

**CLARO®**

(florfenicol, terbinafine, mometasone furoate)  
Otic Solution

# READY. AIM. CLARO®

Fight canine otitis externa with one big dose of love. Claro® (florfenicol, terbinafine, mometasone furoate) Otic Solution is the only FDA-approved, single-dose treatment administered by you with guaranteed compliance and no at-home treatments.



**SPREAD THE LOVE IN YOUR CLINIC.**

## USE CLARO® FOR YOUR MOST COMMON OTITIS CASES.

[BayerDVM.com/Claro](https://www.BayerDVM.com/Claro)

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

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. CONTRAINDICATIONS: Do not use in dogs with known tympanic membrane perforation. CLARO® is contraindicated in dogs with known or suspected hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate.

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(florfenicol, terbinafine, mometasone furoate)  
Otic Solution

Antibacterial, antifungal, and anti-inflammatory  
For Otic Use in Dogs Only

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

**DESCRIPTION:**

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

**INDICATIONS:**

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

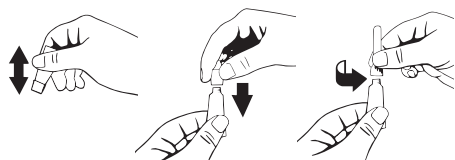
**DOSAGE AND ADMINISTRATION:**

**Shake before use.**

**CLARO® should be administered by veterinary personnel.**

Administer one dose (1 dropperette) per affected ear. The duration of effect should last 30 days.

1. Clean and dry the external ear canal before administering the product.
2. Verify the tympanic membrane is intact prior to administration.
3. Remove single dose dropperette from the package.
4. While holding the dropperette in an upright position, remove the cap from the dropperette.
5. Turn the cap over and push the other end of the cap onto the tip of the dropperette.
6. Twist the cap to break the seal and then remove cap from the dropperette.
7. Screw the applicator nozzle onto the dropperette.



8. Insert the tapered tip of the dropperette into the affected external ear canal and squeeze to instill the entire contents (1 mL) into the affected ear.



9. Gently massage the base of the ear to allow distribution of the solution.
10. Repeat with other ear as prescribed.

Cleaning the ear after dosing may affect product effectiveness.

**CONTRAINDICATIONS:**

Do not use in dogs with known tympanic membrane perforation (see **PRECAUTIONS**). CLARO® is contraindicated in dogs with known or suspected hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate.

**WARNINGS:**

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

**PRECAUTIONS:**

Do not administer orally.

The use of CLARO® in dogs with perforated tympanic membranes has not been evaluated. The integrity of the tympanic membrane should be confirmed before administering the product. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment. Use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs (see **ANIMAL SAFETY**).

Use with caution in dogs with impaired hepatic function (see **ANIMAL SAFETY**).

The safe use of CLARO® in dogs used for breeding purposes, during pregnancy, or in lactating bitches has not been evaluated.

**ADVERSE REACTIONS:**

In a field study conducted in the United States (see **EFFECTIVENESS**), there were no directly attributable adverse reactions in 146 dogs administered CLARO®.

To report suspected adverse drug events and/or obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, contact Bayer HealthCare at 1-800-422-9874.

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

**PHARMACOLOGY:**

CLARO® Otic Solution is a fixed combination of three active substances: florfenicol (antibacterial), terbinafine (antifungal), and mometasone furoate (steroidal anti-inflammatory). Florfenicol is a bacteriostatic antibiotic which acts by inhibiting protein synthesis. Terbinafine is an antifungal which selectively inhibits the early synthesis of ergosterol. Mometasone furoate is a glucocorticosteroid with anti-inflammatory activity.

**MICROBIOLOGY:**

The compatibility and additive effect of each of the components in CLARO® solution was demonstrated in a component effectiveness and non-interference study. An *in vitro* study of organisms collected from clinical cases of otitis externa in dogs enrolled in the clinical effectiveness study determined that florfenicol and terbinafine hydrochloride inhibit the growth of bacteria and yeast commonly associated with otitis externa in dogs. No consistent synergistic or antagonistic effect of the two antimicrobials was demonstrated. The addition of mometasone furoate to the combination did not impair antimicrobial activity to any clinically significant extent.

In a field study (see **EFFECTIVENESS**), at least 10 isolates from successfully treated cases were obtained for *S. pseudintermedius* and *M. pachydermatis*.

**EFFECTIVENESS:**

In a well-controlled, double-masked field study, CLARO® was evaluated against a vehicle control in 221 dogs with otitis externa. One hundred and forty six dogs were treated with CLARO® and 75 dogs were treated with the vehicle control. All dogs were evaluated for safety. Treatment (1 mL) was administered once on Day 0 to the affected ear(s). Prior to treatment, the ear(s) was cleaned with saline. The dogs were evaluated on Days 0, 7, 14, and 30. Blood work and urinalysis were obtained on Day 0 pre-treatment and Day 30 at study completion. Four clinical signs associated with otitis externa were evaluated: erythema, exudate, swelling, and ulceration. Success was based on clinical improvement at Day 30. Of the 183 dogs included in the effectiveness evaluation, 72.5% of dogs administered CLARO® solution were successfully treated, compared to 11.1% of the dogs in the vehicle-control group (p=0.0001).

**ANIMAL SAFETY:**

In a target animal safety study, CLARO® was administered aurally to 12-week-old Beagle puppies (4 dogs/sex/group) at 0X, 1X, 3X, and 5X the recommended dose once every 2 weeks for a total dosing period of 28 days (3 times the treatment duration). No clinically relevant treatment-related findings were noted in hearing tests, body weight, weight gain, or food consumption. CLARO® administration was associated with post-treatment ear wetness or clear aural exudate, increased absolute neutrophil count, decreased absolute lymphocyte and eosinophil counts, suppression of the adrenal cortical response to ACTH-stimulation, decreased adrenal weight and atrophy of the adrenal cortex, increased liver weight with hepatocellular enlargement/cytoplasmic change, and decreased thymus weight. Other potentially treatment-related effects included mild changes to AST, total protein, inorganic phosphorus, creatinine, and calcium.

**STORAGE INFORMATION:**

Store between 20°C – 25°C (68°F – 77°F), excursions are permitted 15°C – 30°C (59°F – 86°F).

**HOW SUPPLIED:**

CLARO® solution is supplied in a single-use dropperette in a blister. Each dropperette contains one 1 mL dose.

CLARO® is available in cartons of two, ten, or twenty dropperettes.

Manufactured for

Bayer HealthCare LLC, Animal Health Division

P.O. Box 390 Shawnee Mission, Kansas 66201 USA.

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NADA 141-440, Approved by FDA

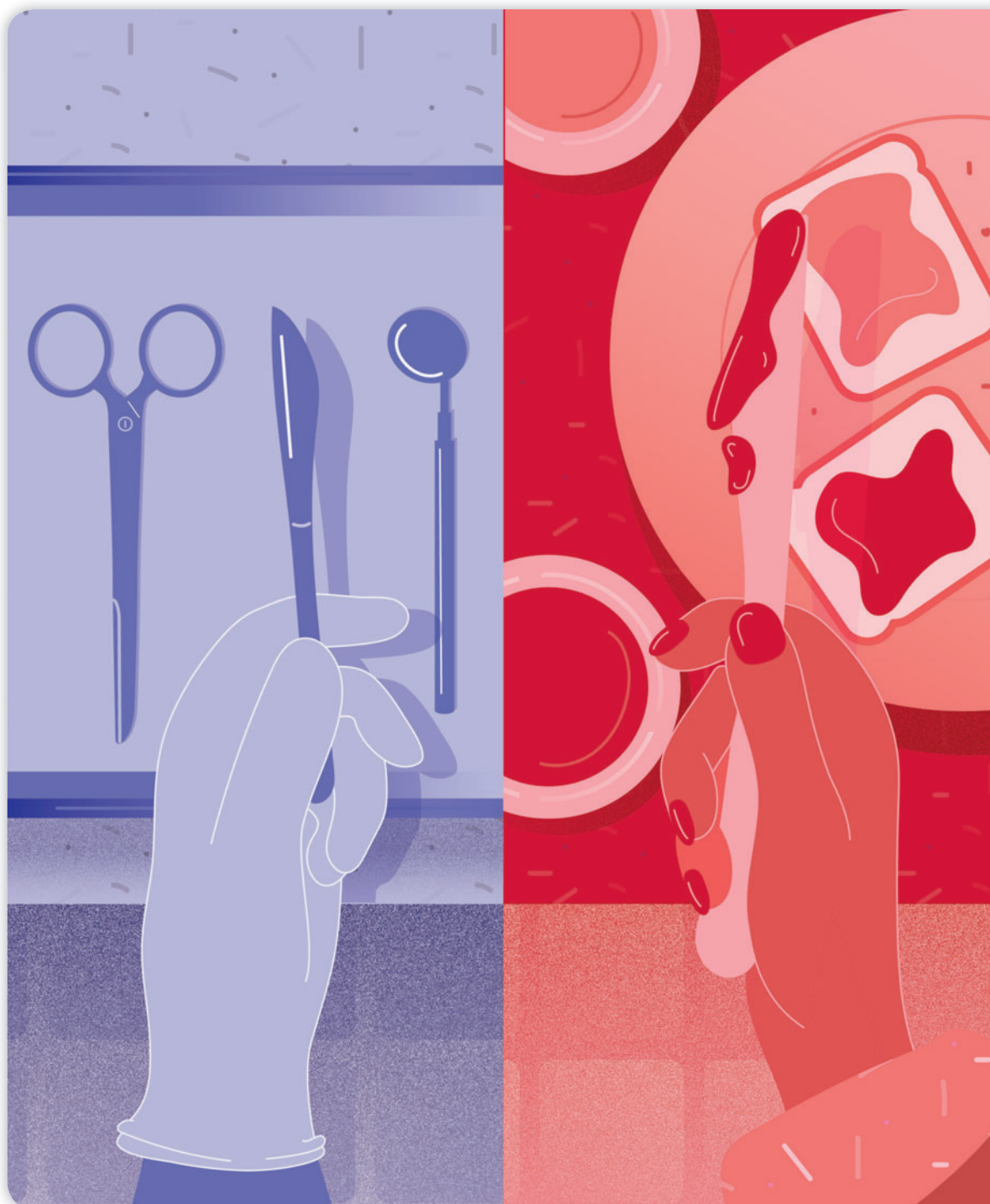
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**Bayer**



**When your first impressions change**

This vet student decked out in Ralph Lauren got his head stuck you-know-where  
**page 50**



# The working parent

What do associates with kids wish their bosses understood about parenting in the midst of a veterinary career? What do practice owners wish their working-parent doctors understood about the realities of running a business? We explore both these perspectives, plus much more.

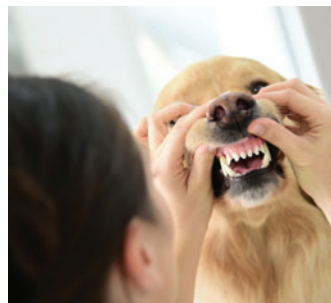
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**dvm360**  
**CONFERENCE**

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Getting on top of rehab in your veterinary clinic  
**page M1**



Maximize Dental Health Month with these tips  
**page M6**



This cardiology product lets the heart go yonder  
**page M8**

# The chew dogs love.

## THE SCIENCE YOU CAN TRUST.



Fight plaque, calculus and halitosis with ORAVET® Dental Hygiene Chews - *the only chew with the power of delmopinol!*

- Unique dual-action mechanism
- Highly palatable<sup>1</sup>
- Designed to provide an extended chew duration<sup>1</sup>
- Proven technology<sup>1, 2, 3</sup>

### UNIQUE DUAL-ACTION MECHANISM

1. Delmopinol creates a protective barrier against the bacteria that cause bad breath and are the basis for plaque
2. The scrubbing action of the chew works in parallel with the delmopinol to effectively remove plaque and calculus

<sup>1</sup> Data on file.

<sup>2</sup> Data on file.

<sup>3</sup> Data on file.



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# How the Veterinary Confessionals Project led to true love

Just in time for Valentine's Day, here's the tale of an anonymous poem that helped two people find each other.

About a year ago, a heartfelt poem was submitted to the Veterinary Confessionals Project, an online effort maintained in partnership with dvm360 (see [dvm360.com/vetconfessions](http://dvm360.com/vetconfessions)) that allows veterinary professionals to express themselves anonymously. Recently we were given an update—see the posts at right.

Well, what could we do but reach out to the project's founder, Hilal Dogan, BVSc, CCTP, for her thoughts? Here's what she thinks of the new development:



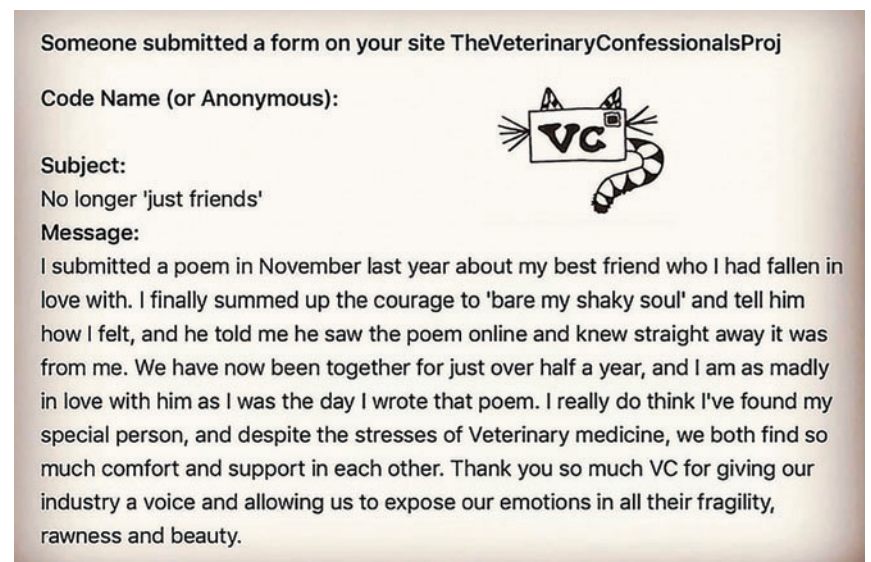
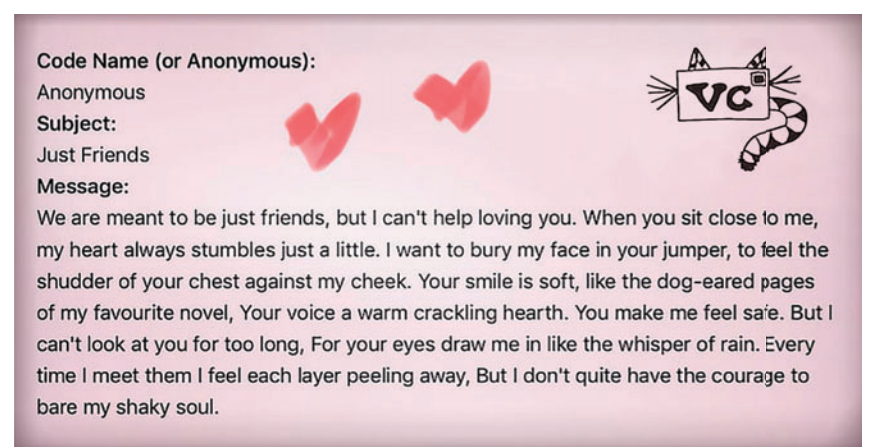
Dr. Hilal Dogan

*Sometimes people question why we post Veterinary Confessionals not immediately relevant to the career. Well, this is the reason. Our ultimate goal is to*

*help people find a way to speak their truth, and though those truths may at times be difficult or painful, in time this process will bring healing, happiness and harmony back into their lives.*

*Yes, we focus predominantly on professional situations, but is it completely strange to acknowledge that things like being in love, or falling out of love, affect our professional lives as well? Full disclaimer—I'm a romantic at heart, so I have a bit of a bias toward these kinds of stories. Yet I'm also a scientist who believes in logic and rationality. Matters of the heart are not matters of logic, yet they can lead us to places logic and scientific thought can't take us. If we are to find true harmony in ourselves, we must also open and grow the parts of ourselves that are unscientific.*

*When I shared the first Confession above, I was secretly rooting for the sender. I was hopeful that this poet*



would be able to find a way to “bare their shaky soul,” regardless of the outcome, and submitting that secret was the first step. Of course, the fact that this is not a story of unrequited love makes it even better. The fact that the sender sent us a follow-up almost a year later is pure gold.

We always wonder how things end up turning out for each person who shares a secret with us, and trust us, we do read every single one. The fact that the project is anonymous makes it difficult to follow up. But that's not the point. The point is that once you're able to articulate and share your truth, that brings you one step closer to living in harmony with yourself.

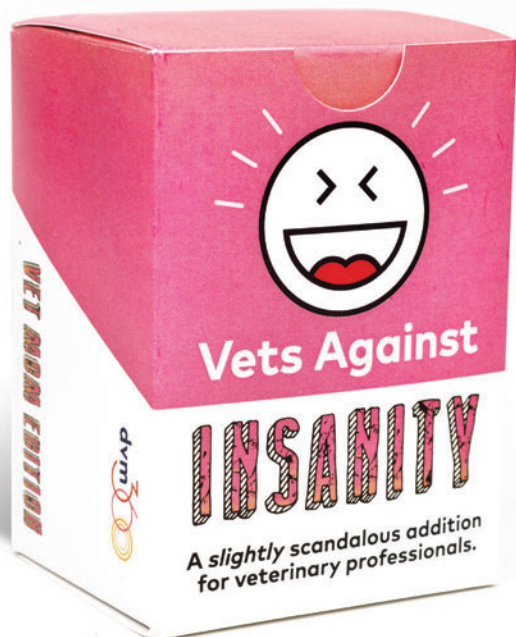
Secrets such as these are the ones that give me hope and make me not want to give up on the Veterinary Confessionals, even if it seems illogical. We need stories like these to remind us that even when hope seems to be lost, love will find a way. Love is the one thing we're capable of perceiving that transcends dimensions of time and space. Maybe we should trust that, even if we can't understand it. (Yes, I stole that line from Interstellar.)

Need to get something off your chest? Visit [dvm360.com/vetconfessions](http://dvm360.com/vetconfessions) to learn more about the project and submit your own anonymous confession—who knows where it will lead!

You forgot to make the thing for the bake sale, the *Paw Patrol* theme just won't get out of your head and yesterday you had to pump in an exam room with no lock on the door.

# VET MOM EDITION

You need the newest (and smelliest) addition to the **Vets Against Insanity** family:



When it feels like your life is full of an unending stream of cleaning up the boogers and feces in your life—both at home *and* at work, for furry and human babies alike—you really need a break.

Pour one out, stick the kids with a sitter and take a minute for yourself.

BUY THE GAME AT

[dvm360.com/vaimom](http://dvm360.com/vaimom)



Motherhood:  
powered by \_\_\_\_\_

Accidentally  
peeing when you  
sneeze.



Can you play with non-parents? Absolutely. They need to be subjected to situations they can never unknow, like "breastfeeding a teething baby."



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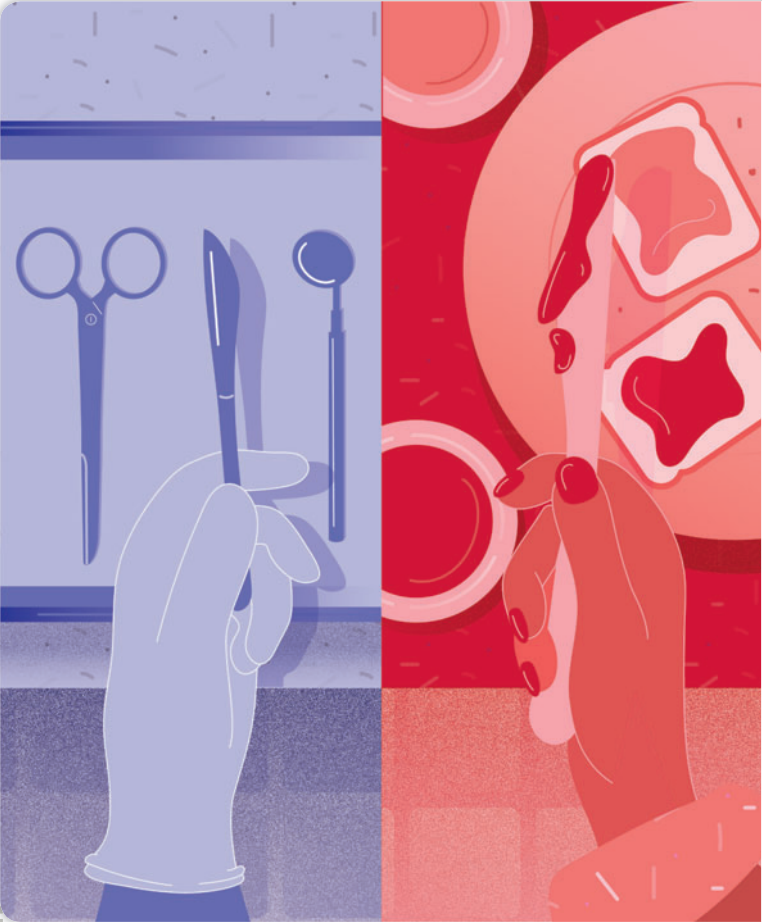
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WHAT IF...

# A PROBIOTIC COULD HELP ANXIOUS DOGS FEEL CALMER?

Introducing Purina® Pro Plan® Veterinary Supplements Calming Care with *Bifidobacterium longum* (BL999), a probiotic strain shown to help dogs maintain calm behavior. In a blinded crossover design study, **90% of dogs showed an improvement** in displaying anxious behaviors such as jumping, pacing, and spinning\*.



Helps dogs cope with external stressors like separation, unfamiliar visitors, novel sounds, or changes in routine and location



Helps dogs maintain positive cardiac activity during stressful events, promoting a positive emotional state



Helps blunt cortisol response to anxious events and supports a healthy immune system

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1-800-222-8387 (8:00 AM - 4:30 PM CST M-F) | Talk to your Purina Veterinary Consultant

\*McGowan, R. T. S. (2016). "Oiling the brain" or "Cultivating the gut": Impact of diet on anxious behavior in dogs. Proceedings of the Nestlé Purina Companion Animal Nutrition Summit, March 31-April 2, Florida, 91-97. Purina trademarks are owned by Société des Produits Nestlé S.A.



**PURINA**

Your Pet, Our Passion®



# CDC report: Veterinarians at disproportionate risk of suicide

Male veterinarians are 2.1 times, and female veterinarians 3.5 times, more likely to die by suicide than the general U.S. population, according to new research published in *JAVMA*.

## revolution<sup>®</sup> PLUS (selamectin and sarolaner topical solution)

**Brief Summary:** See package insert for full Prescribing Information.

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

**INDICATIONS:** REVOLUTION PLUS is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*. REVOLUTION PLUS kills adult fleas (*Ctenocephalides felis*) and is indicated for the treatment and prevention of flea infestations, the treatment and control of tick infestations with *Ixodes scapularis* (black-legged tick), *Amblyomma maculatum* (Gulf Coast tick) and *Dermacentor variabilis* (American dog tick), the treatment and control of ear mite (*Otodectes cynotis*) infestations, and the treatment and control of roundworm (*Toxocara cati*) and intestinal hookworm (*Ancylostoma tubaeforme*) infections for one month in cats and kittens 8 weeks and older, and weighing 2.8 pounds or greater.

**CONTRAINDICATIONS:** There are no known contraindications for the use of REVOLUTION PLUS.

**WARNINGS:** Human warnings: **Not for human use. Keep this and all drugs out of the reach of children.** In humans, REVOLUTION PLUS may be irritating to skin and eyes. REVOLUTION PLUS and selamectin topical solution contain isopropyl alcohol and the preservative butylated hydroxytoluene (BHT). Reactions such as hives, itching and skin redness have been reported in humans in rare instances after accidental dermal contact with selamectin topical solution. Individuals with known hypersensitivity to selamectin topical solution should use caution or consult a health care professional before applying this product on a cat. Wash hands after use and wash off any product in contact with the skin immediately with soap and water. If contact with eyes occurs, then flush eyes copiously with water; if wearing contact lenses, rinse the eyes first then remove contact lenses and continue to rinse for 5 – 10 minutes and seek medical attention. In case of ingestion by a human, contact a physician immediately. The safety data sheet (SDS) provides more detailed occupational safety information. For a copy of the SDS or to report a suspected adverse reaction, call Zoetis at 1-888-963-8471. Flammable - Keep away from heat, sparks, open flames or other sources of ignition.

**PRECAUTIONS:** Sarolaner, one of the ingredients in REVOLUTION PLUS, is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Neurologic adverse reactions have been reported in cats receiving isoxazoline class drugs, even in cats without a history of neurologic disorders. Use with caution in cats with a history of neurologic disorders. The safe use of REVOLUTION PLUS has not been evaluated in kittens less than 8 weeks of age. The safe use of REVOLUTION PLUS has not been evaluated in breeding, pregnant, or lactating cats.

**ADVERSE REACTIONS:** In a field safety and effectiveness study, REVOLUTION PLUS was administered to cats with fleas. The study included a total of 430 cats (282 treated with REVOLUTION PLUS and 148 treated with imidacloprid + moxidectin once monthly for three treatments). Over the 90-day study period, all observations of potential adverse reactions were recorded. Reactions reported in the REVOLUTION PLUS group included those presented in the following table.

Adverse Reactions by Treatment Group

Adverse Reaction	REVOLUTION PLUS (n = 282)	Imidacloprid + moxidectin (n = 148)
Lethargy	12 (4.3%)	1 (0.7%)
Skin lesions*	10 (3.5%)	3 (2.0%)
Anorexia	9 (3.2%)	3 (2.0%)
Pruritus	7 (2.5%)	3 (2.0%)
Conjunctivitis	7 (2.5%)	1 (0.7%)
Sneezing	6 (2.1%)	1 (0.7%)
Administration site hair changes (alopecia)	5 (1.8%)	0 (0.0%)
Administration site lesions (scabbing)	2 (0.7%)	0 (0.0%)

\*Lesions not associated with application site.

