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Because practice ain't perfect.



## SEE GI ISSUES IN A NEW LIGHT WITH MICROBIOME SCIENCE

A FIRST-OF-ITS-KIND NUTRITION THAT FOCUSES ON MICROBIOME HEALTH, **NEW Hill's® Prescription Diet® Gastrointestinal Biome with ActivBiome+™ Technology** revolutionizes the way you address fiber-responsive GI issues.

GREAT-TASTING NUTRITION SHOWN IN CLINICAL STUDIES TO:

- 1** Resolve diarrhea in as little as 24 hours and promote healthy stool<sup>1</sup>
- 2** Limit future episodes of diarrhea in 100% of dogs<sup>1</sup>
- 3** Nourish and activate the microbiome to release beneficial anti-inflammatory and antioxidant compounds<sup>2</sup>

Ask your Hill's rep about this revolutionary, great-tasting nutrition.  
Learn More: [HillsPet.com/Microbiome](https://HillsPet.com/Microbiome)

<sup>1</sup>Hill's data on file. Two-month clinical study evaluating dogs with chronic diarrhea. <sup>2</sup>Hill's data on file. Clinical study on microbiome changes in dogs.







# SEE GI ISSUES IN A NEW LIGHT WITH MICROBIOME SCIENCE

**NEW** Hill's® Prescription Diet® Gastrointestinal Biome's groundbreaking **ActivBiome+™ Technology** revolutionizes the way you tackle fiber-responsive GI issues by putting microbiome health at the forefront of GI care.

FORMULATED TO UNIQUELY WORK IN TWO WAYS:

- 1** Breakthrough synergistic blend of natural fibers promotes regular healthy stool
- 2** Shown to nourish and activate gut microbiome to support digestive health and well-being<sup>1</sup>



Ask your Hill's rep about this revolutionary, great-tasting nutrition — also available in an irresistible stew.

Learn More: [HillsPet.com/Microbiome](https://HillsPet.com/Microbiome)

<sup>1</sup>Hill's data on file. Clinical study on microbiome changes in cats.  
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Because practice ain't perfect.



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# A FOUR-HIT WONDER w/d® MULTI-BENEFIT

Hill's® Prescription Diet® w/d® is now w/d® Multi-Benefit. It's the same nutrition trusted for multiple conditions — now with a new name and improved taste that strikes just the right chord.

- 1 Helps minimize blood glucose fluctuation, which may **reduce insulin dosage**
- 2 Shown to **address fiber-responsive GI conditions** such as colitis, diarrhea or constipation
- 3 Helps trigger satiety and give dogs a feeling of fullness **to maintain weight**
- 4 With S+OXSHIELD™ to promote a urinary environment that **reduces the risk of developing struvite** and calcium oxalate crystals

**RECOMMEND HILL'S W/D MULTI-BENEFIT  
A 4-HIT WONDER FOR 4 CONDITIONS**







# Born to ride

By Jennifer Gaumnitz

**W**hen it comes to work-life balance, our Fetch dvm360 conference speakers walk the walk, not just talk the talk. They are busy people, just like you—striving to have fulfilling professional lives while nurturing their personal lives. Case in point, veterinary behaviorist Dr. John Ciribassi, who loves riding motorcycles so much he has created a motorcycle touring company, MotoRide Tours ([motoridetours.com](http://motoridetours.com)), to share his passion with experienced riders.

Dr. Ciribassi began riding in seventh grade on a pull-start mini-bike and has been riding motorcycles ever since, except for a break in college and veterinary school. He currently rides either a KTM 1090 Adventure R or a KTM EXC

350F—adventure bikes that can handle both highway and off-road travel. Most MotoRide trips will be mainly off road.

MotoRide Tours' goal is for riders to experience the same rewards that they do every time they ride—"the sense of exploration, seeing new sights and, most of all, meeting new people and developing friendships," says Dr. Ciribassi.

Dr. Ciribassi's favorite rides have included one through the Alps (Belgium, Switzerland, Italy and France), which he took with his wife and some friends, riding double. Learn more about his love of the journey and see how you can join him on one such adventure at Fetch dvm360 conference in Baltimore May 2-5 at [dvm360.com/motorvet](http://dvm360.com/motorvet).

PHOTO COURTESY OF JOHN CIRIBASSI

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# THE PICKS

(what we care about now)

## Up close and personal with **4** common ticks

A pictorial guide to these sickening suckers to help advise your veterinary clients.

**F**orget arachnophobia. Think entonophobia, the fear of ticks. A phobia that might be good to instill in pet owners because of all the diseases ticks can transmit to their pets—as well as to owners themselves. But

there are so many different species of these small arachnids to be familiar with. Here is an overview of four common ticks to help scare your clients into realizing the importance of monthly preventives in their pets.



### ***Amblyomma americanum*** **a.k.a. The lone star tick**

These assertive ticks actually hunt down their hosts. Most lone star ticks quest, or wait on low shrubs, bushes and blades of grass—some run toward their host instead of passively waiting for an opportunity.

**Seasonality:** Start to come out as early as February

### **Geographic distribution:**

Historically southern U.S. but now considered present in most of the eastern two-thirds of the U.S.

