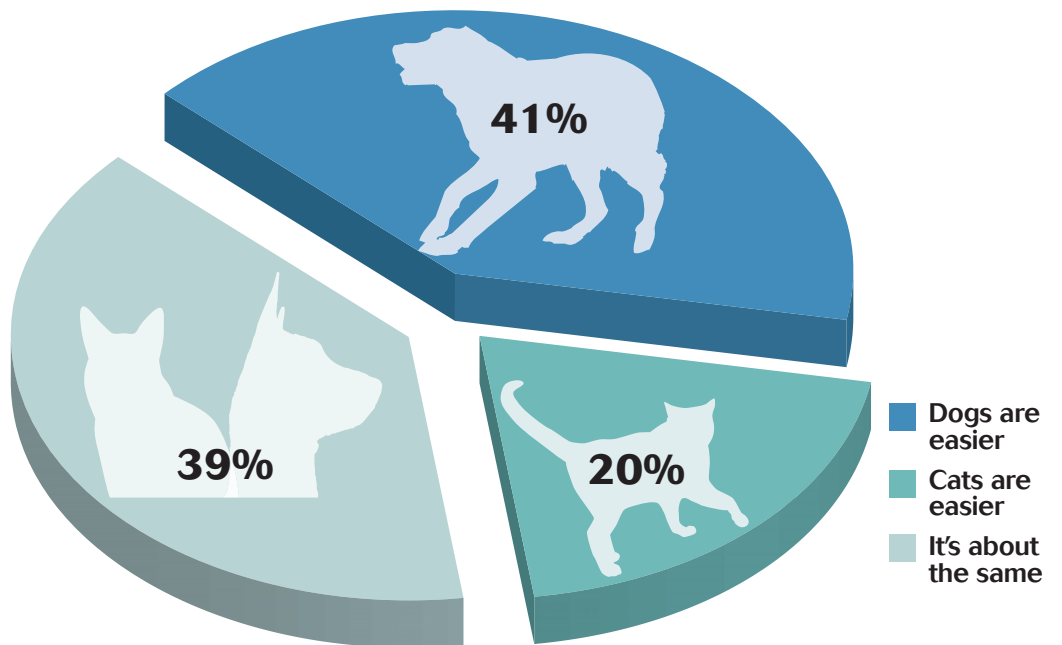
www.JorVet.com Info@JorVet.com

Which of these would you rather face in an exam room?



* Including reactive aggressive behavior

Do you find it easier to manage fear in dogs or in cats?



Fear-Free tips

If you'd rather face *anything* other than that howling banshee from the netherworld in exam room one—you know, that banshee named Muffin—then it's time to visit the Fear-Free Center on dvm360.com.

There you'll find input from experts and in-the-trenches sources on everything from carrier training to counterconditioning, pheromones to Fear-Free philosophy. Head to dvm360.com/fearfree.

CAT TIPS FROM dvm360 READERS

We are a certified Cat Friendly Practice by the AAFP.

We've made our clinic more comfortable and "quirky"—less hospital-like.

We embraced the "Have we seen your cat lately?" campaign, complete with T-shirts and a cat-friendly lobby.

Prefer canines? Go dog-only!

This doc decided to focus on the species she really loved. *By Matthew Kenwright*

After spending almost three decades as a small animal veterinarian, Susan Prescott, DVM, is a certifiable dog person. Prescott, owner of Dogs Only Medical Center in Columbus, Ohio, turned her practice into a dog-focused clinic about seven years ago, she tells *dvm360*.

"I don't dislike cats, but my personal scale tips greatly to dogs," Prescott says. "I said, 'At this age, I'm going to do what I want to do rather than what I need to do in my business.'"

With buy-in from her staff, Prescott found going dog-only has raised her practice's level of care.

"When you are just doing one species, you can be a lot better at it. You don't have to study cat stuff at night," she says. "You know all the genetic conditions of different breeds off the



Dr. Susan Prescott

top of your head. You can be better at it because you're not so spread thinly." When Prescott made the switch, less than 17 percent of her clients were bringing in cats. Even her dog clients were taking their cats elsewhere—often to one of the area's feline-only hospitals. "In their mind, they viewed the veterinary care of the cat differently than the dog," Prescott says.

The clinic offered to send the records of the feline patients she was seeing at the time to other practices, but clients also had the option to be grandfathered in to the clinic's patient roster. About six clients still bring in senior cats, Prescott says.

Prescott didn't receive any backlash after transitioning the clinic to dog-only, but she didn't dwell on possible criticism. "I 'should be' open to be treating cats or dogs, and I 'should be' open to treating pigs, cows and horses, and we're trained in all that stuff," she says. "But it doesn't mean you can be good at all that."

Making the decision to go dog-only is a significant financial decision, she says, and the location must be right. Her clinic's dog focus has allowed it to

devote all of its exam rooms to dogs and outfit them with lift tables. Perhaps her most grateful clients? Those with cat allergies, Prescott says. *dvm360*



PHOTO COURTESY OF DR. SUSAN PRESCOTT

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Learn more at www.AlphaTRAKmeter.com

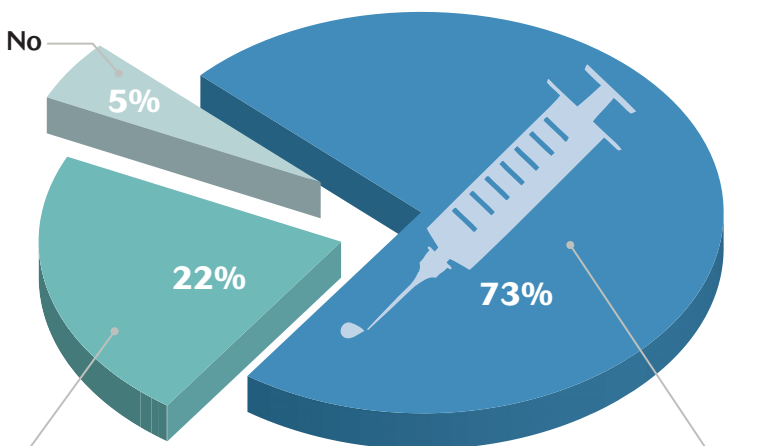
We make feline nutrition recommendations that no other veterinarians seem to know about.

The state of *f*eline PAIN CONTROL

(and how it compares with canine)

Cat neuters

Do you offer postoperative pain control for cat neuters in your practice?

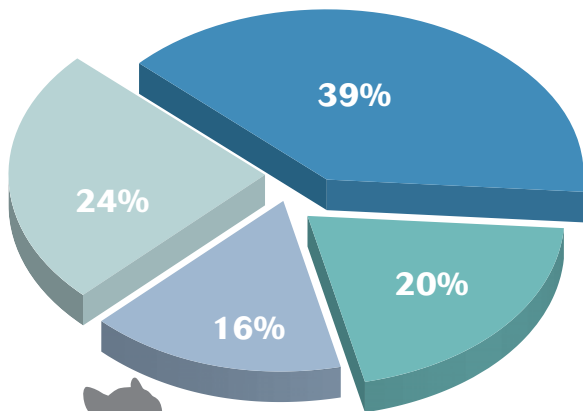


Yes; it's an optional service that pet owners can accept or decline

Yes; it's mandatory/bundled into the price of the procedure

If pain control is optional:

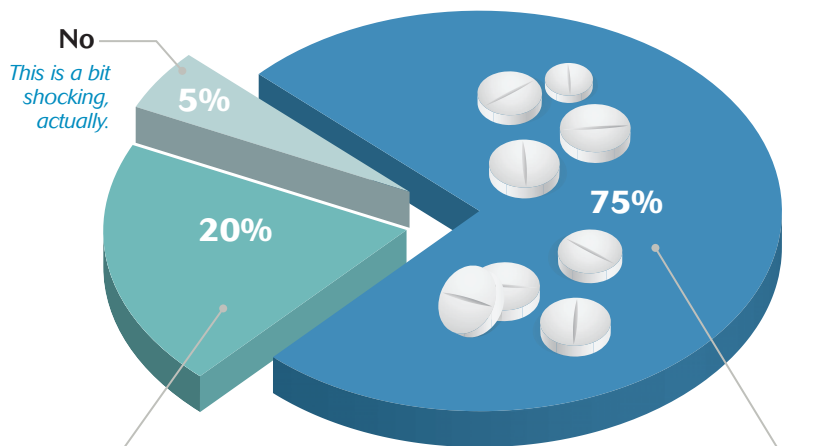
What percentage of your clients opts for pain management when they have their cats neutered?



- Less than one-quarter
- Between one-quarter and half
- Between half and three-quarters
- More than three-quarters

Dog neuters

Do you offer postoperative pain control for dog neuters in your practice?



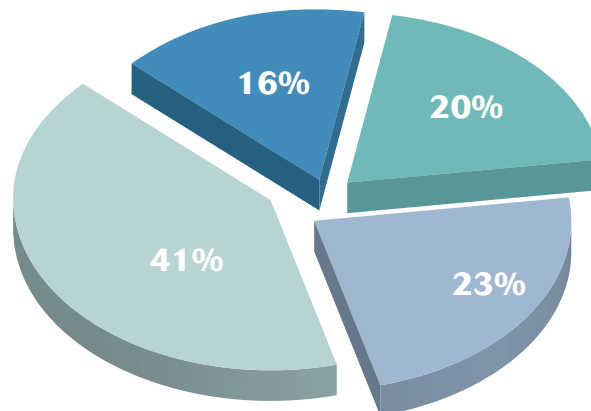
No
This is a bit shocking, actually.

Yes; it's an optional service that pet owners can decline

Yes; it's mandatory/bundled into the price of the procedure

If pain control is optional:

What percentage of your clients opts for pain management when they have their dogs neutered?



- Less than one-quarter
- Between one-quarter and half
- Between half and three-quarters
- More than three-quarters

CAT TIPS FROM *dvm360* READERS

Avoid long waiting times.

Add more value to the visit by addressing behavior and nutrition.

Hand out cat gift bags containing toys, sample cat foods, a pet carrier sticker, a bell collar, a sample of flea product and a soft brush.

Play videos of scenes and animals that are interesting to kitties.

We use thick terry towels or soft blankets on the exam tables so nervous cats can hide underneath, and I expose only the body part I'm examining at the moment.

WHOA!

DOGS ARE IMPRESSED.

Bronchi-Shield[®] ORAL is making a happy vaccine experience the new normal.

BRONCHI-SHIELD ORAL is the first to redefine *Bordetella* vaccination without needle sticks, sneeze-backs, or initial boosters!¹

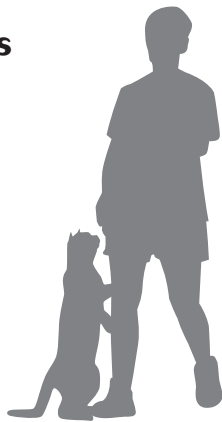
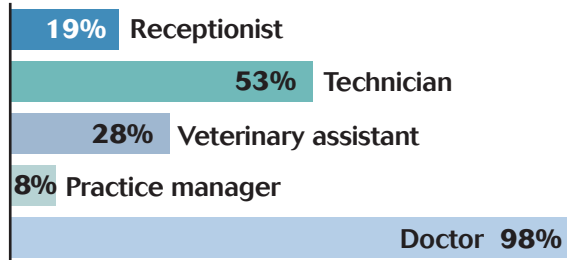
“I think the oral vaccine is probably nicer for everybody in the room.”

—Rebecca Ruch-Gallie, DVM, MS

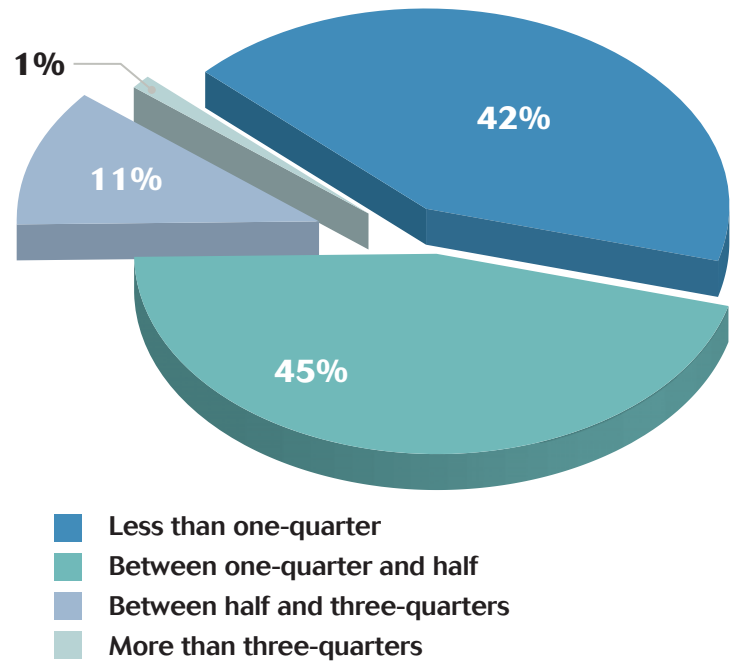
Give dogs and their owners an enjoyable vaccine experience – only with BRONCHI-SHIELD ORAL.

Bronchi-ShieldORAL.com

Which members of your team discuss pain management with cat owners?



What percentage of your feline patients do you think show signs of arthritis?



VENTURA

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Designed for use during open arthrotomy or arthroscopic stifle exploration to provide unimpeded, stable visualization of the medial stifle compartment.

TPLO, TTA, Lateral Suture or any Stifle Repair

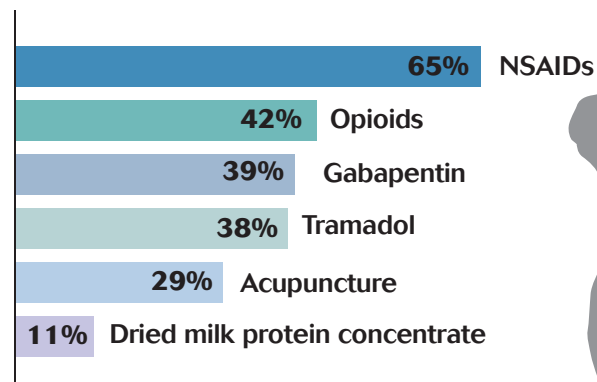
▶ See details at www.imexvet.com



The incidence of degenerative joint disease in younger cats is estimated to be 34 percent while in geriatric cats the incidence increases to up to 90 percent.

Source: Baltzer W, Degenerative joint disease in the cat, CVC Proceedings, April 1, 2008, veterinarycalendar.dvm360.com/degenerative-joint-disease-cat-proceedings.

Which of the following treatments do you recommend for older cats with arthritis?



Other answers:

- Omega-3 fatty acids
- Therapeutic laser
- Glucosamine-chondroitin
- Weight management
- Polysulfated glycosaminoglycans
- Avocado-soybean unsaponifiables
- Steroids



CAT TIPS FROM dvm360 READERS

We attempt to keep cat visits away from the front (noisier) section of the clinic.

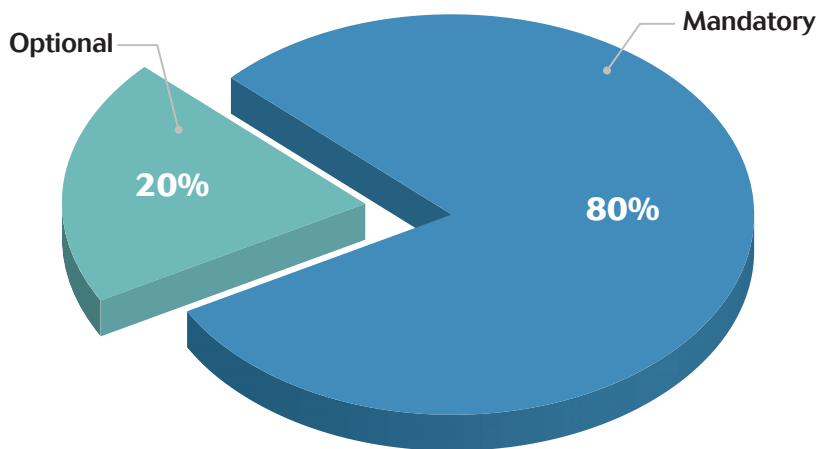
We offer cat treats and catnip mice in the exam room to distract cats while interviewing their owners.

Do more work with cat rescue groups.

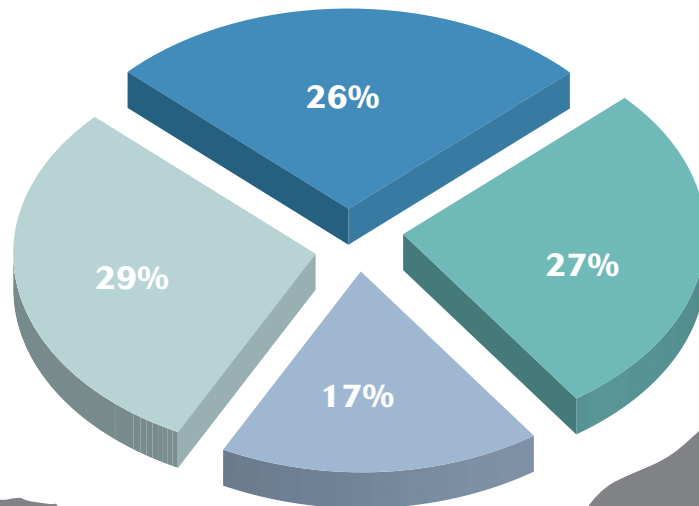


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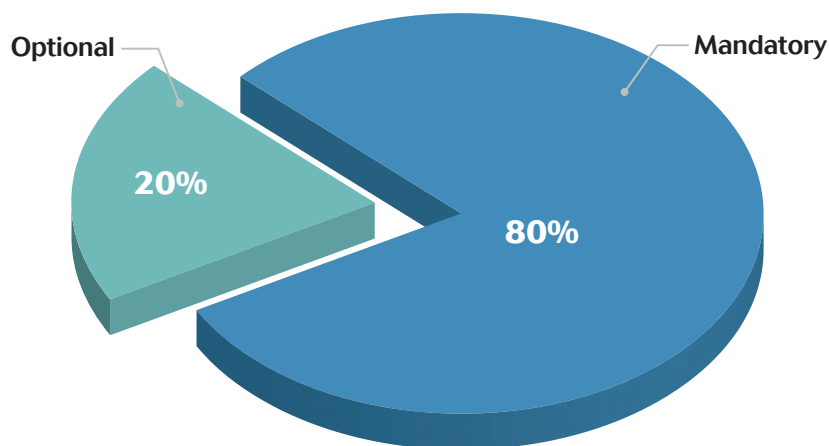
For cat spays and other routine feline surgeries in your practice, is pain management mandatory/bundled into the service or an option that pet owners can accept or decline?