In a second field safety and effectiveness study, REVOLUTION PLUS was administered to 124 cats with ear mites. Adverse reactions in cats treated with REVOLUTION PLUS included emesis, dermatitis and eczema, and pruritus. In a third field safety and effectiveness study, REVOLUTION PLUS was administered to 70 cats with hookworms. Adverse reactions in cats treated with REVOLUTION PLUS included diarrhea, anorexia, emesis, and lethargy. Foreign Market Experience: The following adverse events were reported voluntarily during post-approval use of the product in cats in foreign markets: ataxia, seizures, and tremors.

To report adverse reactions call Zoetis Inc. at 1-888-963-8471. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

**ANIMAL SAFETY:** *Margin of Safety Studies:* One exploratory and two pivotal margin of safety studies were conducted with REVOLUTION PLUS. In the first study, REVOLUTION PLUS was applied topically to kittens eight weeks of age at doses of 12/2 (selamectin/sarolaner) mg/kg (1X), 36/6 mg/kg (3X), 45/7.5 mg/kg (3.75X), and 60/10 mg/kg (5X) every 28 days for eight consecutive doses. One female cat in the 3.75X group was found dead on study day 115. The cause was determined to be hemorrhage in multiple tissues secondary to a low platelet count. The role of the drug in contributing to this event is undetermined. No significant changes related to REVOLUTION PLUS were observed among the remaining cats for physical examination, body weight, clinical pathology (hematology, coagulation, and serum chemistry), gross pathology, histopathology or organ weights. In the second study, REVOLUTION PLUS was applied topically to cats 9 months of age at doses of 1X, 3X, and 5X every 28 days for six consecutive doses. Cosmetic changes at the application site occurred sporadically in all treatment groups and included wet appearance and dried white material. Hair loss at the dose site was also noted in two cats in the 1X group and one cat in the 5X group within 1-8 days after the fourth dose administered on day 84. No significant changes related to REVOLUTION PLUS were observed for physical examination, body weight, clinical pathology (hematology, coagulation, and serum chemistry). During an exploratory margin of safety study, one cat in the 60 mg/kg/10 mg/kg (selamectin/sarolaner) group (5X dose group) experienced piloerection, tremors, and mydriasis approximately 24 hours after receiving the third monthly dose of the combination. Signs resolved without treatment within 2 hours. This cat completed the study, receiving 3 subsequent 5X doses with no abnormal observations. *Oral safety study:* The safety of REVOLUTION PLUS administered orally to kittens was tested in case of accidental oral ingestion. Oral administration of the highest recommended topical dose of REVOLUTION PLUS to kittens resulted in transient lower food consumption and clinical findings of emesis, soft feces, and salivation. In one male, mild tremor was observed and resolved within 3 hours after dosing; the same cat demonstrated reduced activity approximately 6 hours after dosing. *Heartworm Positive Cat Safety of Selamectin:* Selamectin is the active ingredient in REVOLUTION PLUS that prevents heartworm disease in cats; it has been shown that the addition of sarolaner does not interfere with this activity. In a safety study in which selamectin topical solution was applied at 4 times the recommended dose to patent heartworm infected cats, no adverse reactions were observed. *Field safety:* In three well-controlled field studies, REVOLUTION PLUS was used concurrently with other medications, such as vaccines, cestocidal anthelmintics, antibacterials, sedatives, anesthetics, opioid analgesics, corticosteroids, and non-steroidal anti-inflammatories. No adverse reactions were associated with the concurrent use of REVOLUTION PLUS and other medications.

**STORAGE CONDITIONS:** Store at or below 30°C (86°F).

**HOW SUPPLIED:** Available in three separate dose strengths for cats of different weights (see **DOSAGE AND ADMINISTRATION**). REVOLUTION PLUS is available in cartons containing one, three, or six single dose tubes. The amount of liquid in tube varies for each weight range (2.8 - 5.5 lbs, 5.6 - 11 lbs, 11.1 - 22 lbs). Tubes are never completely filled.

Approved by FDA under NADA 141-502

October 2018

**zoetis**

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***Editor’s note:** This article includes discussion of suicide and mental health issues. If you’re experiencing feelings of depression or suicidal ideation, please call the National Suicide Prevention Lifeline (800-273-TALK; [suicidpreventionlifeline.org](http://suicidpreventionlifeline.org)). It’s available 24/7.*

Supporting the profession’s growing concern with well-being, a new study shows that suicide rates of veterinarians are “significantly higher than for the general U.S. population,” according to researchers at the Centers for Disease Control and Prevention (CDC).

Updating more than 30-year-old research of suicide rates of the mostly male and mostly food-animal veterinarians at the time, the new study published online by *JAVMA* looks at the proportionate mortality ratios (PMRs) for suicide among male and female veterinarians, now predominantly in clinical small animal practice.

Without the number of total veterinarians for comparison, researchers had to rely on PMR, not “standardized mortality ratios.” A PMR value of more than 1.00 shows the suicide rate is “greater than expected,” according to the researchers. The results were significant, as the study found “male veterinarians were 2.1 times ... and female veterinarians were 3.5 times as likely as the general U.S. population to die by suicide” from 1979 through 2015. Researchers noted that, while men are more likely to die by suicide in the general population, female veterinarians are more likely to die by suicide than male veterinarians.

Researchers also quoted previous research that indicated risk factors for this high suicide rate: “long work hours, work overload, practice management responsibilities, client expectations and complaints, euthanasia procedures and poor work-life balance.”

Data for the study came from AVMA records of deceased U.S. veterinarians obtained through obituaries submitted to the organization, settlements

## What we can do

Researchers say they hope to the profession take up a three-pronged approach to lowering the suicide rate:

**1. Start with tools recommended by the CDC.** Strategies most relevant to at-risk veterinarians could be “creating protective environments, teaching coping coping and problem-solving skills, and identifying and supporting people at risk.”

**2. Get stakeholders together.** Researchers said the AVMA, state VMAs and other veterinary professional associations and schools as well as experts on suicide prevention could all “contribute to implementation of an effective and comprehensive suicide prevention strategy.”

**3. Check for results.** Researchers hope “periodic analyses” are done with AVMA obituary and AVMA life insurance data to assess new programs of “suicide prevention interventions.”

Researchers also suggested more can be done to “limit and control access to potentially lethal pharmaceutical products,” as pharmaceuticals were the second-most-common method of death by suicide (after firearms) for U.S. veterinarians.

See this story at [dvm360.com/cdcstudy](http://dvm360.com/cdcstudy) for a link to the report.

on AVMA life insurance policies and internet searches for veterinarian obituaries. To build and statistically verify the numbers, researchers checked the data against records at the CDC as well as the National Institute for Occupational Safety and Health.



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**IMPORTANT SAFETY INFORMATION:** The safe use of REVOLUTION PLUS has not been established in kittens less than 8 weeks old or in breeding, pregnant or lactating cats. Reported side effects in clinical trials included lethargy and anorexia. Use with caution in cats with a history of neurologic disorders. Sarolaner, one of the ingredients in REVOLUTION PLUS, is a member of the isoxazoline class, which has been associated with adverse reactions such as tremors, ataxia, and seizures. Reactions have occurred in cats with or without a history of neurologic disorders. In humans, REVOLUTION PLUS may be irritating to skin and eyes. **See Brief Summary of Prescribing Information on page 08.**

\*Black-legged or deer tick (*Ixodes scapularis*), Gulf Coast tick (*Amblyomma maculatum*), and American dog tick (*Dermacentor variabilis*). <sup>†</sup>*Toxocara cati*. <sup>‡</sup>*Ancylostoma tubaeforme*.

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**ZOETIS PETCARE**



# FDA works with Pfizer on opioids for veterinary use

Agency collaborates with human pharma company to keep injectable hydromorphone, morphine available for surgical and trauma pain in animals during supply shortage.

In mid-December, the FDA announced that it was working with Pfizer Inc. to help alleviate a shortage of certain injectable opioids for treating pain in animals by facilitating the availability of a limited amount of product labeled for human use. Most of the opioid pain medications used in veterinary medicine are approved for use in humans but are also used in animals in an extralabel capacity, the agency says in a media release.

"FDA is aware that the opioid shortage has been acutely felt in the veterinary community, just as it has in hospitals and healthcare settings providing critical care and pain management in human medicine," the agency says in a letter to veterinarians released in December.

In September, the FDA's Center for

Veterinary Medicine (CVM) became aware that veterinarians who relied on these products for pain control in their patients were no longer able to obtain them through standard distribution channels, according to the release. This was due to a recent shortage of injectable opioids and to Pfizer's decision to restrict distribution of such products for human use during the shortage.

The CVM met with Pfizer about the veterinary community's need for injectable opioids and discussed how a limited supply imported from other countries could be made available for use in the U.S. veterinary market, the release states. The FDA had already given Pfizer permission to import injectable hydromorphone to help alleviate the shortage in human medicine. As a result, this product is now

available in limited quantities for pain management in veterinary patients, the release indicates.

In addition to hydromorphone, Pfizer has also made injectable morphine available to veterinarians in the U.S., according to the release. The CVM says these products are in short supply but will continue to be available to veterinary practitioners when supply increases.

Veterinarians can purchase the products through their normal distribution chains, which have been alerted that they are now available in limited supply for the veterinary market, according to the CVM. Pfizer reports that it expects the opioid shortage to end early this year and that it will continue to keep these products available to the veterinary market in the interim.

## AVMA reinstates health insurance for veterinarians in some states

Coverage options, halted in 2013 after regulatory changes, will be available to some members and their employees starting in July.

Association-provided health insurance, a benefit of AVMA membership for nearly 60 years before regulatory changes precipitated an end to those plans in 2013, will again be available to AVMA members in several states beginning in July, the association announced last week.

Joe Kinnarney, DVM, chairman of AVMA Life Trust, revealed during the 2019 Veterinary Leadership Conference in Chicago that the trust was working to develop an association health plan for AVMA members, according to a release from the group.

AVMA Life, formerly known as AVMA Group Health and Life Insurance Trust (GHLIT), stopped offering health insurance in 2013 because of provisions in the Affordable Care Act,

the release states. However, a 2018 regulation by the U.S. Department of Labor made it possible for small businesses to band together through associations (by location or industry) to offer healthcare insurance for their employees.

Though the situation is complex and the laws vary by state, several states will allow association health plans in 2019, the release continues. The AVMA Trust says it's developing a program to provide affordable, competitive health insurance to AVMA members and their employees in these states.

"I am so excited to make the first public announcement that AVMA Life Trust will begin offering healthcare plans to our members," Dr. Kinnarney says in the release. "This is a big win for our members. As the program gradu-

ally rolls out, more and more AVMA members will be able to provide competitive benefits to their employees."

On July 1, the AVMA association health plan will be available to AVMA member practices with between two and 50 employees in at least 10 states. The program will build over time.

"Generations of veterinarians benefited from the health insurance program offered as part of their AVMA membership, so it was a major blow when this option was taken away in 2013," says AVMA President John de Jong, DVM, in the release. "Now, after years of hard work and advocacy, the AVMA will be able to roll out an association health plan that will benefit many of our members, and we couldn't be more pleased."



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# Your two paths to telehealth

What are they? Dr. Adam Little at Fetch dvm360 says the two paths are: 1) buy or license software so your veterinary practice can offer better telehealth services to clients, or 2) contract with an outside company to offer advice and client service when your practice is busy or closed. (Sure, there's a third—do nothing—but how long do you think that'll last?) *By Brendan Howard*

Telehealth in veterinary medicine is garnering much gnashing of teeth from some and lots of investment dollars and entrepreneurial interest from others. Companies are interested in the money to be made in giving pet owners advice and sometimes recommending pets' care over the phone, through the internet and on smart devices.

Adam Little, DVM, an adjunct professor and director of innovation and entrepreneurship at Texas A&M and cofounder of FuturePet, told attendees at Fetch dvm360 in San Diego why telehealth is coming and why it makes sense for pet owners. But best of all, Dr. Little also shared some ways private practitioners are experimenting with it today, thanks to current players in the market.

Of course, he also learned that some of the companies that have entered



**Q:** In his famous poem, was Robert Frost writing about options for private practices to experiment with in telemedicine's early days when he wrote, "Two roads diverged in a wood, and I ... I took the one less traveled by, And that has made all the difference"? **A:** No.

the veterinary telemedicine space have already left, so judge accordingly.

## 1. Software as a service

Your veterinary practice wants to offer some level of telemedicine services to your clients. One way? "Buying or licensing technology that you use to provide to your client," says Dr. Little.

Companies like Anippanion, Medici, Petzam and VitusVet offer you the chance to do so. Be warned, though, says Dr. Little. Don't dip your toe in the water, set it and forget it: "For every clinician who's done this successfully, there's a dozen who bought the software and never tell their clients about it," he says. "The successful ones incorporate this into their workflow."

## 2. On-demand company

You don't want to license the software and staff the telemedicine service yourself, so you work with a company that provides on-demand telehealth

services when you don't want to be "on." Companies like ask.vet, fuzzy, GuardianVets and whiskerDocs offer you the chance.

"They look at augmenting your staff when you're not available," Dr. Little says. "People use these services before and after a consultation at your clinic."

The risk, he says, is that sometimes these outside referrals can happen before and after a veterinary client visits your practice and leave you a bit out of the loop, giving the pet owner a potentially "really broken" customer experience when they explain an issue first to an on-demand company, then see you to explain it again, then ask the on-demand company when you're done whether the visit with you makes sense.

Whether you try out these services, find your own path to offer more accessible advice to clients or have absolutely no intention of doing anything involving telehealth—no matter which you choose, you're making a choice.



**CORAXIS™**  
(moxidectin)  
Topical Solution for Dogs

**BRIEF SUMMARY:**  
Before using Coraxis™, please consult the product insert, a summary of which follows:

**WARNING**

- **DO NOT ADMINISTER THIS PRODUCT ORALLY**
- **For the first 30 minutes after application ensure that dogs cannot lick the product from application sites on themselves or other treated animals.**
- **Children should not come in contact with application sites for two (2) hours after application.**

(See Contraindications, Warnings, Human Warnings, and Adverse Reactions, for more information)

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

**INDICATIONS:**  
CORAXIS is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*. CORAXIS is also indicated for the treatment and control of the following intestinal parasites:

Intestinal Parasite	Intestinal Stage		
	Adult	Immature Adult	Fourth Stage Larvae
Hookworm	X	X	X
Species	<i>Ancylostoma caninum</i> <i>Uncinaria stenocephala</i>	X	X
Roundworm	X		X
Species	<i>Toxocara canis</i> <i>Toxascaris leonina</i>	X	
Whipworm	X		
Species	<i>Trichuris vulpis</i>	X	

**CONTRAINDICATIONS:**  
Do not administer this product orally. (See WARNINGS.)  
Do not use this product (containing 2.5% moxidectin) on cats.

**WARNINGS:**  
For the first 30 minutes after application: Ensure that dogs cannot lick the product from application sites on themselves or other treated dogs, and separate treated dogs from one another and from other pets to reduce the risk of accidental ingestion. Ingestion of this product by dogs may cause serious adverse reactions including depression, salivation, dilated pupils, incoordination, panting, and generalized muscle tremors. In avermectin sensitive dogs, the signs may be more severe and may include coma and death.  
Some dogs are more sensitive to avermectins due to a mutation in the ABCG1 gene (formerly MDR1 gene). Dogs with this mutation may develop signs of severe avermectin toxicity if they ingest this product. The most common breeds associated with this mutation include Collies and Collie crosses.  
Although there is no specific antagonist for avermectin toxicity, even severely affected dogs have completely recovered from avermectin toxicity with intensive veterinary supportive care.

**HUMAN WARNINGS:**  
Not for human use. Keep out of the reach of children.  
Children should not come in contact with application sites for two (2) hours after application. Causes eye irritation. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Exposure to the product has been reported to cause headache, dizziness, and redness, burning, tingling, or numbness of the skin. Wash hands thoroughly with soap and warm water after handling.  
If contact with eyes occurs, hold eyelids open and flush with copious amounts of water for 15 minutes. If eye irritation develops or persists, contact a physician. If swallowed, call poison control center or physician immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or physician. People with known hypersensitivity to benzyl alcohol or moxidectin should administer the product with caution. In case of allergic reaction, contact a physician. If contact with skin or clothing occurs, take off contaminated clothing. Wash skin immediately with plenty of soap and water. Call a poison control center or physician for treatment advice.  
The Safety Data Sheet (SDS) provides additional occupational safety information. For a copy of the Safety Data Sheet (SDS) or to report adverse reactions call Bayer Veterinary Services at 1-800-422-9874. For consumer questions call 1-800-255-6926.

**PRECAUTIONS:**  
Do not dispense dose applicator tubes without complete safety and administration information.  
Use with caution in sick, debilitated, or underweight animals. The safety of CORAXIS has not been established in breeding, pregnant, or lactating dogs. The safe use of CORAXIS has not been established in puppies and dogs less than 7 weeks of age or less than 3 lbs body weight.  
Prior to administration of CORAXIS, dogs should be tested for existing heartworm infection. At the discretion of the veterinarian, infected dogs should be treated with an adulticide to remove adult heartworms.  
CORAXIS is not effective against adult *D. immitis*. (See ANIMAL SAFETY - Safety Study in Heartworm-Positive Dogs.)

**ADVERSE REACTIONS:**  
Since CORAXIS contains 2.5% moxidectin, studies that demonstrated the safe use of a topical solution containing 2.5% moxidectin + 10% imidacloprid were acceptable to demonstrate the safety of CORAXIS.  
**Field Studies:** Following treatment with a topical solution containing 2.5% moxidectin + 10% imidacloprid or an active control, dog owners reported the following post-treatment reactions:

OBSERVATION	Moxidectin + Imidacloprid n = 128	Active Control n = 68
Pruritus	19 dogs (14.8%)	7 dogs (10.3%)
Residue	9 dogs (7.0%)	5 dogs (7.4%)
Medicinal Odor	5 dogs (3.9%)	None observed
Lethargy	1 dog (0.8%)	1 dog (1.5%)
Inappetence	1 dog (0.8%)	1 dog (1.5%)
Hyperactivity	1 dog (0.8%)	None observed

During a field study of a topical solution containing 2.5% moxidectin + 10% imidacloprid using 61 dogs with pre-existing flea allergy dermatitis, one (1.6%) dog experienced localized pruritus immediately after product application, and one investigator noted hyperkeratosis at the application site of one dog (1.6%).  
**Laboratory Effectiveness Studies:** One dog in a laboratory effectiveness study experienced weakness, depression and unsatiation between 6 and 9 days after application of a topical solution containing 2.5% moxidectin + 10% imidacloprid. The signs resolved without intervention by day 10 post-application. The signs in this dog may have been related to peak serum levels of moxidectin, which vary between dogs, and occur between 1 and 21 days after product application.  
The following clinical observations also occurred in laboratory effectiveness studies following application of a topical solution containing 2.5% moxidectin + 10% imidacloprid and may be directly attributed to the drug or may be secondary to the intestinal parasite burden or other underlying conditions in the dogs: diarrhea, bloody stools, vomiting, anorexia, lethargy, coughing, ocular discharge and nasal discharge. Observations at the application sites included damp, stiff or greasy hair, the appearance of a white deposit on the hair, and mild erythema, which resolved without treatment within 2 to 48 hours.

**ANIMAL SAFETY:**  
In a controlled, double-masked, field safety study, a topical solution containing 2.5% moxidectin + 10% imidacloprid was administered to 128 dogs of various breeds, 3 months to 15 years of age, weighing 4 to 157 pounds. The moxidectin + imidacloprid topical solution was used safely in dogs concomitantly receiving ACE inhibitors, anticonvulsants, anthelmintics, antimicrobials, chondroprotectants, corticosteroids, immunotherapeutics, MAO inhibitors, NSAIDs, ophthalmic medications, sympathomimetics, synthetic estrogens, thyroid hormones, and urinary acidifiers. Owners reported the following signs in their dogs after application of moxidectin + imidacloprid topical solution: pruritus, flaky/greasy residue at the treatment site, medicinal odor, lethargy, inappetence and hyperactivity. (See ADVERSE REACTIONS.)  
NADA # 141-417, Approved by FDA

Bayer HealthCare LLC  
Animal Health Division  
P.O. Box 390, Shawnee Mission, Kansas 66201 U.S.A.

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**6 parasites.**

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**That's Coraxis.™**

Coraxis™ is not approved for the treatment of adult *D. immitis*.

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. WARNING: **DO NOT ADMINISTER THIS PRODUCT ORALLY.** For the first 30 minutes after application ensure that dogs cannot lick the product from application sites on themselves or other treated animals. Children should not come in contact with the application sites for two (2) hours after application. (See Contraindications, Warnings, Human Warnings, and Adverse Reactions, for more information.) CONTRAINDICATIONS: Do not use this product on cats.



# The working parent: What *associates* & *practice owners* wish the other side understood

Balancing the demands of parenthood with a veterinary associate job is no easy undertaking. Neither is running a successful business. Here both sides plead their case.

*By Douglas Aspros, DVM; Susan Jeffrey, DVM; and Heide L. G. Meier, DVM*

**J**oin us as we ask the important questions. What do associate veterinarians with kids wish their bosses understood about parenting in the midst of a veterinary career? What do practice owners wish their working-parent associates understood about the realities of running a business? We explore these perspectives, plus present some exclusive data on how *dvm360* readers balance the demands of life and career.

- » Devoted mom, but still a dedicated doctor **page 16**
- » Practice owner: I've got a business to run **page 18**
- » Data: Balancing parenthood and vet med **page 20**
- » How my daughter saved my life **page 22**
- » Demystifying family leave regulations **page 25**
- » Parenting support lacking in vet school **page 29**







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<sup>1</sup>Clinical trial on ULTAMINO® Canine, 2011. Royal Canin data on file.  
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## I'm a devoted mom, but still a dedicated doctor

Fifty- to 60-hour workweeks are long gone for this perfectionist veterinarian as she juggles the demands of being the best mother and the best doctor she can possibly be at the same time.

I became a veterinarian before I became a parent. Prior to my child's birth, I often wondered why my veterinary colleagues with children chose to work part time. Why did these women spend at least eight years working tirelessly toward their doctorates in veterinary medicine—accruing tens (or hundreds) of thousands of

*There are days when I arrive to an after-school event tired, wearing my scrubs and hoping I don't smell awful.*

dollars in debt along the way—only to work less than 30 hours a week?

Little did I know the amount of work that goes into having children and the challenge of maintaining work-life balance during parenthood.

My pregnancy interfered little with work. There were a few times I had to excuse myself for morning sickness. I stopped seeing exotic patients because of the risk of zoonotic diseases. I had regular appointments with my obstetrician that required blocking off time in my schedule. In my third trimester, it became increasingly difficult for me to work with large-breed dogs and to stand all day.

I worked until the day before I delivered. Babies like surprise arrivals, so the exact timing of my maternity leave was uncertain. Schedules had to be adjusted around the event. I realize that maternity leave is a burden to employers, but it is a federal law and for the good of all mankind. Those 12 weeks of leave were a whirlwind of change and, as the time dwindled, I became increasingly anxious about how to work what I now realized would be two full-time jobs.

When I returned to work at the veterinary hospital I was a different person. I was responsible for a little

one who mattered more to me than anything else in the world, and it changed the order of my priorities.

First and foremost, I am a wife and a mother. When my child needs me, I'm going to be there. My role as veterinarian is now a few tiers down. Still, when I am at work, I'm focused and committed to my coworkers, clients, patients and duties.

The first few months were hard. I did my best to perform on three to six hours of sleep. I needed to take time out to breast pump twice during the workday. I went home exhausted to resume the job of mothering and face the regret I felt about missing my child's development that day.

I am strictly bound by the hours of daycare and school. I have to leave on time to pick up my child. Therefore, the innate unpredictability of veterinary medicine has been one of the most challenging aspects of work to balance with being a mother.

If I anticipate that a veterinary patient will need care beyond the time that I am scheduled for, I prepare clients for the transfer of care. When necessary, I rely on being able to pass responsibility over to my colleagues and technicians. I extend my work time by making phone calls while I'm driving to pick up my child. When we get home, I'm all mom until I collapse into bed. I start my day at 4 a.m., finishing charts and answering emails before my family rises.

Occasionally, I receive calls from the daycare or school that interrupt my work at the practice. Sometimes the issue is settled with a phone call. Sometimes I have to leave immediately to care for my child, in which case the schedule needs to be adjusted. This is an uncommon occurrence and the staff can usually still meet the needs of clients and patients. Clients are more understanding than we anticipate.

Sometimes my child gets sick, and

I have to take a paid-time-off day to stay home and care for him. Since, like most veterinarians, I receive production-based pay, anytime that I am not working, I am not paid.

I do share parenting responsibilities with my husband. Some evening and weekend hours at the hospital are actually attractive to me because I know that he will be available to care for our child at home. But overall, I'm not willing to work as many hours since becoming a mother. I work 30 to 35 hours a week and feel as though I'm torn between being a good parent and being a good veterinarian. Forty hours is feasible, but the 50- to 60-hour workweeks are long gone.

Many times I feel stuck in the middle trying to make everyone happy—my family, my clients, my employer—and it's stressful! There are days when I arrive to an after-school event tired, wearing my scrubs and hoping I don't smell awful.

I have less time for CE outside of work because of my family responsibilities, so I feel guilty that I'm not on top of my veterinary game. Attending a conference is particularly valuable now because I can focus on learning without distraction.

I find it difficult to make time to refuel my tank. I think this is true for many veterinarians. We spend our days and nights caring for clients, patients and family members, as well as keeping a home in order. By the time everything is done at the end of the day, there isn't much time to care for myself. But I'm a hard-working perfectionist so I wake up the next morning and do it all again.

Ultimately, I find peace when I accept the choices I've made. I serve my family at home and my clients, patients and coworkers at work to the best of my abilities. I accept myself for being imperfect—but I know I am an honest and dedicated doctor.







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## Practice owner: I've got a business to run

While not unfamiliar with the challenges of parenthood, this veterinary employer needs everyone to pull their own weight so the practice will continue to run efficiently (and profitably).

I'm not unsympathetic to the plight of this associate. With my wife, I've raised two children and I understand what it means to be a parent. The job can be overwhelming—especially for a new parent—with too little sleep and parental responsibilities that seem to occupy every minute of every day. I really do understand that life is about more than just work and that nothing is more important than family.