### **Diseases they transmit:**

Ehrlichiosis, Rocky Mountain spotted fever, cytauxzoonosis, rickettsiosis, tularemia, coxiellosis (Q fever), heartland virus, bourbon virus, southern tick-associated rash illness (STARI)

### ***Amblyomma maculatum*** **a.k.a. The Gulf Coast tick**

These large, aggressive ticks like to hang out at the top of grass blades and other vegetation, catch hold of whatever walks by and start feeding as quickly as possible.

**Seasonality:** Start to come out as early as February

### **Geographic distribution:**

The south, by the Gulf Coast, of course, but moving north to include the central East Coast and states such as Kansas, Missouri and Ohio

### **Diseases they transmit:**

American canine hepatozoonosis, most prominently (transmitted by ingestion)



## THE PICKS



### ***Dermacentor variabilis* a.k.a. The American dog tick**

This tick may have “dog” in its name, but that doesn’t matter much when it’s looking for a blood meal. The American dog tick infests cats and urban wildlife, such as opossums, raccoons, rabbits and squirrels—which means these ticks are probably in your backyard.

**Seasonality:** Start seeking hosts in early February

**Geographic distribution:** Most of North America except higher elevation areas (Rocky Mountains and extreme Southwest)

**Diseases they transmit:** Rocky Mountain spotted fever (primary vector), tularemia, tick paralysis, cytauxzoonosis



## A client handout for every tick issue

“How do I do a tick check on my dog?”

“Can I just burn this tick off?”

“Where’d this tick come from? **THE BACKYARD?!**”

“It’s cheaper just to give my cat the dog’s preventive.”



What else do you hear from your clients most commonly? We have a handout at the ready for every problem you face at [dvm360.com/tickchecklist](https://dvm360.com/tickchecklist).



### ***Rhipicephalus sanguineus* a.k.a. The brown dog tick**

This species of tick is the only one that prefers to feed off of dogs through all of its life stages. It can also survive at a much lower humidity than other ticks and is the only tick species in North America that can infest buildings, including our homes.

**Seasonality:** Year-round since they live inside in

homes and kennels—they love carpet and upholstery

**Geographic distribution:** Anywhere dogs are, thus, everywhere—even Canada and Alaska!

**Diseases they transmit:** Ehrlichiosis, Rocky Mountain spotted fever, anaplasmosis (in Hawaii and the Caribbean), hepatozoonosis, babesiosis



**Heartgard<sup>®</sup>**   
(ivermectin/pyrantel) **Plus**

# THE PROTECTION DOGS COME RUNNING FOR.

The only Real-Beef Chewable isn't just the #1 choice of dogs,<sup>1</sup> owners,<sup>2</sup> and veterinarians<sup>3</sup> - it's the one dogs look forward to. HEARTGARD Plus:

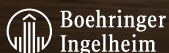
- ✓ Protects dogs from heartworm disease and treats and controls 3 species of hookworms and two species of roundworms
- ✓ Is approved for puppies as young as 6 weeks of age
- ✓ Over 30 years of trusted prevention



<sup>1</sup> Freedom of Information: NADA140-971 (January 15, 1993).

<sup>2</sup> Data on file at Boehringer Ingelheim.

<sup>3</sup> Data on file at Boehringer Ingelheim.



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**IMPORTANT SAFETY INFORMATION:** HEARTGARD<sup>®</sup> 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).

Please see Brief Summary on page 06.

# Heartgard<sup>®</sup> Plus (ivermectin/pyrantel)

## 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<sup>®</sup> 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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## THE PICKS

# Should you have been a plumber? Comparing vet team pay to other jobs

These jobs provide a similar pay rate to those in the veterinary industry—they also require little to no formal education.

By Anissa Fritz, contributing writer

Dvm360's 2018 Firstline Career Path Study surveyed the salaries of credentialed veterinary technicians, veterinary hospital managers, veterinary assistants and receptionists.

Out of 399 respondents, nearly 32 percent reported making \$10 to \$15.99 an hour, while 41 percent reported an hourly wage of \$16 to \$20.99.

With years of training and potential mounds of student debt, we wanted to see how the compensation of veterinary team members compares to jobs that require little to no formal education, so we checked PayScale. This is what we found:

Florist: \$11.83 an hour

School bus driver: \$15.59 an hour

Mail carrier: \$16.95 an hour

Garbage truck driver: \$17.26 an hour

Embalmer: \$19.84 an hour

Plumber: \$20.54 an hour

31.71%  
of respondents make \$10-\$15.99 an hour

41.18%  
of respondents make \$16-\$20.99 an hour



# 5 quick Q&As on cannabidiol use in veterinary practice

By Stephen Cital, RVT, RLAT, SRA, VCCS, VTS- LAM



**G**et the lowdown on what conditions cannabidiol (CBD) has shown efficacy for, where to learn more about it, what supporting role you can play and more.

## **Q: What's the one thing you wish pet owners understood about CBD in dog treats?**

**A:** If I had a magic wand, I'd teach everyone in the world about the numerous therapeutic effects of cannabinoids when used safely and under the direction of a cannabis-trained veterinary practitioner. In addition, I'd tell them that CBD is only one of hundreds of phytocannabinoids available.