If pain control is optional:
What percentage of your cat clients opts for pain management for routine surgeries?

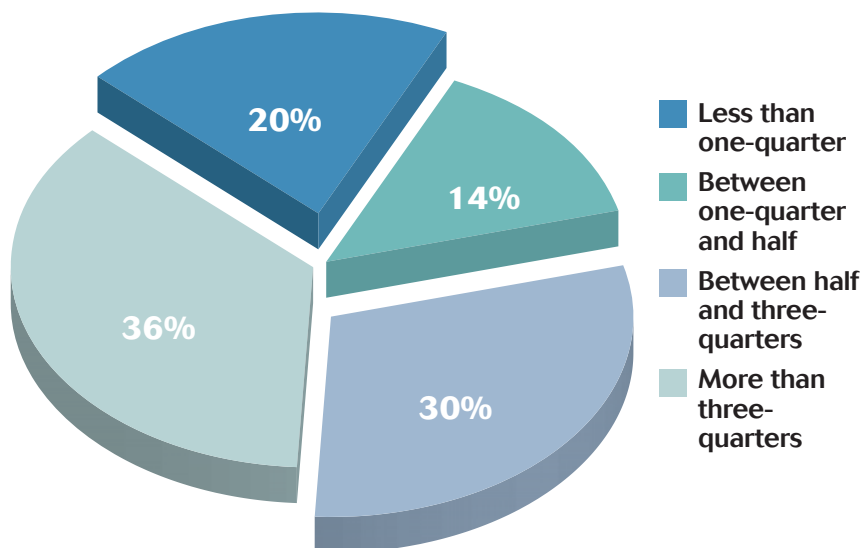


For dog spays and other routine canine surgeries in your practice, is pain management mandatory/bundled into the service or an option that pet owners can accept or decline?



- Less than one-quarter
- Between one-quarter and half
- Between half and three-quarters
- More than three-quarters

If pain control is optional:
What percentage of your dog clients opts for pain management for routine surgeries?



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Schedule very anxious or aggressive cats at "off" hours when few if any other patients are in the hospital.

I am a cat whisperer. I am an associate veterinarian at the practice. Word has gotten out.

Treat the cat with respect.

Why we love *OUR...*

Feline fanatics and devoted dog lovers debate the pros and cons of each species, but in the end we love them all. *By dvm360 staff*

Cat lovers and dog lovers can be pretty polarized in their love for their preferred pets. But here at *dvm360*, we think that both are great and it might surprise you what similarities the two have. For fun, we brainstormed ways that cats and dogs are similar, different and the same and created the charts at right. Have some of your own reasons to add? Send 'em to dvmnews@advanstar.com. [dvm360](#)

... Cats

Cats knead you and it hurts—but you let them because it's cute.

Cats are pretty things that eat pretty things.

You don't have to walk cats.

Cats' tails do weird and entertaining things.

Cats use passive-aggressive posturing before a fight.

Cats love bags and boxes.

Cats emit a "death chatter" when they see prey.

There's a level of mutual abuse between cats and their owners:
"You're hard to live with—but I like it."



... Both

They sense moods and come to you when you're upset.

They bring happiness to your life.

They have a wide range of vocal sounds to "talk" to you with.

They have funny and diverse personalities.

... Dogs

Dogs are always happy to see you and greet you.

You can put dogs to work.

Dogs can come on errands with you.

When dogs are really happy they have helicopter tails.

Dogs have soft muzzles and ears.

Dogs can howl along with things.

Dogs follow you like a shadow.

Dogs can be trained to perform all kinds of tricks and tasks.



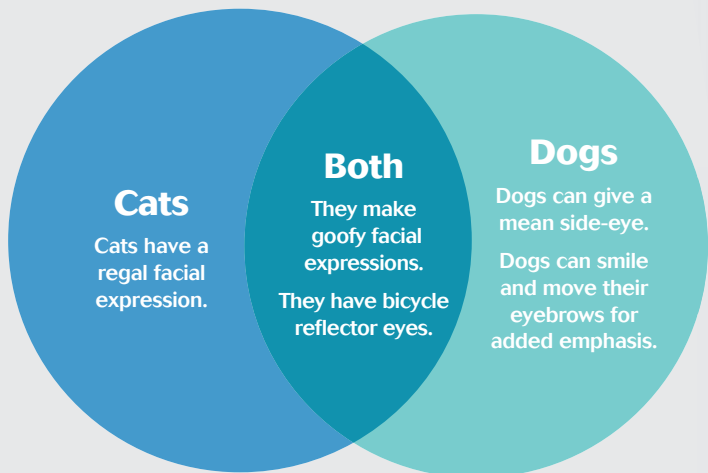
Similar, but different

Highly scientific data* shows that cats and dogs are similar, but they aren't alike in every way.

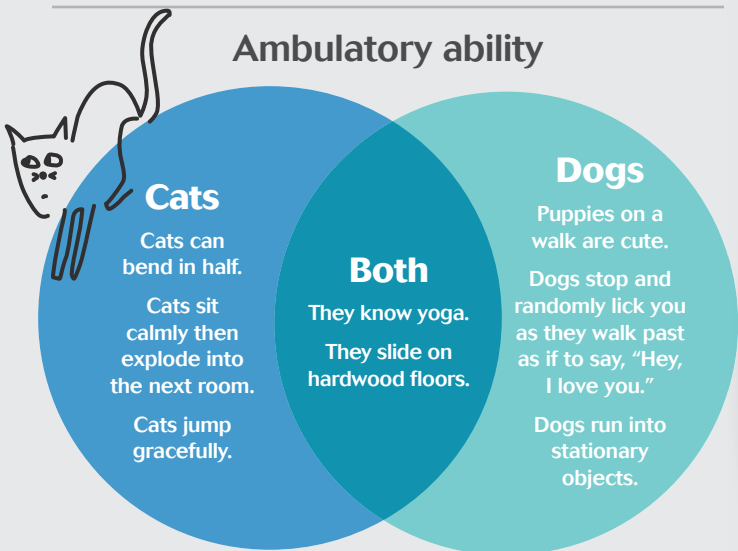
Sleep and nocturnal behavior



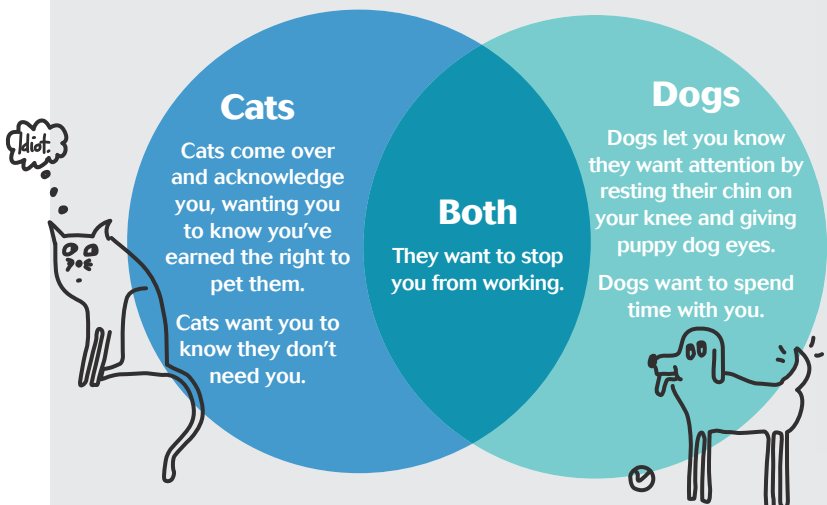
Facial expressions



Ambulatory ability



Getting what they want



*Not scientific at all. We made it all up in a conference room.

Cats:

Poised for world domination



Everything you ever wanted to know about **wellness plans**

One important fact: Clients who enroll in these bundled-services plans spend 57 percent more per patient—or nearly \$300 a year. *By John Volk*

RILEXINE®

(cephalexin) Chewable Tablets for Dogs

Antimicrobial for Oral Use in Dogs only

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

BRIEF SUMMARY: Please consult package insert for complete product information.

INDICATION: For the treatment of secondary superficial bacterial pyoderma in dogs caused by susceptible strains of *Staphylococcus pseudintermedius*.

CONTRAINDICATIONS: RILEXINE Chewable Tablets are contraindicated in dogs with a known allergy to cephalexin or to the β -lactam (any of the penicillins or cephalosporins) group of antibiotics.

WARNINGS: For use in dogs only. Not for use in humans. Keep this drug out of the reach of children. Antimicrobials, including penicillins and cephalosporins, can cause allergic reactions in sensitized individuals. Sensitized individuals handling such antimicrobials, including cephalexin, should avoid contact of the product with the skin and mucous membranes in order to minimize the risk of allergic reactions.

PRECAUTIONS: Prescribing antibacterial drugs in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to treated animals and may increase the risk of the development of drug-resistant animal pathogens.

The safe use of RILEXINE Chewable Tablets in dogs intended for breeding and in pregnant or lactating bitches has not been evaluated.

Positive direct Coombs' test results and false positive reactions for glucose in the urine have been reported during treatment with some cephalosporin antimicrobials. Cephalosporin antimicrobials may also cause falsely elevated urine protein determinations. Some antimicrobials, including cephalosporins, can cause lowered albumin values due to interference with certain testing methods.

Occasionally, cephalosporins have been associated with myelotoxicity, thereby creating a toxic neutropenia¹. Other hematological reactions observed with cephalosporin therapy include neutropenia, anemia, hypoprothrombinemia, thrombocytopenia, prolonged prothrombin time (PT) and partial thromboplastin time (PTT), platelet dysfunction, and transient increases in serum aminotransferases².

ADVERSE REACTIONS: The most common adverse reactions in dogs include diarrhea, vomiting, anorexia and lethargy. To report suspected adverse reactions call Virbac at 1-800-338-3659.

ANIMAL SAFETY: RILEXINE Chewable Tablets were administered orally three times a day to 12-week-old healthy Beagles at 0 mg/kg (placebo), 22 mg/kg (1X), 66 mg/kg (3X), and 110 mg/kg (5X) for 12 weeks, and at 22 mg/kg twice a day for 12 weeks. The most common clinical findings included epiphora, salivation, vomiting and diarrhea among all the dose groups. Three dogs had decreased activity (1 in each from the 22 mg/kg twice a day, 22 mg/kg three times a day, and the 66 mg/kg three times a day groups). These observations were mild and sporadic.

There were increases in alanine aminotransferase (ALT) in the 110 mg/kg three times a day group and in the 22 mg/kg twice a day group that increased in a dose-dependent pattern. There was an increase in sorbitol dehydrogenase (SDH) in the 110 mg/kg three times a day group compared to the controls. These changes were minimal and the values remained within expected historical control ranges. There were several decreases in total protein (in the 110 mg/kg three times a day group) and/or globulin (in the 22, 66, and 110 mg/kg three times a day groups) compared to the controls. These changes resulted in occasional increases in albumin/globulin ratios. Although a drug effect cannot be ruled-out, these changes were not clinically relevant.

A mild prolongation in prothrombin time (PT) was observed in the 22 mg/kg three times a day group. This was not considered clinically relevant due to the small change that remained within the reference ranges.

One dog in the 110 mg/kg three times a day group had moderate amounts of bilirubinuria at the Week 8 and Week 12 samplings. No clinical significance was noted.

Cephalexin was not present in any Day 1 samples prior to dosing or in any control animals. After dosing, cephalexin was well absorbed into systemic circulation of the treated dogs. Within gender and dosage level, Week 8 mean trough concentrations were generally higher than the Week 4 and 12 mean trough concentrations (between a 0.9 and 3.6-fold difference). The geometric mean plasma cephalexin trough concentration following three times daily administration of the 110 mg/kg dose was 11.2 μ g/mL compared to 2.6 μ g/mL and 8.7 μ g/mL following 22 mg/kg and 66 mg/kg, respectively at Week 12. Geometric mean plasma cephalexin trough concentrations following administration of 22 mg/kg twice daily were 0.7, 1.3, and 1.0 μ g/mL at Weeks 4, 8, and 12, respectively.

STORAGE INFORMATION: Store at 20°C-25°C (68°F-77°F), with excursions permitted between 15°C-30°C (59°F-86°F).

HOW SUPPLIED: RILEXINE (cephalexin) Chewable Tablets are supplied in 150 mg, 300 mg, and 600 mg tablets packaged in bottles of 100.

NADA 141-326, Approved by FDA.

Distributed by: Virbac Animal Health, Inc. Fort Worth, TX 76137 USA

Revision date: 05/2013

References: 1. Birchard SJ and Sherding RG. *Saunders Manual of Small Animal Practice*, 2nd edition. W.B. Saunders Co. 2000; p. 166. 2. Adams HR. *Veterinary Pharmacology and Therapeutics*, 8th edition, 2001, p. 825.

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The Bayer Veterinary Care Usage Study published in 2011 showed that pet owners would visit the veterinarian more often if: (1) veterinarians provided a health plan for their pet, and (2) pet owners could pay for routine veterinary services in monthly installments. Wellness plans, sometimes called preventive care plans, satisfy both objectives.

In deciding whether to initiate preventive care plans, one of the most common questions veterinarians ask is: What will be the impact on the practice?

To answer the question, Brakke Consulting interviewed corporate and independent practices that offer wellness plans. The independent practices included Bigger Road Veterinary Clinic in Kettering and Springboro, Ohio; Doral Centre Veterinary Clinic in Doral, Florida; and Lansing Veterinary Clinic, Lansing, Illinois. These practices use a program available from Veterinary Pet Insurance (VPI,

currently changing its name to Nationwide) called Preventive & Wellness Services (P&WS), a program I helped design. National Veterinary Associates (NVA), a privately held corporate owner of veterinary practices, has installed Pet Annual Wellness (PAW) plans in 129 of its practices, with more than 40,000 active plans.

All practices found that wellness plans increased visits and revenue, expanded and improved patient care, helped attract new clients and strengthened the practice-client bond. "Wellness plans make preventive care more affordable" was a common theme among all practices interviewed.

Increase in visits

NVA found that professional service visits for those purchasing plans increased 69 percent compared to the period before these clients purchased plans, from a mean of 3.3 visits per year to a mean of 5.5 visits per year.

Lansing compared the number

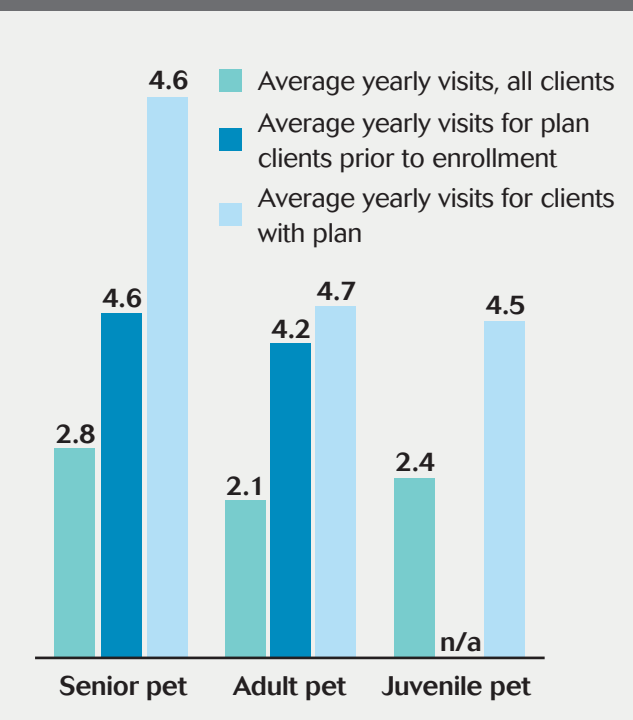
of visits before and after purchasing plans, as well as the number of visits by plan participants compared to non-plan patients. Clients with wellness plans visited nearly twice as often as those without plans, and much more frequently than they did prior to purchasing plans (Figure 1).

Increase in revenues

Both NVA and Lansing found that annual revenue per patient increased significantly for patients with wellness plans compared to those with no plan. In Lansing's case, clients with wellness plans spent much more on veterinary services than they did in the year prior to starting the plan. They also spent substantially more than those clients without plans (Figure 2).