As we focus on well-being in the veterinary profession, the stresses that come with parenthood are frequently sidelined in the discussion. I would love to see a world where every new parent gets a year off (with pay) to focus on their new baby. Someday we'll see our way clear to make that a reality in the United States.

Until that day comes, I've got a business to run.

Small businesses don't provide much slack when they're run efficiently. Every team member is important, and we

try not to take on employees who don't pull their weight. My goal is to hire good people, put resources into training them and reward them financially for their productivity.

Like most veterinary practices, ours is a for-profit enterprise. Generating profit allows us to build a great team responsible for the excellent medical care we deliver. Profits also support our hospital infrastructure—the physical plant, new medical equipment and the updated information technology that has made our practice an attractive environment for all of us to work.

At the heart, we build clientele on trust. A successful veterinary practice isn't part of the gig economy but grows a relationship with clients that's sustaining. That means providing timely, compassionate and expert care—all at very reasonable prices. Meeting those competing expectations requires a careful balancing of resources to match them with our capabilities.

As a doctor, you're a critical component of a complex ecosystem of care. When you earned your degree you didn't just step up in status; doctors carry unique responsibilities, too. For now, women in particular will continue to fill a disproportionate share of childcare (and eldercare) roles. To make work life manageable, parents need flexibility. Practice owners need commitment. It simply won't work any other way.

I've worked in veterinary practice environments with nearly all-female workforces throughout my career. In the past few decades, female veterinarians have come to dominate our veterinary support teams, as well. I know that the days of 55-hour workweeks for veterinarians may be long past, but client demands have only increased.

We're in the retail-medicine business. Clients have come to expect convenience from consumer-facing businesses like ours and they drive our

*I know that the days of 55-hour workweeks for veterinarians may be long past, but client demands have only increased.*







Nikki, 14-year-old patient and beloved pet

# CASE STUDY:

## Stimulating the appetite of a geriatric dog with chronic comorbidities

By Audrey Cook, BVM&S, Msc Vet Ed, DACVIM, DECVIM, DABVP (Feline Practice)  
Associate Professor, Small Animal Internal Medicine  
Texas A&M University

In this case, the owners knew their longtime companion was frail, and they were addressing his multiple health concerns. But when the dog quit eating, they knew something more needed to be done to bring him comfort.

### Presenting complaint and history

Nikki, a 14-year-old, castrated male rat terrier, was admitted to the Emergency Service at Texas A&M's Veterinary Teaching Hospital. He had exhibited a decreased interest in food for two days and then anorexia for three days. The referring veterinarian had examined the dog a few days prior and had noted dental disease; tramadol and amoxicillin/clavulanate potassium were prescribed, and a professional dental cleaning was scheduled for the following week.

The owners wanted Nikki to be as comfortable as possible, and his hyporexia/anorexia was a substantial concern to them. They reported that Nikki was still drinking water, and that he was rou-

tinely fed a low-fat diet because of a history of pancreatitis. Nikki was also receiving pimobendan because of an undefined heart murmur.

### Referral evaluation

On presentation, Nikki was lethargic. Physical examination revealed Nikki weighed 6 kg, had a body condition score of 5 (on a scale of 1 to 9) with moderate muscle loss and exhibited mild dehydration (5%). His temperature was 99.1 F, his pulse was 160 beats/min., and his respiratory rate was 20 breaths/min. He had moderate dental disease and a grade V/VI left-sided apical systolic murmur.

Initial diagnostic testing revealed azotemia with poorly concentrated urine. Further evaluation estab-

lished concurrent severe chronic kidney disease and stage B2 chronic valvular heart disease (see *Table 1* for diagnostic findings).

### Treatment

#### Day 1

Nikki was admitted to the hospital and received intravenous fluids to replace the fluid deficit (300 ml) over 12 hours with careful monitoring. Warmed oats were used to address hypothermia. A proton-pump inhibitor (pantoprazole) and an antiemetic (maropitant) were administered parenterally, along with ampicillin-sulbactam for possible pyelonephritis or leptospirosis.

#### Day 2

On the second day, Nikki was transferred to the Internal Medi-

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**Table 1. Selected diagnostic test results**

Serum chemistry panel	Severe azotemia (BUN 166 mg/dl; creatinine 7.1 mg/dl; phosphorus >13.0 mg/dl)
Leptospirosis titer	Negative (results reported on Day 3)
Urinalysis	Specific gravity of 1.010; trace protein; unremarkable sediment
Urine bacterial culture	Negative (results reported on Day 3)
Abdominal ultrasonography	Degenerative changes in both kidneys
Echocardiography	Mitral valve endocardiosis; stage B2 chronic degenerative valve disease

cine Service. The intravenous fluids and other medications were continued, and because Nikki was still refusing food, capromorelin oral solution (ENTYCE®) was administered at 3 mg/kg to stimulate his appetite.

A few hours after receiving capromorelin, Nikki began eating a low-fat, canned food, despite persistent severe azotemia (creatinine concentration of 6.4 mg/dl). Because Nikki's hydration status was normal, and he was alert, responsive and drinking water, the intravenous fluids were tapered and discontinued during the next 24 hours.

### Day 3

Nikki continued to eat well. Since the urine culture and leptospirosis titers were negative, the antibiotic was discontinued. Sevelamer was prescribed to mitigate hyperphosphatemia, and the proton pump inhibitor was switched to an oral product (omeprazole).

Nikki was discharged from the hospital on Day 3, with instructions to continue capromorelin long-term at home. Oral maropitant (3 days' worth) was dispensed, and the owner was instructed to restart the pimobendan and continue with a low-fat diet. The owners were advised to schedule a follow-up appointment with Nikki's

primary care veterinarian in a few days, so that his body weight, overall condition, azotemia and hyperphosphatemia could be reassessed.

Because of chronic kidney disease and heart disease, Nikki's long-term prognosis was guarded, but getting him home, eating and comfortable was a positive outcome for the owners.

### The consequences of dysrexia

Patients develop anorexia or dysrexia for a number of reasons, and it typically reflects a primary disease.

For example, if a dog has ascites due to cancer or heart failure, the fluid can make eating uncomfortable. Patients that develop encephalopathy with liver failure do not eat well. Pain from pancreatitis, a fracture, kidney failure/uremia, ketosis, acute infection—all can inhibit appetite. Diseases that result in inflammation or other changes in the gastrointestinal tract can delay emptying and cause anorexia.

Extensive research exists in human medicine about the impact of dys-

## Earn CE and learn more about dysrexia and appetite stimulation

Attend the 1-hour "Dealing with Dysrexia" webinar, which is now available for free and on-demand. Sponsored by Aratana Therapeutics, Inc.

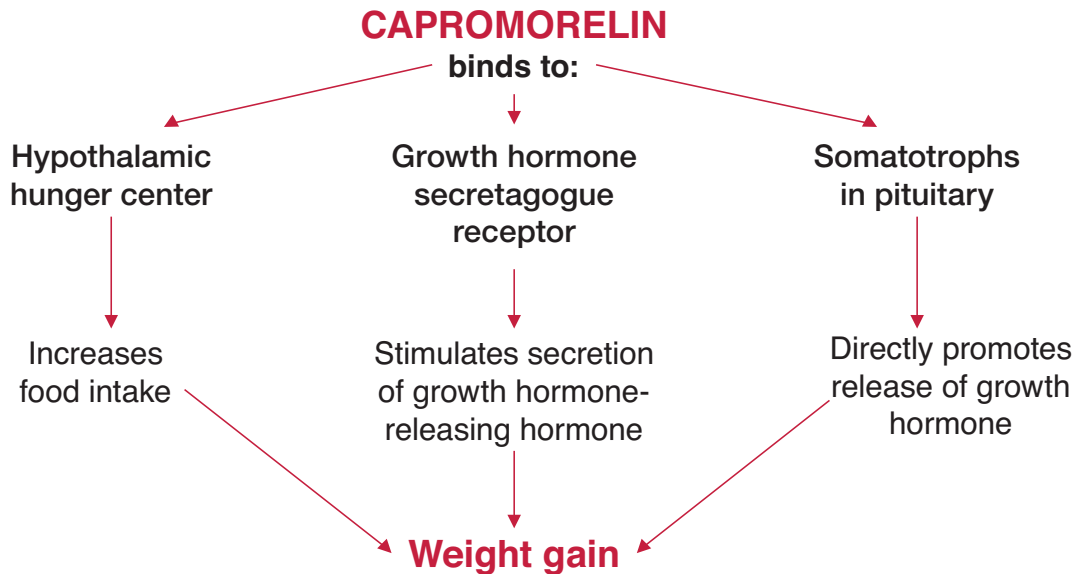
In this presentation by Dr. Audrey Cook, you will gain a greater understanding of dysrexia, its various causes and clinical impact on dogs, as well as the available treatment options for appetite stimulation.

**[dvm360.com/dealing-with-dysrexia](https://dvm360.com/dealing-with-dysrexia)**





FIGURE 1



rexia on patient outcomes, but little research is available in the veterinary literature. Veterinarians know from experience, however, that veterinary patients do not do well when they do not eat. Dysrexia may result in delayed wound healing, decreased immune responses and decreased musculoskeletal strength. Weight loss also occurs, but it may take several days to become apparent. The health problems listed above may be well-established before weight loss is observed, thus we shouldn't wait for it to occur in patients with dysrexia.

A dog's inappetence may also adversely affect the owners. If a dog doesn't eat, owners perceive it to be suffering, raising questions about quality of life. When I call owners to give them an update on a hospitalized patient, the first question they ask is, "Did he eat today?" The same thing is true when a patient is at home. I use food intake as a measure of comfort and well-being when I discuss how the patient is doing with the owners.

Good evidence exists that nutrition has a marked impact on gastrointestinal tract health. A lack of nutrients in the intestinal lumen compromises mucosal function. Enterocyte turnover slows, the intestinal villi become blunted, and permeability increases. Metabolic derangements can occur,

such as hepatic lipidosis (although the effects are less dramatic in dogs than in cats). Anorexia also impacts the gastrointestinal microbiome. The predominant bacterial species may shift to less-friendly bacterial species. All of these processes combine to impact patient survival. In short, patients need adequate nutrition if they are to survive.

### Stimulating the appetite

Veterinarians should consider every reason an animal may not be eating enough—pain, psychological stressors or physiologic issues (including gastric stasis, ulceration or esophageal reflux). Dysrexia is often a problem with several contributing factors, and it is likely that multimodal management will be necessary. Addressing as many of the factors as you can is the best way forward.

In a given case, if you determine that part of the problem is inadequate food intake, then you will want to stimulate the dog's appetite. Several drugs have traditionally been used as appetite stimulants, though they are not designed for this purpose. These include mirtazapine, cyproheptadine, diazepam, tetrahydrocannabinol and glucocorticoids. These drugs have different mechanisms of action, but none of them are FDA-approved as

an appetite stimulant for dogs, and their efficacy and safety profiles are uncertain.

### Ghrelin's role

In 1999, the "hunger hormone" known as *ghrelin* was discovered. It is made primarily in the stomach, with levels rising during the interprandial interval. Ghrelin's function in the body is complex. It is integral to not only the regulation of appetite but also to the maintenance of homeostasis and energy metabolism. Besides stimulating food intake, ghrelin stimulates growth hormone secretion, decreases energy expenditure, reduces gastric acid stimulation, accelerates gastric emptying, impacts glucose homeostasis and modulates cardiovascular function, inflammation, reproductive function and bone formation.\*

Ghrelin achieves its ability to stimulate appetite through activation of the orexigenic neurons and suppression of the anorexigenic neurons in the hypothalamus. (*Orexigenic* means

\*Rhodes L, Zollers B, Wofford JA, Heinen E. Capromorelin: a ghrelin receptor agonist and novel therapy for stimulation of appetite in dogs. *Veterinary Medicine and Science*, Nov. 6, 2017. <https://doi.org/10.1002/vms3.83>



**Dr. Audrey Cook** owned a specialty referral practice in Virginia for 10 years before joining the faculty at Texas A&M University in 2007. She is currently an Associate Professor in Small Animal Internal Medicine. Her particular interests are endocrinology and gastroenterology.

driving food intake, and *anorexigenic* means inhibiting food intake.) Ghrelin also affects dopamine levels in the hippocampus. Ghrelin has a very short half-life and very poor oral bioavailability, so it is not possible to simply administer it to anorexic patients.

Capromorelin (ENTYCE) is one of the agents that act like ghrelin, and extensive studies have evaluated the efficacy and safety of capromorelin in dogs. Capromorelin is a ghrelin receptor agonist that binds to receptors in the hypothalamic hunger center, thereby increasing food intake. It also binds to the growth hormone secretagogue receptor and somatotrophs in the pituitary, triggering growth hormone release. These processes combine to prompt the patient to eat and to use those calories to help with weight gain (*Figure 1*).

### Clinical considerations in this case and others

Dogs, like Nikki, with chronic kidney disease may present with an acute episode of illness. In the absence of vomiting, an antiemetic is unlikely to improve the patient's food intake as it has no effect on the hunger center. Simply administering antiemetics and acid inhibitors is not expected to address the owners' concerns about the dog's hyporexia/anorexia.

Dietary recommendations should balance the coexisting medical conditions (pancreatitis versus chronic kidney disease). An appetite stimulant should be added to the treatment protocol for any animal with a history of inadequate intake, as in Nikki's case, and many others. (See sidebar (at right) *When to use appetite stimulation*.)

## When to use appetite stimulation

At the Texas A&M College of Veterinary Medicine & Biomedical Sciences Veterinary Teaching Hospital, we use capromorelin in dogs recovering from an acute illness, those with chronic illness, those recovering from surgery or trauma and those transitioning to a therapeutic diet that may be less palatable.

### Acute conditions

In acute illness such as acute hemorrhagic diarrhea or nonspecific acute gastritis, we provide supportive care for the dog as the disease takes its natural course. We prefer not to discharge these patients until they are eating, as they may otherwise be quickly readmitted by an anxious owner. Capromorelin can stimulate these patients to begin eating and allow us to administer oral medications as needed. We usually recommend that the owner finish giving the bottle of capromorelin at home, particularly if the dog is being fed a bland food for a few days.

### Chronic illnesses

We also prescribe capromorelin for dogs with chronic conditions, such as chronic kidney disease. My colleagues in oncology and cardiology use it in many of their long-term cases, too. Keeping these dogs eating makes it easier for owners to administer oral medications. In addition, the quality of life is much better for both the dog and the owner if the dog is eating well.

### Postoperative recovery or healing after trauma

We also use capromorelin in postoperative or trauma patients. These dogs may be receiving multiple medications, such as analgesics and antibiotics, and may be subject to repeated sedation for bandage changes or wound management. All of these factors can markedly impact appetite, just when the dog needs more calories for healing. Capromorelin can be a valuable tool in these cases, as it increases food intake which supports healing and the preservation of muscle mass.

### Diet transitions

We also use capromorelin to help patients with pancreatitis or gastrointestinal diseases, such as inflammatory bowel disease or lymphangiectasia, transition to a therapeutic diet. I use capromorelin as soon as possible in these cases, before food aversion arises or the owner gives in to the dog when it begs for its old food.

Actual patient case study provided by Audrey K. Cook, BVM&S, Msc Vet Ed, DACVIM, DECVIM, DABVP (Feline Practice); Associate Professor, Texas A&M University.

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# Turn on appetite

## Finally, appetite stimulation is in your control

Until now, there have been limited therapeutic options to restore appetite. That's why we created ENTYCE® (capromorelin oral solution), the only **FDA-approved** therapeutic designed to safely and effectively stimulate appetite in dogs.

ENTYCE works by mimicking the hunger hormone ghrelin. Administered orally once a day, ENTYCE is appropriate to treat inappetence caused by chronic and acute conditions.

  
(capromorelin oral solution)

Please see the full Prescribing Information in more detail on page 6.



**IMPORTANT SAFETY INFORMATION:** ENTYCE® (capromorelin oral solution) is for use in dogs only. Do not use in breeding, pregnant or lactating dogs. Use with caution in dogs with hepatic dysfunction or renal insufficiency. Adverse reactions in dogs may include diarrhea, vomiting, polydipsia, and hypersalivation. Should not be used in dogs that have a hypersensitivity to capromorelin. See page 12 for product information summary. Please see the full Prescribing Information at [entyce.aratana.com/PI](http://entyce.aratana.com/PI).

# entyce®

(capromorelin oral solution)

30 mg/mL

For oral use in dogs only

**Appetite Stimulant**

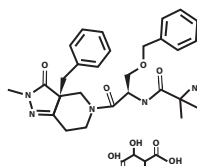
**Caution:**

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

**Description:**

ENTYCE® (capromorelin oral solution) is a selective ghrelin receptor agonist that binds to receptors and affects signaling in the hypothalamus to cause appetite stimulation and binds to the growth hormone secretagogue receptor in the pituitary gland to increase growth hormone secretion. The empirical formula is  $C_{28}H_{35}N_5O_4 \cdot C_4H_6O_6$  and the molecular weight 655.70. The chemical name is 2-amino-N-[2-(3aR-benzyl-2-methyl-3-oxo-2,3,3a,4,6,7-hexahydro-pyrazolo[4,3-c]pyridin-5-yl)-1R-benzylloxymethyl-2-oxo-ethyl]-isobutyramide L-tartrate.

The chemical structure of capromorelin tartrate is:



**Indication:**

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

**Dosage and Administration:**

Administer ENTYCE orally at a dose of 3 mg/kg (1.4 mg/lb) body weight once daily.

To administer ENTYCE, gently shake the bottle, and then withdraw the appropriate amount of solution using the provided syringe. Rinse syringe between treatment doses.

The effectiveness of ENTYCE has not been evaluated beyond 4 days of treatment in the clinical field study (See Effectiveness).

**Contraindications:**

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

**Warnings:**

Not for use in humans. Keep this and all medications out of reach of children and pets.

Consult a physician in case of accidental ingestion by humans. **For use in dogs only**

**Precautions:**

Use with caution in dogs with hepatic dysfunction. ENTYCE is metabolized by CYP3A4 and CYP3A5 enzymes (See Clinical Pharmacology).

Use with caution in dogs with renal insufficiency. ENTYCE is excreted approximately 37% in urine and 62% in feces (See Adverse Reactions and Clinical Pharmacology).

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

**Adverse Reactions:**

In a controlled field study, 244 dogs were evaluated for safety when administered either ENTYCE or a vehicle control (solution minus capromorelin) at a dose of 3 mg/kg once daily for 4 days. Enrolled dogs had a reduced or absent appetite for a minimum of 2 days prior to day 0 and had various medical conditions: arthritis (40); gastrointestinal disease (24); allergy (22); dental disease (22); cardiovascular disease (16); renal disease (13); and others. Some dogs may have experienced more than one of the adverse reactions during the study. The following adverse reactions were observed:

**Table 1: Adverse Reactions reported in dogs administered ENTYCE oral solution compared to vehicle control**

Adverse Reactions	ENTYCE (n = 171) n (%)	Vehicle Control (n = 73) n (%)
<b>GASTROINTESTINAL</b>		
Diarrhea	12 (7.0 %)	5 (6.8 %)
Vomiting	11 (6.4 %)	4 (5.5 %)
Hypersalivation	4 (2.3 %)	0 (0.0 %)
Abdominal discomfort	2 (1.2 %)	0 (0.0 %)
Flatulence	2 (1.2 %)	0 (0.0 %)
Nausea	2 (1.2 %)	0 (0.0 %)
<b>CLINICAL PATHOLOGY</b>		
Elevated blood urea nitrogen	7 (4.1 %)	2 (2.7 %)
Elevated phosphorus	4 (2.3 %)	1 (1.4 %)
Elevated creatinine	1 (0.6 %)	1 (1.4 %)
<b>OTHER</b>		
Polydipsia	7 (4.1 %)	1 (1.4 %)
Lethargy/depression	2 (1.2 %)	0 (0.0 %)

The following adverse reactions were reported in < 1% of dogs administered ENTYCE: hyperactivity, increase fecal volume, increase gut sounds, and polyuria.

To report suspected adverse drug events and/or to obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, call Aratana Therapeutics at 1-844-640-5500.

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

**Clinical Pharmacology:**

Following oral administration of ENTYCE at a dose of 3 mg/kg to 12 Beagle dogs, absorption of capromorelin was rapid with the maximum concentration ( $C_{max}$ ) reached within 0.83 hr ( $T_{max}$ ). After  $C_{max}$ , the plasma concentrations declined mono-exponentially with a short terminal half-life ( $T_{1/2}$ ) of approximately 1.19 hrs. There were no gender differences in capromorelin pharmacokinetics. The exposure ( $C_{max}$  and AUC) of capromorelin increased with dose, but the increases were not dose proportional following single and repeat once daily administrations of capromorelin. There was no drug accumulation following repeat oral administration.

**Table 2. Plasma PK parameters following oral administration of 3 mg/kg of ENTYCE**

Parameter	Mean	SD
$T_{max}$ (hr)	0.83	0.58
$C_{max}$ (ng/mL)	330	143
AUC <sub>t</sub> (ng*hr/mL)	655	276
AUC <sub>inf</sub> (ng*hr/mL)	695	262
$T_{1/2}$ (hr)	1.19	0.17

The mean absolute oral bioavailability of capromorelin was 44%. The mean total plasma clearance and volume of distribution was 18.9 mL/min/kg and 2.0 L/kg, respectively. Capromorelin was not highly bound (unbound fraction 51%) to plasma protein. The protein binding was concentration-independent over the range of 10 to 1000 ng/mL. *In vitro* (human liver microsomes) and *in vivo* (rats) metabolism studies suggest that capromorelin is metabolized by hepatic enzymes, mainly CYP3A4 and CYP3A5. Therefore, drugs that inhibit CYP3A4 and CYP3A5 activity may affect capromorelin metabolism. Following oral administration of radio-labelled capromorelin to dogs, capromorelin was excreted in urine (37%) and in feces (62%) within 72 hours.

**Effectiveness:**

**Laboratory Effectiveness Study:** Twenty four healthy Beagle dogs (6 dogs per sex in each group) with normal appetite were randomized into two groups and dosed daily with ENTYCE (capromorelin oral solution) at 3 mg/kg/day or vehicle control (solution minus capromorelin) to compare food intake over a 4-day period. The dogs were 13 months of age and weighed between 6.5 and 12.5 kg at the time of randomization. Six dogs administered ENTYCE repeatedly exhibited salivation post dosing and two dogs administered vehicle control exhibited salivation only one time on study day 0. Emesis was observed in one dog administered ENTYCE on study day 1. Dogs administered ENTYCE at a dose of 3 mg/kg/day for 4 consecutive days had statistically significantly increased food consumption compared to the vehicle control group ( $p < 0.001$ ).

**Clinical Field Study:** Effectiveness was evaluated in 177 dogs (121 dogs in the ENTYCE group and 56 dogs in the vehicle control group) in a double-masked, vehicle controlled field study. Dogs with a reduced appetite or no appetite, with various medical conditions, for a minimum of 2 days prior to day 0 were enrolled in the study. The dogs ranged in age from 4 months to 18 years. Dogs were randomized to treatment group and dosed once daily for 4 days with ENTYCE at 3 mg/kg or vehicle control. Dogs were assessed for appetite by owners on day 0 and day 3  $\pm$  1 using an "increased", "no change" or "decreased" scoring system. Dogs were classified as a treatment success if the owner scored their dog's appetite as "increased" on day 3  $\pm$  1. The success rates of the two groups were significantly different ( $p = 0.0078$ ); 68.6% (n = 83) of dogs administered ENTYCE were successes, compared to 44.6% (n = 25) of the dogs in the vehicle control group.

**Animal Safety:**

In a 12-month laboratory safety study, 32 healthy Beagle dogs (4 dogs per sex per group) approximately 11-12 months of age and weighing 9-13.6 kg were dosed orally with capromorelin in deionized water daily at 0X (placebo), 0.3 (0.13X), 7 (3.07X), and 40 (17.5X) mg/kg/day. Administration of capromorelin was associated with increased salivation and reddening/ swollen paws, increased liver weights and hepatocellular cytoplasmic vacuolation. Treatment related decreases were seen in red blood cell count, hemoglobin and hematocrit in the 40 mg/kg group. Pale skin, pale gums, and decreased red blood cell count, hemoglobin and hematocrit were observed in one dog administered 40 mg/kg/day. Increases were seen in cholesterol, high density lipoproteins, and the liver specific isozyme of serum alkaline phosphatase in the 40 mg/kg group. Growth hormone and insulin-like growth factor 1 plasma levels were increased in all groups administered capromorelin. There were no effects noted on gross necropsy. Capromorelin levels were similar in plasma collected on days 90, 181, and 349 indicating no accumulation of drug.

**Storage Conditions:**

Store at or below 86° F (30° C)

**How Supplied:**

30 mg/mL flavored solution in 10 mL, 15 mL and 30 mL bottles with measuring syringe

NADA 141-457, Approved by FDA

US Patent: 6,673,929

US Patent: 9,700,591

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February 2018



*When the daycare calls you because your child is running a fever, it doesn't just create headaches for you—everyone has to adjust.*

schedule. We need to fill those shifts, week in and week out.

I know that 12 weeks of parental leave is hardly enough, but it's a stretch for the rest of the doctors to cover those extra shifts. They have families, too. We'll manage through it, cheerfully, as long as you don't wait until the last week to let us know that you're not coming back at all.

I know you'd rather be home in the morning to send your kids off to school and be there for them when they get home in the afternoon. The likelihood is that the hours you'd most like to be at home are the same hours that most of our clients would rather schedule their visits—early in the morning, after work or on weekends.

I want to be fair to everyone. If I'm to equitably share the burden among my associate doctors, I need each of them to be willing and able to work some of those "emergency" shifts. I need you to be flexible enough to pick up shifts when one of your colleagues needs time off for an unscheduled event of their own, family or otherwise.

When the daycare center calls you because your child is running a fever, it doesn't just create headaches for you—everyone has to adjust. There are appointments and procedures booked for you, and we've scheduled assistants, technicians and CSRs to support you. Now what?

If you've developed the rapport

you need, many of your clients will understand and reschedule. Others, however, will be unhappy with the inconvenience—and creating unhappy clients isn't good for the practice. Some of your patients will need to be seen today regardless, so the other doctors will need to modify their schedules to fit them in. The day may run long or they miss lunch and they won't all be happy about that, either.