## **Q: What pet conditions or concerns do CBD dog treats address?**

**A:** If we are talking about ElleVet Mobility Chews, I would refer to the recent study published out of Cornell University that shows a wide safety profile and great success in pain reduction related to osteoarthritis in dogs.<sup>1</sup>

But that is only the tip of the iceberg. Dogs with conditions such as epileptic seizures, anxiety, acute pain, poor appetite and nausea could also experience benefits from cannabinoid-infused treats. Preliminary results from an in vitro study looking at the cancer killing ability of ElleVet in four different

canine cell lines were also recently released.<sup>2</sup> In addition, preliminary data from Dr. Stephanie McGrawth's lab at Colorado State University reportedly showed 89% of canines that received CBD in a clinical trial had a reduced frequency of seizures compared to 43% in the control group.

While we don't have studies for specific conditions other than osteoarthritis in dogs published so far for companion animals, we do have numerous studies in laboratory animal models and in people on the efficacy of cannabis products for several conditions such as epilepsy, anxiety, inappetence and nausea.

# Did you know?

*Cannabis sativa L* no longer defined as an illegal substance as long as products derived from it contain less than 0.3% THC *By Katie James*

Hemp, cannabidiol, CBD—regardless of what it's called, products containing compounds derived from the cannabis plant are a hot topic in both animal and human health for their potential benefits. But the murky legal status and regulations surrounding the flood of these products to the market make it difficult for veterinary practitioners to advise pet owners who may want to give them to their pet. That may soon change.

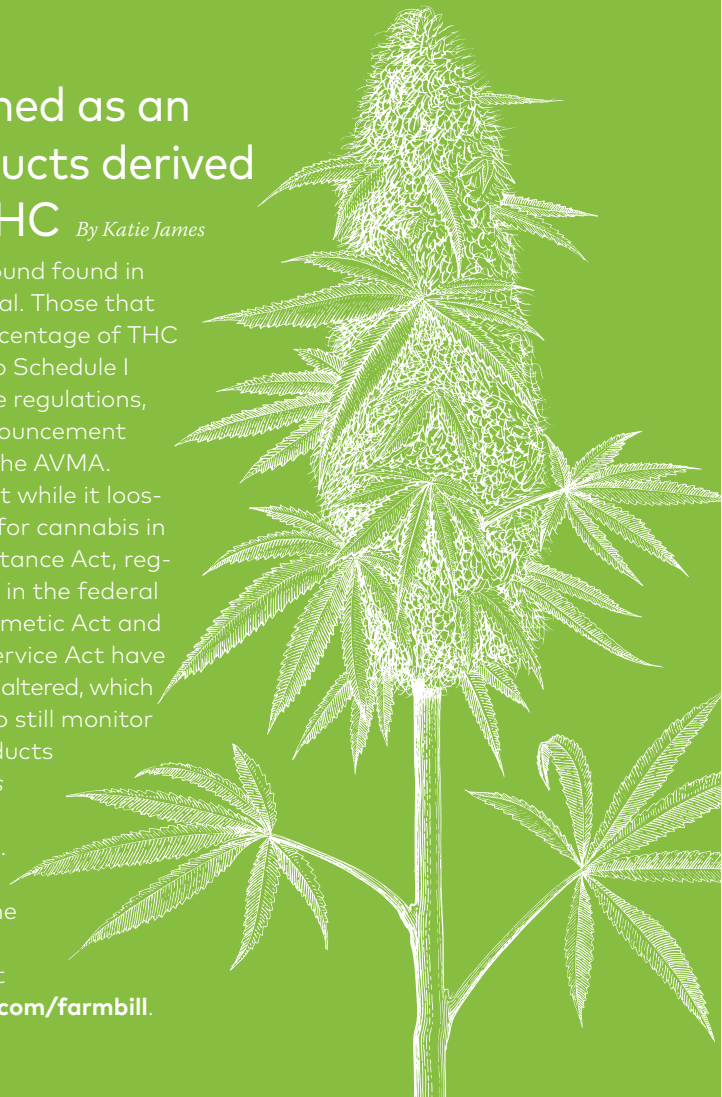
In December, HR 2, the Agriculture Improvement Act of 2018, also known as the Farm Bill, was signed into law, and it includes a provision to remove industrial hemp, or *Cannabis sativa L*, and its derivatives from the Controlled Substance Act. More specifically, products that contain compounds derived from the plant that contain less than 0.3% of tetrahydrocannabinol (THC), the

psychoactive compound found in the plant, will be legal. Those that contain a higher percentage of THC will still be subject to Schedule I controlled substance regulations, according to an announcement about the bill from the AVMA.

The bill notes that while it loosens the regulations for cannabis in the Controlled Substance Act, regulations established in the federal Food, Drug and Cosmetic Act and the Public Health Service Act have not been removed or altered, which will allow the FDA to still monitor label claims for products containing *Cannabis sativa L* and provide regulatory guidance.



Get all the dope on the bill at [dvm360.com/farmbill](https://dvm360.com/farmbill).