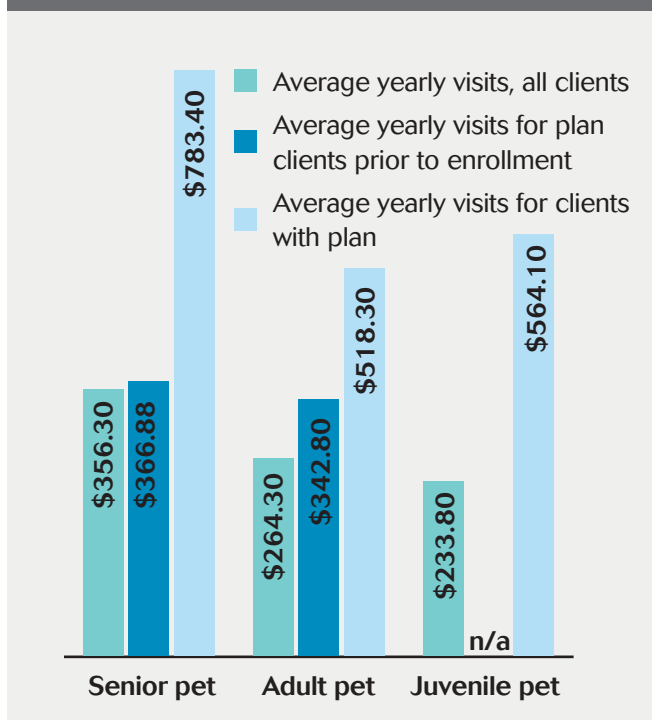
Similarly, NVA found that the mean amount spent annually per patient for medical services increased 57 percent, from \$389 to \$613. NVA found that expenditures on nonmedical products and services outside of the plans increased

Figure 1: Wellness plans' impact on Lansing practice visits



Source: Brakke Consulting, 2015

Figure 2: Wellness plans' impact on Lansing practice revenue



Source: Brakke Consulting, 2015

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See brief summary on page 30

Virbac

Shaping the future of animal health

29 percent, from a mean of \$223 to \$286. So the total “lift” from wellness plans was \$287 per patient per year.

Bigger Road Veterinary Clinic’s experience was similar. Its records showed that clients spent an average of 65 percent more in the year after purchasing wellness plans than they did the prior year.

Sources of revenue growth

There are many reasons why the average spend per patient is higher with wellness plans. Plans include a more robust array of services than the typical client generally purchases a la carte in routine appointments. Lansing clients purchased far more lab work once routine blood

screening was included in plans. Bigger Road found it was able to capture vaccinations that had been lost to mobile vaccination clinics and product sales that had been lost to online vendors.

Dental is another growth area. Like many practices, NVA and Lansing include annual oral health assessments and treatments in their more comprehensive plans. NVA’s dental compliance and revenue has increased dramatically under its PAW program (Figure 3).

Wellness plans tend to drive increased visits not only for preventive care but also for out-of-plan medical needs as well. Often the greater use of services such as wellness bloodwork and dental cleanings leads to additional recommendations by the veterinarian. The combination of discounted care and the ability to spread the cost over time results in greater client compliance with those recommendations.

Doral Centre Veterinary Hospital has found wellness plans to be effective tools for recruiting new clients. Doral estimates that it is gaining 30 to 40 new clients per month due to wellness plans alone. Doral found that wellness plans were especially attractive to new pet owners because these clients don’t know what care pets need and they’re nervous about how much veterinary services might cost. Wellness plans give them a pet health roadmap and a way to budget the expenses.

Pricing and discounts

The practices interviewed for this report typically offer 10 to 15 plans, including plans for both dogs and cats. Prices varied. Many “standard” plans were in the \$25 to \$35 per month range, but some were as high as \$45 per month. Premium plans, which typically include spaying or neutering for juvenile pets and dental assessments and treatments for adult pets, typically cost \$10 to \$15 per month more. Some practices offer a third level, or “advanced” plan, with added services typically recommended for senior pets. Plans sold for dogs far outweigh plans for cats. VPI has found \$30 per month to be the sweet spot for standard plans, especially for dogs. At that price, most pet owners find preventive care very affordable.

Both NVA and Lansing discount services 35 to 40 percent. Part of the rationale is that wellness plans provide for a much more comprehensive package of services than clients typically



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buy, including such things as twice-a-year wellness exams and fecal tests. In addition, clients rarely utilize all the services included in the plan, so some of the discount is “recouped” in unused services. The combination of more robust services, services paid for but not used, and additional outside-the-plan purchases adds up to substantially increased revenue per patient—as well as a higher level of veterinary care.

Bigger Road Veterinary Clinic does almost no discounting, but it does include at no cost a small number of inexpensive services such as nail trims. Yet it has sold more than 500 plans in a little more than a year.

All practices referenced in this article charge a one-time enrollment fee, generally \$45 to \$50. The enrollment fee helps gain a commitment to the plan from clients, and it helps offset the deferred cash flow due to receiving revenue in monthly installments.

Most plans include free visits. NVA PAW plans include up to four visits per year. Bigger Road plans include three visits and Doral plans five. Lansing offers unlimited free visits.

Incentives

All the practices discussed here incentivize their staff for selling plans. NVA contributes \$10 into a fund shared by the staff for each plan sold; Lansing’s incentive is \$5. Doral sets a sales goal and pays a bonus if the goal is met. Each front desk employee has a quota in order to qualify for the bonus. In its first year, Doral signed up 678 patients for wellness plans.

Melissa Garcia, practice manager at Doral, says, “The conversation about wellness plans is one of the easiest discussions about price our staff ever has. The plans sell themselves.”

Selling plans happens primarily at the reception desk. The entire staff, including veterinarians, should be on board and reinforce the importance of preventive care and wellness plans. But the receptionist needs to present the plans before the client sees the veterinarian.

Operational impact

For practices that have no prior experience with wellness plans, they are a major operational change. Setting up wellness plans involves plan design and pricing, changes to the practice management system, team training and marketing. NVA’s experience is

Figure 3: National Veterinary Associates dental compliance improvement for enrolled pets

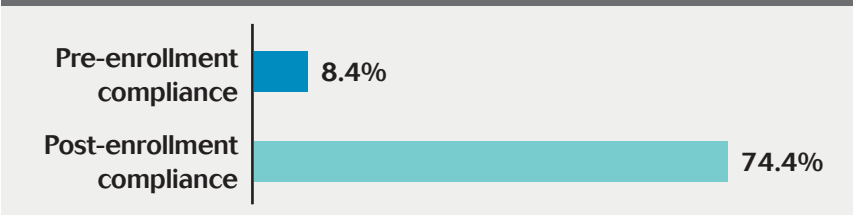
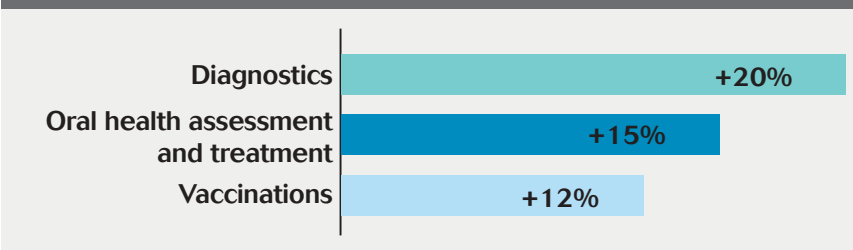


Figure 4: Increased use of services with wellness plans at Bigger Road Veterinary Clinic



Source: Brakke Consulting, 2015

that it takes about 60 to 90 days to make a practice fully operational.

“It’s the biggest change you’ll ever make in your practice,” said one practice manager.

In NVA’s experience, while doctor support is essential to the success of the program in the practice, veterinarians are often the hardest to convince. There are four main reasons:

1. Doctors fear loss of production income.
2. They feel discounting devalues their service.
3. Doctors overestimate client compliance for wellness care.
4. They are often sensitive to what could be perceived as “protocol medicine.”

Once plans are in place, however, veterinarians usually become staunch advocates. Patients get more and better veterinary care, veterinarians see their clients more often, and production pay goes up because clients spend far more at the practice. At NVA, production pay increased 57 percent for those clients with wellness plans.

Based on implementing wellness plans in several hundred practices, VPI’s team outlined what it considers critical to success:

- > A commitment and priority on the part of practice ownership and staff. It should be the one major change the practice tackles in a given year.
- > Goals for number of plans sold
- > Reasonable expectations
- > Strong communications and training for the entire team

> A reward or incentive program for plan sales

> Plans built around the practice’s existing wellness standards

> Realistic pricing

> An internal champion responsible for success. [dvm360](#)

John Volk is senior consultant with Brakke Consulting Inc. in Chicago. This article is adapted from a presentation given at the 2015 American Veterinary Medical Association Convention in Boston.

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Technician aids veterans' pets, mingles with the stars

This author's whirlwind trip began by serving needy pet owners and culminated with the Hero Veterinary Technician award. *By Julie Carlson, CVT*

Homeless veterans started lining up before dawn. In the misty morning light, they stood outside the Coliseum at the Arizona State Fairgrounds clutching backpacks, sleeping bags and abandoned shopping carts. As the sun rose the silhouettes of people and animals became clearer. One man held a rope that was tied around the neck of a greying pit bull. A middle-aged woman was curled around a terrier shivering in her lap. A young man lay on the ground, spooned up against his Labrador mix to keep them both warm. The veterans varied in age and life experience, but they had this in common: They loved their pets and would sacrifice anything for them.

I experienced my first StandDown in

2007. My life has never been the same.

"Stand-down" is a military term that refers to a brief period of time when soldiers cease fire in an active combat zone to rest and regain strength before returning to battle. Every day as

I experienced my first StandDown in 2007.

My life has never been the same.

many as 50,000 homeless veterans are battling life on our nation's streets.

The Arizona StandDown provides three days of respite and shelter for homeless veterans each year with the goal of helping them meet their long-

term needs and enter housing and treatment programs designed to get them reintegrated into the community. Arizona StandDown 2015 served a record 1,693 veterans in a single weekend. Coordinated by the Arizona Coalition to End Homelessness, the StandDown provides services such as Veterans Affairs benefits assistance, medical and mental health services, housing assistance, court services, substance abuse counselors and referrals, employment services, social security assistance, help with ID cards and drivers licenses, legal aid, tax services, sleeping areas, meals, clothing, haircuts, showers—and veterinary care.

When I joined the effort in 2007, the veterinarian who had agreed to donate his time failed to show up for



>>> Julie Carlson, CVT, receives the Hero Veterinary Technician Award from Michael McFarland, DVM, DABVP, of Zoetis at the Hero Dog Awards Gala on Sept. 19.



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NEWS | Veterinary team

the event. According to the event coordinator, this had been the case from year to year. I was given a folding table and a small area to work from. I ran to my car and gathered my stethoscope, thermometer and pen—as a veterinary technician, I always keep these items with me—and set up shop.

I'll never forget the first man I spoke with. He was very large and would have been imposing save for the wide grin on his face. He had been living in a tiny Geo Metro car with his white German shepherd for several years. The man told me all about his dog: his likes and dislikes, how he preferred to be petted—everything. He talked about how he saved every penny people gave him so he could buy his dog the arthritis medications that kept him limber. As his eyes danced and his hands wove the tale, something occurred to me.

“When is the last time you ate a meal?” I asked the man.

He looked up, thought for a moment and replied, “I don't remember.”

That. That was the moment. I brought him to the dining area where he ate a warm, hearty dinner. Then we got to work on his dog. I didn't have anything to offer other than a physical

exam and some advice. But a fire had ignited inside me and I knew that this was where I was needed. I promised those veterans I would be there the next year.

Because I am not a veterinarian, I was unable to requisition drugs and medications. Luckily, Connie Anderson, DVM, had heard of the StandDown and called us to see if there was some way she could help. The executive committee paired us up and we launched Vets for Vets' Pets.

Each year we gather more supplies, more medications and more volunteers. And the number of pets we see is growing exponentially. That first year I saw 10 animals. The second year brought in 44. In 2011, we saw 167 pets. And this last year, we served 570 dogs and cats in just two days.

I never really thought about what I was doing—I just did it. And then one day in March, I got a call from a friend and colleague who volunteers with me at the StandDown. She told me she'd nominated me for the American Hero Veterinary Technician Award through the American Humane Association (AHA). I was flattered and thanked her profusely. And I kind of thought that was it.

Until I got a call in May telling me that 12 industry and celebrity judges had selected me as one of five finalists. Now they had my attention. I couldn't believe it! They liked me! They really, really liked me! At 5 p.m. on July 31, Mari Harner from American Humane called to tell me I had won by public vote. I tried to remain professional, but mostly I squealed like a little girl.

The details came through a series of conference calls and a flurry of emails: five days and four nights at the Beverly Hilton, a private movie screening with dinner and a panel discussion as a guest of philanthropist and AHA supporter Lois Pope, a cocktail party at the Stardust Penthouse on the roof of the Beverly Hilton, a filming of Hallmark Channel's “Home & Family,” a star-studded awards gala with a red carpet appearance. It was all so surreal. I felt like someone had plucked me out of my everyday life and put me right into a fairy tale.

I was allowed to bring a guest with me on my adventure, so I invited my mom, Sharron Gibson, who is my rock and my best friend. We flew from Phoenix to Los Angeles on Wednesday, Sept. 16. When we got to baggage claim, there was a man in a suit holding a sign with my name on it—just like in the movies! He drove us to the Beverly Hilton, where folks from American Humane helped get us settled and ready for our first big event.

We had dinner on a hotel's rooftop terrace with a string ensemble playing in the background. Waiters dressed all in black offered delicate hors d'oeuvres. The tables were laid with gleaming plates and crisp linens. We watched the sun set over the Hollywood hills.

Hero Veterinarian recognized for client and clinical contributions

Annette M. Sysel, DVM, MS, president of the Bauer Research Foundation, was named the Hero Veterinarian. Sysel was chosen because of her “excellence in clinical practice and research and most importantly her generosity as a resource to pet owners,” according to Hero Awards website. Sysel has published studies on a novel cancer biomarker for canines and felines, and she's researching a new serum test that would be able to determine if an issue is cancer or inflammation.



>>> Sysel has conducted research in cancer of cats and dogs.

Sleep was hard to come by due to all the excitement, but I managed to get a few hours before I had to be up. Annette Sysel, DVM, winner of the American Hero Veterinarian Award, and I were driven to VCA West LA Animal Hospital where we each filmed a tribute video that would be shown at the awards gala and, later, posted on the AHA Hero Vet Awards website (www.herovetawards.org, www.herodogawards.org).

Friday morning, AHA held a meet-and-greet breakfast where Annette and I had the opportunity to meet all the Hero Dogs and their handlers. After we had breakfast, we were driven to the Universal Lot for a filming of "Home &

I slipped on my evening gown and jewelry. It was quite a change from wearing scrubs! I stared into the mirror for a minute, reflecting on my journey and everything that had brought me to that moment.

Family" on which the Hero Dogs were featured. We met Paula Deen (celebrity chef), Louis Van Amstel (ballroom dancer from TV's "Dancing with the Stars") and other celebrities.

Saturday brought the awards gala. I rushed around getting my nails painted and my hair done. Just before I was due for a photo shoot outside the ballroom, I slipped on my evening gown and jewelry. It was quite a change from wearing scrubs! I stared into the mirror for a minute, reflecting on my journey and everything that had brought me to that moment. Shaking myself out of my reverie, I hurried downstairs where the red carpet had been laid out and media photographers were setting up their equipment. A cocktail hour and silent auction preceded the big event. Celebrities including

Cameron Mathison, Alison Sweeney, Lacey Chabert, Pauley Perrette, Lea Thompson, Danica McKellar, Bindi Irwin, Alicia Witt, John Ondrasik and Marty Becker, DVM, mingled with the program's guests.

It was my turn to walk the red carpet. A production assistant held up a sign with my name on it. The photog-

raphers each took a shot of it before turning their lenses to me. I posed and turned, trying to emulate what I'd seen the celebrities before me doing. At the end of the red carpet, television shows and media bloggers were holding interviews. Laura T. Coffey and Lori Fusaro, creators of the book *My Old Dog: Rescued Pets with Remarkable*

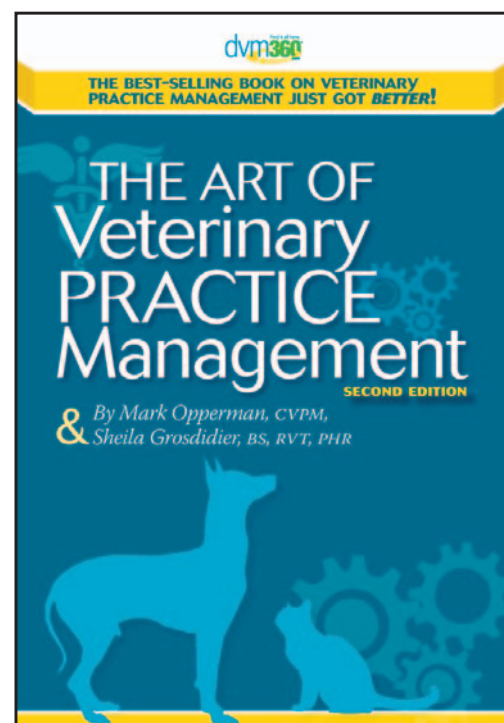
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>>> Carlson gives her acceptance speech in the International Ballroom at the Beverly Hilton.

Second Acts, asked me to stop for photographs. In the lounge area, the Hero Dogs, the Hero Vet and I each had a tall banner on display where more photographers took our pictures.

Finally, it was time for the gala. The Hero Dog Awards took place in the International Ballroom at the Beverly Hilton; this is the same room where the Golden Globes are held. The room was filled with colored lights, the Hero Dog logo projected on the walls, beautifully laid tables, pastel floral arrangements and people in sparkling evening wear. I found my table and was seated among board members for VCA and the American Humane Association.