Relief doctors—necessary as they are—can't fully fill the gaps. One, because their schedules are often full and too inflexible to meet our needs. Two, on a production basis, they're expensive, and the more often we default to a relief doctor the less efficiently we run our practice.

I want you to be a leader and walk the walk. You're better-educated and better-paid than most of the people you work with and, although you may be younger, your team expects you to set an example. Regardless of whether you're on a partner track or acting as a supervisor or not, you're not just another coworker but a doctor.

You have a role and a responsibility to help us lead this practice. It works best for everyone if you're ready to match flexibility with commitment—happy to work harder or faster or later to allow everyone in the organization the room that personal responsibilities of whatever sort require. It's a two-way street. Quid pro quo.

*Dr. Doug Aspros is chief veterinary officer for Veterinary Practice Partners, a practice owner in Westchester County, New York, a member of the board of directors for the Women's Veterinary Leadership Development Initiative, and former president of the AVMA. Dr. Heide L. G. Meier is medical director and Dr. Susan Jeffrey-Borger is associate veterinarian at Truesdell Animal Care Hospital and Clinic in Madison, Wisconsin.*



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Balancing your veterinary career and parenthood. If there were an easy answer, you would have figured it out already. In *Vetted*, you'll find advice from your colleagues who have come through the struggle a little wiser, honest thoughts shared as part of the Vet Confessionals project and one veterinarian's account of how motherhood made her a better veterinarian.



Find out how veterinarians and veterinary team members explain the rough hours, and tough work, to their kids. Plus, tips for managing parenthood in practice as well as apps that help working parents get it all done.



Find even more coverage online. There's a discussion of how to be fair to everyone in practice—including nonparents, video from WVLDI on how to deal with competing demands, and more. See [dvm360.com/workingparent](http://dvm360.com/workingparent).

# Balance in parenting and vet med is hard

Exclusive dvm360 research shows how veterinary professionals manage the pull of parenting and dedication to their patients.

**Semintra® (telmisartan oral solution) 10 mg/mL**  
For oral use in cats only  
Angiotensin II Receptor Blocker

**Brief Summary:** Before using SEMINTRA, 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.

**Description:** SEMINTRA (telmisartan oral solution) is a clear, colorless to yellowish viscous solution containing 10 mg/mL telmisartan.

**Indication and Usage:** SEMINTRA is indicated for the control of systemic hypertension in cats. The initial dose of SEMINTRA is 1.5 mg/kg (0.68 mg/lb) orally twice daily for 14 days, followed by 2 mg/kg (0.91 mg/lb) orally once daily. The dose may be reduced by 0.5 mg/kg (0.23 mg/lb) increments to a minimum of 0.5 mg/kg (0.23 mg/lb) orally once daily to manage SEMINTRA-induced hypotension. SEMINTRA can be administered directly into the mouth, or next to or on top of a small amount of food. Do not mix into food. SEMINTRA should be administered using the dosing syringe provided in the package. The dosing syringe fits onto the bottle and has 0.1 mL incremental marks. The dose should be rounded to the nearest 0.1 mL. After administration close the bottle tightly with the cap. Rinse the dosing syringe with water and let air dry.

If the cat vomits within 30 minutes of dosing, the cat may be re-dosed.

**Information for Cat Owners:** Adverse reactions can occur with use of SEMINTRA. The most common adverse reactions reported during the field studies included vomiting, diarrhea, lethargy, weight loss, anemia and dehydration.

**Contraindications:** Do not use in cats with a hypersensitivity to telmisartan.

**Human Warnings:** Not for human use. Keep out of reach of children.

SEMINTRA is an angiotensin II antagonist/angiotensin receptor blocker (ARB). Pregnant women should avoid contact with SEMINTRA because substances that act on the renin-angiotensin-aldosterone system (RAAS) such as angiotensin receptor blockers (ARBs) can cause fetal and neonatal morbidity and death during pregnancy in humans.

**Precautions:** SEMINTRA can cause mild anemia or non-regenerative anemia. Cats should be monitored for anemia when initiating treatment with SEMINTRA.

SEMINTRA may cause inappetence and weight loss in some cats. Cats should be monitored for weight loss when initiating treatment with SEMINTRA. Use with caution in cats with a history of vomiting, inappetence or weight loss.

SEMINTRA has not been evaluated in cats with systolic blood pressure >200 mm Hg. The safe use of SEMINTRA in cats with hepatic disease has not been evaluated. SEMINTRA is metabolized by the liver.

The safe use of SEMINTRA has not been evaluated in cats less than 9 months of age, or in cats that are pregnant, lactating, or intended for breeding. **See Human Warnings.**

The safe use with other anti-hypertensive medications has not been evaluated.

**Adverse Reactions:** The safety of SEMINTRA was evaluated in a 28-day field study in 192 cats. Adverse reactions that occurred include vomiting 46 (24.0%), diarrhea 18 (9.4%), lethargy 13 (6.8%), weight loss 13 (6.8%), decreased appetite/inappetence 13 (6.8%), non-regenerative anemia 11 (5.7%), dehydration 10 (5.2%), retinal lesions (target organ damage) 6 (3.1%).

The long-term safety of SEMINTRA was evaluated in an open label, 5 month field effectiveness and safety study in 107 cats that received at least one dose of SEMINTRA. Adverse reactions that occurred in this study are weight loss 37 (34.6%), vomiting 32 (29.9%), dehydration 18 (16.8%), non-regenerative anemia 17 (15.8%), anorexia 14 (13.1%), diarrhea 12 (11.2%), lethargy 12 (11.2%), decreased appetite/inappetence 11 (10.3%), heart murmur 10 (9.3%), death, euthanasia, found dead 9 (8.4%), cough 8 (7.5%), and retinal lesions (target organ damage) 6 (5.6%).

Nine cats died or were euthanized during the study. Three cats had progressive chronic kidney disease that may have been affected by telmisartan treatment, concurrent disease, or inadequate control of hypertension. The other six cats died of causes unrelated to treatment (e.g. neoplasia).

To report suspected adverse drug events, for technical assistance, or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim Vetmedica, Inc. at 1-866-638-2226. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

**Effectiveness:** Effectiveness was demonstrated in a 28-day multi-center, controlled, randomized and masked field study in client-owned cats with hypertension, and in an open-label 5-month field study.

**28-Day Field Study**  
In a 28-day study, 288 cats with hypertension (systolic blood pressure [SBP] 160-200 mmHg) were enrolled in the study and randomized to treatment with SEMINTRA (telmisartan oral solution) (n=192) or vehicle control (n=96). The study population included cats with hypertension associated with chronic kidney disease or controlled hyperthyroidism, or idiopathic hypertension. The per protocol population for effectiveness was 141 SEMINTRA treated cats and 79 control cats. SEMINTRA was administered orally at 1.5 mg/kg twice daily for 14 days, then 2 mg/kg once daily until study end; the vehicle control was administered at a mL/kg volume equivalent to SEMINTRA. The two primary variables for effectiveness were comparison of the SEMINTRA and control group mean SBP (mSBP) from baseline to Day 14, and a decrease in mSBP >20 mmHg in the SEMINTRA group from baseline to Day 28. Cats with SBP >180 mmHg at Days 14 or 28 were rescued and removed from the study. There was a statistically significant difference between the mSBP for the SEMINTRA group compared to the control group at Day 14 (p=0.0005). At Day 14 the SEMINTRA group mSBP decreased by 23.2 mmHg, and the control group mSBP decreased by 7.3 mmHg. At Day 28, the SEMINTRA group mSBP decreased 23.9 mmHg compared to baseline.

**5-Month Field Study**  
One hundred-seven cats from the SEMINTRA group that had successfully completed the 28-day study were enrolled in a 5-month open-label study. At the beginning of the 5-month study most cats were administered SEMINTRA at 2 mg/kg once daily. Cats that experienced hypotension (defined as SBP <120 mmHg) at 2 mg/kg once daily could have the SEMINTRA dose reduced to 1 mg/kg once daily. Cats that experienced hypotension at 1 mg/kg once daily could have the SEMINTRA dose reduced again to 0.5 mg/kg once daily. Cats were evaluated for SBP target organ damage (TOD; primarily assessed by retinal photographs), clinical pathology and adverse reactions. SBP was measured on Days 28, 56, 98, 140 and 182 and retinal photographs and clinical pathology were collected on Days 28, 98 and 182. Seventy-three (68.2%) cats completed the study (Day 182), 8 cats were removed for hypertension (SBP >180 mmHg), 2 cats were removed for hypotension, 10 cats were removed by the owner or for owner non-compliance, 8 cats were removed for new or worsening TOD, and 6 cats were removed for adverse reactions unrelated to TOD. Twenty-six cats had dose reductions to 1 mg/kg once daily to manage hypotension. Of these 26 cats, 10 had an additional dose reduction to 0.5 mg/kg once daily.

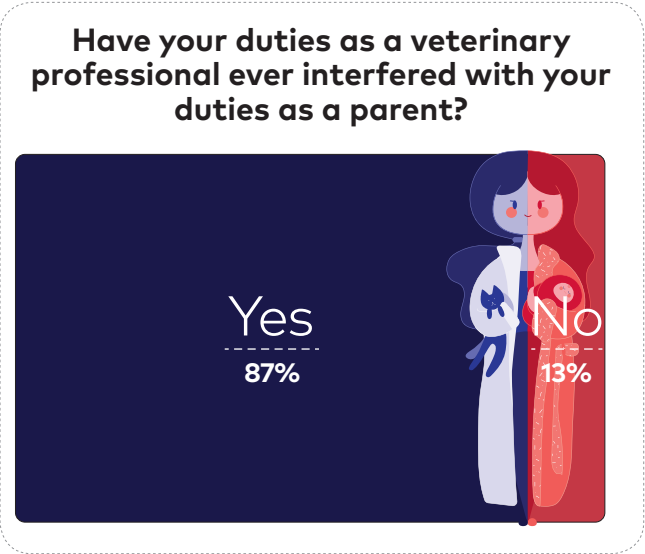
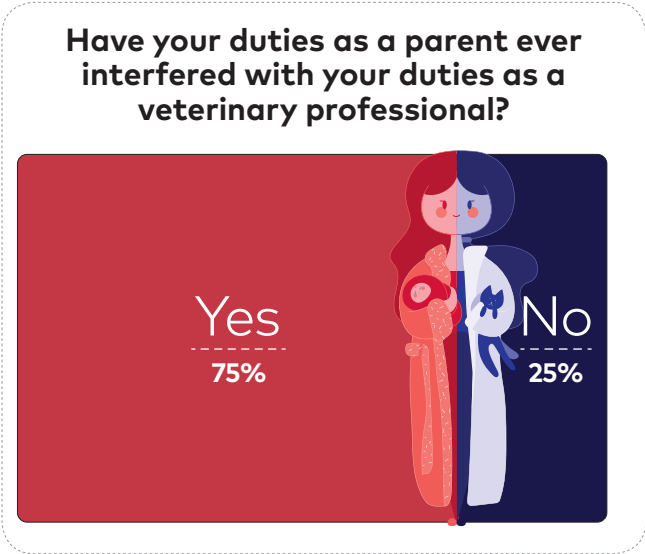
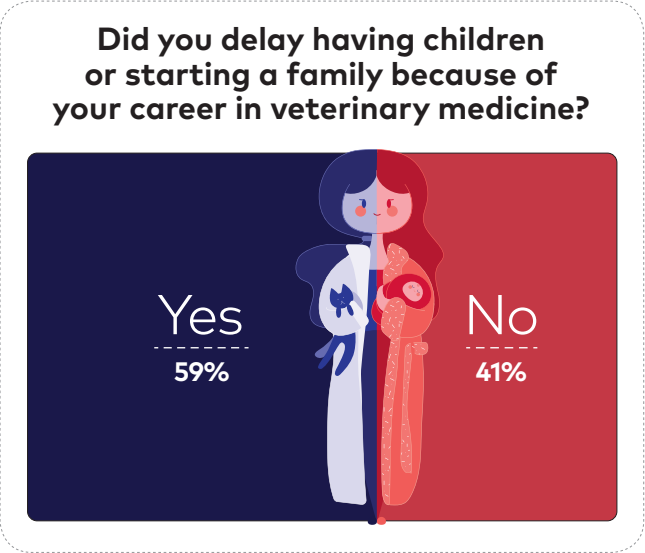
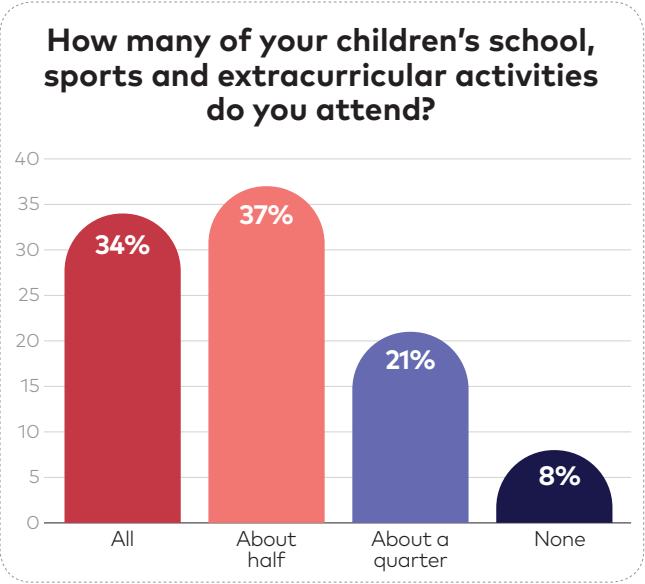
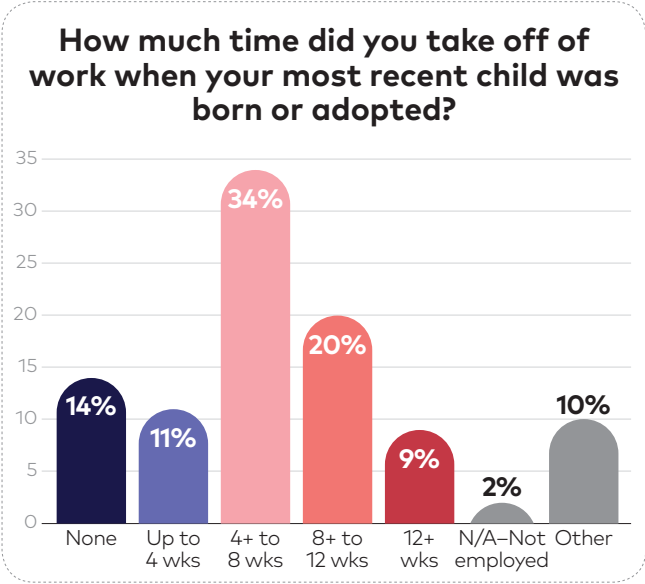
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Reference: Package Insert 449201-00 Revised 03/2018



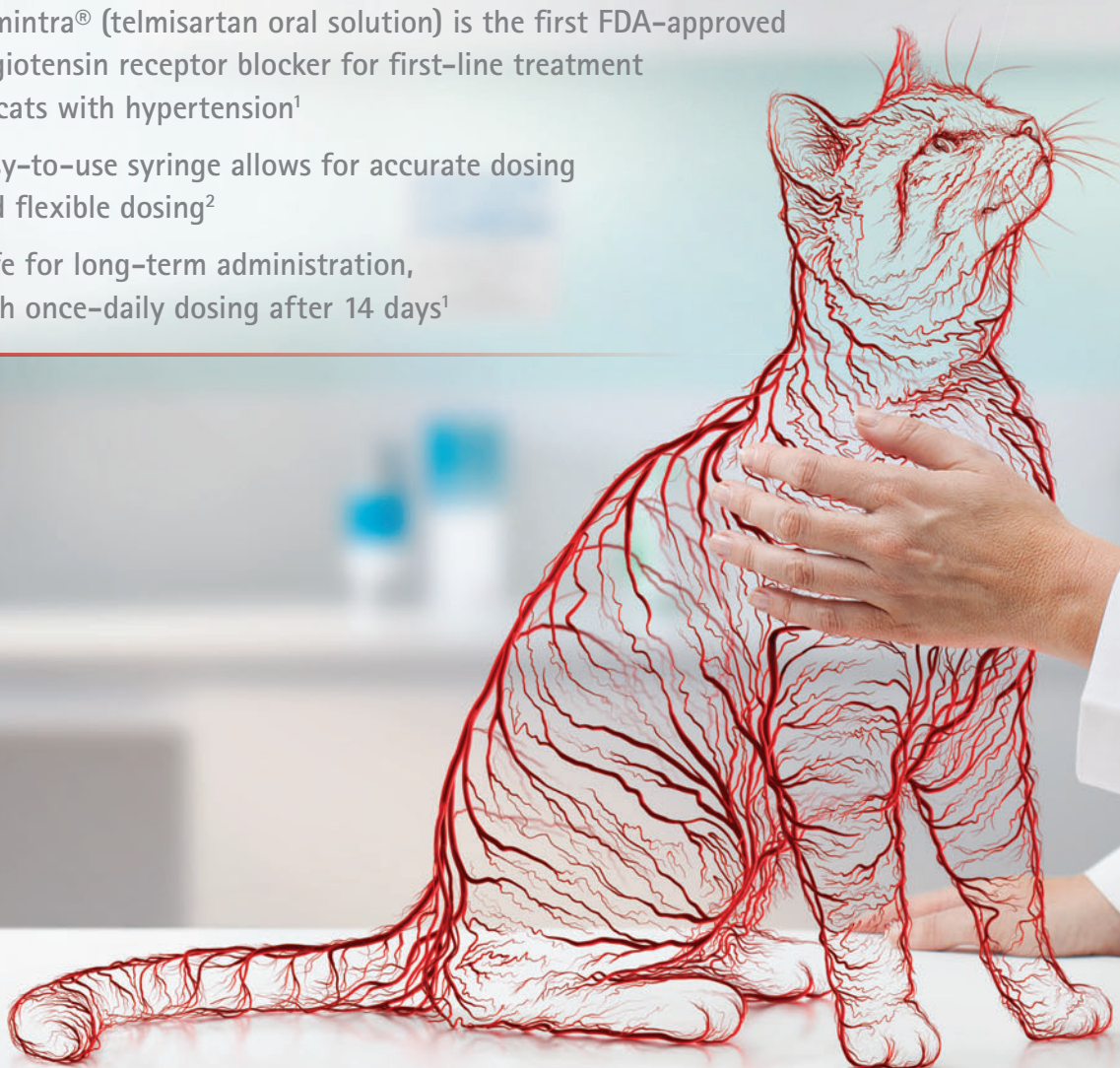
Source: dvm360 Work and Parenting Survey, 2018. The survey garnered 1,102 responses with a margin of error of 3%. Data presented here has been filtered to reflect the answers of veterinarians only.



## INTRODUCING

# The first solution for hypertension

- ◆ Semintra® (telmisartan oral solution) is the first FDA-approved angiotensin receptor blocker for first-line treatment of cats with hypertension<sup>1</sup>
- ◆ Easy-to-use syringe allows for accurate dosing and flexible dosing<sup>2</sup>
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## IMPORTANT SAFETY INFORMATION

SEMINTRA is an angiotensin II antagonist/angiotensin receptor blocker (ARB). Pregnant women should avoid contact with SEMINTRA because it can cause fetal and neonatal morbidity and death during pregnancy in humans. Pregnant women should avoid contact with SEMINTRA because other similar drugs have been found to harm the unborn baby during pregnancy. **Precautions:** SEMINTRA can cause mild anemia or non-regenerative anemia. Cats should be monitored for anemia when initiating treatment. Cats should be monitored for weight loss when initiating treatment with SEMINTRA. Use with caution in cats with a history of vomiting, inappetence, or weight loss. The safe use of SEMINTRA in cats with hepatic disease has not been evaluated. SEMINTRA is metabolized by the liver. SEMINTRA has not been evaluated in cats with systolic blood pressure > 200 mmHg. The safe use of SEMINTRA has not been evaluated in cats less than 9 months of age, or in cats that are pregnant, lactating, or intended for breeding. The safe use with other anti-hypertensive medications has not been evaluated. For additional information, see the full prescribing information on page 20 .

**References:** 1. Semintra® (telmisartan oral solution) Prescribing Information. Boehringer Ingelheim Vetmedica, Inc. 2018.  
2. Zimmering T. Ease of use of Semintra® and its effects on quality of life—update on cat owner feedback ("EASY Programme") [abstract]. In: Proceedings from the 21st Federation of European Companion Animal Veterinary Associations (FECAVA); October 15–17, 2015; Barcelona, Spain. Poster.

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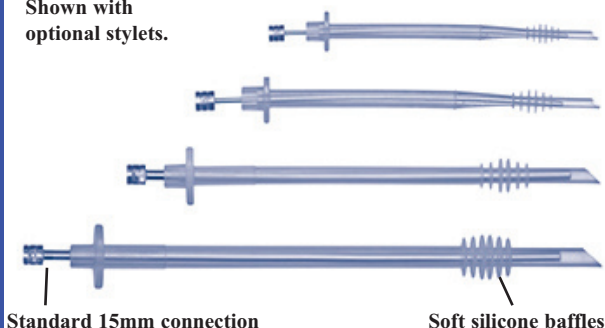
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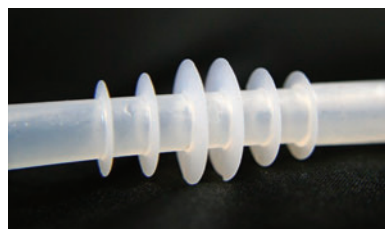
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# How my daughter saved my life



It wasn't just the postpartum depression. It was all the things that piled on, all the ways my brain betrayed me as I grew more and more overwhelmed. What hurt was also the thing that brought me back. *By Meghann Berglund, DVM*

**Editor's note:** This article includes discussion of suicide, depression and mental health issues. If you're experiencing feelings of depression or suicidal ideation, please call the National Suicide Prevention Lifeline (800-273-8255; [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)). It's available 24/7.

**L**ike being swallowed by a warm, cozy wave sweeping you up and weightlessly carrying you away. That's how it would feel. That's how my brain told me to kill myself.

But I digress.

I've been fortunate. I had a fantastic childhood and have a wonderful family. I was accepted to the veterinary school of my choice (on the second try). I completed an internship in a field I love and got a job at a top-notch small animal hospital.

When I started my relief vet business, I was as busy as I wanted to be nearly from the start. I have wonderful colleagues, mentors and friends. I married my best friend and have two extraordinary daughters. We have a fledgling, moderately successful art studio.

Life is good—except when it's not.

Except when that life, that good fortune, those wonderful people, those little victories, and those

good days start to feel ... precarious. Lucky. Undeserved. Like dodging a bullet. A streak to be maintained. It comes with the overwhelming feeling of being overdue for something awful.

Because what no one tells you, after they've finished telling bright-eyed Young You, "You can be anything you want to be if you set your mind to it," is that sometimes things don't work out. Sometimes horrible things happen to good people. Sometimes everything that someone works their whole life for evaporates in an instant.

And because we've been raised on the algorithm "Hard Work + Good Behavior = Success," when awful things happen to us, we assume it's our fault. We assume that along the way, we didn't follow the advice, we didn't work hard enough. We didn't want it bad enough. Maybe we didn't count our blessings thoroughly enough or knock on wood often enough. With that as our framework, how can we possibly grow into anything but perfectionists?

## 'Twisted and distorted'

After the birth of Piper, my first daughter, I dallied with postpartum depression (PPD). For three weeks, like clockwork, I would panic at 6 p.m.



*There's a baby in there*, my brain would say, as I looked towards her bassinet. *It's time to panic.* I wasn't afraid of my daily responsibilities, or the potentially sleepless night ahead, or even the duty to raise a little human. No, for about three hours every day, I was completely, inexplicably terrified of the baby herself.

The best way to explain PPD to someone who hasn't felt it is that it's like putting an augmented reality (AR) headset over your whole life. Even though your world looks mostly the same, every bit of sensory data that enters your brain is twisted and distorted into something terrifying and malicious. I saw hazard looming everywhere. Coats that were too puffy. Car seats that weren't 12-point-checked by two separate fire stations. Baths that were too hot. Cribs that were too smushy. Whooping cough. Daycare molesters and kidnappers. Elementary school bullies. Eating disorders, climate change, nuclear war ... did I mention the puffy coats?

While most of my PPD faded in a few weeks, it left a lingering, persistent anxiety I call ...

### 'Border collie brain'

My daughter came home from kindergarten recently and told me about owl brain and lizard brain. "Lizard brain is your brain's stem," she explained solemnly. "It's what keeps you alive and tells you to run away. And owl brain is your frontal cortex. Owl brain is what helps calm you down and think things through." I realized that while lizard brain was in control when my PPD was at its worst, what it left behind was a strange hybrid creature that I've since dubbed Border collie brain (BCB).

Border collie brain has all the analytical power of owl brain, but none of the boundaries. BCB has the skittishness and vigilance of lizard brain, but enough intellectual language to convince me that I can trust it. BCB will analyze a situation, use lizard brain to find or create hazards, and then hijack owl brain to provide supporting evidence for why the hazard is imminent.

Border collie brain's favorite game is superstition, and it has a veritable playground inside the walls of an animal hospital. You know never to utter the phrase, "It's quiet today." We're terrified the second these words leave our lips, a 12-car pileup of vans filled with champion bloodline bulldogs will show up, just as we sent two people to lunch.

So we knock on wood. And we craft elaborate rituals to ward off bad things

ever happening to us, and when bad things do eventually happen—not because we've somehow fallen down in our vigilance but because that's the way the world works—we blame ourselves.

So it was with Border collie brain. When my husband left to take our daughter to daycare, I had to make sure that the scripted goodbye was perfectly executed; otherwise, when they were inevitably killed in a car crash, I would

have to mournfully confess at the funerals that my last words to them were, "Your shoes are on the wrong feet."

When admitting surgical patients, my anxiety nearly reached a point of rage when it became obvious that a pet parent was strongly bonded to their pet. *Don't show me how much you love them, I would think. Don't you know something awful will happen and I'll let you down? How can you do this to me?*

*Because we've been raised on the algorithm "Hard Work + Good Behavior = Success," when awful things happen to us, we assume that it's our fault.*



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1. Adequan Canine Prescribing Information, Rev. 1/18.