## **Q: What particular role can veterinary technicians play in educating pet parents about CBD?**

**A:** In the words of Dr. Casara Andre, founder of Veterinary Cannabis Education and Consulting, we must teach harm reduction to veterinary staff and pet owners. There are too many bogus products flooding the market. The only way for our patients to be safe

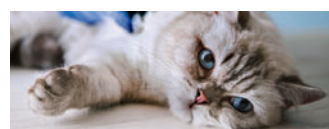
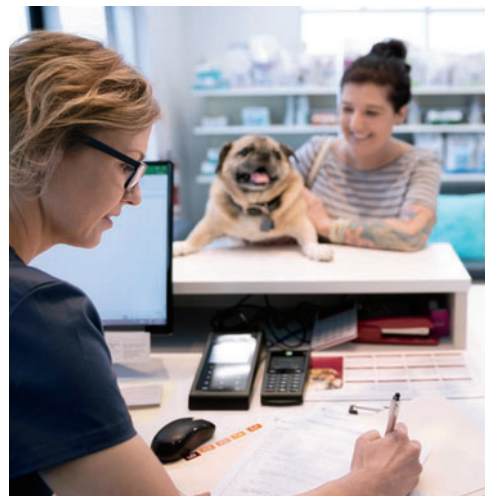
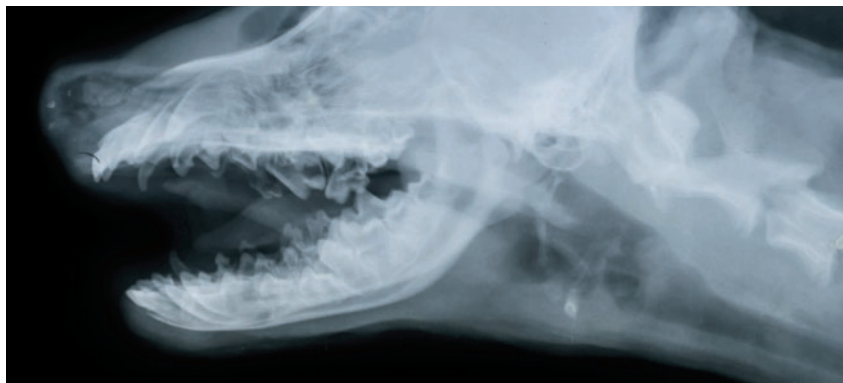
is if veterinary personnel take the initiative to educate themselves on cannabis products, despite federal or state laws on the topic of prescribing, recommending, discussing or dispensing cannabis products.

Technicians can act as liaisons between DVMs and clients' questions and concerns. Veterinary Cannabis also offers a program for technicians to become certified consultants.



When treating  
four-legged patients,  
**make each  
moment  
matter.**

—  
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### Sniff into a few more details

See more of the utility of cannabinoids in veterinary practice, including any concerns over toxicosis, from a veterinary clinical pharmacologist at [dvm360.com/petsandpot](https://dvm360.com/petsandpot). A sneak peek: "Cannabinoids are very safe in dogs; indeed, a life-threatening dose of THC is hard to determine. 'Toxicity' often reflects ingestion of another compound in the product eaten, such as chocolate."— Dawn Boothe, DVM, MS, PhD, DACVIM, DACVCP

And get an attorney's view on the issue at [dvm360.com/marijuanawlaw](https://dvm360.com/marijuanawlaw). A quick take: "My advice to practitioners is the same advice I give to my clients in all realms: Follow the most rigid guidelines, not the least rigid."— Christopher J. Allen, DVM, JD

### Q: What would you recommend to other vet team members when they discuss CBD in dog treats?

**A:** If team members are asked about CBD or cannabis products, I would encourage them to pass the question off to someone who is well-versed on the endocannabinoid system, potential drug interactions, the pros and cons of cannabis therapy and how to choose the right product for the patient.

Once again, a great tool for educating oneself about cannabis is [www.veterinarycannabis.org](http://www.veterinarycannabis.org) or the Veterinary Cannabis Academy on Facebook.

### Q: What would you recommend to a vet team member who's interested in discussing these products with a skeptical practice

### owner or manager in order to provide them as a retail option to clients? What tips would you give?

**A:** If a team member wanted to discuss cannabis as a modality within the hospital and is being met with resistance, I'd encourage them to ask why the practice owner or manager has reservations. If concerns are about the legal climate, that's fair. I suggest checking with their state board. I would also encourage them to read the revised Farm Act of 2018 and its specific language surrounding hemp and its derivatives. If they are concerned about the "evidence," I would remind skeptics that there are over 23,000 scientific papers on cannabinoids in humans, lab animals and companion animals in 24 different species that have been published. I'd also encourage them to get CE

on the topic from a qualified cannabis educator that has practical experience.

*Stephen Cital, RVT, RLAT, SRA, VCCS and VTS-LAM, is the Academic Liaison for the Society of Laboratory Animal Veterinary Technicians, Executive Director at the Academy of Laboratory Veterinary Technicians and Nurses, Chief Operating Officer of the Veterinary Anesthesia Nerds and co-founder of the Veterinary Cannabis Academy.*

### REFERENCES

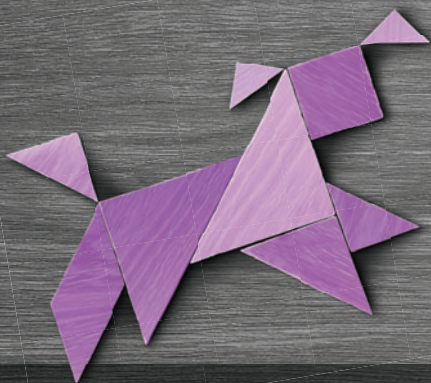
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# HELPING YOU SOLVE THE PUZZLE OF JOINT HEALTH

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**Metacam®**  
(meloxicam  
oral suspension)

For use in dogs only

**Metacam®**  
(meloxicam)  
Solution for Injection

For use in dogs

**Previcox®**  
(firocoxib)

For use in dogs only

**Antinol®**

For use in dogs and cats

METACAM and PREVICOX are indicated for the control of pain and inflammation associated with osteoarthritis in dogs.