>>> Carlson's mother Sharron Gibson (left), chef Paula Deen (center), and Carlson attend a breakfast.

After a luxurious three-course dinner, pledges were taken to raise money to send care packages to military working dogs and their handlers overseas. The goal was \$20,000; more than \$75,000 was raised. Then the lights went down

and celebrity presenters welcomed the Hero Dogs and their handlers on stage to receive their awards.

I received the last award of the evening. Shortly before I was to be announced, a production assistant pulled me into the green room where my hair and makeup was touched up. Marty Becker, Jade Roper and Tanner Tolbert from TV's "Bachelor in Paradise," and Lois Pope were among those in the room. Just before my segment, I sat quietly in a chair, mulling over what I wanted to say. Too soon, I was called up. I stood just offstage while my tribute video was played. I started to watch it on the monitor next to me, but felt my eyes welling up from the emotional scenes and looked away. Danica McKellar announced, "Please welcome our Hero Veterinary Technician of the year, Julie Carlson."

I strode onto the stage, trying to project more confidence than I felt, while also attempting to walk in my high heels (a rarity for me). I accepted the heavy crystal Tiffany & Co. statue from McKellar and received hugs, kisses and handshakes from her, Dr. Becker, and J. Michael McFarland, DVM, DABVP, of Zoetis. I turned toward the crowd, looking at the 700 faces giving me a standing ovation, and began: "Wow, what an honor! You know, every day there are about 50,000 United States veterans living on the very streets they fought to defend. And for many of those veterans, their dog is the only thing they have left. So I want to thank American Humane Association and Zoetis for shining a light on this vulnerable population and for supporting our efforts to



>>> Carlson in front of the Hero Award banners.

keep these pets healthy. I also would like to thank my friends at Animal House Veterinary Clinic and Pima Medical Institute and everybody who voted for me and supported me throughout this whole process. Thank you."

After the gala, the other winners and I were bouncing off the walls with excitement. Even with the late hour, there was no way we were going to bed anytime soon. We gathered by the Beverly Hilton pool, and I found my tablemates there, who cheered as I walked in. We laughed, cried and relived the gala until just before dawn. No one wanted it to end. Although we had to fly home the next day, we are all gathering again soon, this time in Washington, D.C. The American Humane Association has invited us to a congressional briefing on America's Hero Dogs on Oct. 21, where we will discuss the power of the human-animal bond.

The other winners and I have all become friends and speak almost daily. We are supporting each other's causes and spreading the word about our organizations. Although we are scattered across the country, this event has bonded us forever. And even though I'm back to work, every once in a while I pull my evening gown out of my closet and remember how it felt to be famous, if even just for 15 minutes. dvm360

Julie Carlson is a freelance author and certified veterinary technician in Phoenix. She is the co-founder of Vets for Vets' Pets, a nonprofit organization providing supplies and medical care to the pets of homeless and at-risk veterans.

AAEP unveils initiative to enhance horse health, racing integrity

A key component of the plan is to determine treatment alternatives for exercise-induced pulmonary hemorrhage. *By Ed Kane, PhD*

In an effort to help protect the health and welfare of racehorses and ensure the long-term viability and integrity of the horseracing industry in the United States, the American Association of Equine Practitioners (AAEP) recently unveiled a multipart initiative.

One of the central components of AAEP's Prescription for Racing Reform is the association's commitment to identifying non-race-day treatment alternatives for exercise-induced pul-

monary hemorrhage (EIPH).

Here are the key points of the AAEP's initiative:

- Investigate efficacious management strategies for EIPH that do not require administering race-day medications. AAEP supports the use of furosemide to control EIPH's negative effects in racehorses. However, race-day administration of any medication is seen by many as problematic for the sport.

- Facilitate a meeting of scientists,



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including experts in the fields of equine EIPH, pulmonary function and human sports medicine, to identify research efforts that may yield alternatives to current treatment protocols.

- > Pursue funding for identified research projects.
- > Ban the use of anabolic steroids in racehorses in training. While they

already are banned for horses actively competing, AAEP supports the complete discontinuation of their use in horses currently in training.

- > Restrict administration of nonsteroidal anti-inflammatory drugs (NSAIDs) to 48 hours before racing. Current NSAID rules in most jurisdictions allow 24-hour

administration before racing. But research indicates that the residual anti-inflammatory effect of NSAID administration remains at 24 hours. To ensure that prerace examinations are not influenced by the prior administration of an anti-inflammatory medication, the AAEP endorses

“We realize EIPH is a disease. And the best we have to therapeutically treat it is furosemide. It’s been scientifically proven to be efficacious. That being said, we also realize that its use is a polarizing issue within the industry. Our concern as veterinarians is the health and welfare of the horse.”

—Jeff Blea, DVM, AAEP’s immediate past president

restricting NSAID administration to 48 hours prerace.

According to AAEP, other points of the plan address compounded medication, veterinary list reciprocity and stiff sanctions for rules violators.

“Our desire to investigate non-race-day treatment alternatives for EIPH serves both the horse and the industry, and we are committed to developing a strategy that goes beyond the simple cessation of race-day medication,” says G. Kent Carter, DVM, AAEP president. “As doctors of veterinary medicine, we want to contribute to the success of the racing industry but must remain committed to protecting the health and welfare of the horse as our foremost priority.”

The initiative continues AAEP’s commitment to health and safety issues. The association sponsored

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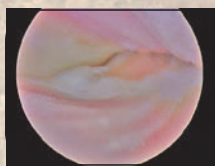
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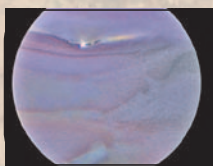
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Post-op cranial-caudal radiograph showing CUE implants in place



Arthroscopic image of severe MCD



Arthroscopic image of CUE 7 months post-op



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the first-ever industry Racehorse Medication Summit in 2001, co-sponsored the 2011 International Summit on Race Day Medication and has developed numerous white papers with recommendations addressing health and safety.

Identifying an alternative to furosemide

The AAEP is dedicated to finding an alternative to furosemide within the guidelines of the Prescription for Racing Reform, says Nathaniel White II, DVM, DACVS, professor emeritus of equine surgery at Virginia Tech's Marion duPont Scott Equine Medical Center in Leesburg, Virginia.

White says the AAEP is gathering a group of scientists, both equine and human, this fall to discuss both past and current research on the effect of maximal exercise on equine pulmonary physiology. The agenda will include the current state of pulmonary research and potential alternatives to furosemide administration. "We will ask those scientists, no holds barred, to explore all the potential possibilities of how to eliminate furosemide use on race day while still protecting the horse," White says.

The goal, he continues, is to develop an action plan concerning new research directions and a budget and then report back to the industry. "If we're going to do this properly, the racing industry will have to support this research with significant funding," he says.

White will serve as moderator and liaison for the group of researchers. "It's time to look at all the pulmonary and cardiovascular research possibilities to explore this question further," he says.

"The physiology of bleeding is thought to be a pulmonary vascular problem also associated with heart function," White continues. "During racing, there's a backup of blood in the vessels in the lungs as the heart attempts to keep up with the demands of strenuous exercise. The increased pressure causes leaking in the pulmonary alveoli capillaries, i.e., EIPH bleeding."

To date, no drug other than furosemide has been identified that can decrease the severity of the bleeding to the benefit of the horse.¹ The research meeting aims to change that.

Consensus from AAEP

Jeff Blea, DVM, AAEP's immediate past president, says that in recent years several interested professionals have gathered to discuss furosemide and EIPH. "What came out of that was a request for ACVIM to put together a consensus statement on EIPH, as the concern from the public and some in the racing industry is that furosemide is essentially a 'performance-enhancing drug,'" he says.

The result was the ACVIM's Consensus Statement on EIPH in Horses.¹ The objective of this statement was to review the evidence and provide recommendations that address each of the following questions:

- What is the impact of EIPH on the welfare and health of horses?
- Does EIPH affect performance?
- Are there effective prophylactic interventions for EIPH?
- Does furosemide affect the athletic capacity of horses?

The panel found high-quality evidence that furosemide is effective in the prophylaxis of EIPH, and it made a weak recommendation for its use in managing racehorses with this disease. The panel also made no recommendation regarding additional pharmacological interventions for the prophylaxis of EIPH because of the absence of studies or the very low quality of evidence.

"We realize EIPH is a disease," Blea says. "And the best we have to therapeutically treat it is furosemide. It's been scientifically proven to be efficacious. That being said, we also realize that its use is a polarizing issue within the industry. Our concern as veterinarians is the health and welfare of the horse, though we also understand and are respectful and cognizant of the political issues within racing."

Blea says AAEP administrators decided to take a leadership role on the issue. "Our first problem is that we don't know what we don't know, so let's start asking questions," Blea recounts. "We decided to get together with a group of experts in the field, equine practitioners who have studied EIPH, and pharmacologists, respiratory and cardiology physiologists in both veterinary and human medicine.

"Our efforts are in the initial stages, and we don't have any real benchmarks," Blea continues. "Our goal is not to be concerned with the politics

... but to find a treatment for this disease that is as effective, or more effective, than furosemide, if possible.

"At the end of the day," Blea concludes, "it might just be that the best therapeutic medication is still furosemide. But without pursuing research to look at alternatives, we'll never know. If we don't allow ourselves to ask, we're not going to learn." [dvm360](#)

References, Suggested Reading

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Ed Kane, PhD, is a researcher and consultant in animal nutrition. He is an author and editor on nutrition, physiology and veterinary medicine. Kane is based in Seattle.



More on furosemide
Dr. Kenneth Marcella discusses facts and fiction related to this highly controversial drug and its use in race horses. Read it at dvm360.com/MarcellaEIPH.

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PEDv might have entered country in giant tote bags

Testing supports the flexible intermediate bulk container hypothesis, but definitive proof has yet to confirm path of entry.

Since the first diagnoses in April 2013, pork producers and herd veterinarians worked to mitigate the spread of porcine epidemic diarrhea virus (PEDv) as it devastated

large swaths of swine across the United States. Despite efforts, infection and re-infection of herds thought to have immunity persisted. However, there is now hope that investigators have identified the virus' source of entry into the United States.

A recently released report from the U.S. Department of Agriculture (USDA) found that

flexible intermediate bulk containers (FIBCs)—tote bags, essentially—were the most likely vehicle to harbor and transport the porcine virus. The large bags are made of materials such as woven polypropylene, according to the agency, and are used to transport bulk material such as vitamin and mineral mixes, dried distiller grains, pet food and soybean hulls. The bags are usually reused without disinfection. The USDA investigation found that the small spaces between the bags' woven fibers could harbor virus particles and protect them from sunlight and ultraviolet radiation.

Although the USDA says it has yet to uncover incontrovertible proof for its theory—no virus was detected in 60 FIBCs tested in August—the bags provide the most plausible scenario for entry into the country. Testing proved that the virus was stable in the woven fabric for 10 weeks at both 4 degrees C and -80 degrees C. At room temperature, the virus remained

viable for five weeks. Investigation data to date has not supported people as an entry pathway, although the USDA says many persons associated with swine production travel regularly between the U.S. and Asia.

Reports suggest China as the country of origin of the viruses that appeared in the United States, the USDA says. And viruses isolated in the U.S. have been shown to be similar to those identified in China between 2010 and 2013. However, it's unlikely that a specific route and mode of travel for PEDv will be uncovered. Since FIBCs are used for transporting many types of potentially contaminated product, investigators were unable to identify any ingredient or manufacturer that was common to all infected farms.

Still, the report says that mitigation of the virus, if it indeed is harbored by FIBCs, could be as simple as not reusing the bags or a disinfection procedure prior to reuse of the containers. [dvm360](#)



>>> Flexible intermediate bulk containers (FIBCs) are used to transport a variety of products. Bags similar to these may be how porcine epidemic diarrhea virus entered the U.S., according to a USDA report.

Four veterinarians join Obama's council on antibiotic resistance

Last year's executive order by President Barack Obama to create a national action plan for combating antibiotic-resistant bacteria has spawned the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria. The 15-member group will advise Health and Human Services Secretary Sylvia Mathews Burwell on programs and policies related to the public health threat associated with antibiotic resistance.



Dr. Lonnie King

The council's vice chair, Lonnie J. King, DVM, MS, MPA, DACVPM, is also the chair of the Association of Public and Land-Grant Universities (APLU) and Association of American Veterinary Medical Colleges (AAVMC) Joint Task Force on Antibiotic Resistance in Production Agriculture. King says in a release, "The antibiotic resistance problem is very complex and it involves many dif-

ferent facets of our healthcare and food production systems. It threatens the well-being of both people and animals and it has the capacity to be very disruptive from both a public health and an economic standpoint. Given our One Health perspective, the substantial expertise of our members, and our mandate for action, I'm confident we are poised to make some important progress."

In addition to King, Michael Apley, DVM, PhD, DACVCP, professor in the department of clinical sciences at the Kansas State University College of Veterinary Medicine; Peter Davies, BVSc, PhD, professor of swine health and production at the University of Minnesota; and Randall Singer, DVM, MPVM, PhD, professor of epidemiology in the department of veterinary biomedical sciences at the University of Minnesota, will also serve on the council.

The advisory council convened for the first time Sept. 29 in Washington, D.C. [dvm360](#)



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ACHIEVE MORE TOGETHER

Unfriendly fungi:

Five groups of mushrooms toxic to pets

Various mushroom species can cause adverse effects in small animals—some self-limiting, and others deadly. *By Lynn R. Hovda, RPH, DVM, MS, DACVIM*

While only a few mushroom species are toxic to dogs and cats, mushroom poisoning has found its way to the mainstream news recently after celebrity Dwayne “The Rock” Johnson shared that his French bulldog, Brutus, had died after ingesting mushrooms. There have also been reports of a pocket of several apparent mushroom poisonings in Saskatchewan.

Outdoor dogs, especially those allowed to roam freely through woods and fields, are at the greatest risk of poisoning. A few of these “field” mushrooms pose an additional hazard as they have an enticing fishy smell or have toxins present only in the natural, uncooked state. In some instances, indoor or indoor-outdoor dogs and cats may be at greatest risk simply because the mushrooms are found in their environment. Recreational or hallucinogenic mushrooms are an excellent example of this.

Ingestion of toxic mushrooms may result in severe clinical signs or death. In general, all mushroom ingestions in veterinary patients should be considered toxic unless the mushroom is accurately and rapidly identified by a person trained in mycology. Clinical signs associated with mushroom poisoning depend on the species of mushroom ingested, specific toxin within that mushroom, amount ingested, and age and size of animal. Early nonspecific signs include vomiting, diarrhea, abdominal pain, ataxia or incoordination, depression, tremors and seizures.

Mushrooms known to cause poisoning can be roughly divided into five broad categories based on clinical signs. Included in increasing order of toxicity are those that cause gastrointestinal irritation, hallucinations, muscarinic reactions resulting in SLUDGE (salivation, lacrimation, urination, diarrhea, gastrointestinal distress and emesis), psychotropic activity or seizures, and hepatic necrosis or kidney failure. The degree of toxicity and expected outcome differ for each general category and concentration of toxin present.

Gastrointestinal irritation

Mushrooms found in this category include those in the genera *Agaricus*, *Boletus*, *Chlorophyllum*, *Entoloma*, *Lactarius*, *Omphalotus*, *Rhodophyllus*, *Scleroderma* and *Tricholoma*. The specific toxin for most of these mushrooms is unknown. Abdominal pain, vomiting and diarrhea occur within 15 minutes to two hours of ingestion and resolve spontaneously within a few hours. Rarely, the signs last for 24 to 48 hours. Most animals improve without treatment, but supportive care in the form of antiemetics, histamine-2 antagonists (H2 blockers) and intravenous fluids is indicated for persistent signs. The prognosis for a full recovery is excellent, and poisoning is rarely fatal.

Hallucinations

Psilocybe, *Panaeolus*, *Conocybe* and *Gymnopilus* species mushrooms grow primarily in

fields and pastures in the northwestern and southeastern United States. Often referred to as magic mushrooms, they are also grown in basements and personal greenhouses for recreational use. Psilocybin and psilocin, the known toxins, are hallucinogens that readily cross the blood-brain barrier into the central nervous system (CNS) where they stimulate serotonin receptors. In dogs, ataxia, weakness, vocalization, nystagmus, abnormal mentation, aggression and increased body temperature occur within 15 minutes to two hours. The signs in most dogs are short-lived, lasting only for four to six hours, although some cases may take 24 to 48 hours for full resolution of signs. Emesis may be useful if early and clinical signs have not occurred. Treatment is supportive and includes anticonvulsants, intravenous fluids and attention to thermoregulation. The prognosis is generally good, although deaths have been reported.

Muscarinic reactions

Mushrooms in the genera *Inocybe* and *Clitocybe* species are the most common members of this group. Both are found worldwide. *Inocybe* species tend to grow under or around conifers or broad-leaved trees, and *Clitocybe* species grow in grasslands or on the forest floor. Muscarine, the toxin, competes with acetylcholine at its receptor-binding sites. Once bound, muscarine acts like acetylcholine but is not degraded by acetylcholinesterase. Fortunately, muscarine does not cross the blood-brain barrier, so most effects are peripheral.

Depending on the amount of muscarine present, the signs of poisoning occur anywhere from a few minutes to two hours of ingestion and last for several days. Commonly observed signs include SLUDGE, but other reported signs include abdominal pain, miosis and bradycardia.

If the animal has not already vomited, induce emesis. Further decontamination with activated charcoal is usually not practical because of the rapid onset of clinical signs. Intravenous fluids should be administered for dehydration and atropine (0.2 to



>>> Above is an example of an *Amanita pantherina*, which is associated with psychotropic activity and seizures in dogs and cats. When faced with mushroom ingestions in veterinary patients, each case should be considered toxic unless the mushroom is accurately and rapidly identified by a person trained in mycology.