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BCB made me question everything I did, from buckling my daughter into her car seat, to locking the front door, to counting throws on my knots during surgery. I firmly believed if I just worked hard enough to keep all the plates of superstition spinning, I could keep bad things from happening.

And yet, the bad things did happen.

Ember, our second daughter, struggled with sleep and colic for months after she was born. She slept all day and was awake most of the night. When she was awake, she grunted and writhed and scowled at us. My husband and I parented her in shifts: I stayed awake with her until 3 a.m., at which point he would wake up and bounce her on the yoga ball while playing the video game Skyrim. “Sleep when the baby sleeps” wasn’t an option, as we still had an energetic, demanding 2-year-old to parent during the day.

The day my husband returned to work after two weeks of paternity leave, he was laid off.

*Minor setback, we said. We knew the industry was going downhill. We’ve got savings left. I’ll go back to work. You’ll find something. We’ll get through this. We just have to keep going.*

The following night, Ember woke with a high fever. She was hospitalized for nearly a week while doctors worked to determine the cause. In the middle of the night, alone with her in the hospital,

I tearfully asked a resident, “Am I going to leave this hospital with my baby?”

*You can’t think that way, I scolded myself. You have to keep faith. One more hour. The fever will break. Hang onto her. Just keep her going.*

She finally recovered and was sent home. The employer-sponsored health-care ran out the following day. The medical bills were staggering.

*We’ll be fine. We’ll get a payment plan. A job interview will pan out. We just have to buckle down. Keep going.*

A week later, I was diagnosed with a venous thrombosis, five days after I received the all-clear to discontinue the medication to prevent it.

*Another month of medication would cost \$800. Did you drop off that résumé? Any word? It’s fine. Keep going.*

My husband couldn’t talk to me about how emotionally crushing it was to be a man robbed of his professional identity, because it would make me anxious.

*We’ll be fine. Keep going.*

I couldn’t talk to him about my anxiety because then he’d stop talking to me about his professional struggles.

*We’re fine. Things are just hard right now. They’ll get better when they get better. We just have to keep going.*

A mistake was made at work—missed by a number of staff members and, ultimately, me. Although no patients were harmed by it, I had to make the phone calls to the affected clients. “If I



*Somewhere out there is a fat, grumpy, balding baby who needs you—whoever your own personal fat grumpy balding baby happens to be.*

had done this in my line of work,” one person spat at me, “I’d be fired.”

*Let them vent. Keep going.*

“They said they’d keep me posted if anything opened up.” *Keep going.*

“She’s awake and crying again.” “I’ll get her.” *Keep going.*

“Are you OK?” “I’m fine.” *Just...keep...*

## Someone has to stay

And that’s how I found myself sitting at a stop sign, watching the traffic rush past. And for one dizzy, delirious moment, lizard brain was in full control: *What would it feel like if you pushed the gas pedal to the floor right now?*

From owl brain, a deafening, defeated silence: *I got nothing.*

Many of the words I’d always associated with suicide had to do with the impact on others: “I’m a burden. This world would be better off without me. No one would care if I was gone.”

In that moment, I gave no thought to those in my life. All I knew was that lizard brain’s idea sounded like freedom. Like rest. And I was so, so tired.

People ask me how long I was in that dark place. About half a mile, I say. And what brought me out of the dark place was Ember. Frowning, grunting, scowling Ember, who at the time resembled a cranky, newborn-pattern-balding toad.

*Someone has to stay for Ember.*

Make no mistake—this was not because I felt I had anything worthwhile to offer as a parent. Instead, it was because her older sister was (and is) smart, charming, beautiful and talented, and I was convinced that no one would ever love my fat, bald, grumpy baby the way

they adored her sister: *Someone has to stay here to love Ember best.*

So I kept going. I went on medication. I borrowed money from my parents for therapy and processed the layers of suffering we’d endured, peeled them from the spots on my heart where they’d stuck and hardened like armor.

I came to understand that resiliency and courage are not attributes—they’re actions. They’re skills that must be practiced. I learned that most bravery is unintentional, rising in us when we are thrown into the unknown with no choice other than to continue moving forward, one inch at a time.

As for those obstacles, I see now they are as much a part of our story as our triumphs. Any life—no matter how superstitiously orchestrated—will have struggle, grief and failure. We all have times where life hands us a burden we feel certain we can’t endure. And we’ll carry those burdens around until we share them, overcome them and put them away—or until they break us.

They almost broke me.

To those who may be sitting where I sat that February day, I only say to you: *Stay. Keep going.*

I have no timeline for when things will get better. I have no magic solutions for how to make it better. I don’t even have a promise that it will. But I can tell you this: There is nothing on the other side of that stop sign.

And somewhere out there is a fat, grumpy, balding baby who needs you—whoever your own personal fat grumpy balding baby happens to be.

As for mine, she’s now a brilliant and loving 3-year-old who dazzles everyone she meets with her light. She still loves slaying video game dragons with her daddy. That I nearly forfeited my chance to witness what she and her sister will become is an unbearable thought. I didn’t know it at the time, but it was her kindling light that brought me out of the darkness. I will never be able to thank her enough for simply being who she is.

Perhaps I just did.

And I could keep going.

*Dr. Meghann Berghund is a proud Colorado State University Ram who owns Red Dog Veterinary Relief Services in Colorado. Her hobbies include camping, labeling things and catastrophizing. She is the co-founder of Collective Geekery, the handcrafted art business that steals her free time but returns her inner peace.*

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# Demystifying *family leave* for veterinary professionals

With a variety of different state and federal policies at play, knowing what leave you're entitled to during major life events can be an arduous task.

All veterinarians who experience the joys of new parenthood are bound to wonder how this major life event will impact their work life. At the same time, they often worry about work commitments stealing time and attention away from life with this new little one. People who experience an illness personally or in their family have the same questions.

Over the last few decades, federal and state governments have begun to take steps to address these concerns through a dizzying array of overlapping and frequently inconsistent pieces of legislation. The effort is to be applauded; the state of family leave law in this country is far superior to what it was when I began in private practice. But the laws are extremely confusing, and they change constantly.

Let's look at where we are and where we're headed when it comes to employer accommodation for a dramatic change in family circumstances.

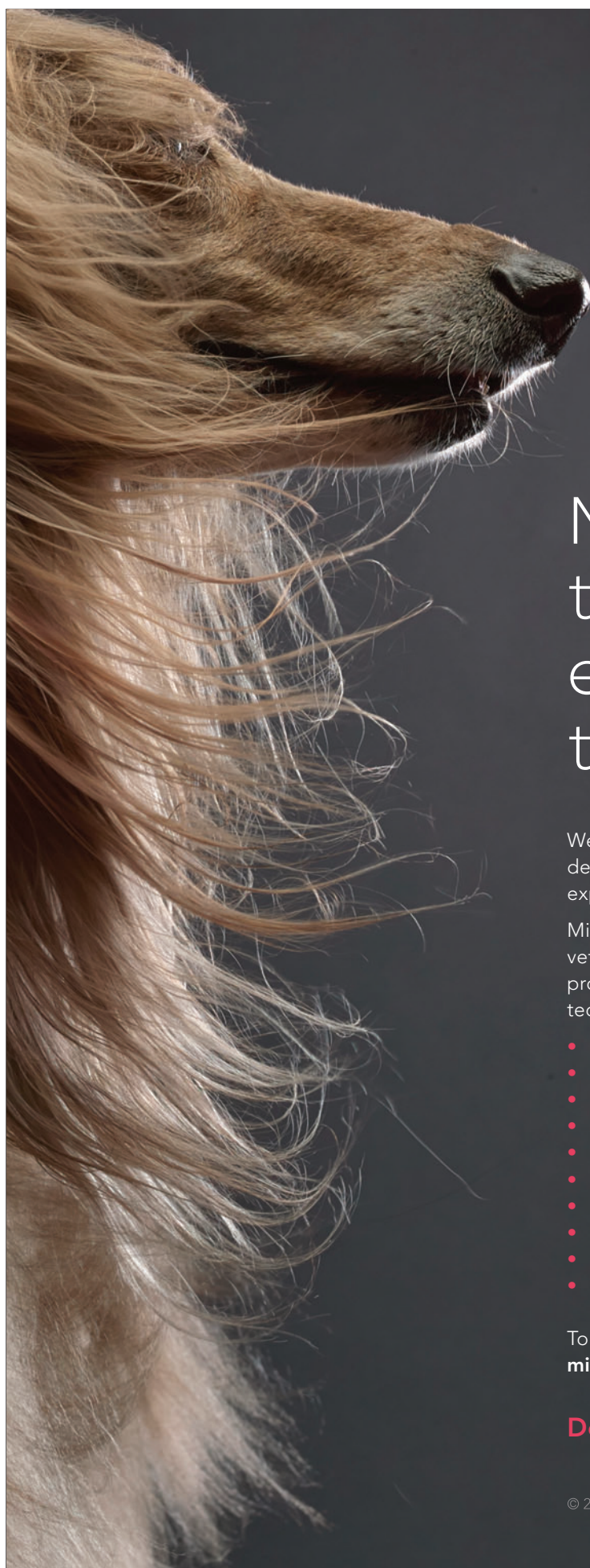
## It's more than a new baby

Most employees who wonder if they're entitled to family-related time off are expecting the birth of a new baby. Before the 1990s and the signing of the Family and Medical Leave Act (FMLA) by President Bill Clinton, there was little in the way of guaranteed time away from work (compensated or not) provided by federal law. Most states also had little to say on the issue.

The passage of FMLA in 1993 provided unpaid time away from work for many employees. But the coverage is not nearly as broad as many people believe. Not all employees are covered, and many life-altering events are exempt from the law.

What FMLA does provide is 12 weeks of unpaid leave from work each year, mainly for the following reasons:

- > The birth and care of a child
- > The adoption of a child or placement of a child for foster care
- > The care of an immediate family member (spouse, child or parent)



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**Compare this to the states**

Since enactment of FMLA, most states have created their own versions of this law, but employer obligations vary

dramatically from state to state. For example, in Mississippi, employer mandates are nearly identical to those called for in the federal legislation, but worker rights in California are far broader.

In order to highlight some of the potential coverage issues veterinary professionals may encounter, let’s compare the federal FMLA law to one of the more generous states—New York—as to what’s covered and who qualifies for coverage. (Note: I strongly encourage readers to investigate recent changes in state and federal law, as the rules on family and medical leave are always changing.)

**Don't confuse paid and unpaid family leave**

Federal FMLA legislation does not require that employees be paid during the 12 weeks their job is required to be held open. Rather, they must turn to savings, help from family, or disability insurance to pay expenses incurred during the permitted time off.

Compare this with New York law. Individuals in this state who qualify for family or medical leave are also entitled to receive funds during this period. A clear statutory formula determines how this economic benefit will be calculated, based on the employee’s historical average pay rate compared to the pay rate of other New Yorkers doing similar work.

Interestingly, New York’s Paid Family Leave law provides its benefits through a payroll tax on all workers, which is remitted to the state government by employers. The family and medical leave disbursement is “piggybacked” on the state’s employee disability law, which covers people who are out of work due to an injury or illness. (Consequently, the New York law does not cover health issues related to the employee him- or herself.)

**There are many things federal law lacks**

States such as California and New York, which have magnanimous legislatures and sophisticated labor law enforcement infrastructures, tend to provide family and medical leave coverage that’s far more expansive than U.S. law, regardless of whether they offer any compensation during the worker’s absence.

Here are some specific examples of states such as New York trying to “fill

**NexGard®**  
(afoxolaner) Chewables

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

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

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

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

**Dosing Schedule:**

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

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

**Flea Treatment and Prevention:**  
Treatment with NexGard may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with NexGard should continue the entire year without interruption. To minimize the likelihood of flea reinfestation, it is important to treat all animals within a household with an approved flea control product.

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

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

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

**Precautions:**  
Afoxolaner is a member of the isoxazoline class. This class has been associated with neurologic adverse reactions including tremors, ataxia, and seizures. Seizures have been reported in dogs receiving isoxazoline class drugs, even in dogs without a history of seizures. Use with caution in dogs with a history of seizures or neurologic disorders (see **Adverse Reactions** and **Post-Approval Experience**).

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

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

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

**Table 1: Dogs With Adverse Reactions.**

	Treatment Group			
	Afoxolaner		Oral active control	
	N¹	% (n=415)	N²	% (n=200)
Vomiting (with and without blood)	17	4.1	25	12.5
Dry/Flaky Skin	13	3.1	2	1.0
Diarrhea (with and without blood)	13	3.1	7	3.5
Lethargy	7	1.7	4	2.0
Anorexia	5	1.2	9	4.5

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

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

In the US field study, one dog with a history of seizures experienced a seizure on the same day after receiving the first dose and on the same day after receiving the second dose of NexGard. This dog experienced a third seizure one week after receiving the third dose. The dog remained enrolled and completed the study. Another dog with a history of seizures had a seizure 19 days

after the third dose of NexGard. The dog remained enrolled and completed the study. A third dog with a history of seizures received NexGard and experienced no seizures throughout the study.

**Post-Approval Experience (July 2018):**  
The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data. The following adverse events reported for dogs are listed in decreasing order of reporting frequency for NexGard:

Vomiting, pruritus, lethargy, diarrhea (with and without blood), anorexia, seizure, hyperactivity/restlessness, panting, erythema, ataxia, dermatitis (including rash, papules), allergic reactions (including hives, swelling), and tremors.

**Contact Information:**  
For a copy of the Safety Data Sheet (SDS) or to report suspected adverse drug events, contact Merial at 1-888-637-4251 or [www.nexgardfordogs.com](http://www.nexgardfordogs.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>.

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

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

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

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

In well-controlled laboratory studies, NexGard demonstrated >97% effectiveness against *Dermacentor variabilis*, >94% effectiveness against *Ixodes scapularis*, and >93% effectiveness against *Rhipicephalus sanguineus*, 48 hours post-infestation for 30 days. At 72 hours post-infestation, NexGard demonstrated >97% effectiveness against *Amblyomma americanum* for 30 days. In two separate, well-controlled laboratory studies, NexGard was effective at preventing *Borrelia burgdorferi* infections after dogs were infested with *Ixodes scapularis* vector ticks 28 days post-treatment.

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

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

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

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

NADA 141-406, Approved by FDA  
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**NexGard**<sup>®</sup>  
(afoxolaner) Chewables

*What one little chew can do*

**IMPORTANT SAFETY INFORMATION:** NexGard is for use in dogs only. The most frequently reported adverse reactions include vomiting, pruritus, lethargy, diarrhea and lack of appetite. The safe use of NexGard in pregnant, breeding, or lactating dogs has not been evaluated. Use with caution in dogs with a history of seizures or neurologic disorders. For more information, see the full prescribing information or visit [www.NexGardClinic.com](http://www.NexGardClinic.com).

<sup>1</sup>Data on file.



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Please see Brief Summary on page 26.



*Veterinarians who work for smaller practices may find themselves out of luck when it comes to their rights under FMLA.*

in the blanks” present in FMLA:

> New York extends paid family and medical leave to all employees. Federal law limits its unpaid protections to employees of firms with 50 or more employees. Other states fall somewhere in between; for example, family and medical leave rules in Maine impact employers with 15 or more employees.

> Federal FMLA rules cover a short list of relatives for whom one may take leave in order to provide postsurgical or convalescent care. New York’s family leave law allows employees to take eight weeks (as of 2018) leave to care for grandparents, in-laws, domestic partners and others. Bonus: The coverage increases to 12 weeks by 2020.

> New York, unlike many jurisdictions, applies paid family medical leave not only to full-time employees but to many part-time workers as well.

### States trump feds on which needs qualify for leave

There are a number of family circumstances beyond having children and caring for sick relatives for which employees would love to take time off. And some states recognize this wider range of family needs, extending leave protection for, among other things, the following events:

- > Death of a family member
- > Certain ceremonies related to military service
- > Family preparations related to active military deployment
- > Childcare arrangements related to military deployment
- > Legal arrangements related to military service.

### The landscape has changed

In some instances, veterinarians who work for smaller practices may well find themselves out of luck when it comes to exercising their rights under the federal FMLA. Because the law applies only to employers with more than 50 employees, a substantial number of veterinary practices fall outside the coverage of federal law.

That said, there are two potential routes for veterinarians and team members to consider exploring if they live in a state where family leave coverage is not mandated.

Consider these two possibilities:

1. If you work for a private clinic owned by a larger group of clinics (or by a veterinary corporation), that group could be under common ownership. If so, this might meet the 50-employee threshold.
2. If you have an employment contract, you have a negotiation tool. If you feel that you’ll need at least unpaid family leave, consider putting the issue on the table when looking at your next job or when your existing contract comes up for renewal.

*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](mailto:info@veterinarylaw.com).*

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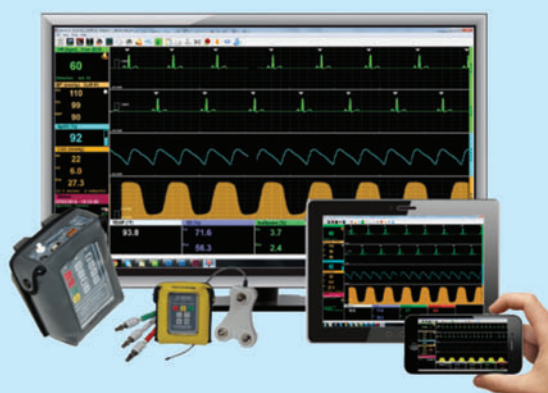


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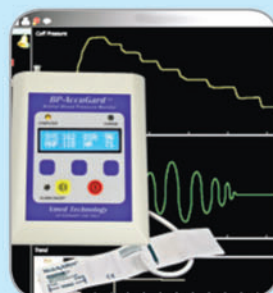
Use the **VetChek** for routine ECGs, resurgical screens or postsurgical monitoring on your computer and mobile device.

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## Pregnancy and parenting support lacking for veterinary students, study finds

Tufts researchers hypothesize potential parents may delay having children because policies at institutions are rare.

**T**wo studies conducted at Tufts' Cummings School of Veterinary Medicine show that support for pregnancy and parental needs is lacking at U.S. veterinary schools, according to an article on TuftsNow.com.

The first study, which was published in November in the *Journal of the American Veterinary Medical Association (JAVMA)*, surveyed veterinary students, interns and residents across the U.S. about their perceptions of pregnancy and parenting support services available at their veterinary school. The second surveyed administrators from 30 accredited U.S. veterinary schools on the same topics and asked them to review their handbooks and written policies on the subject. The second survey will appear in the *Journal of Veterinary Medical Education (JVME)* in early 2019, the article states.

The researchers were testing the hypothesis that "potential parents, and especially women, may delay having children because administrative policies and support services for pregnancy and parenting at veterinary training institutions are rare," the article states.

The *JAVMA* study found that the students surveyed, male and female, who reported that they weren't parents had intentionally delayed starting a family; women were more

likely than men to say having a child was too difficult to undertake during veterinary training. It also found that men undergoing veterinary training were twice as likely as their female counterparts to be parents, become parents, or plan to have children during veterinary school.

"Despite being a female-dominated field, it appears there are some pretty significant barriers to parenthood for women," says Megan Mueller, MA, PhD, a Tufts professor and co-author of the studies, in the article.

The to-be-published study in *JVME* found few schools have formal written policies addressing parental leave or lactation needs, and the relevant written materials were accessible online for only half of the schools that had such policies.

"If you are thinking about becoming pregnant and don't want to share your plans, you can't privately find that information," says co-author Annie Wayne, DVM, MPH, DACVECC, clinical assistant professor and emergency and critical care veterinarian, in the article.

The *JAVMA* research also showed that between 33 and 50 percent of women in the survey who were currently pregnant or thinking of becoming pregnant reported that they either didn't feel safe or were unsure of their safety while being pregnant in their training program.



## What's in your air that shouldn't be there?

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# Every complaint is not a lesson

In the middle of learning to be a better person and a better doctor or team member, don't fixate on satisfying everyone. Drs. Mary Gardner and Andy Roark shared with a packed house at Fetch dvm360 in San Diego why you shouldn't let that unsatisfied client unravel your passion—or your workday. *By Brendan Howard*

A good conference sets the tone with a keynote. A great conference sets the tone then sends you home with inspiration too. That's what high-energy speakers Mary Gardner, DVM, and Andy Roark, DVM, MS, did for attendees at at Fetch dvm360 in San Diego in December. And while it's impossible to send you off with the same energy—don't they say, "You had to be there?"—here is one lesson from two smart speakers—Dr. Gardner, a former-tech-in-dustry-exec-turned-DVM-and-entrepreneur, and Dr. Roark, the founder of an online veterinary community.



Dr. Andy Roark

PHOTOS BY RYAN KRAMER

**You've heard it before ... but do you believe it?**  
Don't let one difficult case or one difficult client change the way you practice good medicine and help good clients. "I hear from people, 'We don't give hugs in our veterinary hospital because

someone got upset,'" Dr. Gardner says. "Or, 'We don't give out pawprint impressions after a euthanasia because one person didn't like it.'" It's natural to focus on the negative things that happen and seek out problems in order to fix them, but

you need to remember some subset of cases and clients can't be fixed. Don't flex to the one squeaky client wheel and ignore all the good, happy, satisfied clients you serve, she says. "You're trying to be all things to all people," says Dr. Gardner. "If you start

## GALLIPRANT® (grapiprant tablets)

**For oral use in dogs only**  
**20 mg, 60 mg and 100 mg flavored tablets**  
**A prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) EP<sub>4</sub> receptor antagonist; a non-cyclooxygenase inhibiting, non-steroidal anti-inflammatory drug**  
**Caution:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.  
**Before using Galliprant, please consult the product insert, a summary of which follows:**  
**Indication:** GALLIPRANT (grapiprant tablets) is indicated for the control of pain and inflammation associated with osteoarthritis in dogs.  
**Dosage and Administration:** Always provide "Information for Dog Owners" Sheet with prescription. Use the lowest effective dose for the shortest duration consistent with individual response.  
The dose of GALLIPRANT (grapiprant tablets) is 0.9 mg/lb (2 mg/kg) once daily. Only the 20 mg and 60 mg tablets of GALLIPRANT are scored. The dosage should be calculated in half tablet increments. Dogs less than 8 lbs. (3.6 kgs) cannot be accurately dosed. **The 100 mg tablet is not scored and should not be broken in half. See product insert for complete dosing and administration information.**  
**Contraindications:** GALLIPRANT should not be used in dogs that have a hypersensitivity to grapiprant.  
**Warnings:** Not for use in humans. Keep this and all medications out of reach of children and pets. Consult a physician in case of accidental ingestion by humans. **For use in dogs only.** Store GALLIPRANT out of reach of dogs and other pets in a secured location in order to prevent accidental ingestion or overdose.  
**Precautions:** The safe use of GALLIPRANT has not been evaluated in dogs younger than 9 months of age and less than 8 lbs (3.6 kg), dogs used for breeding, or in pregnant or lactating dogs.  
Adverse reactions in dogs receiving GALLIPRANT may include vomiting, diarrhea, decreased appetite, mucoid, watery or bloody stools, and decreases in serum albumin and total protein. If GALLIPRANT is used long term appropriate monitoring is recommended.  
Concurrent use with other anti-inflammatory drugs has not been studied. Concomitant use of GALLIPRANT with other anti-inflammatory drugs, such as COX-inhibiting NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after a daily dose of GALLIPRANT, a non-NSAID/non-corticosteroid class of analgesic may be necessary. The concomitant use of protein-bound drugs with GALLIPRANT has not been studied. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications.  
Drug compatibility should be monitored in patients requiring adjunctive therapy. Consider appropriate washout times when switching from one anti-inflammatory to another or when switching from corticosteroids or COX-inhibiting NSAIDs to GALLIPRANT use.  
The use of GALLIPRANT in dogs with cardiac disease has not been studied.  
It is not known whether dogs with a history of hypersensitivity to sulfonamide drugs will exhibit hypersensitivity to GALLIPRANT. GALLIPRANT is a methylbenzenesulfonamide.  
**Adverse Reactions:** In a controlled field study, 285 dogs were evaluated for safety when given either GALLIPRANT or a vehicle control (tablet minus grapiprant) at a dose of 2 mg/kg (0.9 mg/lb) once daily for 28 days. GALLIPRANT-treated dogs ranged in age from 2 yrs to 16.75 years. The following adverse reactions were observed:

Table 1. Adverse reactions reported in the field study.

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

\*Dogs may have experienced more than one type or occurrence during the study.  
GALLIPRANT was used safely during the field studies with other concurrent therapies, including antibiotics, parasiticides and vaccinations.  
To report suspected adverse drug events and/or to obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, call 1-888-545-5973.  
For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at <http://www.fda.gov/AnimalVeterinary/SafetyHealth>  
**Information for Dog Owners:** Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with drug intolerance. Adverse reactions may include vomiting, diarrhea, decreased appetite, and decreasing albumin and total protein. Appetite and stools should be monitored and owners should be advised to consult with their veterinarian if appetite decreases or stools become abnormal.  
**Effectiveness:** Two hundred and eighty five (285) client-owned dogs were enrolled in the study and evaluated for field safety. GALLIPRANT-treated dogs ranging in age from 2 to 16.75 years and weighing between 4.1 and 59.6 kgs (9 –131 lbs) with radiographic and clinical signs of osteoarthritis were enrolled in a placebo-controlled, masked field study. Dogs had a 7-day washout from NSAID or other current OA therapy. Two hundred and sixty two (262) of the 285 dogs were included in the effectiveness evaluation. Dogs were assessed for improvements in pain and function by the owners using the Canine Brief Pain Inventory (CBPI) scoring system. A statistically significant difference in the proportion of treatment successes in the GALLIPRANT group (63/131 or 48.1%) was observed compared to the vehicle control group (41/131 or 31.3%). GALLIPRANT demonstrated statistically significant differences in owner assessed pain and function. The results of the field study demonstrate that GALLIPRANT, administered at 2 mg/kg (0.9 mg/pound) once daily for 28 days, was effective for the control of pain and inflammation associated with osteoarthritis.  
**Storage Conditions:** Store at or below 86° F (30° C)  
**How Supplied:** 20 mg, 60 mg and 100 mg flavored tablets in 7, 30 and 90 count bottles  
NADA 141-455, Approved by FDA  
Manufactured for:  
Elanco US Inc.  
Greenfield, IN 46140  
Galliprant is the registered trademark of Aratana Therapeutics, Inc. Elanco and the diagonal bar logo are trademarks of Elanco or its affiliates.  
November 2018  
PA101390X



## Indication

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

## Important Safety Information

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



to think that, you're setting yourself up for disappointment." Dr. Roark doesn't have the data, but he says he's got the personal proof in his day-to-day life to prove you're on the right path.