ANTINOL is a joint health supplement.



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**IMPORTANT SAFETY INFORMATION:** METACAM (meloxicam oral suspension) and PREVICOX (firocoxib) are for use in dogs only. METACAM (meloxicam) Solution for Injection is approved for use in dogs or cats. Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. As a class, cyclooxygenase inhibitory NSAIDs like METACAM and PREVICOX may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM or PREVICOX, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely. For more information on products mentioned in this ad, please see full prescribing information on pages 12 and 13.

Brief Summary  
NADA 141-213, Approved by FDA

## Metacam®

(meloxicam oral suspension)

1.5 mg/mL (equivalent to 0.05 mg per drop) / 0.5 mg/mL (equivalent to 0.02 mg per drop)

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

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

**Warning:** Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. See Contraindications, Warnings, and Precautions for detailed information.

**Description:** Meloxicam is a non-steroidal anti-inflammatory drug (NSAID) of the oxicam class. Each milliliter of METACAM Oral Suspension contains meloxicam equivalent to 0.5 or 1.5 milligrams and sodium benzoate (1.5 milligrams) as a preservative. The chemical name for Meloxicam is 4-Hydroxy-2-methyl-N-(5-methyl-2-thiazolyl)-2H-1,2-benzothiazine-3-carboxamide-1,1-dioxide. The formulation is a yellowish viscous suspension with the odor of honey.

**Indications:** METACAM Oral Suspension is indicated for the control of pain and inflammation associated with osteoarthritis in dogs.

**Contraindications:** Dogs with known hypersensitivity to meloxicam should not receive METACAM Oral Suspension. **Do not use METACAM Oral Suspension in cats. Acute renal failure and death have been associated with the use of meloxicam in cats.**

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

As with any NSAID all dogs should undergo a thorough history and physical examination before the initiation of NSAID therapy. Appropriate laboratory testing to establish hematological and serum biochemical baseline data is recommended prior to and periodically during administration. Owner should be advised to observe their dog for signs of potential drug toxicity and be given a client information sheet about METACAM.

**Precautions:** The safe use of METACAM Oral Suspension in dogs younger than 6 months of age, dogs used for breeding, or in pregnant or lactating dogs has not been evaluated. Meloxicam is not recommended for use in dogs with bleeding disorders, as safety has not been established in dogs with these disorders. As a class, cyclo-oxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Dogs that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for renal toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed. Since NSAIDs possess the potential to induce gastrointestinal ulcerations and/or perforations, concomitant use with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after administration of the total daily dose of METACAM Oral Suspension, a non-NSAID or non-corticosteroid class of analgesia should be considered. The use of another NSAID is not recommended. Consider appropriate washout times when switching from corticosteroid use or from one NSAID to another in dogs. The use of concomitantly protein-bound drugs with METACAM Oral Suspension has not been studied in dogs. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications. The influence of concomitant drugs that may inhibit metabolism of METACAM Oral Suspension has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy.

**Adverse Reactions:** Field safety was evaluated in 306 dogs.<sup>1</sup> Based on the results of two studies, GI abnormalities (vomiting, soft stools, diarrhea, and inappetence) were the most common adverse reactions associated with the administration of meloxicam.

The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse reactions 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 are listed in decreasing order of frequency by body system.

*Gastrointestinal:* vomiting, anorexia, diarrhea, melena, gastrointestinal ulceration

*Urinary:* azotemia, elevated creatinine, renal failure

*Neurological/Behavioral:* lethargy, depression

*Hepatic:* elevated liver enzymes

*Dermatologic:* pruritus

Death has been reported as an outcome of the adverse events listed above. **Acute renal failure and death have been associated with use of meloxicam in cats.**

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

**Effectiveness:** The effectiveness of meloxicam was demonstrated in two field studies involving a total of 277 dogs representing various breeds, between six months and sixteen years of age, all diagnosed with osteoarthritis. Both of the placebo-controlled, masked studies were conducted for 14 days. All dogs received 0.2 mg/kg meloxicam on day 1. All dogs were maintained on 0.1 mg/kg oral meloxicam from days 2 through 14 of both studies. Parameters evaluated by veterinarians included lameness, weight-bearing, pain on palpation, and overall improvement. Parameters assessed by owners included mobility, ability to rise, limping, and overall improvement. In the first field study (n=109), dogs showed clinical improvement with statistical significance after 14 days of meloxicam treatment for all parameters. In the second field study (n=48), dogs receiving meloxicam showed a clinical improvement after 14 days of therapy for all parameters; however, statistical significance was demonstrated only for the overall investigator evaluation on day 7, and for the owner evaluation on day 14.<sup>1</sup>

**Reference:** 1. FOI for NADA 141-213 METACAM (meloxicam oral suspension).

**Manufactured for:**  
Boehringer Ingelheim Vetmedica, Inc.  
St. Joseph, MO 64506 U.S.A.

METACAM is a registered trademark of Boehringer Ingelheim Vetmedica GmbH, used under license.