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See brief summary on page 48

References: 1. Trifexis[®] [product label]. Indianapolis, IN: Elanco; 2014.
2. Heartgard[®] Plus [product label]. Duluth, GA: Merial Inc; 2011.

* *A. caninum*.

† Prevents flea eggs from hatching; is not an adulticide.

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2 mg/kg, one-quarter intravenously and the remainder subcutaneously or intramuscularly) given as needed for the SLUDGE syndrome. Drying of respiratory secretions is a useful guide for repeat atropine dosing. The prognosis is generally good but varies depending on the amount of muscarine in the mushrooms, severity of signs, and response to atropine. It is important to note, however, that a single *Inocybe* and *Clitocybe* species mushroom may be lethal if muscarine in the mushroom is high.

Psychotropic activity and seizures

The most common species of mushrooms in this broad category are *Amanita pantherina* and *Amanita muscaria*. They are found throughout the United States but are especially common in the deciduous and coniferous forests of the Pacific Northwest. Other less common species include the *Amanita gemmata*, *Amanita smithiana*, *Amanita strobiliformis* and *Tricholoma muscarium*. A few of these mushrooms are grown or kept by people for recreational use, and cats as well as dogs have been poisoned. Technically referred to as isoxazoles, the two major toxins, ibotenic acid and muscimol, readily cross the blood-brain barrier. Ibotenic acid mimics the excitatory amino acid glutamic acid, acting most strongly at NMDA glutamate receptors, and muscimol is potent a GABA agonist.

Clinical signs in dogs generally occur within 30 to 90 minutes of ingestion, are related to the central nervous system, and include lethargy, vocalization, incoordination, panting, labored breathing, paddling, aimless chewing, hyperactivity, muscle tremors and seizures. Signs may occur as early as 15 minutes in cats and vary from profound depression to excitation and muscle tremors.

Emesis is not recommended because of the rapid onset of neurologic signs. Gastric lavage followed by activated charcoal is useful if performed early after an ingestion. Treatment is primarily symptomatic and supportive, with special attention given to medications chosen for seizure control. Benzodiazepines such as diazepam and midazolam should be used carefully as they are GABAergic in nature and may exacerbate effects; barbiturates may cause worsening of CNS depression and respiratory depression

requiring mechanical ventilation. The prognosis depends on the amount of toxin present and mushroom ingested but is normally good with aggressive supportive care. Death may occur after ingestion of a single mushroom if the concentration of toxins is high enough.

Hepatic necrosis and kidney failure

Common genera of mushrooms in this group include *Amanita*, *Galerina* and *Lepiota*, with *Amanita phalloides* (death cap or death angel), most widely known. The death cap is frequently found around trees (e.g. birch, oak) in warm, humid years in the northeastern United States, Pacific Northwest and San Francisco Bay Area. These cyclopeptide-containing mushrooms are among the most poisonous in North American and very few dogs or cats survive ingestion. Amanitins, the primary toxins, are heat-stable and not degraded by the acid stomach pH, which means they are poisonous both as fresh and cooked mushrooms. Amanitins work by inhibiting RNA polymerase II and ribosomal protein synthesis. The net result is cell death, especially of hepatocytes but also of intestinal crypt cells and proximal renal tubule cells where the metabolic rate is high.

The clinical signs occur in different phases, and it is vitally important that veterinarians treating animals with mushroom exposures understand the time frame so early and aggressive treatment is provided. The earliest signs are gastrointestinal and include severe abdominal pain, vomiting and bloody diarrhea. They are often delayed for six to 24 hours after ingestion. This phase typically lasts for 24 to 48 hours and is followed by a quiet phase of 12 to 24 hours. During this time, liver enzyme activities increase until fulminant liver failure, hypoglycemia, coagulopathy, encephalopathy, coma and death occur. Animals that survive the hepatic phase develop polyuria, polydipsia, vomiting and anorexia and die of proximal and distal renal tubule necrosis. A few dogs die early in the poisoning, but for most, death occurs three to five days after ingestion.

Early diagnosis and treatment are critical if the dog or cat is to survive. There is currently no known antidote. Animals should be treated as early as possible and not just monitored to see if clinical signs develop. If vomiting does not occur, emesis should be induced and followed with three doses of activated charcoal. Intravenous fluid therapy including dextrose, antiemetics, H2 blockers and phytonadione are useful for symptomatic and supportive care. Liver protectants such as silymarin, S-adenosyl methionine (SAME), N-acetylcysteine and vitamin E all warrant use. An experimental procedure to drain the gallbladder was used to successfully treat a poisoned dog with *A. phalloides* but has not yet been fully evaluated. The prognosis for recovery in dogs and cats is very poor with liver transplants the only known cure. [dvm360](#)

Lynn Hovda is director of veterinary services for the Pet Poison Helpline and SafetyCall International in Bloomington, Minnesota.

Pet Poison Helpline, an animal poison control center based out of Minneapolis, is available 24 hours, seven days a week for pet owners and veterinary professionals that require assistance treating a potentially poisoned pet. The staff provides treatment advice for poisoning cases of all species, including dogs, cats, birds, small mammals, large animals and exotic species. Additional information can be found online at www.petpoisonhelpline.com.

Suggested reading

- > Lee S, Nam SJ, Choi R, et al. Mushroom poisoning by *Inocybe fastigiata* in a Maltese dog. *J Anim Vet Adv* 2009;8(4):708-710.
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SENTINEL SPECTRUM should be administered orally, once every month, at the minimum dosage of 0.23 mg/lb (0.5 mg/kg) milbemycin oxime, 4.55 mg/lb (10 mg/kg) lufenuron, and 2.28 mg/lb (5 mg/kg) praziquantel. For heartworm prevention, give once monthly for at least 6 months after exposure to mosquitoes.

Dosage Schedule				
Body Weight	Milbemycin Oxime per chewable	Lufenuron per chewable	Praziquantel per chewable	Number of chewables
2 to 8 lbs.	2.3 mg	46 mg	22.8 mg	One
8.1 to 25 lbs.	5.75 mg	115 mg	57 mg	One
25.1 to 50 lbs.	11.5 mg	230 mg	114 mg	One
50.1 to 100 lbs.	23.0 mg	460 mg	228 mg	One
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To ensure adequate absorption, always administer SENTINEL SPECTRUM to dogs immediately after or in conjunction with a normal meal.

SENTINEL SPECTRUM may be offered to the dog by hand or added to a small amount of dog food. The chewables should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole. Care should be taken that the dog consumes the complete dose, and treated animals should be observed a few minutes after administration to ensure that no part of the dose is lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

Contraindications
There are no known contraindications to the use of SENTINEL SPECTRUM.

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Do not use in dogs or puppies less than two pounds of body weight.

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02/15



Upset about veterinary debt? Don't blame the students

Veterinary students in general are managing their debt within reason; solutions to this massive problem will have to come from elsewhere.

During the past couple of years, the American Veterinary Medical Association (AVMA) has conducted a number of focus groups at various professional venues, and two economic topics continue to be of concern. AVMA members want the association to take action on (1) student debt and (2) the problem of "too many veterinarians."

I have already written extensively about the "too many veterinarians" topic, but I have only provided measures of student debt because we need to gather more information. That additional information will arm us with a better understanding of student debt that will, in turn, help guide the profession in developing appropriate strategies to improve its economics.

Factors affecting student debt

In a recent analysis of veterinary college student debt from 2001 to 2014, Williams and co-authors¹ examined a set of demographic factors that might help explain the variation in debt among graduating veterinary students. In short, they found that 36 percent of the variation in the level of debt among veterinary graduates from 2001 to 2014 can be explained by the year of graduation (greater debt over time), age at graduation (more debt with age), marital status (less debt if married), gender (less debt for males) and college attended. When controlling for all of these variables except the college attended and comparing that result to the reported tuition cost per seat for the class of 2014, we found that, in fact, 51 percent of the variation in student debt could be explained. That left 49 percent that could not.

Given this large amount of variation that cannot be explained by available demographic variables, we attempted a different approach to understanding the factors affecting student debt. Our senior survey data includes the debt level reported by all respondents from

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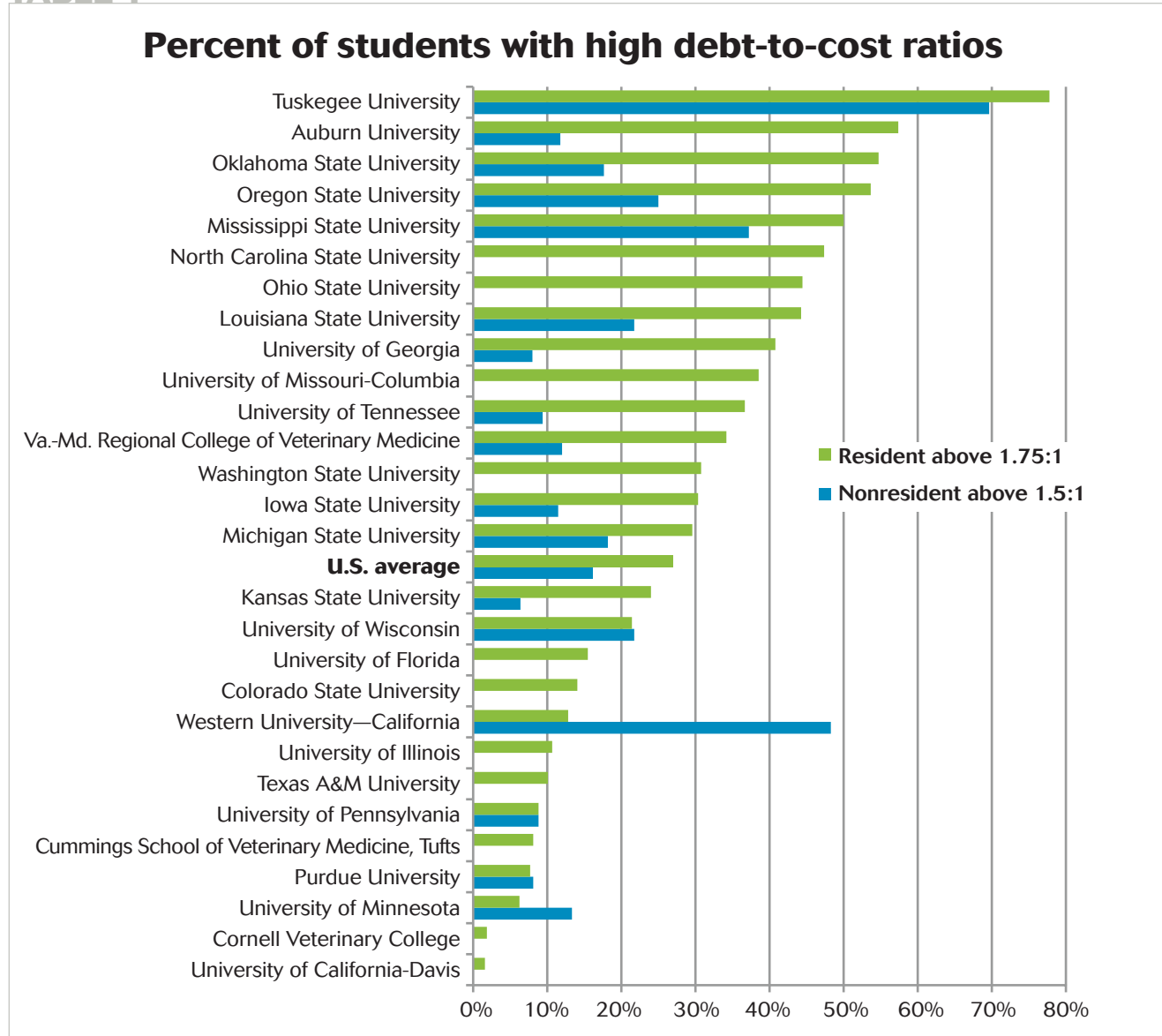
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TABLE 1



Source: AVMA Veterinary Economics Division

U.S. colleges when they graduate and also specifies their college and residency status. We separated the residents and nonresidents and then compared tuition costs to debt for each student.

Of course, students must pay for tuition and living costs, and living costs may be highly variable. This can be the result of geographical differences in cost of living as well as differences in individual situations—students may have medical problems, special dietary needs and so on. In order to provide a margin for living costs that would separate those with “acceptable” levels of debt from those with “excessive” levels of debt, we used the ratios of 1.5 times the nonresident tuition rate and 1.75 times the resident tuition rate to arrive at a maximum “acceptable” level of expenditures.

The mean resident tuition paid by 2014 graduates (based on rates provided by each school) was \$103,327 for residents and \$191,710 for nonresidents. This computation gave us a ratio we could then use to delineate between acceptable and excessive debt. That

provided us with a living expense buffer of nearly \$75,000 for residents and \$95,000 for nonresidents over their four-year college stay.

Excessive student debt

The results indicate that 27.2 percent of residents and 16.1 percent of nonresidents have excessive debt. Even more telling is that those with excessive debt are not uniformly distributed through the 28 colleges that graduated students in 2015. There are 15 colleges with greater than 27 percent of their resident students with excessive debt and eight colleges with greater than 16 percent of their nonresident students with excessive debt.

Of course, this analysis includes some assumptions, as every analysis does. One major one is that the resident and nonresident tuition rates are an accurate portrayal of the net tuition cost for each student. Because the tuition cost is the denominator in our debt-to-cost ratio, overestimating this cost will reduce the number of students that have excessive debt, while underes-

timating the cost will increase it.

We have likely done some of both. Contract students were aggregated with resident students under the assumption that the entire cost of the nonresident portion of tuition is not paid by these nonresident students. In addition, there has been no adjustment for scholarships, stipends or other external support. Lastly, several schools/states allow for nonresidents to be considered residents after the first year, and this has not been captured in the data.

As an example, the veterinary colleges at both Ohio State University and North Carolina State University have provisions that allow nonresidents to be considered residents after the first year. For Ohio State, this reduces the nonresident cost from more than 2.2 times the cost of resident tuition to just 1.3 times the resident cost. At North Carolina State the change is reduced from 2.4 to 1.3. And, as illustrated below, both of these schools show no nonresidents with excessive debt.

On the other hand, the five veterinary colleges that are members of the

Western Interstate Commission on Higher Education (WICHE) accept more than 40 students per year (42 in 2015) who receive nonresident tuition assistance from the WICHE member states. We included these students as well as other “contract” nonresident students as resident when we estimated excessive debt. To the extent that their contract value does not cover the nonresident portion of tuition and fees, we have likely overestimated the number of students with excessive debt.

Whether we have overestimated or underestimated the number of students with excessive debt, the number is small and the message is unchanged. In general, the 2014 graduates from the 28 U.S. veterinary colleges are managing their finances within reason. Those that are not appear to be concentrated in specific schools. Knowing the exact net cost per student would help target resources to reduce excessive debt.

Strategies to reduce debt

The important takeaway here is that veterinary education debt is not specifically a student problem but a problem with the cost of education in general, and the root cause of the problem is shared by the colleges of veterinary medicine, the university as a whole and the general public. More importantly, the excessive debt problem can be readily solved through better financial education for a target group of students, placing borrowing limits on veterinary education loans, or both.

Controlling the cost of education in the face of declining public support will require a Herculean effort. Common strategies of cost reduction for other businesses include capturing economies of size, specialization and outsourcing. Before any of these strategies is considered, the profession will need to agree on what societal role it wants the veterinary medical profession to play in the future. By identifying this objective and taking into consideration the educational resources currently available, the profession can then begin a dialogue on how to more efficiently use available educational resources to meet future needs, reduce costs and minimize the debt of veterinary college graduates. [dvm360](#)

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Dr. Mike Dicks is director of the AVMA Veterinary Economics Division.



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Nonprofit clinics: When *price* trumps *loyalty*

A private practice veterinarian learns—again—that some pet owners just have to save a buck.

Mr. Holmes loved the family dog, Roscoe. Roscoe had delighted his wife and family for 14 years. As the CEO of a local paper goods company, Mr. Holmes often came home after everyone was asleep—everyone except for Roscoe, who waited up and promptly jumped on his lap as he sat down to have a nightcap after a long day's work.

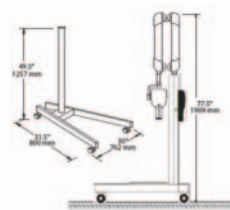
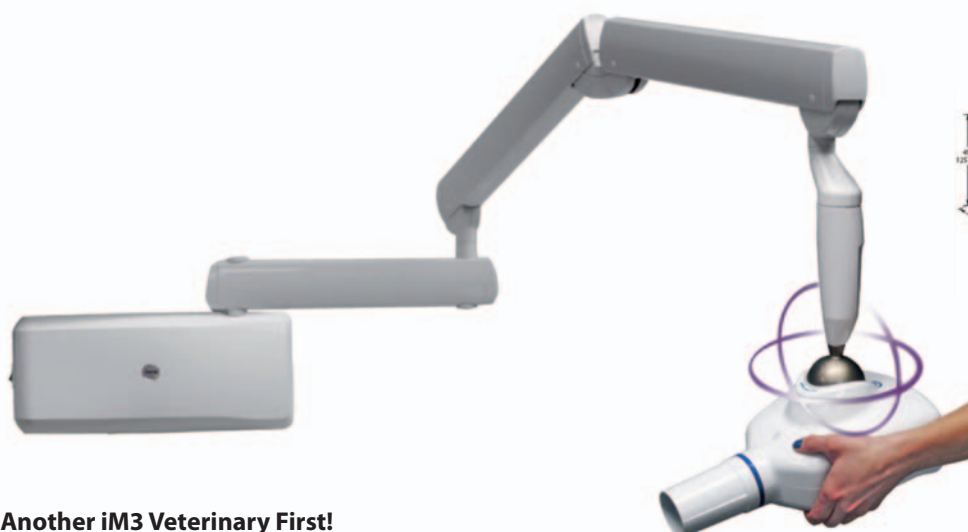
Roscoe was a privileged dog and enjoyed every minute of his family interaction. His veterinary needs were never neglected; his chew toy needs were always met; the family room couch was his. Roscoe eventually succumbed to the passage of time, and his death took its toll on the Holmes family. Nevertheless, it was time to take the plunge again two years later.