"Eighty percent of your income comes from 20 percent of your clients, I can show that," he says. "But I believe 80 percent of your happiness comes from 20 percent of your clients."

### 'You won't make everybody happy ...'

Don't let a single complaint, negative review or tiny subset of perpetually unhappy clients turn you away from what you and your team love.

"You won't make everybody happy, and you won't save all the pets' lives," Dr. Roark told the audience. "You should care about the things you control. Was

I kind to that person? Do I continue to learn and find passion in my work? Am I better than I was a year ago?"

Lessons like these are small, and maybe you've heard them before. But did you hear them right now? And do you need them right now? Then speakers like Drs. Gardner and Roark will continue to share them, and Fetch dvm360 will continue to showcase them.

Dr. Mary Gardner



### Be inspired in 2019

Keynotes in all three Fetch dvm360 conferences last year included funny and moving advice from Drs. Mary Gardner, Andy Roark and Dani McVety. And San Diego showcased bestselling author Susan Cain on why introverts make great leaders too.

This year in Baltimore in May, don't miss TED Talk speaker and veterinary surgeon Dr. Alane Cahalane, who will inspire with her total-team approach: "Being a surgeon is a great superpower, but it's not about the instruments or diagnostics—it's about the people that surround me. We all rely on the people around us." Register at [fetchdvm360.com/baltimore](https://fetchdvm360.com/baltimore).



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Dr. Betsy Charles speaking to attendees at the Fetch dvm360 conference in San Diego.



# Set boundaries in veterinary practice and save your soul

Working in a helping profession, it's hard to say no. But something has to give—and is that your well-being? *By Katie James and Marnette Denell Falley*

**H**ow do you define the word boundary? Does something come to mind? Veterinary professionals often don't have a solid definition of professional boundaries, or the ability to put one in place in practice, Fetch dvm360 speaker and leader of the Veterinary Leadership Institute (check it out at [vli.org](http://vli.org)), Betsy Charles, DVM, MA, said at Fetch dvm360 conference in San Diego.

Before you feel bad, holding to clear professional boundaries is not easy. In fact, not that long ago, Dr. Charles found herself in a position where she was stretched way too thin—running the Veterinary Leadership Institute, teaching veterinary students as a professor at Western University of Health Sciences, and preparing for her boards. One of the best pieces of advice she

received during this time was, “No’ is a complete sentence. No doesn’t have to be justified and you don’t have to feel guilty about it.” So, she started saying no to things. And she worked to make her life more manageable.

Why is saying “no” so hard sometimes? Veterinary medicine is a profession full of helpers. You may pause because you know that on the other end of that 11 p.m. text is a sick animal that can’t speak for itself. Or you may feel you’re letting others down. Or you may be so tied to the idea of doing excellent work that you lose sight of what you need to do to care of yourself.

To give the idea of a professional boundary a concrete visual, Dr. Charles pulled from a video by Henry Cloud, PhD, a psychologist and executive coach. (Check out this article online

at [dvm360.com/sayno](http://dvm360.com/sayno) for a link to the video.) He suggests that you think of boundaries in the simplest sense of the word—it’s like the fence on your property line. The boundary delineates who controls that space.

A strong professional boundary helps you keep the good in and the bad out. And without boundaries, you can find yourself in a situation where you’re justifying being ill and still being at work. Or taking clients’ texts day and night. Or forgoing your vacation for three years in a row.

There was much discussion about how sick is too sick to be at work (see chart on next page). If you think your boundaries need adjustment, Dr. Charles suggests you think about the good things you’d like more of in your life. For example, maybe you’ll only





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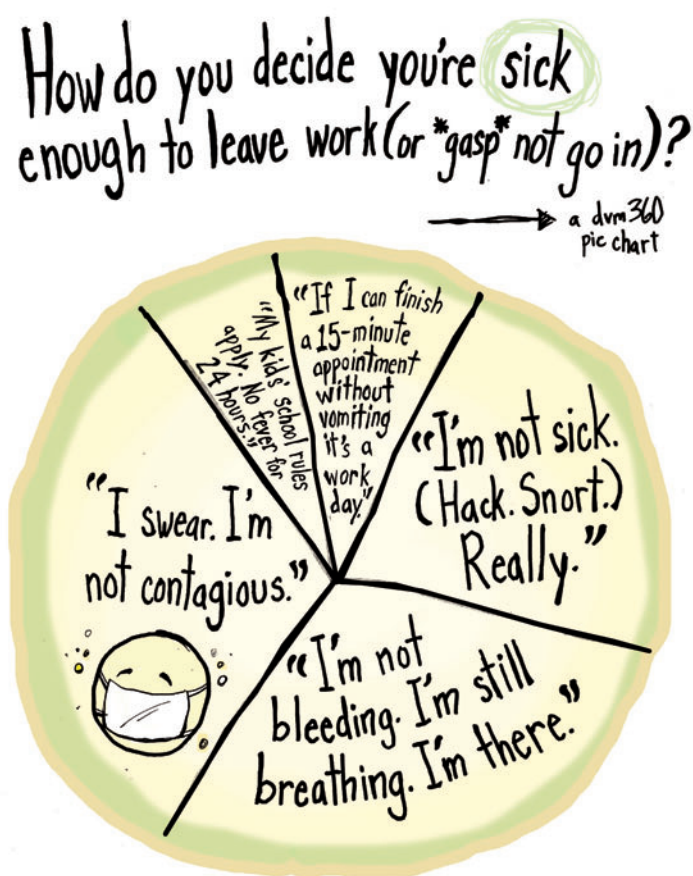


ILLUSTRATION BY NICHOLETTE HAIGLER

work somewhere you respect your colleagues and they respect you. Maybe what you want most in your job is clear expectations. How could you invite more of that goodness in?

Next, Dr. Charles suggests that you think about what you wish you could to keep out. For example, are you struggling with practice politics or negativity? Or maybe you're frustrated with lack of communication (or too much communication) from someone in the practice. Now, with your own list in place, what would you need to do to achieve those goals?

Dr. Charles left attendees with this challenge, "If you could say no to someone or something with absolutely no hard feelings or consequences, who or what would you say no to?" she asked. She says people often have something come quickly to mind. And if that's true for you, think about what's keeping you from saying no.

Your time and energy are precious resources, says Dr. Charles. "We all spend so much time running on the treadmill, trying to hit the speed and incline that we feel someone else is setting." Step off today, and take a moment to think about what you want. What you want more of. And then work toward drawing a new line in the sand that helps you get where you want to go. #reasonablelimits

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# Ron Brakke retires as longtime leader of animal health consulting company

Founder hands over day-to-day operation of Brakke Consulting but will continue to consult with veterinary industry clients.

**R**on Brakke, founder of Brakke Consulting, has announced that Robert (Bob) Jones, PhD, will take over leadership and day-to-day operations effective immediately, according to a company press release.



Ron Brakke

This transition is aimed at building on the company's 32-year history in the animal health industry consulting space and positioning the firm for future growth, the release states. Brakke and Dr. Jones will work together to manage the transition over the coming year.

"Brakke Consulting has built a seasoned team of consultants that over the past 32 years have supported nearly every leading animal health company in their efforts to manage healthy, growing and profitable businesses," Brakke says in the release. "Under the daily leadership of Bob

Jones, we will work to continue building on the foundations that have made Brakke Consulting successful while ensuring that our business remains as an indispensable resource to all animal health companies in the future."

Dr. Jones has been a Brakke consultant for almost two years and holds a PhD in animal nutrition from the University of Illinois, according to the release. His management and leadership positions over the last 30 years include work with American Cyanamid, Pharmacia Animal Health and Novartis Animal Health, among others.

Other than the management of day-to-day operations, Brakke's role in the company will be unchanged, the release notes.

"We expect to operate in a business-as-usual fashion in all aspects of our operations, and I will continue to work with Brakke clients as I always have, striving to help them build stronger organizations and to commercialize promising new technologies," he says



Dr. Bob Jones

in the release. "At the same time, we will benefit greatly from the decades of experience in the animal health and nutrition industries that Bob Jones brings, as well as the leadership and management skills that he can offer."

Dr. Jones believes he can use his leadership abilities to position Brakke Consulting positively for the future.

"My goals are simple—to make any transition seamless and virtually invisible to our clients and to ensure that our consultant team has all the support and the tools needed to continue to provide the solutions that they have built their reputations on," Dr. Jones says. "At the same time, we want to become known as the innovators in the animal health consulting industry, bringing new and dynamic approaches to supporting client objectives."



## MEDICINE | Rehabilitation

# Get on top of rehab in your veterinary clinic

Why your general practice can—and should—offer physical therapy and rehabilitation services to your patients. *By Carla Johnson, DVM*

**T**he belief that we general-practice veterinarians need to refer away our orthopedically challenged patients to another facility for physical rehabilitation is an error of mindset. As we follow our patients faithfully from puppyhood (or even kittenhood) to old age, they almost all face injury, arthritis, surgery or even neurological problems at some point.

Sure, we know they would each benefit from a comprehensive pain and mobility management program. Most of us are very comfortable handling the pain management aspect of this, maybe even recommending

the use of supplements and nutritional support. But when it comes to physical rehabilitation, we send our patients away.

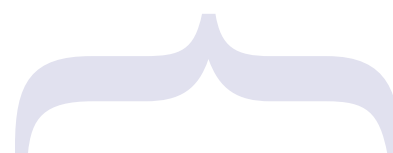
Well, we don't have to. It's actually relatively easy to set up this service in our own practices and stop farming these patients out.

At the 2018 Fetch dvm360 conference in San Diego, Jennifer Johnson, VMD, CVPP, discussed how to set your practice up to provide this type of care for your clients—without too much hassle—and how to expand it into a more high-tech program if you like how it works out. “There are two

primary areas where a general practice can employ basic rehabilitation services,” she says. “Postsurgical care and chronic, nonsurgical arthritis.”

In addition to proactive pain management consisting of medications, nutraceuticals, supplements, therapeutic diets and weight management counseling, you'll need to provide a program to improve mobility and coordination and to build or preserve muscle mass. One of the big mistakes we make with our painful or postsurgical animals is to let them rest and not get their muscles moving.<sup>1</sup> Dr. Johnson says the muscles atrophy rapidly, as quickly as

“No more joking about rehab, and I mean it!” ...  
“Anybody want a peanut?”



**OPHTHALMOLOGY** **M4**  
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12% per week in people, causing more weakness and, thus, more pain. After many common orthopedic surgeries, including tibial plateau leveling osteotomy (TPLO), physical rehabilitation for mobility and preserving muscle mass should start two weeks after surgery, or even earlier.<sup>2</sup>

To treat the postsurgical and chronic arthritic patients in your general practice, Dr. Johnson suggests starting with a dedicated technician or two. Invest in a bit of extra training for them (either outsourced or at your direction) and a few tools for therapy (see “Where to find out more”). You’ll need a goniometer (and maybe a stance analyzer), some slings and a peanut ball, a soft measuring tape to assess muscle mass, some exercise plans, and a way to video record your patients for gait improvements during serial orthopedic exams. Don’t forget to charge by the hour for the technician time, she adds.

## Maneuvers for the postops

For postoperative care, Dr. Johnson says to start with conservative icing or cooling and then progress to passive range of motion (PROM) exercises, light massage and simple weight-bearing and postural exercises. In-hospital PROM exercises and massage should be performed and demonstrated by your technicians so that clients can continue this at home. In a few weeks you can move into the mobility exercises for chronic arthritic patients (see below). Consult with the orthopedic surgeon regarding any exceptional circumstances. Set up a basic plan for each patient and condition and modify it, if needed, to the patient and as you improve your rehabilitation program.

## Measures for the arthritically challenged

For your chronic arthritic or neurologically challenged dogs and cats, Dr. Johnson says to start with client education and develop an exercise and lifestyle plan, then modify the plan based on patient progress and client feedback. Dogs with mobility issues of any kind should have regular low-impact exercise and not the typical “weekend warrior” approach involving infrequent, longer high-impact sessions that do more harm than good. With cats, Dr. Johnson recommends starting with lifestyle changes that in-

## A shifting balance in your clients

Our clients are phasing into a new generation of convenience-focused, one-stop shoppers who appreciate and expect results. They will follow your recommendations if they can understand why they should do them and, even more so, if they can actually see or measure the results. These clients would also rather not have to make a special trip to yet another facility to give their pets the best care. But make no mistake—they do want the best quality care.

crease activity but decrease or prevent high-impact jumping and landing.

Primarily for dogs, have your technicians teach owners how to do PROM and then low-impact exercises and postural tasks such as making them stand equally on all fours, shifting weight from leg to leg, stepping up and down a curb, figure-eight walking, walking in circles, and walking hills. “Combining exercise, balance, massage, stretching, PROM and client education will provide significant improvement in outcome, with only a little effort,” says Dr. Johnson.

## ‘Is it working?’

Use factual data to temper client feedback and to decide whether rehab is working and how well, Dr. Johnson advises. Clients love proof of results, so don’t forget this part! Goniometry is the simple measurement of the angle of a joint, and there’s even an app for this. Have your technician measure and record flexion and extension of affected joints each visit with a goniometer to document improvement. Measuring the larger muscles (such as thigh girth) with a soft measuring tape at each visit will track your progress. Recording a gait video at each visit of the walk and trot will further document improvement in mobility.

Your designated rehabilitation technicians should consult with you about progress and plan changes, but as they get more practiced and involved, they’ll often be more capable of making recommendations than you

are. This is fun, especially when you see progress. It will also be lucrative, if you charge for your staff’s time and training, because you’re keeping your clients happy, informed, involved and coming back again and again.

## One step further ...

If you and your team are highly motivated—or your rehabilitation services are working out well—you can move on to researching and investing in pulsed electromagnetic field therapy (PEMF) devices and laser therapy for your general practice. You might even consider taking it one step further and having your veterinary technicians and your hospital certified for canine rehabilitation.

## Where to find out more ...

Visit this article online at [dvm360.com/ontop](http://dvm360.com/ontop) for this content on various rehab modalities:

- > “Photobiomodulation facts and functions in veterinary rehab”
- > “The four phases of orthopedic rehabilitation”
- > “Rehabilitating canine veterinary patients after neurosurgery”
- > “Getting dogs back on their paws”
- > “Therapeutic exercise in veterinary rehabilitation”
- > “Exploring physical therapy modalities in veterinary rehabilitation”

Here’s where you can get training:

- > [rehabvets.org/training.lasso](http://rehabvets.org/training.lasso)
- > [caninearthrititis.co.uk](http://caninearthrititis.co.uk)
- > [caninerehabinstitute.com](http://caninerehabinstitute.com)

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2. Salter RB, Simmonds DF, Malcom BW, et al. The biological effect of continuous passive motion on the healing of full-thickness defects in articular cartilage. An experimental investigation in the rabbit. *J Bone Joint Surg Am* 1980;62:1232-1251.

*Carla Johnson, DVM, practices emergency medicine at Berkeley Dog and Cat Hospital in Berkeley, California, and general practice at Cameron Veterinary Hospital in Sunnyvale, California. Her nonveterinary loves are writing, dressage with her Iberian warmblood mare, Synergy; watercolor painting on yupo; vinyasa yoga; and running with her dog Tyson. Try as she might, her curly-coated Scottish Fold, Hootie, refuses to go jogging with her.*



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# Through their eyes: Conjunctivitis as a window to the body

What seems like 'simple' conjunctivitis may indicate something more serious, with the eyes providing a view into possible systemic disease. It's also essential that veterinarians treat this common condition individually by species. *By Brad Holmberg, DVM, MS, PhD, DACVO*

**W**e've all experienced the discomfort of conjunctivitis, or "pinkeye." Usually the red, itchy eyes are gone after a day or two, but they can persist, driving us to the doctor for medical relief. In humans, conjunctivitis is usually allergic or infectious in nature. Treatment ranges from simple over-the-counter or at-home remedies to prescriptions for antihistamines, antivirals or antibiotics to be applied topically or even taken orally.

We might assume that conjunctivitis in companion animals is also easily diagnosed and treated, but our patients' eyes can provide hints to other disorders in the body that

are much more serious. Those may include inflammatory diseases, bleeding disorders or even cancer that first shows up on or in the eye.

By performing a thorough eye exam and complete diagnostics, we may find disease that will cause greater harm if allowed to go untreated. We must ensure that conjunctivitis is not a sign of something more serious.

## One sign, many causes

Because every animal is different and every species has unique physiology, anatomy and immune responses, we need to assess each case individually. Conjunctivitis is very common in dogs and cats, but the underlying cause and treatment options can vary greatly. That means it's critical for us to diagnose correctly, know about the underlying causes and understand treatment options for each species.

Dogs and cats often present with similar clinical signs during an exam, including red, puffy eyes and, frequently, ocular discharge. This discharge may be watery or it may have a mucoid or pus-like consistency. The type of discharge may suggest the underlying cause, but it's by no means definitive.

If a patient has had conjunctivitis for a day or two, that's fairly common and we may let it run its course. If it's been going on for several days and there's significant discharge, redness, squinting or cloudiness of the cornea, it's time for a thorough examination.

## Diagnostic rundown

When I am presented with a dog or cat with clinical signs of conjunctivitis, I conduct a series of diagnostic tests to try to determine the underlying cause.

These tests include measuring tear levels with a Schirmer tear test, performing tonometry to assess intraocular pressure to look for glaucoma, placing a special stain on the cornea to look for corneal ulceration and, most important, performing a thorough exam using slit lamp biomicroscopy.

This exam and the test results may definitively diagnose the cause of the conjunctivitis in the patient or suggest other causes, such as allergy or infection. If I suspect infectious conjunctivitis, I'll conduct further testing, including taking conjunctival samples, blood samples or both to confirm the presence of an infectious cause.

## The canine window

When dogs get conjunctivitis, it's most frequently allergic and rarely infectious. It may be a response to an irritant in the environment, such as pollen or dust. I see allergic conjunctivitis more often in allergy-prone breeds such as cocker spaniels and bulldogs. In these cases the pet may also show other signs of allergy, including paw licking, excessive scratching and red areas on the skin.

Dogs with simple allergic conjunctivitis can be treated with a topical antihistamine. In cases that don't respond, I question my diagnosis of simple allergic conjunctivitis and explore other causes further. If I don't find any, I may use a stronger topical anti-inflammatory, specifically a corticosteroid. Topical corticosteroids have been a mainstay of the treatment of conjunctivitis in dogs for decades.

Dogs can also have conjunctivitis due to concurrent corneal or intraocular disease. In these cases the conjunctivitis is not the primary abnormality

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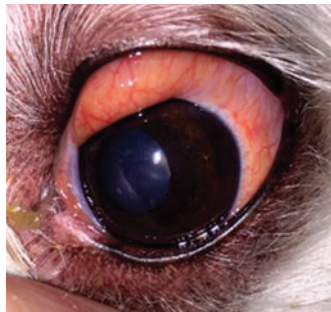




A 10-year-old Boston terrier that presented for a red eye. Note the swelling and redness of the conjunctiva. This was secondary to a cancerous tumor growing under the conjunctiva. A biopsy of the tissue revealed a mast cell tumor. The dog was sent to an oncologist and unfortunately had a poor prognosis for long-term survival.



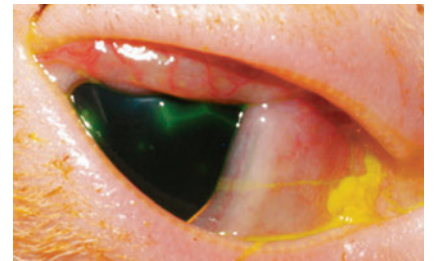
A 6-year-old Labrador retriever that initially presented to the referring veterinarian for a red left eye. After one day of treating with a triple antibiotic ointment, the conjunctivitis got much worse, with extensive redness and swelling as noted in the image. This is secondary to a toxic reaction to neomycin, a common antibiotic in several ophthalmic medications. Stopping the neomycin and treating with a topical corticosteroid anti-inflammatory helped resolve the clinical signs. The cause of the first-noticed conjunctivitis was unknown and suspected to be allergic.



An 8-year-old mix-breed dog that presented for conjunctivitis. Note the swelling along the top of the eye with an orange-appearing mass effect. A tissue biopsy revealed lymphoma. Treatment by an oncologist involved oral and intravenous chemotherapy, which helped resolve the signs and prolonged the dog's life for several years.



A 2-year-old cat with significant conjunctivitis secondary to *Chlamydia* infection. Both eyes were affected. Treatment involved the use of an oral antibiotic, which cleared the infection and led to resolution of the conjunctivitis.



A 4-year-old cat that presented for squinting, discharge and redness of the right eye. Examination revealed significant inflammation of the conjunctiva. In addition, fluorescein stain applied to the cornea revealed a dendritic (linear, branching) superficial corneal ulcer. These signs are pathognomonic for feline herpesvirus. Topical and oral antiviral therapy led to resolution of the clinical signs.

*I used to recommend topical treatment exclusively. But while some cats tolerate this therapy well, it can be stressful for other patients—as well as their owners—especially when prescribed three to four times daily.*

but a sign of something else wrong with the eye. Possibilities include:

- > An inappropriate tear film in dogs with dry eye
- > Corneal ulceration in dogs that have sustained trauma to the cornea
- > Glaucoma
- > Intraocular inflammation.

If we treat these animals for simple conjunctivitis, we may delay treatment for the true underlying cause, which can result in permanent eye damage or vision loss.

### The feline window

Cats are quite different from dogs when it comes to conjunctivitis. They rarely get allergic conjunctivitis. Instead, most cases are infectious. The most common infectious agent is feline herpesvirus, but several bacteria can also be involved, including *Chlamydia*, *Bartonella* and *Mycoplasma* species. Sometimes the clinical exam and history can differentiate among these causes. Other times, we have to perform additional laboratory testing to definitively diagnose the cause.

Herpesvirus is ubiquitous, with nearly all cats exposed at some point in life. Many cases of herpesviral conjunctivitis in cats are self-limiting, lasting just a few days. For cases that

persist, antiviral therapy is the treatment of choice.

I used to recommend topical treatment exclusively. But while some cats tolerate this therapy well, it can be stressful for other patients—as well as their owners—especially when prescribed three to four times daily. Recently a new oral antiviral, famciclovir, has become available that is very effective at controlling herpesvirus and reducing associated clinical signs.

While the infectious organisms that cause conjunctivitis in cats can be transmitted from cat to cat, the development of clinical disease depends on a cat's immune system, the underlying cause and the cat's previous exposure to that pathogen. Fortunately, I don't often see an outbreak in groups of cats in multipet households—it's usually just one animal affected. However, in areas with high cat populations, such as shelters, it's common for numerous cats to be affected, especially those that are young or have a concurrent systemic disease stressing the immune system.

Because cats don't tend to get allergic conjunctivitis, corticosteroid medications are almost always contraindicated. In fact, using corticosteroids for common conjunctivitis in a cat may make the patient much worse. Instead I usually prescribe antivirals, either topi-

cally or systemically, and may recommend topical and oral antibiotics as well depending on the underlying cause.

A note on dogs: While antiviral and antibiotic therapy usually won't hurt in cases of conjunctivitis in dogs, they also may not help. The danger in dogs is missing the underlying cause in a dog and not treating appropriately—this can have profound long-term effects. This makes determining the most likely cause of conjunctivitis and choosing the right treatment for the species especially important.

### Other window considerations

Conjunctivitis in all species can be quite irritating and cause significant discomfort. Many animals respond to this discomfort by rubbing or scratching at their eyes. As a result, I often see corneal ulcers, or secondary abrasions on the surface of the eye. Left untreated, these abrasions can get infected and possibly progress to perforation of the

eye, leading either to emergency surgery or permanent blindness in that eye.

So what's the most important thing to remember about conjunctivitis? That it's not as simple as we might think. We should always use diagnostic testing to either rule out something more serious or confirm that the condition can be easily treated. Without that due diligence, we run the risk of allowing further harm to occur.

By following through with a proper examination, complete diagnostics and appropriate treatment of conjunctivitis, we can continue to use those "windows" to provide a unique look into the well-being of our patients and keep them healthy for years to come.

*Dr. Brad Holmberg is a board-certified veterinary ophthalmologist with extensive experience in the diagnosis and treatment of all animal eye diseases. He provides services at AERA's Animal Eye Center of New Jersey, a Compassion-First Pet Hospital.*



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# Tips for Pet Dental Health Month

The right prep helps with challenging cases, and your team reinforces your oral health message.

Whether you do promotions during Pet Dental Health Month or focus on dentistry all year long, Fetch dvm360 conference speaker Barden Greenfield, DVM, DAVDC, of Your Pet Dentist

in Memphis, Tennessee, has these tips for being prepared—especially when it comes to those difficult cases.

## Work on a cadaver

You know those labs that veterinary conferences offer? Sign yourself up. Don't let your first procedure be on a live patient, Dr. Greenfield says.

## Take radiographs

"If you know that it's going to be, let's say, a mandibular first molar extraction, you need to know how much cortical bone is left on the ventral cortex," he says.

## Take your time

Part of being prepared is allowing yourself not to rush. "If you're diligent and methodical, you'll find that the procedure will work better than if you're hurried," Dr. Greenfield says.

## Use the right tools

Let this be your go, no-go. Dr. Greenfield points out that you need to have correct instruments: sharp and appropriate for the job. If either of these is not met, don't do the work.



For more great dentistry resources, visit [dvm360.com/dentistry](https://dvm360.com/dentistry).

## Use your front desk rock star

Say a client is checking out and the receptionist says, "I see Fifi had a few extractions done today. That's OK. There were 42 teeth in Fifi's mouth originally, and after they took out the diseased teeth, there are 35 left. The idea now is to keep these going as long as possible." "That receptionist is worth her weight in gold," Dr. Greenfield says. "She's compassionate, she understands disease, and the owners are comforted by the fact that everybody understands that dentistry is important."