601401-08/601413-04/6015161-10/6015268-04  
Revised 07/2016

Brief Summary  
NADA 141-219, Approved by FDA

## Metacam®

(meloxicam)

5 mg/mL Solution for Injection

Non-steroidal anti-inflammatory drug for use in dogs and cats only

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

**Warning:** Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. See Contraindications, Warnings, and Precautions for detailed information.

**Description:** Meloxicam is a non-steroidal anti-inflammatory drug (NSAID) of the oxicam class. Each mL of this sterile product for injection contains meloxicam 5.0 mg, alcohol 15%, glycofurol 10%, poloxamer 188 5%, sodium chloride 0.6%, glycine 0.5% and meglumine 0.3%, in water for injection, pH adjusted with sodium hydroxide and hydrochloric acid.

**Indications:**

**Dogs:** METACAM (meloxicam) 5 mg/mL Solution for Injection is indicated in dogs for the control of pain and inflammation associated with osteoarthritis.

**Contraindications:** Dogs with known hypersensitivity to meloxicam should not receive METACAM 5 mg/mL Solution for Injection.

**Warnings:** Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans. For IV or SQ injectable use in dogs. All dogs should undergo a thorough history and physical examination before administering any NSAID. Appropriate laboratory testing to establish hematological and serum biochemical baseline data is recommended prior to, and periodically during use of any NSAID in dogs.

**Owner should be advised to observe their dogs for signs of potential drug toxicity.**

**Precautions:** The safe use of METACAM 5 mg/mL Solution for Injection in dogs younger than 6 months of age, dogs used for breeding, or in pregnant or lactating bitches has not been evaluated. Meloxicam is not recommended for use in dogs with bleeding disorders, as safety has not been established in dogs with these disorders. Safety has not been established for intramuscular (IM) administration in dogs. When administering METACAM 5 mg/mL Solution for Injection, use a syringe of appropriate size to ensure precise dosing. As a class, cyclo-oxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Dogs that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for renal toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or preexisting disease that has not been previously diagnosed. Since NSAIDs possess the potential to induce gastrointestinal ulcerations and/or perforations, concomitant use with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after the administration of the total daily dose of METACAM Oral Suspension, a non-NSAID or noncorticosteroid class of analgesia should be considered. The use of another NSAID is not recommended. Consider appropriate washout times when switching from corticosteroid use or from one NSAID to another in dogs. The use of concomitantly protein-bound drugs with METACAM 5 mg/mL Solution for Injection has not been studied in dogs. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications. The influence of concomitant drugs that may inhibit metabolism of METACAM 5 mg/mL Solution for Injection has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy. The effect of cyclo-oxygenase inhibition and the potential for thromboembolic occurrence or a hypercoagulable state has not been studied.

**Adverse Reactions:**

**Dogs:** A field study involving 224 dogs was conducted.<sup>1</sup> Based on the results of this study, GI abnormalities (vomiting, soft stools, diarrhea, and inappetence) were the most common adverse reactions associated with the administration of meloxicam.

The following adverse reactions are based on post-approval adverse drug event reporting. The categories are listed in decreasing order of frequency by body system:

*Gastrointestinal:* vomiting, diarrhea, melena, gastrointestinal ulceration

*Urinary:* azotemia, elevated creatinine, renal failure

*Neurological/Behavioral:* lethargy, depression

*Hepatic:* elevated liver enzymes

*Dermatologic:* pruritus

Death has been reported as an outcome of the adverse events listed above. **Acute renal failure and death have been associated with the use of meloxicam in cats.**

**Information For Dog Owners:** Meloxicam, like other NSAIDs, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with NSAID intolerance. Adverse reactions may include vomiting, diarrhea, lethargy, decreased appetite and behavioral changes. Dog owners should be advised when their pet has received a meloxicam injection. Dog owners should contact their veterinarian immediately if possible adverse reactions are observed, and dog owners should be advised to discontinue METACAM therapy.

**Effectiveness:**

**Dogs:** The effectiveness of METACAM 5 mg/mL Solution for Injection was demonstrated in a field study involving a total of 224 dogs representing various breeds, all diagnosed with osteoarthritis.<sup>1</sup> This placebo-controlled, masked study was conducted for 14 days. Dogs received a subcutaneous injection of 0.2 mg/kg METACAM 5 mg/mL Solution for Injection on day 1. The dogs were maintained on 0.1 mg/kg oral meloxicam from days 2 through 14. Variables evaluated by veterinarians included lameness, weight-bearing, pain on palpation, and overall improvement. Variables assessed by owners included mobility, ability to rise, limping, and overall improvement.

In this field study, dogs showed clinical improvement with statistical significance after 14 days of meloxicam treatment for all variables.

**Reference:** 1. FOI for NADA 141-219 METACAM (meloxicam) 5 mg/mL Solution for Injection.

**Manufactured for:**  
Boehringer Ingelheim Vetmedica, Inc.  
St. Joseph, MO 64506 U.S.A.

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601307-07  
Revised 08/2014



## CHEWABLE TABLETS

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

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

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

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

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

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

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

For technical assistance or to report suspected adverse events, call 1-877-217-3543. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDAVETS or <http://www.fda.gov/AnimalVeterinary/SafetyHealth>

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

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

### Adverse Reactions:

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

**Adverse Reactions Seen in U. S. Field Studies**

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

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

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

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

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

\*Sham-dosed (pilled)

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

**Adverse Reactions Seen in the Orthopedic Surgery Postoperative Pain Field Study**

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

A case may be represented in more than one category.