Mr. Holmes went to a Westie rescue and adopted not one but two Westies. The two pups, a 5-month-old brother and sister, were adorable. Their first visit to see Dr. Ames at the Ames Veterinary Hospital was exciting. The staff welcomed Mr. Holmes and the new pups with open arms. The healthy pups were started on appropriate puppy prophylactic protocols, and their spay and neuter appointments were scheduled for when they were 6 months old.

During their next visit, Mr. Holmes told Dr. Ames that the rescue had given him a certificate for the pups' spaying and neutering at the local low-cost spay and neuter clinic. The fee was about half of what Ames Veterinary Hospital had quoted him. Mr. Holmes said he realized the shelter staff didn't know his pups, but it was hard for him to turn down such a deep discount.

Dr. Ames valued the Holmes family as clients and proceeded to share his reasons for this price variation. First,

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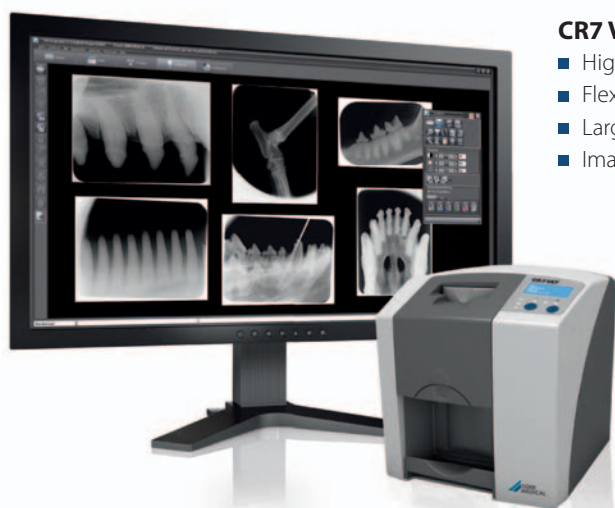


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The client said that he would always bring the pups to Dr. Ames for their medical care, but the dramatic cost difference dictated that he use the animal shelter facility.

he said, his support of area shelters was unwavering. He donated his time and efforts whenever he was called on. That said, he continued, the low-cost clinic was a tax-exempt facility and had charitable contribution status. Its original purpose was to control pet overpopulation via neutering for those pet owners who couldn't otherwise afford it.

In recent years, however, affluent pet owners had started using the low-cost clinic to save a buck, and many indigent owners now found it difficult to get an appointment. Dr. Ames went on to say that private veterinary clinics couldn't financially compete with a tax-free nonprofit facility.

Mr. Holmes listened carefully. He understood the professional and financial conflicts that Dr. Ames presented. Ultimately, Mr. Holmes decided that if licensed veterinarians worked at low-cost facilities, they were quali-

fied to do surgery on his dogs. He said that he would always bring the pups to Dr. Ames for their medical care, but the dramatic cost difference dictated that he use the animal shelter facility.

Dr. Ames understood but was disappointed. This wasn't the first time a client had opted to have a pet neutered at a low-cost facility instead of his clinic.

He believed that he was being asked to compete financially with a nonprofit charitable organization, and that wasn't possible. Dr. Ames chalked up this growing trend to the changing face of 21st-century veterinary medicine. He would continue to offer high-quality, compassionate pet care and hope that his clientele valued his service.

In effect, he was resigned to the inevitable.

Do you agree with Dr. Ames?

Rosenberg's response

The tension between private veterinary practices and low-cost nonprofit facilities is nothing new to the profession. No longer can private clinicians expect spays and neuters to be staple services in their hos-

pitals. In order for contemporary veterinarians to be successful, they must carve out a niche for their veterinary services. These unique offerings and qualities attract and retain a vibrant client base.

That said, it's also true that low-cost nonprofit clinics were originally conceived to assist financially challenged pet owners in providing responsible medical care for their animals. However, affluent owners (such as Mr. Holmes) have started using these services much more frequently. Consequently, many animals and owners who are truly in need face long waiting periods for sterilization procedures.

Here's my take: It's time that low-cost facilities scrutinized their clients' financial eligibility so that the disadvantaged can assist their pets in a timely way. It's also time that veterinarians stopped viewing nonprofit veterinary shelter facilities as a thorn in their sides and accepted them as allies in controlling pet overpopulation and assisting our many homeless pets. [dvm360](#)

Dr. Marc Rosenberg is director of the Voorhees Veterinary Center in Voorhees, N.J. The veterinary practices, doctors and employees described in "The Dilemma" are fictional.



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4 ways to fix the legal profession *from a dual DVM-JD*

Tougher standards could improve attorneys' sordid—and well-deserved—reputation among veterinarians.

I recently had the pleasure of giving continuing education lectures to a group of emergency and critical care veterinarians at the International Veterinary Emergency and Critical Care Symposium (IVECCS) in Washington, D.C.

In attendance were some truly remarkable veterinarians and experts from all over the world. As an added bonus, I spent time with my middle son, who is completing his fourth-year med school clinical rotation at George Washington University Hospital.

My lectures covered a broad range of topics from the Patient Protection and Affordable Care Act (commonly referred to as ObamaCare) to veterinary malpractice law. During a lively postlecture Q and A session, I learned two interesting things from my audience. First, I was pleased to discover that many terrific young doctors read this column (thanks, guys and gals). Second, I found that the finest in the veterinary profession harbor a great deal of distrust and resentment against the legal profession.

Much of the disdain is justified. American society is clearly too litigious, and it doesn't surprise me that veterinarians gathering in lawyering's epicenter would be eager to give me an earful. But, as with so many things, I have an opinion. Allow me to offer these four ideas that I feel would improve the legal profession and the service it provides:

1 Becoming a lawyer needs to be harder. In the 30 years since I graduated from law school,



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Contraindications
There are no known contraindications to the use of INTERCEPTOR PLUS.

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Not for use in humans. Keep this and all drugs out of the reach of children.

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Prior to administration of INTERCEPTOR PLUS, dogs should be tested for existing heartworm infections. At the discretion of the veterinarian, infected dogs should be treated to remove adult heartworms. INTERCEPTOR PLUS is not effective against adult *D. immitis*.

Mild, transient hypersensitivity reactions, such as labored breathing, vomiting, hypersalivation, and lethargy, have been noted in some dogs treated with milbemycin oxime carrying a high number of circulating microfilariae. These reactions are presumably caused by release of protein from dead or dying microfilariae.

Do not use in puppies less than six weeks of age.

Do not use in dogs or puppies less than two pounds of body weight.

The safety of INTERCEPTOR PLUS has not been evaluated in dogs used for breeding or in lactating females. Studies have been performed with milbemycin oxime alone.

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The following adverse reactions have been reported in dogs after administration of milbemycin oxime or praziquantel: vomiting, diarrhea, depression/lethargy, ataxia, anorexia, convulsions, weakness, and salivation.

To report suspected adverse drug events, contact Novartis Animal Health at 800-637-0281 or the FDA at 1-888-FDA-VETS.

For technical assistance call Novartis Animal Health at 800-637-0281.

Information for Owner or Person Treating Animal:
Echinococcus multilocularis and *Echinococcus granulosus* are tapeworms found in wild canids and domestic dogs. *E. multilocularis* and *E. granulosus* can infect humans and cause serious disease (alveolar hydatid disease and hydatid disease, respectively). Owners of dogs living in areas where *E. multilocularis* or *E. granulosus* are endemic should be instructed on how to minimize their risk of exposure to these parasites, as well as their dog's risk of exposure. Although INTERCEPTOR PLUS was 100% effective in laboratory studies in dogs against *E. multilocularis* and *E. granulosus*, no studies have been conducted to show that the use of this product will decrease the incidence of alveolar hydatid disease or hydatid disease in humans. Because the prepatent period for *E. multilocularis* may be as short as 26 days, dogs treated at the labeled monthly intervals may become reinfected and shed eggs between treatments.

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Palatability
In a field study of 115 dogs offered INTERCEPTOR PLUS, 108 dogs (94.0%) accepted the product when offered from the hand as if a treat, 1 dog (0.9%) accepted it from the bowl with food, 2 dogs (1.7%) accepted it when it was placed in the dog's mouth, and 4 dogs (3.5%) refused it.

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INTERCEPTOR PLUS is available in four strengths, formulated according to the weight of the dog. Each strength is available in color-coded packages of one, six, or twelve chewable tablets each.

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an odd phenomenon has occurred. While the road to becoming a human health professional has become increasingly difficult—for example, hospitals are demanding that more nurses obtain bachelor's degrees, and the competition to enter physician assistant programs is becoming fiercer each year—more law schools are opening their doors than ever before. While the handful of new veterinary schools cause their share of professional outcry, they pale in comparison to the number of new law schools being planned.

I'm at a loss to explain the disconnect. It defies common sense to think that while the number of well-paying legal jobs is declining or rising only slowly (depending on the region), new law schools are opening all the time. Educators in the field of jurisprudence seem to have forgotten that supply and demand isn't a philosophical debate point—it's an economic law.

2 Law office experience should be a requirement for admission to law school.

I personally know a dozen attorneys who wish they'd done something else or have left the profession. I don't think any of them spent five minutes in a law office prior to enrolling in law school.

Working in a law office as an intern, clerking in the mailroom or even vacuuming the conference room can save an aspiring law student from a mis-spent education. She can discover the cutthroat competition for high-quality clients. She can see that the day-to-day legal work is often dull—as is doing colonoscopies for 10 straight hours or being asked every 15 minutes, “Do you really think my dog is too fat?”

Law office experience before law school admission would help weed out applicants who might need the opportunity to discover that the volume of compelling work doesn't personally justify investing the time and money commitment.

3 More states need to require board certification. Many attorneys and bar associations resist the concept of board examinations and certification in legal specialties. I support it. Not only do I believe in the concept of board certification, I would go even further and suggest that Texas law be mimicked elsewhere—lawyers who advertise that they handle specific categories of legal matters should have to declare in their advertising if they aren't board-certified.

Do lawyers want respect in their communities? If so, the bar needs to step up and recognize something the veterinary and medical professions have acknowledged for years—that obtaining an MD or DVM degree does not entitle the bearer to persuade the public that he or she is qualified to perform a lung lobectomy.

If an attorney has special training in taxation, prove it. Get boarded in the field and charge appropriately. Don't prepare complex wills without knowing the right income, gift, estate, trust and generation-skipping transfer tax questions to ask the client. If you don't have that knowledge, reveal it in your advertising so that clients with sophisticated legal needs know to steer clear of the potential damage that can be caused.

4 Law schools should prioritize applicants with science degrees. The jobs that are

disappearing in the law field aren't the technical ones. Intellectual property law is lucrative for its practitioners. Lawyers who practice medical malpractice law need the background in anatomy and physiology to understand testimony shared by expert medical witnesses.

When college kids considering law school ask me what areas of law are in demand, I tell them that a bachelor's in electrical engineering or chemistry will draw huge attention to their CVs when they apply for a job. It's a highly technical world out there, and a science or technical background brings much more to the table than a bachelor's in Greek literature.

Better lawyers, better results

The legal profession needs to wise up. A reasonable population of capable lawyers trained to specialize in the technical areas that dominate the 21st-century economy will be employable and admired by society.

These will be the lawyers who counsel General Motors to fix broken ignition switches before victims' families hammer them with huge negligence claims. And they'll be the ones who have enough real work to do—enough so that they'll advise pet owners to settle malpractice claims against their veterinarians for a reasonable figure rather than encouraging litigation in order to net one-third of an absurd lawsuit claim amount.

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



Will pets' legal status change?

A change from pets' role as property to family member is a slippery slope, says Mark Cushing, JD, of the Animal Policy Center. “It seems heartless,” Cushing says of the tension between the idea of pets as family members and pets as property, but legal relationships among people are also limited. Scan the QR code at left or visit dvm360.com/PetLaw to watch an interview with Cushing on this topic.



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The evolution of competition

Our inherent sense of rivalry can be a force for self-improvement rather than a way to crush the doc down the street.

One of my earliest recollections of veterinary school was a first-year course called “Propaedeutic Medicine,” a term I had not heard before and have not heard since. But I keep looking for a way to work it into casual conversation. “Propaedeutic” refers to the “knowledge necessary for learning and further study and development.” In other words, it’s what you don’t know about what you don’t know!

The class’s instructor was Dr. Robert Taussig, who had more influence on my career than I ever realized. Dr. Taussig passed away in 2012, and this is my way of saying thank you for the lessons he taught me.

Colleagues, not competitors

Perhaps the most formative thing I remember was Dr. Taussig telling us that there was no room for internal competition in our profession. We were colleagues, and as colleagues we needed to support one another.

But is competition wrong?

Competition is not inherently bad. In fact, it’s a great way to stay at the top of your game. But competition should focus on mutual inspiration, not intimidation. It’s far better to be inspired by others than intimidated by them—or to seek to intimidate them.

Our profession is like an organism. When one part of the organism struggles, the entire profession struggles. When one practice prospers, we all prosper. Or, at the very least, we have a chance at prosperity.

Competition has changed

It used to be that veterinarians competed for patients and the financial rewards that followed. But that has changed, and that’s a good thing. Today, as the non-practice-owner trend increases, veterinarians are less likely to go head to head for an individual client. Motivations have changed. Younger veterinarians are more concerned with quality of life issues than their predecessors were.

But there is still a competitive instinct in us. Whether that competitive drive is good or bad depends a lot on how—and with whom—we are competing.

We didn’t get into veterinary school on our good looks and charm. (At least I didn’t!) We studied, worked hard and outperformed others. So our sense of competition is somewhat inherent.

It’s sad that in these economic times collegiality has become less relevant. The care we provide our patients is amazing, but sophistication requires financial success. There seems to be an unending supply of veterinary providers, but at the same time we’re seeing a declining utilization of veterinary services. That coupled with the availability of alternative sources of products, drugs and even services means we have to be—well—competitive!

So how can we be competitive without outright competing? By providing great care? I’ve never met a veterinarian who didn’t believe they provided “quality care.” A beautiful facility? As the old saying goes, “Beauty is only skin deep.”

We compete to improve and differentiate ourselves by being concerned, committed and compassionate. Not

just where the pet is concerned; that’s merely the starting point I trust we’re all at. I believe we need to focus on the fourth “c”: client.

Client experience is key

The four key components of the client experience are as follows:

> **Information.** This includes information you give directly to clients in your clinic and details you offer via published materials.

> **Personal attention.** Clients don’t just need information, they need it tailored to their pet and their current situation. It must be accurate and available when and where clients need it.

> **Follow-up services.** This includes contact with doctors and staff from appointment to checkout and follow-up communication.

> **Convenience.** This includes hours of availability and convenient ways to pay, but also things like access to convenient transportation and parking.

Bottom line? Focus competition inward, not outward. Rather than pursue being better than others, focus on becoming better at who you are and how you do what you do. Learn from those around you or team up with someone with a different skill set. You’ll both be built up—professionally and personally—as a result. [dvm360](#)

Dr. Michael Paul, @mikepauldvm on Twitter, is a nationally known speaker and columnist. He lives in Anguilla in the British West Indies.



MEDICINE | Pharmacology

Heed these *10 warnings* to **protect your patients** from pharmacists' errors

Congress may soon mandate that we hand over a prescription for veterinary drugs we've traditionally dispensed. Note these critical differences between human and veterinary practices—and contact your congressperson to object to the bill. *By Alice M. Jeromin, RPh, DVM, DACVD*

Earlier this year, the Federal Trade Commission (FTC) released a report recommending ways to make pet medication costs more competitive.¹ The report lent support to the Fairness to Pet Owners Act introduced in the U.S. Congress, which, if passed, would mandate that we provide pet owners with written prescriptions for medications that we as veterinarians would normally dispense.

While this would *possibly* reduce costs to pet owners (in my opinion, it would have a minimal effect), it opens

the door for serious medication and dispensing errors for the pet.

As a pharmacist and veterinarian married to a retail pharmacist, I can assure you that in our pharmacy education we had no instruction on animal medications and how they differ from human medications, either by dosing or mechanism of action. Obviously the originators of these bills (S.B. 1200 and H.R. 3174) have no awareness of species differences with medications and how these differences can harm pets.

The peril of prescription errors

When filling a pet's prescription, the pharmacist has no knowledge of the patient's diagnosis, current medications (to monitor for drug interactions) or the pet's age or health status. Many customers getting their human prescriptions filled at a pharmacy are unaware of what medications their pets are taking and for what disease, so it follows that pet owners need instructions about medications for their pets. Veterinary health profes-



I'm high risk for inflammation.



Help's on the next page.

sionals provide both drug instructions and counseling on how to administer the medication, knowing what current medications pets are taking relevant to their disease.