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## CHEWABLES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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# Parasites love climate change

Mark this in the sad but true news column—as things heat up on a global scale, veterinary bloodsuckers are thriving.

Numerous intermediate hosts of parasites—among them the fleas and ticks whose infestations in your patients are preventable if clients are compliant with their preventives—are expanding their range as the climate gradually changes to the warm side.

We tracked down Richard Gerhold, DVM, MS, PhD, at a recent Fetch dvm360 conference and asked him to provide a few more details.

"Certain parasites can replicate faster as temperatures increase," Dr. Gerhold says. "And when we examine

the parasite's intermediate hosts, which are critical for parasite life cycles, it can lead to finding the parasites in higher densities or different distributions."

Add to that changes in landscaping trends and higher levels of putrefaction for bodies of water, and there are more bacteria in the environment to thrive and multiply, leading to increased food availability for some parasites, their intermediate hosts, or both, he says.

For more details on the veterinary parasitology effects of climate change from Dr. Gerhold, check out [dvm360.com/climatechange](https://dvm360.com/climatechange).



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- ☒ OWNERS PREFER IT<sup>1</sup>  
AND DOGS LOVE IT<sup>2</sup>
- ☒ SAFE FOR PUPPIES AS  
YOUNG AS 6 WEEKS OF AGE



<sup>1</sup> Data on file at Merial.

<sup>2</sup> Freedom of Information: NADA140-971 (January 15, 1993).

**HEARTGARD Plus is a Merial product.  
Merial is now part of Boehringer Ingelheim.**



**Boehringer  
Ingelheim**

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**IMPORTANT SAFETY INFORMATION:** HEARTGARD® Plus (ivermectin/pyrantel) is well tolerated. All dogs should be tested for heartworm infection before starting a preventive program. Following the use of HEARTGARD Plus, digestive and neurological side effects have rarely been reported. For more information, please see full prescribing information or visit [www.HEARTGARD.com](http://www.HEARTGARD.com).

**Heartgard®**  
*(ivermectin/pyrantel)* **Plus**

Please see Brief Summary on page M6



# Let the heart go yonder

A new wireless ECG device lets patients go about their normal day and gives veterinarians better readings for rest and exercise.

**T**he old way: “Sit down, shut up, don’t move around too much and mess up these wires, and give us a good resting ECG.”

The new way: “Strap this on and go crazy, kid. Let’s figure out what the ol’ ticker does when you’re enjoying a normal day, yeah?”

That’s the promise behind Kruuse’s Televet 100 Telemetric ECG and Holter. The wireless device can be wrapped up or slipped into a soon-to-be-released halter so dogs, especially those post-surgery, can have ECG readings taken during normal activities.

In telemetric mode, the Televet 100 transmits data in real time, while Holter mode stores data on an SD card that’s plugged into the ECG device for up to 30 hours.

Software with the unit searches each 24-hour recording for an overview of



the morphology of the heartbeats.

A team of veterinarians at Washington State University’s College of Veterinary Medicine in Pullman, Washington, used the devices on various cardiac, surgical and trauma patients as well as those with artificial pace-makers. Allison Heaney, DVM, MS, DACVIM (cardiology), was pleased, according to a Kruuse release.

“We have enjoyed the high-quality diagnostic tracings, flexibility of the system, the lightweight unit, and in general the use of this piece of equipment in our small animal patients,” Dr. Heaney says.

Dr. Heaney shared two case studies, one with a cat seen for heart failure

due to hypertrophic cardiomyopathy and the other a boxer with arrhythmogenic cardiomyopathy. “Telemetry in cats is particularly challenging, as they often object to the monitoring device due to painful clips or confinement due to wires,” Dr. Heaney says, neither of which are problems for Televet 100.

The wireless telemetry device also helped with getting a better reading from the scared boxer: “She became very nervous in the ICU, and it quickly became apparent that we were unlikely to get a representative ECG of a normal day for this particular dog. Our solution was to place an SD card into the unit and use it at home, where the dog would be more comfortable.”



A patient being fitted with the Televet 100 ECG and Holter system.



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# Survey: Horse owners look to veterinarians for recommendations

Data from American Horse Publications, sponsored by Zoetis, reveals that even more horse owners are discussing vaccination and deworming with their veterinarians.

According to a recent survey by American Horse Publications (AHP), sponsored by Zoetis, veterinarians are the No. 1 influencer of horse owners when it comes to vaccination and deworming recommendations. AHP conducted the survey online January through April 2018 with 9,000 horse owners across the United States responding, according to a release from Zoetis.

"The percentage of respondents who said they discuss American Association of Equine Practitioners (AAEP) vaccination recommendations with their veterinarians nearly doubled from the last AHP survey in 2015," says Jill Stowe, PhD, associate professor of agricultural economics at the University of Kentucky, in the release. Dr. Stowe analyzed the data and consulted on the results.

## Vaccination findings

The AHP survey also reported that 63 percent of horse owners purchased vaccinations from or had them administered by their veterinarians, an increase from 2012 and 2015. And even when owners vaccinated their horses themselves, 70 percent of them consulted their veterinarians when it came to purchasing a vaccination. Further, 50 percent of respondents discuss recommendations from the AAEP with their vet, which is up 20 percent from the 2015 survey.

The Zoetis release states that vaccinations remain critical against five core equine diseases—rabies, Eastern equine encephalomyelitis (EEE), Western equine encephalomyelitis (WEE), tetanus and West Nile virus.

## Deworming findings

As with vaccinations, veterinarians are more involved in the deworming process as well. Half of respondents from the AHP survey have gotten

their veterinarian involved in creating a deworming protocol for their horses. In addition, 78 percent of respondents reported their veterinarian recommended a fecal egg count (FEC) test and 63 percent had an FEC test performed once, twice or even three times year.

"These results show an increase in responsible deworming practices," says Kenton Morgan, DVM, managing veterinarian with Zoetis' Equine Technical Services group. "When a horse is dewormed too often, horse owners risk inadvertently doing more harm than good by increasing their horse's risk for parasite resistance and, as a result, ineffective deworming treatments in the future."

## Other findings

The AHP survey results also show that the human-horse relationship



The survey showed that veterinarians are the No. 1 influencer of horse owners on vaccinations and deworming protocols.

is changing. The majority of respondents see their horses as a companion animal or pet. Interestingly, there also appears to be a correlation between age and owner's relationship to horse. As age increased, owners were less likely to view their horse as a best friend, companion animal or pet, family member or performance partner.

Additionally, unwanted horses re-

mains the top issue facing the equine industry today, and coming closely in second is the cost of horsekeeping.

"Industry participants have made great strides in addressing important issues, such as the unwanted horse issue, and now have their sights focused on additional challenges, such as the scarcity of riding areas and open spaces," Dr. Stowe says.

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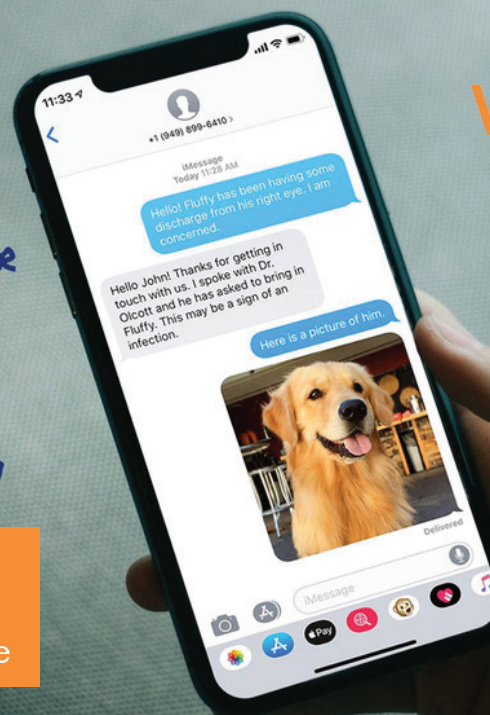
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# Female vets, **don't stop dreaming big**—and other thoughts on Old School, New School

Readers weigh in on the fate of Dr. Greenskin's life in practice.

**Editor's note:** This letter is in response to Dr. Jeremy Campfield's *Old School, New School* column "Meet Dr. Seasoned!" (see the January issue of *dvm360* magazine). Share your viewpoint with us at [dvmnews@ubm.com](mailto:dvmnews@ubm.com).

As a recent DVM graduate, I've followed *dvm360's* Old School, New School stories and related to Dr. Greenskin over the past couple years. Although my boss isn't quite as old-school, many points ring true and help me keep a healthy perspective when transitioning from

their ambitions and career goals several years in, especially to focus on other priorities. I don't shame women who put family first. I myself am getting married in just a few months to an intelligent, accomplished, well-salaried partner. I know I could live comfortably as an associate for the rest of my life. However, I hold on to my dream of one day owning a practice, and I still believe it's possible to pursue that goal while living a balanced life.

The column highlights the perks of working for a corporation and points out they're not all evil, but I wish Dr. Greenskin hadn't gotten so complacent so quickly. It was disheartening to see her "letting go of ambitions" when she had recently made a solid proposal for buying out her crusty boss. As someone who was rooting for Dr. Greenskin to advance her career, I felt let down by the new outlook on work that came with her new surname. Furthermore, her complacency with corporate life suggests that practice ownership (and the duties that come with it) is neither desirable nor attainable for people who also want relationships and families.

I understand that veterinary medicine is shifting more and more toward corporate consolidators, and I know many vets are satisfied in the corporate environment. Yet I hope there will still be viable buy-in options for the Greenskin generation to maintain the personal nature of private practice and to give ambitious vets something solid to invest in and make their very own.

I don't blame now-Dr. Seasoned for wanting to take some time to focus on her personal life, but I also don't want veterinary medicine to become an ordinary 9-to-5 job rather than her passion. (Acknowledging the mental health issues of our field—I am happy that she isn't on call without pay and has more free time!) Will Dr. Seasoned one day outgrow her current practice and realize she has greater potential? Will she revive her ambition to take more of

a leadership role? Will she realize that someone needs to step up if we want to preserve the culture of privately owned practices that let profits go to veterinarians rather than corporations?

Veterinary medicine is becoming increasingly female, but there remains a huge gender gap in leadership, particularly practice ownership and representation in organizations. I think Dr. Greenskin has followed a common career arc that partly explains why we have this gap, but I hope more women will step up, lean in and take on the work. Maybe that's not what Dr. Greenskin wants anymore, but I have faith that there are strong role models out there for those of us who still want to "take over the world one pet at a time."

—Yuan Kang, DVM  
Cornell University 2017

So sad to see this story end. Loved the dynamic between Codger and Greenskin. It was classic. Looked forward to, read out loud and laughed at the antics of both. I hope there is more story to tell. Perhaps Codger comes back part time and all his old clients want to see him, making "Seasoned" insecure. Perhaps "Seasoned" is struggling with work-life balance under the corporation. Perhaps "Seasoned" questions the quotas, protocols, etc. of Practice Gobblers. I really enjoyed the series and hope there are more "tails" to come!

—Kelly L. Gough, DVM  
Webster, New York



Jeremy Campfield, DVM | OLD SCHOOL, NEW SCHOOL



## Meet Dr. Seasoned!

Wedding bells are ringing for Dr. Greenskin—what does her growing family mean for her veterinary career ambitions and her future life?

**L**ittle known to our readers, Dr. Greenskin has fallen in love! While she's been hard at work as an associate veterinarian at Doc Codger's clinic, she's also managed to sneak in regular date nights with a wonderful fellow she met online. His name is Will Seasoned, and he moved to the same town several years ago after attending medical school and completing residency.

Before moving to his new home, Will downloaded some online dating apps to try to meet someone interesting. Will and Greenskin were surprised to find each other and to discover that they were a perfect match! As a bonus, Greenskin found out Will owns two beautiful border collies.

Today is finally the big day! With the stress of planning the offer to Dr. Codger well behind her (check out the entire journey at [dvm360.com/campfield](http://dvm360.com/campfield)), and with things at work mostly stabilizing since the corporate takeover, Greenskin and Will have set the moment to get hitched and start planning their lives together.

Thinking that perhaps things do work out for the best, Greenskin has been contemplating starting a family, which makes her wonder if a corporate lifestyle is the best option after all. When she and Will first got together, he made a few comments and observations about his fiancée's work schedule—specifically, that she was on call all the time without necessarily being compensated for it. But ever since Practice Gobblers Inc. sent Doc Codger on his merry way, "on call" is no longer in the practice vocabulary. And some added efficiencies mean Dr. Greenskin arrives home in time for dinner much more frequently than before the buyout. Will has begun to think that marrying a veterinarian isn't actually the worst decision ever!

All wrapped up in the wedding festivities, Greenskin hasn't spent too much time thinking about her career lately. It may be that she feels more settled as an employee of a large corporation. She's letting go of ambitions to take over the world one pet at a time and realizing that caring for one animal and client at a time—day in and day out—is really more of a job than her vision of a "real" career. And maybe that's OK! This may be a

natural progression for someone who worked hard to achieve the DVM dream but is now shifting her focus to her personal and family life.

The vows are done, the rings are on and the chapel is full of smiles and happy tears. The organ starts as she begins the walk of her life, hand in hand with the one she loves. As work or at home, Dr. Seasoned is ready for whatever lies ahead!

*Dr. Greenskin has come so far in a short few years. Are you happy with how she's handled the twists and turns of her early life as a veterinarian? Would you like to follow her career as Dr. Seasoned? What path would you like to see her embark on?*

*Let us know your thoughts and cast your vote on the future of Old School, New School by emailing [dvmnews@ubm.com](mailto:dvmnews@ubm.com).*

*Dr. Jeremy Campfield lives near Sacramento, California, with his family, including an aging mini Aussie and an obnoxious pitbull mix that some mistake for a chocolate Lab (to the delight of her owners).*

ILLUSTRATION BY IVANA GOSTENADZIC

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gold-standard academia to occasionally homeless general practice. Overall, I've admired Dr. Greenskin's tenacity and maturation over the years. Unfortunately, I was really disappointed by the most recent installment of the column.

I understand that the author has tried to portray the many facets of private practice through this column. I understand that many vets change



**The whole journey**  
To catch up on the Old School, New School series featuring Drs. Codger and Greenskin—or to read it all over again—visit [dvm360.com/campfield](http://dvm360.com/campfield).





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\*BRAVECTO kills fleas and prevents flea infestations for 12 weeks. **BRAVECTO Topical Solution for Cats** kills ticks (black-legged tick) for 12 weeks and American dog ticks for 8 weeks.

<sup>1</sup>BRAVECTO Topical Solution for Cats [prescribing information]. Madison, NJ: Merck Animal Health; 2016.

**IMPORTANT SAFETY INFORMATION:**

**BRAVECTO Topical Solution for Cats:** The most common adverse reactions recorded in clinical trials were vomiting, itching, diarrhea, hair loss, decreased appetite, lethargy, and scabs/ulcerated lesions. BRAVECTO has not been shown to be effective for 12-weeks' duration in kittens less than 6 months of age. BRAVECTO is not effective against American dog ticks beyond 8 weeks of dosing. For topical use only. Avoid oral ingestion. The safety of BRAVECTO has not been established in breeding, pregnant and lactating cats. Use with caution in cats with a history of neurologic abnormalities. Neurologic abnormalities have been reported in cats receiving BRAVECTO, even in cats without a history of neurologic abnormalities.

**See full Prescribing Information on page 38.**





## (fluralaner topical solution) for Cats

**Caution:**

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

**Description:**

Each tube is formulated to provide a minimum dose of 18.2 mg/lb (40 mg/kg) body weight. Each milliliter contains 280 mg of fluralaner.

The chemical name of fluralaner is (±)-4-[5-(3,5-dichlorophenyl)-5-(trifluoromethyl)-4,5-dihydroisoxazol-3-yl]-2-methyl-N-[2-oxo-2-(2,2,2-trifluoroethylamino)ethyl]benzamide. Inactive ingredients: dimethylacetamide, glycofuro, diethyltoluamide, acetone

**Indications:**

Bravecto kills adult fleas and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*) and the treatment and control of *Ixodes scapularis* (black-legged tick) infestations for 12 weeks in cats and kittens 6 months of age and older, and weighing 2.6 pounds or greater.

Bravecto is also indicated for the treatment and control of *Dermacentor variabilis* (American dog tick) infestations for 8 weeks in cats and kittens 6 months of age and older, and weighing 2.6 pounds or greater.

**Dosage and Administration:**

Bravecto should be administered topically as a single dose every 12 weeks according to the **Dosage Schedule** below to provide a minimum dose of 18.2 mg/lb (40 mg/kg) body weight.

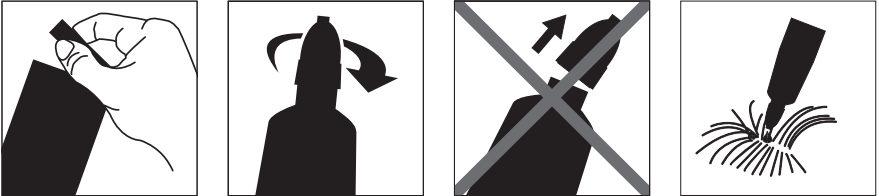
Bravecto may be administered every 8 weeks in case of potential exposure to *Dermacentor variabilis* ticks (see **Effectiveness**).

**Dosage Schedule:**

Body Weight Ranges (lb)	Fluralaner content (mg/tube)	Tubes Administered
2.6 – 6.2	112.5	One
>6.2 – 13.8	250	One
>13.8 – 27.5*	500	One

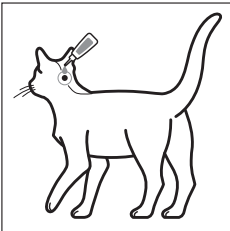
\* Cats over 27.5 lb should be administered the appropriate combination of tubes.

**Step 1:** Immediately before use, open the pouch and remove the tube. Hold the tube at the crimped end with the cap in an upright position (tip up). The cap should be rotated clockwise or counter clockwise one full turn. The cap is designed to stay on the tube for dosing and should not be removed. The tube is open and ready for application when a breaking of the seal is felt.



**Step 2:** The cat should be standing or lying with its back horizontal during application. Part the fur at the administration site. Place the tube tip vertically against the skin at the base of the skull of the cat.

**Step 3:** Squeeze the tube and gently apply the entire contents of Bravecto directly to the skin at the base of the skull of the cat. Avoid applying an excessive amount of solution that could cause some of the solution to run and drip off of the cat. If a second spot is needed to avoid run off, then apply the second spot slightly behind the first spot.



Treatment with Bravecto may begin at any time of the year and can continue year round without interruption.

**Contraindications:**

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

**WARNINGS**

**Human Warnings:**

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

**Do not contact or allow children to contact the application site until dry.**

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. Avoid contact with skin and eyes. If contact with eyes occurs, then flush eyes slowly and gently with water. **Wash hands and contacted skin thoroughly with soap and water immediately after use of the product.**

The product is highly flammable. Keep away from heat, sparks, open flame or other sources of ignition.

**Precautions:**

For topical use only. Avoid oral ingestion. (see **Animal Safety**).

Use with caution in cats with a history of neurologic abnormalities. Neurologic abnormalities have been reported in cats receiving Bravecto, even in cats without a history of neurologic abnormalities (see **Adverse Reactions**).

Bravecto has not been shown to be effective for 12-weeks duration in kittens less than 6 months of age. Bravecto is not effective against *Dermacentor variabilis* ticks beyond 8 weeks after dosing (see **Effectiveness**).

The safety of Bravecto has not been established in breeding, pregnant and lactating cats.

**Adverse Reactions:**

In a well-controlled U.S. field study, which included a total of 161 households and 311 treated cats (224 with fluralaner and 87 with a topical active control), there were no serious adverse reactions.

Percentage of Cats with Adverse Reactions (AR) in the Field Study

Adverse Reaction (AR)	Bravecto Group: Percent of Cats with the AR During the 105-Day Study (n=224 cats)	Control Group: Percent of Cats with the AR During the 84-Day Study (n=87 cats)
Vomiting	7.6%	6.9%
Pruritus	5.4%	11.5%
Diarrhea	4.9%	1.1%
Alopecia	4.9%	4.6%
Decreased Appetite	3.6%	0.0%
Lethargy	3.1%	2.3%
Scabs/Ulcerated Lesions	2.2%	3.4%

In the field study, two cats treated with fluralaner topical solution experienced ataxia. One cat became ataxic with a right head tilt 34 days after the first dose. The cat improved within one week of starting antibiotics. The ataxia and right head tilt, along with lateral recumbency, reoccurred 82 days after administration of the first dose. The cat recovered with antibiotics and was redosed with fluralaner topical solution 92 days after administration of the first dose, with no further abnormalities during the study. A second cat became ataxic 15 days after receiving its first dose and recovered the next day. The cat was redosed with fluralaner topical solution 82 days after administration of the first dose, with no further abnormalities during the study.

In a European field study, two cats from the same household experienced tremors, lethargy, and anorexia within one day of administration. The signs resolved in both cats within 48-72 hours.

In a European field study, there were three reports of facial dermatitis in humans after close contact with the application site which occurred within 4 days of application.

For technical assistance or to report a suspected adverse drug reaction, or to obtain a copy of the Safety Data Sheet (SDS), contact Merck Animal Health at 1-800-224-5318. Additional information can be found at [www.bravecto.com](http://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>.

**Clinical Pharmacology:**

Peak fluralaner concentrations are achieved between 7 and 21 days following topical administration and the elimination half-life ranges between 11 and 13 days.

**Mode of Action:**

Fluralaner is for systemic use and belongs to the class of isoxazoline-substituted benzamide derivatives. Fluralaner is an inhibitor of the arthropod nervous system. The mode of action of fluralaner is the antagonism of the ligand-gated chloride channels (gamma-aminobutyric acid (GABA)-receptor and glutamate-receptor).

**Effectiveness:**

In a well-controlled European laboratory study, Bravecto killed 100% of fleas 8 hours after treatment and reduced the number of live fleas on cats by > 98% within 12 hours after treatment or post-infestation for 12 weeks. In well-controlled laboratory studies, Bravecto demonstrated > 94% effectiveness against *Ixodes scapularis* 48 hours post- infestation for 12 weeks. Bravecto demonstrated > 98% effectiveness against *Dermacentor variabilis* 48 hours post-infestation for 8 weeks, but failed to demonstrate ≥ 90% effectiveness beyond 8 weeks.

In a well-controlled U.S. field study, a single dose of Bravecto reduced fleas by ≥99% for 12 weeks. Cats with signs of flea allergy dermatitis showed improvement in erythema, alopecia, papules, scales, crusts, and excoriation as a direct result of eliminating flea infestations.

**Animal Safety:**

**Margin of Safety Study:** In a margin of safety study, Bravecto was administered topically to 11- to 13-week (mean age 12 weeks)-old-kittens at 1, 3, and 5X the maximum labeled dose of 93 mg/kg at three, 8-week intervals (8 cats per group). The cats in the control group (OX) were treated with mineral oil.

There were no clinically-relevant, treatment-related effects on physical examination, body weights, food consumption, clinical pathology (hematology, clinical chemistries, coagulation tests, and urinalysis), gross pathology, histopathology, or organ weights. Cosmetic changes at the application site included matting/clumping/spiking of hair, wetness, or a greasy appearance.

**Oral Safety Study:** In a safety study, one dose of Bravecto topical solution was administered orally to 6- to 7-month-old- kittens at 1X the maximum labeled dose of 93 mg/kg. The kittens in the control group (OX) were administered saline orally. There were no clinically-relevant, treatment-related effects on physical examination, body weights, food consumption, clinical pathology (hematology, clinical chemistries, coagulation tests, and urinalysis), gross pathology, histopathology, or organ weights. All treated kittens experienced salivation and four of six experienced coughing immediately after administration. One treated kitten experienced vomiting 2 hours after administration.

**In a well-controlled field study** Bravecto was used concurrently with other medications, such as vaccines, anthelmintics, antibiotics, steroids and sedatives. No adverse reactions were observed from the concurrent use of Bravecto with other medications.

**Storage Conditions:**

Do not store above 77°F (25°C). Store in the original package in order to protect from moisture. The pouch should only be opened immediately prior to use.

**How Supplied:**

Bravecto is available in three strengths for use in cats (112.5, 250, and 500 mg fluralaner per tube). Each tube is packaged individually in a pouch. Product may be supplied in 1 or 2 tubes per carton.

NADA 141-459, Approved by FDA

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# 2019: The year to problem solve

Whether it's your veterinary clients, team members or associate veterinarians, everyone is coming to you with their unique problems. This year, resolve to solve them, even when it takes a little innovation.

**H**ello, readers. I hope 2019 is treating you well so far. In the early stages of this new year, we have a new opportunity to improve ourselves and our practices. Let's commit to exceeding the expectations of those who depend on us.

## Why do they seek you out?

Clients, employees and associates in our veterinary practices come to us because they have a need, spoken or unspoken, they want fulfilled. Sometimes we forget that not all of their needs are physical. Some needs are financial, such as employment or economic limitations, in the case of pet owners. Some may be even be emotional. Kindness and compassion can be in short supply these days. Whatever the need, success is dependent on, and should be measured by, our ability to meet those needs.

## Innovate, create and solve

You've probably heard the saying, "Unless you're the lead dog, the scenery never changes." Being the lead dog isn't always achievable, but if you can't be the lead dog, at the very least, associate yourself with a lead dog. Success in veterinary medicine is a constantly evolving goal and a continually rising bar. Some basic targets are what you would expect. Certainly, there has always been a focus on medical knowledge and skill, but expectation and demand have advanced so rapidly that knowledge and skill are no longer enough. If you're going to meet the increasing expectations of your customers, you need to anticipate their wants even before they know they want them. Much like diagnosing patient pain, we must realize that customers have unresolved pain, and if we're going to respond to it, we need to know the source.

## Understand their pain

Clients and employees may not express the needs or wishes they want resolved. These unspoken needs often result in disappointment and frustration. Yet, how can we recognize what people want if they don't tell us? To understand, or at least be aware of their pain, we must watch and listen. Some pains are obvious and can be responded to easily. Some are less apparent and require diagnostics. Be willing to ask questions. Your employees' and customers' gripes may be obvious

and the solutions may be simple, but if they aren't so simple, be willing to do the things other people won't do. As Thomas Edison once said, "There's a way to do it better ... find it!"