\*Sham-dosed (pilled).

\*\*One dog had hemorrhagic gastroenteritis.

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

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

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

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

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

**Hematological:** Anemia, neutrophilia, thrombocytopenia, neutropenia

**Cardiovascular/Respiratory:** Tachypnea, dyspnea, tachycardia

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

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

For a complete listing of adverse reactions for firocoxib reported to the CVM see: <http://www.fda.gov/downloads/AnimalVeterinary/SafetyHealth/ProductSafetyInformation/UCM055407.pdf>

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

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

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

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'Never have I ever ...':

# Veterinary edition

Ever noticed that people tend to be a lot more honest about their life choices when asked to tell the truth in a game? This phenomenon is exactly what Drs. Caitlin DeWilde and Kimberly-Ann Therrien and I experienced when we use a popular party game to teach life lessons. *By Sarah J. Wooten, DVM*

If you've never played "Never Have I Ever ...," it's simple. A question is asked, and participants raise a two-sided paddle, showing one side to the audience: "I have" or "I have never." To our amazement, when we used this game in Women's Veterinary Leadership Development Initiative (WVLDI) sessions last year at Fetch dvm360, attendees admitted all sorts of things—tasting pyrantel pamoate, asking clients on dates, peeing in pools and secretly wishing they were wizards at Hogwarts. (As an aside, I think veterinary professionals possess the courage of Gryffindors and the

knowledge of Ravenclaws—and where is my letter?)

Apart from being fun and hilarious, the game was revealing. Almost everybody admitted to telling lies to avoid conflict with co-workers, wishing they could leave work on time and cussing out clients behind their backs. Many people admitted to staying in toxic jobs because they were afraid. Mostly, the game taught us that we aren't facing the challenges of life in vet med alone and that it's safe to talk about the things that haunt us in this profession—namely, conflict, fear and poor self-care ...

## **Never have I ever ... been stressed by conflict with a coworker or client**

We've all been there. When you're in conflict with another person, it's hard to know whether to die on that hill or keep quiet. According to Dr. Thierren, conflict avoidance is when a person does not deal with the conflict at hand—instead, they use other tactics, such as ignoring the problem, changing the subject, complaining to someone else or shutting down.

Conflict avoidance is easy, because it deludes our brain into thinking we're safe from the conflict. The feeling of relief you get reinforces



... been stressed  
by conflict with a  
fellow furry family  
member



the avoidance behavior, making it more likely that you'll avoid conflict again in the future. The problem is that conflict avoidance can silently rot an organization and your emotional health from the inside out. Suppressed emotions, anyone?

Dr. Therrien (who knows what she's talking about, BTW, as she manages more than 100 hospitals and spent a decade working for Canada's own border patrol) says that if we don't deal with conflict, we stunt our own personal growth. Instead of avoiding, we can choose to view conflict as an opportunity to change and grow. In her professional career, Dr.

Therrien found *Crucial Conversations* by Kerry Patterson to be an invaluable resource.

The premise is simple: Anytime you find yourself stuck, there's a crucial conversation you're either not having or not holding well. Above all, these crucial conversations must be safe.

Dr. Therrien recommends starting with empathy and positive intent, managing your emotions and mindset, maintaining a place of mutual respect and avoid getting bogged down in the stories you tell yourself about why people do things—stick to facts and own your contribution to the conflict. Ego is not allowed



### Some of our more fun choices for the game

This article is real talk about tough situations, but our "Never Have I Ever ..." game also had some fun (and funnier) choices. Here are a few.

#### Have you ever ...

- > Farted and blamed it on a client?
- > Grossed out your significant other by talking about a cool case during dinner?
- > Worn the same underwear two days in a row?
- > Contracted something infectious from a patient?
- > Really liked a song by Justin Bieber?
- > Swiped right on Tinder?
- > Felt like you weren't good enough?
- > Regretted becoming a veterinarian?



#### A sample session:

Watch me and my WVLDI friends play at [dvm360.com/neverever](https://dvm360.com/neverever)



## We asked our Instagram followers, 'Have you ever...'

Gone shopping with  
**blood splatter on  
your skin/clothes?**

**87%**  
**SAID YES**

Not presented  
the gold standard  
because you **thought**  
the client wouldn't  
pay for it?

**63%**  
**SAID YES**

in crucial conversations. Following these recommendations could get you to a place where you can brainstorm new strategies to find mutual solutions.

### **Never have I ever ... chosen to care for others over myself**

If you haven't seen the recent *Time* article, the word is out: Vets are more likely to die by suicide than many others. Dr. DeWilde redirected some of her own energy as

a veterinarian towards correcting some bad self-care habits that infect our industry. More often than not, vets are working more than 40 hours a week and spend six to seven days a week in the clinic.

For Dr. DeWilde, the moment of reckoning came when she realized she'd been devoting her life to a clinic that didn't appreciate her, and because she left for work so early in the morning, she didn't even know what her 1-year-old son ate for breakfast. During the session, Dr. DeWilde shared several tools that helped her course-correct, including establishing and sticking to boundaries and taking time for herself.