As we all know, the life of a retail pharmacist is busy filling orders, so he or she has neither the time nor knowledge to provide owner counsel-

with acetaminophen when the veterinarian had ordered a prescription Hycodan (hydrocodone and homatropine; Bristol-Myers Squibb).²

5. Phenobarbital doses are generally higher in dogs than in humans. In one case, a pharmacist told an owner that the dose was too high and, consequently, the dog suf-

not carry product liability insurance, you may be liable as the prescriber.

A few examples of medications that should not be compounded include:

> **Itraconazole.** It has poor solubility and is available in a commercially manufactured oral liquid (10 mg/ml).

> **Cyclosporine.** One study showed more than 10% of compounded cyclosporine liquids deviated from the label strength (not to mention the bioavailability or clinical efficacy).³

> **Doxycycline.** A study showed it was only viable for seven days when compounded.⁴

The main problem as I see it is that even if there were minimal savings on medications for the owner with this act, the pet is subjected to medication errors, some of which could result in death.

ing on pet medications. According to a 2012 Oregon Veterinary Medical Association survey, 35 percent of veterinary practices had their prescriptions changed by a pharmacy without authorization, resulting in 16.5 percent of patients suffering setbacks.²

The following are points to consider when having to provide a written prescription so that pharmacist-generated errors do not occur:

1. Thyroid doses for dogs are higher than those in people. I personally had a pharmacist change a golden retriever's Soloxine (Virbac) 0.5 mg b.i.d. dose to Synthroid (Abbott Laboratories) 0.05 mg, telling the pet owner that the dose was too high. Most pharmacists will check with the prescriber before changing a prescription, but we need to account for those who do not.

2. Pharmacists and other human health professionals are not aware that ibuprofen can cause renal toxicosis in dogs. In one instance, a pharmacist recommended ibuprofen when he was not able to fill the carprofen prescription. Another example: My neighbor is an MD and was giving his arthritic Labrador retriever ibuprofen when I was called upon to examine the dog.

3. Gabapentin liquid contains xylitol whereas the capsules do not, so the formulations are not interchangeable. Xylitol is toxic in dogs.

4. Acetaminophen should never be given to cats, and in dogs it can cause liver damage. A pharmacist once substituted hydrocodone

with acetaminophen when the veterinarian had ordered a prescription Hycodan (hydrocodone and homatropine; Bristol-Myers Squibb).²

6. Some pharmacists do not realize that glargine insulin is not interchangeable with NPH insulin. NPH insulin should not be substituted without consulting the prescribing veterinarian. It is less expensive, and a well-meaning pharmacist trying to save the owner expense is likely not aware of the action of glargine versus NPH insulin in diabetic cats.

7. Prednisolone and prednisone are not interchangeable, particularly in cats.

8. The abbreviation "s.i.d." should not be used since it is not known to mean "once daily" to most pharmacists. Instead write out "daily" or "once daily."

9. Over-the-counter (OTC) medications such as antihistamines should not be likened to antihistamines containing decongestants such as pseudoephedrine. This vasoconstrictor can cause hyperexcitability, elevated blood pressure and more in cats and dogs.

10. Compounded medications should be used only if absolutely necessary. Even though a pharmacy may be making these products, its personnel have no idea of the stability, compatibility in the vehicle, or sterility of the product. The FDA regulates these factors for commercially available medications, whereas compounded medications are not subjected to this rigorous testing. If you allow your clients to use a compounded product and the compounding pharmacy does

We must act against this act now!

As a pharmacist and veterinarian, I am strongly against the FTC's report that is trying to make pet medication costs "more competitive." Most veterinarians I know work hard to keep patient costs down. The main problem as I see it is that even if there were minimal savings on medications for the owner with this act, the pet is subjected to medication errors, some of which could result in death. Please contact your congressperson (see the dvm360 box at left) and relay your thoughts on this act that, if passed, could bring harm to our veterinary patients. [dvm360](#)

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Suggested reading

- Some compounding may be allowed, even if illegal. *JAVMA News*: July 1, 2015, Vol. 47.
- Harlow B. 6 reasons why the proposed Fairness to Pet Owners Act fails patients, practices. *Vet Econ* 2015;55(6):32.
- Risk Awareness Alert: Do you use a compounding pharmacy? *AVMA PLIT News*: August 14, 2015.

Dr. Alice Jeromin is a pharmacist and veterinary dermatologist in Cleveland, Ohio. She is a 1989 graduate of the Ohio State University College of Veterinary Medicine, 1977 graduate of the University of Toledo College of Pharmacy and an adjunct professor at Case Western Reserve University's College of Medicine.



Want to help stop the Fairness to Pet Owners Act?

Bash Halow, LVT, CVPM, has collected everything you need to write your congressperson—and even presents his own open letter to Congress—at dvm360.com/actout.

Why dental abnormalities don't always need an immediate fix

Find out when just keeping your eye on the target, and not necessarily intervening, is the best approach to dental care in your veterinary patients. *By Jan Bellows, DVM, DAVDC, DABVP, FAVD*

Perhaps one of the hardest things for veterinarians is to do nothing when confronted with something that is not “normal.” This is contrary to how we are taught to respond to dental disease—extract the tooth or teeth that are hopelessly damaged or repair the repairable and restore to function.

This final article in a series on how to handle dental pathology focuses on determining what conditions need

to be followed and rechecked versus treated, which can be bewildering. Considering whether the dental abnormality is functional versus non-functional, painful versus nonpainful, and progressive versus nonprogressive helps when deciding what to do.

Normal versus abnormal occlusion

Occlusion is the term for the contact between the incising or masticating

surfaces of the maxillary and mandibular teeth. Normal occlusion in a dog and cat occurs when the mandibular teeth reside just lingual to the maxillary teeth and the mandibular incisor cusps rest on the cingulum on the palatal side of the maxillary incisors (Figures 1A and 1B).

Additionally the mandibular canine crowns should lie equally between the maxillary third incisor and maxillary canine. The mandibular premolar crown tips should point to the inter-



>>> **Figure 1A.** Normal rostral dentition in a cat.



>>> **Figure 1B.** Normal rostral dentition in a dog.



>>> **Figure 1C.** Normal cheek teeth in a dog. The premolars lie in a saw-toothed orientation.



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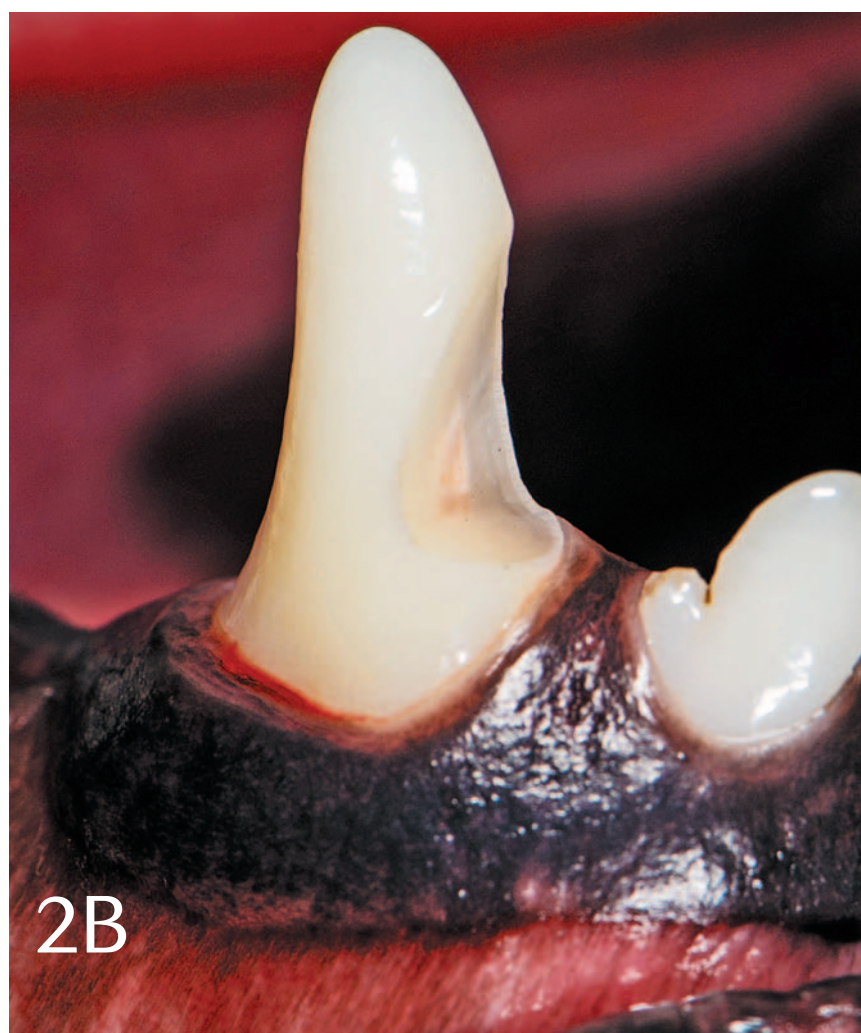
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>>> **Figures 2A and 2B.** Tooth-to-tooth trauma caused by mandibular mesioclusion (underbite) in a boxer.



>>> **Figures 3A and 3B.** A 3-month-old schnauzer puppy affected by mandibular mesioclusion in which the maxillary primary incisors were extracted (interceptive orthodontics) to give the maxilla the ability to reach its genetic potential uninhibited.

>>> **Figure 3C.** The same dog four months later. All the secondary maxillary incisors and retained deciduous canines were extracted.

proximal spaces between the crowns of the maxillary premolars. Each mandibular premolar should be positioned rostral to the corresponding maxillary premolar (Figure 1C). Dogs and cats

some breeds in which mandibular mesioclusion (underbite) is considered normal for a breed but is often not a healthy bite. Mandibular distocclusion (overbite) is never considered normal.

Abnormal occlusion creates controversy with some breeds in which mandibular mesioclusion (underbite) is considered normal for a breed but is often not a healthy bite.

with normal occlusion generally do not have bite-related problems.

Abnormal occlusion is any presentation other than that described above. This concept creates controversy with

Dogs and cats with abnormal occlusions (even if normal for their breed) need to be closely watched for tooth-to-tooth and tooth-to-gingiva dental trauma (Figures 2A and 2B).

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Interceptive orthodontics is performed to extract those primary teeth creating a dental interlock, allowing the jaws to grow to their genetic potential uninhibited. These patients need careful follow-up. Once the adult teeth fully erupt, more treatment is often needed (Figures 3A-3C).

Functional versus nonfunctional, painful versus pain-free

Normally functioning dental hard tissues and gingiva allow the teeth to work with efficacy and without pain. Occasionally we find teeth that are in abnormal but functional locations (Figures 4A-4C), lesions (found on intraoral radiographs) that are not normal but do not seem to adversely affect the patient (Figure 5), and teeth that have been embedded since birth discovered once the dog or cat is mature (Figure 6). Depending on the abnormality, these patients can be followed annually during the oral assessment, treatment and prevention visit to make sure that the abnormalities' effects have not changed.

Progressive versus nonprogressive

The terms *stages*, *grades*, *types*, *classes* and *indices* are used to catalog dental pathology.

> **Stages** involve the extent of pathologic lesions in the course of a disease that are likely to be progressive, such as stages of periodontal disease, tooth resorption and furcation involvement.

> **Grades** involve the quantitative assessment of the degree of severity of a disease or abnormal condition at the time of diagnosis, irrespective of whether the disease is progressive, such as a grade 2 mast cell tumor (based on mitotic figures).

> **Types** involve systematic classification according to specific characteristics in diseases, injuries and abnormalities that are not expected to progress, such as types 1, 2 and 3 tooth resorptions based on radiograph interpretation.

> **Classes** is a synonym for *types*.

> **Indices** are numerical expressions of predefined diagnostic criteria whereby the presence and/or severity of a pathological condition is expressed by assessing a numerical value. Examples include the gingivitis index and plaque index.



>>> **Figure 4A.** A functional right mandibular canine located abnormally caudal to the maxillary canine.

>>> **Figures 4B and 4C.** The same patient showing that the mandibular incisors are functional and impinging but not penetrating the hard palate, thus causing no pain.

Periodontal disease and tooth resorption are two common dental diseases that are considered progressive. In cases of periodontal disease, the decision to treat or follow a patient largely depends on the stage and the client's ability as well as the patient's willingness to accept daily home

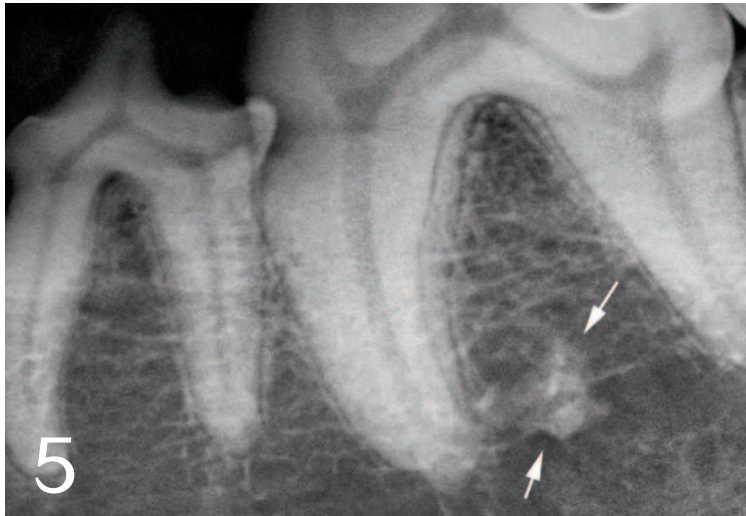
plaque prevention after veterinary treatment is provided.

Tooth resorption is now a common finding in our patients thanks to detection on intraoral radiographs performed during professional oral assessment, treatment and prevention visits. When the resorption extends

I'm prone to inflammation.

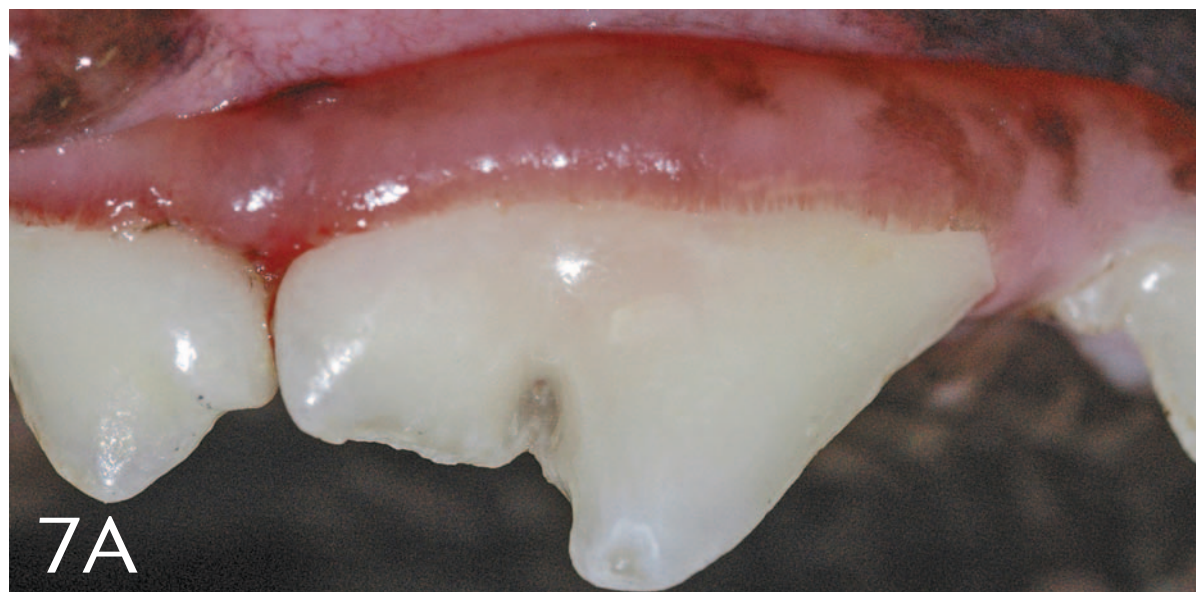
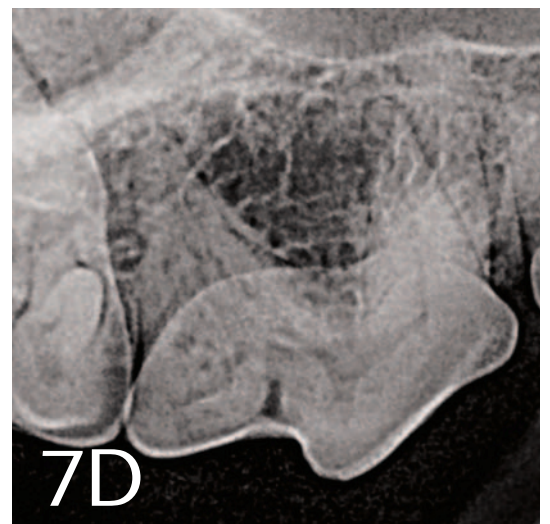
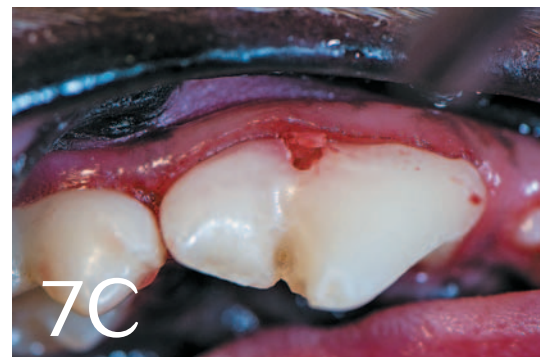
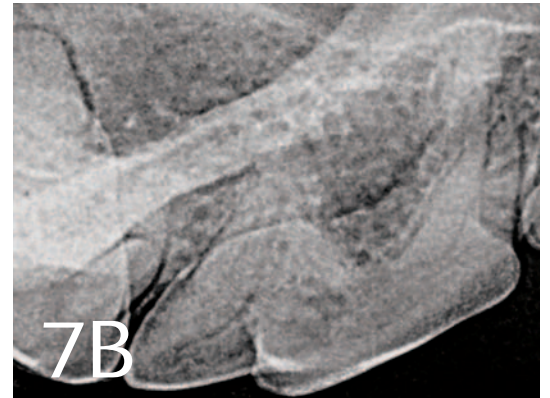


Help's on the next page.