*Dr. Michael Paul is former executive director of the Companion Animal Parasite Council and a former president of the American Animal Hospital Association. He is currently the principal of MAGPIE Veterinary Consulting. He is retired from practice and lives in Anguilla, British West Indies.*







Dr. James was shocked when his trusted mentor pointed out that there were people in his practice who could do certain tasks better than even he could.

# To delegate or not: Finding the best person for the job

This veterinarian's practice is experiencing growing pains, but is delegation the best—and only—answer to his administrative issues?

**D**r. Lee James owned a busy suburban veterinary practice. Four doctors, 12 technicians and six receptionists were busy from morning until night. He would tell you he had no magic formula for success. He and his staff practiced excellent medicine, offered outstanding customer service and were located in a growing community.

Of late, Dr. James was experiencing administrative growing pains. When the practice was smaller, he easily

handled the payroll, ordering and employee needs. Now, his larger facility was both administratively overwhelming him and also preventing him from providing as much hands-on patient care. He found himself facing a fear that many veterinary owners encounter: delegation. Now he would have to give up some control of the practice he had nurtured from the beginning.

Fortunately, Dr. James had a mentor. As is the case with most veterinarians, he worked for a vet he liked and

respected before going out on his own. He called his old boss for some advice, and the advice he was given was not at all what he expected.

Dr. James was told that many of the tasks he no longer had time for required that he delegate these duties to competent coworkers. This was not necessarily because of time constraints, but because others could now do these jobs better than he could. His mentor went on to say that the problems of larger practices are different than those



**Is this ethical?**

Fascinating situations start with exactly that question. Find dozens more Dr. Marc Rosenberg columns at [dvm360.com/rosenberg](http://dvm360.com/rosenberg).



of smaller facilities. A perfect example was workforce compatibility. Eight to 10 employees often bond and do well together. When that number reaches 25 and above, interpersonal challenges can appear. Staff members will often complain that they just don't get along with others on the clinic team. Resolving this type of inevitable issue requires a supervisor with specific skills as opposed to simply a pep talk about how we should remember that we are all a team. Dealing with deposits and tracking sales and use taxes gets overwhelming when the yearly gross creeps up over a million dollars. Negotiating with drug reps and equipment vendors is often more effective with a good cop/bad cop approach. This requires the help of a skilled staff member as opposed to letting these reps "assist you" because you are too busy. Social media is a must. A dedicated social media staffer more than pays for itself in a 21st century practice.

Dr. James' mentor had opened his eyes. He was convinced that the success and growth of his practice was due to his constant hands-on participation. He truly believed it would be risky to delegate some pivotal practice responsibilities to others. What he did not realize was that he had slowly become less efficient at running his practice as it grew. The experience was analogous to never realizing you need glasses until you try them on and suddenly you can see better.

Dr. James had learned two practice lessons. First, delegation of significant practice responsibilities does not lead to loss of control but increased efficiency. Second, that it's a good idea to use a mentor or respected consultant to periodically assist in seeing the forest for the trees.

*Do you think Dr. James was over-reacting? His practice was doing well just the way it was. He may have only needed help with his anxiety and did not need to take the risk of delegating pivotal tasks to staff less invested than he. What do you think? Let us know at [dvmnews@ubm.com](mailto:dvmnews@ubm.com).*

### Dr. Rosenberg's response

When both practicing in and managing a veterinary facility, it's important to not remain in your comfort zone. This is tempting because a comfort zone is worry free yet ultimately leads

to stagnation. Reasonable risk taking is the wise choice. I emphasize the word "reasonable." Dr. James discussed his decisions with a respected colleague and carefully considered his next steps. Nothing ventured, nothing gained is a phrase that the veterinary practitioner must always consider when the comfort zone becomes too tempting.

*Marc Rosenberg, VMD, is director of the Voorhees Veterinary Center in Voorhees, New Jersey. In his private time, he enjoys playing basketball and swing dancing with his wife. Although many of the scenarios Dr. Rosenberg describes are based on real-life events, the veterinary practices, doctors and employees described are fictional.*



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

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# 8 places you may be sitting on tax savings

April 1 is creeping up. I've got a few reminders to help you make the most of your personal and business taxes.

By Tom McFerson, CPA, ABV

**G**iven the extensive changes in the new 2018 tax law, figuring out whether you maximized last year is more crucial than ever. As you begin to focus on useful strategies to reduce your 2018 taxes—both for practice owners and every other veterinary professional—consider the following areas to figure out whether you “checked off that box” in 2018:

## For practice owners and managers

**1 New equipment is still helpful.** Small businesses can still write off the cost of new equipment that's purchased or leased in a given year, so make sure you don't miss any of last year's purchases. Called a Section 179 expense, the provision allows veterinary practices to deduct up to \$500,000 in qualifying new equipment (digital radiography or computers, for example) put into

service during the tax year. The new tax law also increased the amount of qualifying business property that a business can depreciate in a given year, called bonus depreciation. Both of these provisions may make it financially beneficial for practice owners to launch, expand or simply improve their veterinary hospitals.

**2 Pass-through deduction is still perplexing.** No provision in the new tax law is more confusing or convoluted than the pass-through deduction for small business owners. As background, large corporations were given a significant corporate tax cut in the new law. To help small businesses enjoy a similar benefit, so-called “pass-through entities” are allowed to deduct up to 20 percent of the income earned by the business, with caveats.

A deep dive into the details would be a novella in length, so instead, we'll point out the larger concepts:

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> A pass-through entity under this provision is considered to be a sole proprietorship, an S corporation, or a partnership (LLC/LLP).

> Service businesses (veterinarians included) will not enjoy the full benefit of this deduction like other business types do, mainly due to taxable income limitations.

> The deduction is based on your qualified business income, which factors in owner compensation, employee W2s and several other factors.

Again, this area of the new tax law is extremely complicated. Do yourself a favor and talk to a tax professional about your eligibility for this particular tax deduction.

**3 Solar credit is still around.** The solar credit was reportedly on the chopping block but survived in the final bill. This provision (in place through 2019) allows you a tax credit (dollar-for-dollar reduction in your federal taxes) for up

to 30 percent of the cost of your solar improvements. The equipment must be purchased, not leased.

### For every single veterinary professional

**4 State and property tax deduction is curbed.** A total deduction of \$10,000 is now all that's permitted for personal state income and home property taxes on your tax return. This is a low number for most taxpayers, but especially for those who live in states with high tax rates or high property values. In the past, a popular tax planning tool was to prepay some of these taxes to get the deduction in the current year. Now, this maneuver likely won't pay off.

**5 But other property taxes might not be.** On a related note, the limitation on property taxes applies only to your personal residence(s). It does not apply to any

rental property you might own. So, if you own the real estate where your veterinary practice sits, there is no limitation on the property taxes that can be paid in a given year. If it makes financial sense, consider paying the second installment now so you can get the deduction in the current year.

**6 Your home mortgage balance is important.** Anyone with a home mortgage in place prior to Dec. 14, 2017, will still be allowed to deduct the interest paid, assuming the loan balance is \$1.1 million or less. However, for homeowners with mortgages initiated after this date, the deduction will be limited to interest paid on the first \$750,000 in loan amount only. Plan accordingly.

**7 Child tax credit increased.** The new tax law has increased the child tax credit to \$2,000 per qualifying child 16 years or younger. (Probably not financially worth it to

have kids for this, but, y'know, if you got 'em!) Also of interest is a new \$500 tax credit for qualifying dependents other than children, such as parents. Both of these credits are subject to overall income limitations.

**8 Sign those divorce papers.** If you were facing divorce in 2018, December 21 was the day to make sure you signed on the dotted line. Alimony was considered taxable to the recipient and deductible to the payer through the end of last year.

Now, alimony received will no longer be taxable, and alimony paid will no longer be deductible. Depending on which side of the ledger you fall on, this deadline may wind up making a big difference on your tax returns.

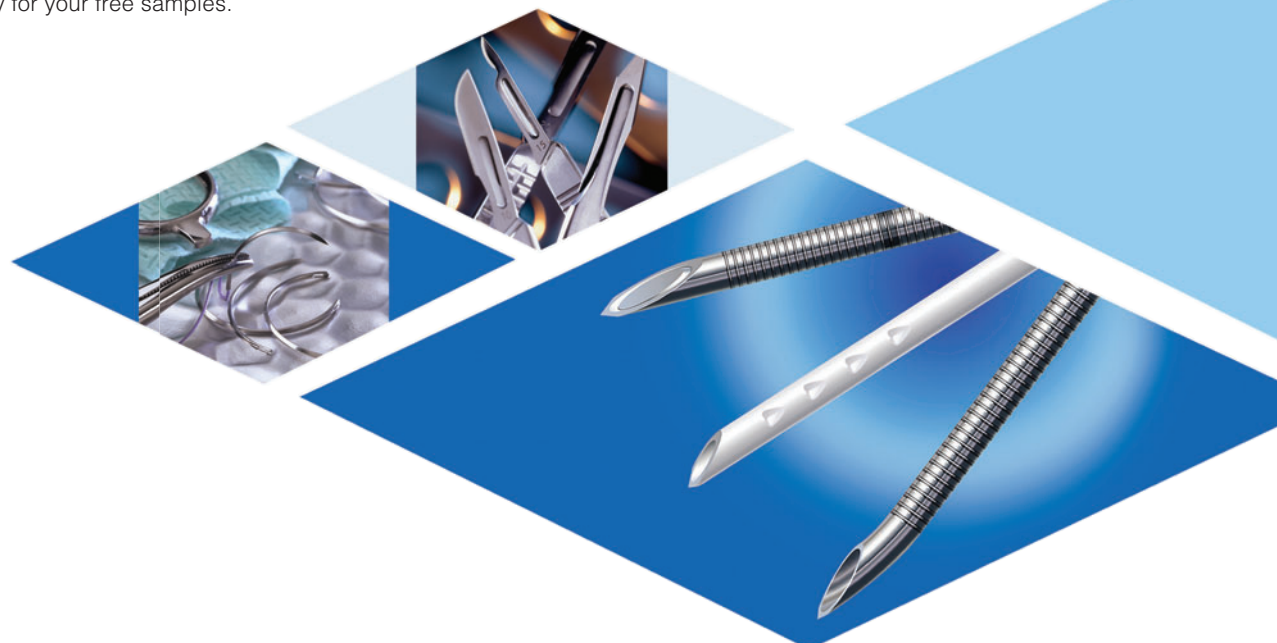
*Tom McFerson, CPA, ABV, a partner at the veterinary accounting firm Gatto McFerson in Santa Monica, California, is a regular contributor to the Business Channel on dvm360.com.*

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## Vetstream

### Online exotics resource

Veterinary digital content specialist Vetstream has added reptiles to Vetlexicon Exotis, its practical, peer-reviewed online clinical reference resource for veterinarians working with exotic species. More than 898 items to assist in the care and treatment of reptiles, chelonians and snakes, including 285 peer-reviewed articles on diseases, diagnostics, surgical techniques and formulary advice, 22 videos, 504 images and 87 owner fact sheets have been created for Exotis. The service already contains detailed information on the veterinary care of guinea pigs and ferrets. Content on rodents and psittacine birds is in development.

*For fastest response visit [vetstream.com](http://vetstream.com)*



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## Brakke Consulting

### Parasiticide market update

The US Flea Control and Heartworm Markets study profiles the veterinary and over-the-counter markets for flea and tick products and heartworm preventives, including veterinary product sales and pricing, advertising expenditures, and new and developing products. The report, which has been published annually by Brakke for two decades, gathered information from a variety of sources, including published information, industry interviews and a survey of 300 small animal veterinarians and 500 pet owners.

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## ExeGi Pharma

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Visbiome Vet is a new high-potency probiotic for use in companion dogs to help support normal inflammatory responses in the gastrointestinal (GI) tract and help normalize gut health. The formulation contains an eight-strain proprietary probiotic blend that has recently been studied in several canine GI disorders. The compound has an extremely high concentration of beneficial bacteria (112.5 billion bacteria per dose) and is the identical formulation to Visbiome, a human product that has been the subject of over 60 clinical trials. Visbiome Vet has been the subject of four controlled clinical trials.

*For fastest response visit [visbiomevet.com](http://visbiomevet.com)*



## American Regent Animal Health

### New name for Adequan manufacturer

Luitpold Animal Health is now American Regent Animal Health. Luitpold Pharmaceuticals Inc. has streamlined its operations by absorbing its wholly owned subsidiaries—American Regent Inc. and PharmaForce Inc.—into one corporate entity. As American Regent Animal Health, the company will continue offering Adequan, an FDA-approved polysulfated glycosaminoglycan product for horses and dogs, and also expand its product line, seeking new innovations for the animal health market.

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## VetBiotek

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VetBiotek has launched UltraOtic Rinse (0.2% MicroSilver) and UltraOtic Concentrate (0.5% MicroSilver, 0.5% climbazole and ceramide III) for the management of otic conditions in dogs and cats. Both products are recommended for use in an ear therapy protocol under the direction of a licensed veterinarian. UltraOtic Rinse is packaged in 4-oz bottles and the UltraOtic Concentrate is packaged in 1-ml pipettes with 20 pipettes per box.

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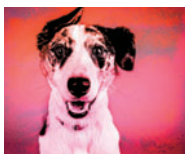


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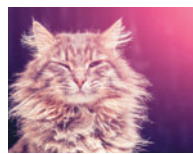
For a full listing of events in 2019, visit [dvm360.com/calendar](http://dvm360.com/calendar)



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**August 23-26**  
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in Kansas City  
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**December 12-15**  
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in San Diego  
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## Here are the CE opportunities coming in the next few months

**February 17-20**  
Western Veterinary  
Conference  
Las Vegas, NV  
(866) 800-7326  
[wvc.org](http://wvc.org)

**February 22-24**  
2019 Music City  
Veterinary Conference  
Murfreesboro, TN  
(931) 438-0070  
[tvmanet.org](http://tvmanet.org)

**March 8-10**  
New Jersey VMA  
Veterinary Education  
Conference  
Princeton, NJ  
(908) 281-0918  
[njvma.org](http://njvma.org)

**March 15-17**  
28th Annual Food  
Animal Conference  
Columbiana, AL  
(334) 603-6227  
[alvma.com](http://alvma.com)

**March 19**  
Updates in Soft Tissue  
Surgery and Behavior  
Whistler, British  
Columbia, Canada  
(888) 488-3882  
[vetvacationce.com](http://vetvacationce.com)

**March 27**  
How to Improve  
Business Outcomes  
Through Workplace  
Well-Being: Regional  
2019 Workshop

New Orleans, LA  
[vhma.org](http://vhma.org)

**March 29-31**  
The American Laser  
Study Club 2nd Annual  
Symposium  
Phoenix, AZ  
(866) 589-2722  
[americanlaserstudy-club.org](http://americanlaserstudy-club.org)

**April 4-6**  
Insight Through  
Interaction: 2019  
VHMA Management  
Exchange  
Indianapolis, IN  
[vhma.org](http://vhma.org)

**April 5-7**  
2019 American  
Academy of  
Veterinary  
Acupuncture  
Portland, OR  
(931) 438-0238  
[aava.org](http://aava.org)

**April 11-13**  
Updates in Soft Tissue  
Surgery and Internal  
Medicine  
Austin, TX  
(888) 488-3882  
[vetvacationce.com](http://vetvacationce.com)

**April 25-28**  
Uncharted  
Veterinary  
Conference  
Greenville, SC  
[unchartedvet.com](http://unchartedvet.com)

**April 26-27**  
Internal Medicine  
Challenges for  
Advanced Practitioners  
(Equine)  
Dover, NH  
[vetpd.com](http://vetpd.com)

**April 28-May 2**  
ICARE 2019 Interna-  
tional Conference on  
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and Exotic Mammal  
Medicine  
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[icare2019.eu](http://icare2019.eu)

**May 2-5**  
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**May 14-16**  
Updates in  
Ophthalmology and  
Cardiology  
Savannah, GA  
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**June 6-8**  
2019 ACVIM Forum  
Phoenix, AZ  
(303) 231-9933  
[acvim.org](http://acvim.org)

**June 17-19**  
Updates in Neurology &  
Emergency Critical Care

Whitefish, MT  
(888) 488-3882  
[vetvacationce.com](http://vetvacationce.com)

**July 10-12**  
Updates in  
Dermatology,  
Anesthesia and  
Emergency Critical Care  
Aspen, CO  
(888) 488-3882  
[vetvacationce.com](http://vetvacationce.com)

**July 16-19**  
44th World Small  
Animal Veterinary  
Association Congress  
and 71st Canadian  
Veterinary Medicine  
Association Convention  
Toronto, ON  
[canadianveterinar-ians.org](http://canadianveterinar-ians.org)

**August 2-5**  
Southern Veterinary  
Conference  
Birmingham, AL  
(205) 655-2320  
[thesvconline.com](http://thesvconline.com)

**August 2-6**  
AVMA Convention  
Washington, DC  
[avma.org/events](http://avma.org/events)

**August 15-18**  
13th Keystone  
Veterinary  
Conference  
Hershey, PA  
(888) 550-7862  
[pavma.org](http://pavma.org)

**August 21-23**  
HospitalDesign360  
Conference  
Kansas City, MO  
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ext. 6  
[fetchdvm360.com/hd](http://fetchdvm360.com/hd)  
**August 21-24**  
Uncharted Veterinary  
Conference: Staff  
Drama  
Kansas City, MO  
[unchartedvet.com](http://unchartedvet.com)

**August 23-26**  
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Kansas City, MO  
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**September 25-26**  
119th Penn Annual  
Conference  
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[vet.upenn.edu/educa-  
tion/continuing-edu-  
cation/penn-annual-  
conference](http://vet.upenn.edu/education/continuing-education/penn-annual-conference)

**September 26-29**  
Southwest Veterinary  
Symposium 2019  
San Antonio, TX  
(972) 664-9800  
[swvs.org](http://swvs.org)

**September 28-30**  
Pacific Northwest  
Veterinary  
Conference  
Tacoma, WA  
(425) 396-319

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# When first impressions change

A veterinary student wearing a Ralph Lauren jacket can still muddy up and get the job done.

It was about 6 o'clock on a dreary Monday morning when the phone rang, giving me a dreadful premonition of how the week would be. The man described what could have only been a uterine prolapse in one of his two cows. The cow's name was Rainbow, and anytime someone names his cows—well, these are not livestock we're talking about.

I hate dealing with uterine prolapse. Every time I tackle one, I feel like I'm wrestling a giant guy, but if I push too hard, his skin will tear.

So I arrived at the clinic grumpy, looking for someone to assist with the nasty undertaking. We always have students from various veterinary schools at the clinic, and that morning, a new crop had arrived. All the techs and students had already been claimed by other vets, leaving me with just one fella who could help.

This young man was standing in the lobby wearing a navy blue Ralph Lauren rain jacket and starched khakis. It was the era when vet schools had decided that every student needed to spend two weeks at a mixed animal practice. A nice thought, but most of the students were city folks who didn't want to be there and dreaded the experience. He was one of those.

Who could expect to do anything on a cow wearing crisp khakis? This kid had "city boy" written all over him—but he was all I had.

I gathered the equipment and told the city boy, Kirby, to get in the truck. It was misting and blustery as we pulled up to the pipe-fence-lined corral that Rainbow called home. It was just me and Kirby there to fix the broken beast. She was lying in the mud about five feet from the fence with about 40 pounds of uterus on the rain-soaked earth behind her.

Kirby was bundled up in his raincoat and watching from outside the fence as I struggled to replace the displaced organ. It's a tough job. If you push at 12 o'clock, it comes out at 6 o'clock. If you push at 3 o'clock, it comes out at 9 o'clock. And so it goes.

The first thing I do is clean off the uterus, cover it in sugar to bring down the swelling and put it in a black plastic garbage bag. This keeps it clean and helps prevent me from poking a finger through the friable tissue.

After about 10 minutes of struggling, I was covered in mud and afterbirth and Kirby was standing in the exact same place. He hadn't said a word or offered to help at all. I was pooped and needed to walk away for a minute and regain my composure. I went to the truck to get umbilical tape and a needle to sew things shut in case I ever did actually get it back in.

Much to my surprise, Kirby had scaled the fence and was down on the ground trying to poke the thing back in. He was having exactly the same pitiful results.

He looked up and said, "The height of ignorance is doing the same thing over and over and expecting a different result. But I just had to get down here and see what was so hard. This is hard. What are we gonna do?"

I barely heard what he was saying because I couldn't believe he was lying in the mud with those clothes on. I was also amazed he had the sense to know that doing the same thing I'd done wasn't going to work. The uterus was just too big and swollen.

I told him to let the sugar have some time to work and I'd go back to the truck to get a shot of pain medicine and antibiotics. He agreed and relaxed, still lying in the mud.

A few minutes later I arrived back at the

scene. I realized I'd misread this city kid. Kirby had pulled up the hood of his raincoat and cinched it tight under his chin. He'd then placed his head in the center of the prolapsed uterus and was pushing against the pipe fence with his legs, using the force of his body to hold the prolapse in position. He was using his hands to push the sides of the uterus back in the cow. This kept the bulk of the uterus under pressure to slide back in without leaving as many places for it to come back out.

I saw what was happening and jumped the fence in a hurry. I went to work on the 12 and 6 o'clock positions and, to my surprise, realized that the thing was inching back inside the cow.

I began instructing Kirby. I told him the uterus would move back in quickly after it got to a certain point. I said that when it got back in, the cow would feel the urge to push like she was having a contraction and that we couldn't let it go or she'd push it all right back out.

Just as predicted, the whole giant thing suddenly popped back inside the cow. When it did, Kirby's head went into her vagina up to his nose. I told him to hold tight so I had a chance to put a purse string of umbilical tape around it or she'd push the entire thing back out.

I worked fast and got the suture placed. I began tightening it and told him to slowly remove his head as I did. He did as he was told and, in a few seconds, the procedure was done. We stood up and high-fived each other for two minutes straight.

I took a picture of Kirby standing next to Rainbow in his goo-covered city boy clothes and told him he was tougher than a pine knot.

This was several years ago. Kirby went on to be a successful small animal veterinarian in a large city. We became friends during his stay in Lamesa, and I know he has an 8-by-10 glossy photo of himself in a blue Polo jacket, covered with mud and goo, hanging in his office.

*Bo Brock, DVM, owns Brock Veterinary Clinic in Lamesa, Texas. His latest book is Crowded in the Middle of Nowhere: Tales of Humor and Healing From Rural America.*





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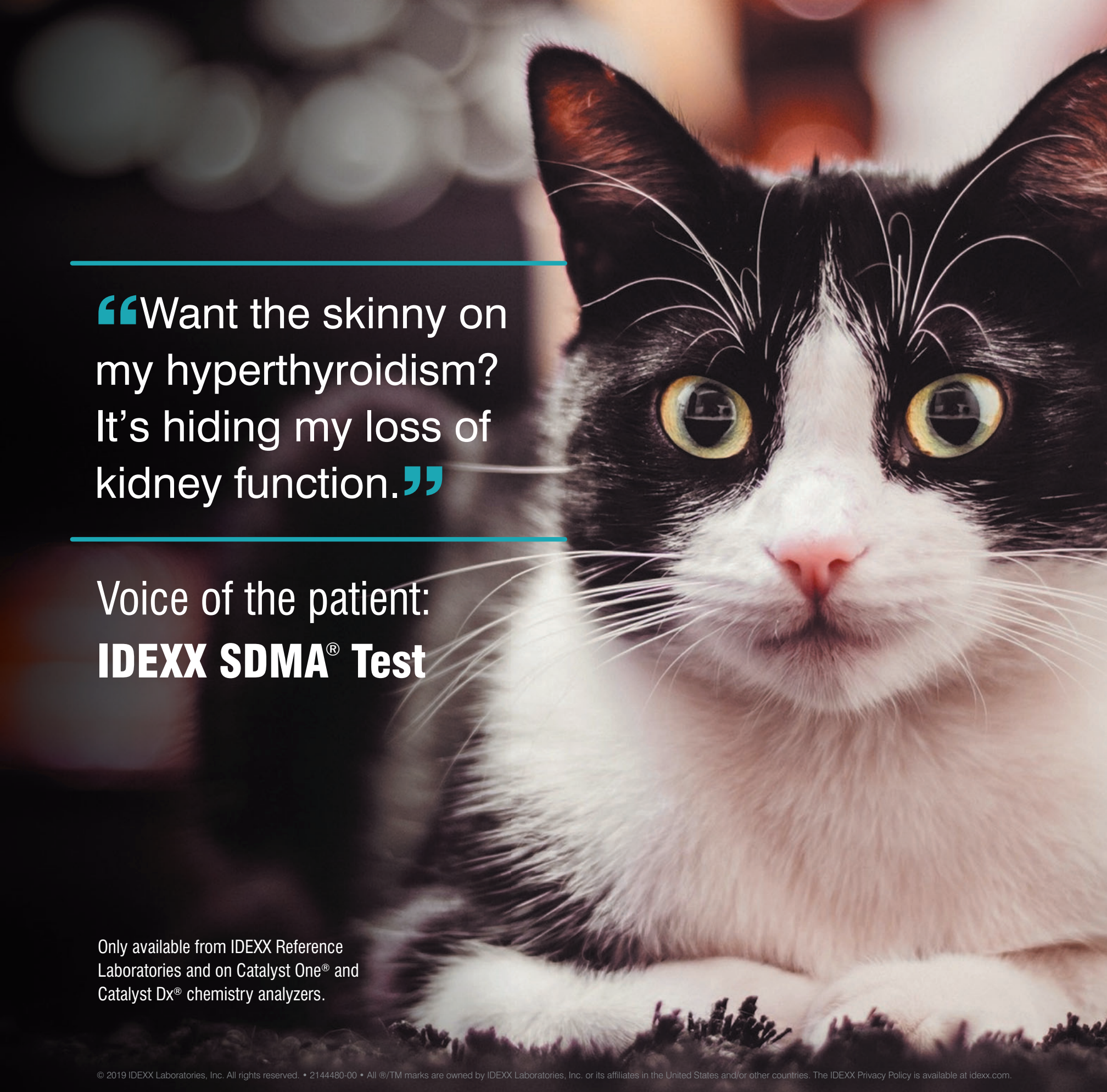
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