>>> **Figure 5.** An apparent functional osteodense lesion between the roots of a mandibular first molar (arrows).

>>> **Figure 6.** Embedded canine teeth in an 11-month-old dachshund.



>>> **Figure 7A.** A clinically functional upper fourth premolar in an 8-year-old dog.

>>> **Figure 7B.** A radiograph reveals stage 2 tooth resorption (resorption affecting the dentin only, not pulp).

>>> **Figure 7C.** The clinical appearance 10 months later. The lesion progressed into the oral cavity, necessitating extraction.

>>> **Figure 7D.** A radiograph confirming progression of tooth resorption.

to the oral cavity, the treatment decision is easy—extract. When they appear radiographically to be confined subgingivally, tooth resorptions are not considered to be painful and can be followed or proactively extracted (Figures 7A-7D).

Conclusion

The foundation of companion animal dental care is the tooth-by-tooth examination. Once dental abnormalities are discovered, think about the four Rs—remove, repair, refer or recheck. Your patients and their owners will thank you. dvm360



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



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FORMULATED BY ROBERT J. SILVER, DVM, MS, CVA

Help for an *unwavering ally*

CSU steps in when Chester, a therapy dog who provided care at the Colorado theater shooting trial, developed sudden, severe pain.

Experts in neurology, urgent care, imaging and anesthesiology collaborated at Colorado State University's Veterinary Teaching Hospital recently to diagnose and provide a treatment plan for Chester, a 9-year-old Labrador retriever suffering from extreme neck pain.

Diagnostic tests indicated that the beloved retriever, who provided comfort to survivors during the Aurora, Colorado, theater shooting trial this fall, had a spinal infection that might be treatable with antibiotics, likely allowing Chester to avoid surgery.

"Chester lives his life to serve people," said veterinary student Emily Kirkpatrick, who spent hours with Chester and his family at the hospital. "It meant so much to us to help return him to his normal self, and that's really why I went into veterinary medicine."

Chester's tale of hope

Chester was bred to be a hunting dog. But the Nelsons adopted him at age 2, and his loving disposition made it clear that Chester was cut out for therapy work. He underwent training and now interacts most often with patients recovering from traumatic brain and spinal cord injuries.

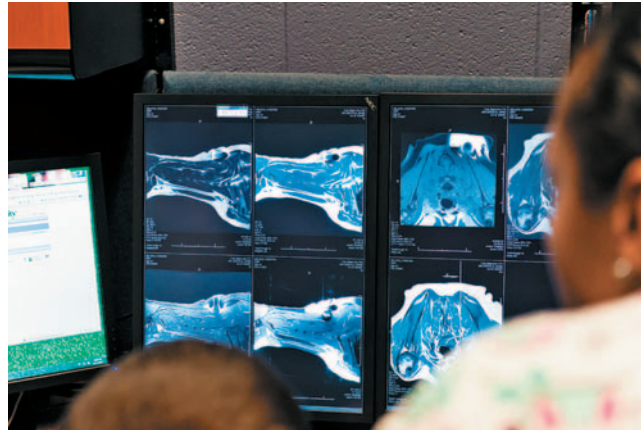
Chester and four other dogs with Animals for Therapy spent the equivalent of 17 work days at the Arapahoe County Justice Center to console shooting survivors and the family members of victims during the grueling trial, said Kateri and Dean Nelson, owners of the nonprofit based in Golden, Colorado. The trauma support team was present during every major event in the trial, including delivery of the verdict and formal sentencing of the assailant in late August.

"Before a person would testify, some of them would pet Chester. The person would testify and come back crying, and would cuddle up with Chester on the ground. The last day, we were right there in the hallway with the families when it was all over," Kateri Nelson said.

Just five days after formal sentencing on Aug. 26, Chester developed terrible pain, "lying there and screaming," Nelson said. Their veterinarian advised the couple that



>>> **Friendly face.** Chester and a team with Animals for Therapy provided dozens of hours of comfort during the recent Aurora, Colorado, theater shooting trial.



>>> **Hi-tech help.** Magnetic resonance imaging pointed to infection as the most likely cause of Chester's excruciating neck pain.

Chester could have a ruptured disk in his neck; they were referred to CSU's Veterinary Teaching Hospital for diagnostic tests and possible surgery.

Imaging key to diagnosis

On Sept. 10, Justin Mathis, DVM, DACVECC, performed a radiographic examination with help from student Justine Barone. "There was some narrowing of the intervertebral disk space at the cervical-thoracic junction, but this could have been an infection," Mathis said. "Chester needed magnetic resonance imaging (MRI) to know for sure."

The procedure gave Kirkpatrick and Stephanie McGrath, DVM, DACVN, a veterinary neurosurgeon and assistant professor of neurology, an answer: The disk was not ruptured; it was infected and surrounded by inflamed muscles, the reason for Chester's pain.

McGrath suggested that Chester take antibiotics for a full year to ensure the cause of infection was eradicated.

The course ahead

The MRI results helped McGrath identify three possible causes for Chester's pain. Most likely, she explained, was discospondylitis. A less likely cause could be cancer or a foreign body, such as a grass awn (a sharp seed), that migrated to the spine, she said.

Irritated muscles, shown in the MRI, provided evidence for infection, the veterinarians said.

A surgical biopsy of the lesion in Chester's neck would be needed for further confirmation, but the Nelsons "felt like treating the dog with antibiotics to monitor for response was the next, most appropriate step," McGrath said.

After a month of antibiotic treatment, Chester will return to CSU for a checkup. If Chester does not improve, the Nelsons plan to move forward with the biopsy.

"Chester is just a good ol' boy," said Kateri Nelson, an animal trainer, adding that Chester will return to therapy work as he heals. "I want him to continue doing what he loves to do—helping people." **dvm360**



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University of Tennessee requires **self-health** class for **students**

Success and wellness course will emphasize five areas of mental, physical and professional health. *By Matthew Kenwright*

The University of Tennessee's College of Veterinary Medicine has started an initiative to improve the comprehensive health of its students by expanding the program's curriculum.

Students will be required to take the success and wellness course all four years, Elizabeth Strand, PhD, the founding director of UT's Veterinary Social Work program, tells *dvm360*.

The course will focus on five areas: communication skills, leadership skills, ethics, business and overall wellness.

The veterinary class of 2019 will be the first group of students to receive all four years because the course will be rolled out as the students advance through the program.

The focus on comprehensive health was spurred after Jim Thompson, DVM, PhD, dean of UT's veterinary program, read research that suggested veterinary students in general have worse mental health outcomes than medical students and practicing vet-

erinarians have a higher risk of suicide than their peers in human medicine and the general population, Strand says. Thompson asked Strand to collect data from students in 2014, and she discovered opportunities to improve students' health. "The whole profession

"This content is core. This is nonnegotiable information that you have to have to be a successful veterinarian."

— Elizabeth Strand, PhD

is starting to take notice of wellness issues," Strand says.

First-year students will start with learning about stress management, note-taking, study skills for a medical education, eating healthier, invest-

ing and managing student loans to get a proactive start on financial health. Second-years will focus on communication skills, leadership and preparing for clients with

mental health issues. Third-year students will explore conflict management and practice management, and fourth-years will study communication skills, receive feedback about their interaction with real clients and learn how to negotiate employment contracts.

Strand says other schools that may want to create similar courses in their programs should get buy-in from those in their leadership positions.

"The dean, associate dean and faculty stood behind the concept that this content should be core," she says. "That this is nonnegotiable information that you have to have to be a successful veterinarian." *dvm360*



Dr. Elizabeth Strand



>>> Sarel R. Van Amstel, BVSc, DAVBP, DACVIM, professor of farm animal medicine and surgery at the University of Tennessee College of Veterinary Medicine, leads veterinary students in strenuous workouts after class throughout the week to encourage better physical and mental wellness.



Barkocity Database and marketing services

Barkocity is an online and mobile ordering platform for pet owners to book local pet services, including veterinary care. The platform allows pet owners to view menus, pricing and reviews and order directly from local pet businesses all in one place. When veterinarians join the service network, new and existing clients will be able to book their services online. Employees can be designated to receive notifications on their mobile phones. The platform also provides social media and blogging services.

For fastest response visit barkocity.com



Petlink Microchip scanner

PetLink/Datamars, a global supplier of high-performance identification solutions and radio frequency identification (RFID) tools, has launched a new pocket-sized universal scanner, the PetLink Compact Max. The scanner has a peripheral antenna for top-of-range reading distances and a long-lasting, rechargeable lithium battery that can be charged using a USB cable. The scanner can read companion animal microchips that operate on all frequencies (125, 128 or 134.2 kHz).

For fastest response visit datamars.com/products/companion-animal-id/microchip-readers/compactmax



Purina Critical care diet

Purina Pro Plan Veterinary Diets has released CN Critical Nutrition Canine and Feline Formula. This new diet is formulated for dogs and cats that are critically ill, anorectic or recovering from surgery. It is also formulated to be palatable to help ensure adequate nutrient intake. The feeding guide for the CN diets offers feeding levels for hospitalized patients as well as patients requiring a maintenance diet. In addition, the diet can be top-dressed on other food as the patient is transitioned back to its normal diet. The formula can also be fed longer-term to adult canine and feline patients that need it.

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Pet Releaf Hemp oil edibles

Pet Releaf has released two cannabidiol (CBD)-based products: Edibites CBD Treats for Dogs and CBD Hemp Oil Tinctures for dogs and cats. The two products are designed to be used as daily nutritional supplements, as they are high in antioxidants, omegas and essential fatty acids. Both products also include a safe yet effective amount of whole hemp plant CBD, a natural compound that helps with the endocannabinoid system (ECS). This system is controlled by cannabinoid receptors CB1 and CB2, which aid in brain function and the immune system, respectively. All Pet Releaf products are legal in all 50 states and do not require a prescription.

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VetBloom CE platform

VetBloom, a new online learning and collaboration platform, aims to help veterinarians and veterinary teams learn and earn continuing education credits, all while keeping the learning process engaging and fun. The platform offers the entire veterinary team the chance to learn at their own pace and at their own convenience in a cutting-edge environment. Learners can explore an entire ecosystem of veterinary learning, with course materials created by renowned veterinarians and veterinary technicians in partnership with experienced educators and instructional designers. VetBloom Connect is a portal to discuss cases, classes and best practices.

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Bayer HealthCare Animal Health Otitis medication

Bayer HealthCare Animal Health has received approval for Claro (15.0 mg/mL florfenicol, 13.3 mg/mL terbinafine, 2.0 mg/mL mometasone furoate) Otic Solution, a single-dose therapy to treat susceptible strains of common pathogens found in canine otitis externa. The product is expected to be available in November. It is a clear liquid solution featuring a fixed combination of antibacterial, antifungal and anti-inflammatory ingredients that requires only one veterinarian-administered treatment. The single-dose treatment regimen eliminates veterinarian uncertainty about pet owner compliance and spares pet owners the frustrations of in-home application and multiple treatment visits.

For fastest response visit animalhealth.bayer.com



VHMA Workbook for preventive healthcare 'champions'

The Veterinary Hospital Managers Association (VHMA) and Partners for Healthy Pets (PHP) have collaborated to produce a guide that assists practices in developing preventive healthcare practice champions. *Preventive Pet Healthcare: Your guide to becoming a Practice Champion* offers veterinary hospital managers tips, tools and instructions for shining the spotlight on preventive healthcare in their practices. The workbook contains comprehensive information for increasing the acceptance of preventive healthcare, which is presented in a format that can be adapted to the needs of any practice. It is not necessary to follow the guidelines sequentially and all protocols can be customized.

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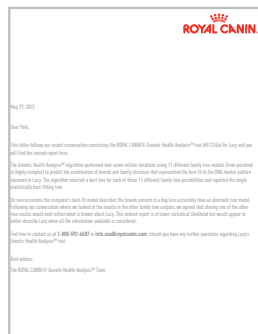
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The Greenies brand team has released a new formulation of Greenies Canine Dental Chews exclusively available in veterinary clinics. The new chews are formulated to enhance dental efficacy and contain natural, non-GMO ingredients, plus added vitamins and minerals. Backed by the Veterinary Oral Health Council Seal of Acceptance for plaque and tartar, the chews provide dogs with effective daily oral care and support their overall health. The new formulation provides benefits in five areas: oral health, cognitive health, immune health, metabolic health and skin health.

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Vetspecialists.com
Specialist database

The American College of Veterinary Internal Medicine (ACVIM) and the American College of Veterinary Surgeons (ACVS) together have launched VetSpecialists.com as an education and awareness resource for animal owners. The new website is a searchable database of board-certified veterinary specialists worldwide, enabling animal owners to find local specialists for potential consultations and to bolster the triad of veterinary care to best care for their animals. VetSpecialists.com features useful tools for large and small animal owners, such as the comprehensive directory of board-certified veterinary specialists, education about the triad of veterinary care, a video describing the benefits of the triad of veterinary care, an article library of small and large animal diseases, conditions, treatments and procedures, and more.

For fastest response visit vetspecialists.com



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The creators of the VetPrep online veterinary board exam review have released a new mobile app for veterinary professionals. ViralVet enables veterinary professionals to share challenging cases instantly with a global community, making it easy to collaborate, learn and share intriguing, rare or exciting cases. The free app features a live, customizable feed that can be browsed by species and specialties and is searchable by tags or keywords. In addition to viewing, users can post their own photos to share discoveries or solicit professional opinions on cases that are interesting, novel, challenging or didactic. Users can comment on posts and stay updated on conversations. A screening process limits the conversations to veterinary professionals.

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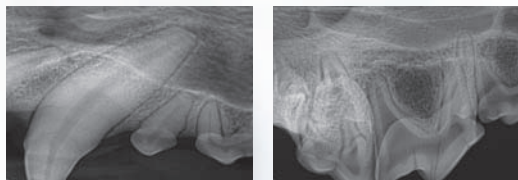
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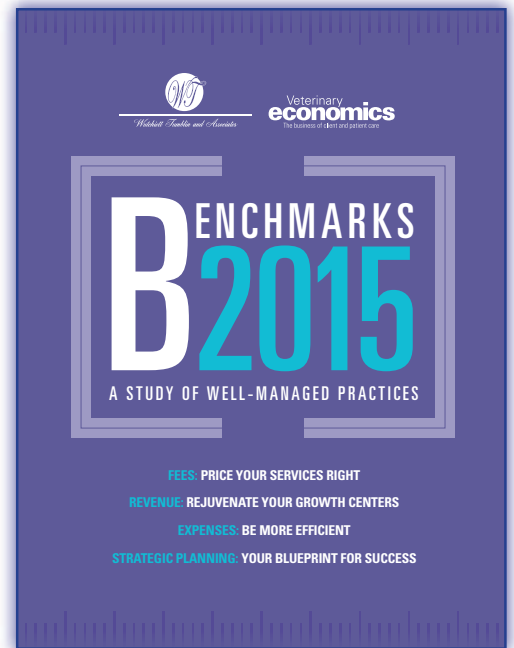
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North Carolina Academy of Small Animal Medicine 1-Day Meeting
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◆ The inevitability of time

Though the years pass far too quickly in the lives of animals, the memories we make with them carry on in our hearts.

I watched from afar as Ellen said goodbye to her horse, wondering what emotions must be running through her mind. It's hard to say goodbye. People build bonds with things they love and almost never consider that the depth of their emotion is tenured by time and circumstance.

Wonderful things never last long enough, and horrible things seem to last forever. Ellen was facing the reality that horses don't live as long as people. Neither do dogs. Or cats. Or fill in the blank—whatever didn't last as long as you had anticipated and that you suffered over when you lost it.

As a veterinarian, I've seen this come to fruition many times. In 1990 when I started this career, I figured that time would temper the heartache I experienced whenever I watched heartbreak—that eventually I would become callous to it and start to behave like a professional. After 25 years I've learned that the opposite has occurred. I've grown even less able to endure it.

I think it tells us a lot about the human condition. We were built to love and take care of things. We find comfort in seeing to it that life progresses in a happy manner and that we somehow have a part in keeping entropy from being the rule. Animals need us. And we need them. We need them to let us love them, and we need to feel like we make a difference in their lives that they appreciate and long for—even if that's not the case.

Ellen held the head of her horse gently in her arms and let her tears run down her cheeks into the eyes of that sweet, sweet animal that had captured her attention for so many years. Time had run its course and the unchanging circumstance of life had captured the moment.

Sometimes I write these stories and I feel laughter that I do my best to express. Sometimes I write them to illuminate what goes on behind the scenes when veterinarians try to help people and animals be happy. And sometimes I write them to convey that life is a series of deep emotions that all the participants have every right to cry about.

The wonderful thing about my job is trying my best not to separate those emotions, but reflecting on the fact that they



somehow all fit together to make doing what we do every day an adventure and an event worthy of writing down.

Ellen will be OK. She told me as she left that she would have to rely on the wonderful memories she shared with her horse to keep that critter living in spirit even after the physical was gone. I found some peace for her in that. [dvm360](#)

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

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