When asked if they worked through lunch, almost every at-

tendee raised the "I have" paddle. While it might not seem important, scheduling and actually taking breaks (and leaving the building!) is a must. Fifteen-minute breaks? Take them. Go outside. Walk. Breathe. Appreciate the birds or the sky or the lack of barking dogs. The work will still get done. How about your vacation time? It's amazing how many veterinarians have unused vacation hours accruing ... for what? That magic time in the future when they'll have permission to take time for themselves? Take it now.

From experience, I know that you cannot pour from an empty cup, and if you continue to do so, your body, your mental health, your emotional health and your relationships will



Wished you could tell a client **where to shove it?**

**98%**  
**SAID YES**



Follow **@dvm360mag** on Instagram for more interactive content

Pranked a coworker with **surgically excised testicles?**

**49%**  
**SAID YES**



suffer. Take one step now to improve your self-care. It doesn't have to be huge to make a big impact.

### **Never have I ever ... wanted to tackle a new challenge but was too afraid of failure**

I spent years imprisoned by fear. I stayed in jobs that sucked me dry, because I was afraid I wouldn't find anything else. I tiptoed through life, hoping to make it safely to death.

The saddest part was that I didn't even know I was afraid. It felt like I'd been conditioned since birth to avoid risks, be a good employee, follow all the rules and never make mistakes.

What I didn't realize was that my

fear of failure was greater than my faith in myself. Then one day, I woke up. Even though fear still had power over me, I realized that at its root, fear was a *liar* and I could choose whether I listened to fear or not.

So I cut the crap. I geeked out on books about fear and mindsets. I went to neurofeedback and talk therapy. I started meditating. I cut my excuses and started doing things that were way outside my comfort zone, like public speaking, diving with sharks and half-Ironmans. I stopped watching the news, I took Facebook off my phone and I refused to engage with scary thoughts at night. I confronted my fear of failure head on, and books like *Mindset* by Carol Dweck and *You Are a Bad Ass* by Jen

Sincero helped me along the way.

We are in charge of the life we design. Taming conflict and fear and engaging in self-care like a MOFO are all ways to get out of victim mode and take control of how we spend our days on this planet. How are you spending yours?

*Dr. Sarah Wooten graduated from UC Davis School of Veterinary Medicine in 2002. A member of the American Society of Veterinary Journalists, Dr. Wooten divides her professional time between small animal practice in Greeley, Colorado, public speaking on associate issues, leadership, and client communication and writing.*



# Suspect GI bleeding?

## What to do when you **don't** see red

Gastrointestinal bleeding in dogs is not uncommon. Unfortunately, the signs can be subtle. Follow this approach from Dr. Jonathan Lidbury when presented with patients with suspected GI bleeding. *By Alyson Collins*

**H**ere's a scenario: A 9-year-old, 25-lb (11.3-kg), fixed, mixed-breed male dog is brought to your clinic because, as the owner says, "Something is off with Marley" ... she hasn't been eating much and is lethargic.

Is gastrointestinal (GI) bleeding on your differential diagnosis list? According to Jonathan Lidbury, BVMS, MRCVS, PhD, DACVIM, DECVIM, it should be.

At a recent Fetch dvm360 conference, Dr. Lidbury explained that although GI bleeding can be obvious with clear GI signs, this isn't always the case. Sometimes the only noticeable clinical sign is a behavioral change or anorexia. Luckily, Dr. Lidbury outlined a step-by-step approach for diagnosing obscure (cause is identified endoscopically) or occult (cause can't be determined endoscopically) GI bleeding.

### **Check vitals, stabilize the patient, do a physical exam**

Dr. Lidbury emphasizes checking for petechiae; looking for blood in all orifices (e.g. nose, eyes); performing a rectal examination to check for blood, masses and other foreign bodies; and, finally, palpating the abdomen.

### **Gather a thorough history**

Ask owners about access to drugs such as nonsteroidal anti-inflam-



matory drugs (NSAIDs), glucocorticoids, antithrombotic drugs and heparin and if the pet could've been exposed to coumarin rodenticides. A description of recent bowel movements is also needed.

### Order a CBC and serum chemistry profile

Results may reveal anemia, hypoproteinemia, an increased blood urea nitrogen (BUN)-creatinine ratio or variable platelet counts. However, Dr. Lidbury says that normal blood results don't automatically rule out GI bleeding. Other lab tests, such as a coagulation test or a fecal direct smear, can be useful for identifying or ruling out potential causes of bleeding.

### Perform diagnostic imaging

GI ulceration is difficult to capture with abdominal ultrasonography, but Dr. Lidbury says you may see mucosal thickening, a mass effect, thickening around an ulcer or a crater. Ultrasonography isn't a definitive diagnostic tool, but it can detect abdominal masses and lesions of other organs that may help you rule out GI ulceration. Abdominal radiography is not a good way to detect GI ulceration but is useful for identifying foreign bodies, masses or free fluid.

### Visualize the GI tract with endoscopy or surgery

If you still suspect GI bleeding but haven't been able to confirm it, endoscopy or exploratory laparotomy is the next step. Dr. Lidbury recommends endoscopy over surgery since it allows you to look for a lesion from the inside rather than looking for it from the outside. However, both methods have pros and cons. For example, endoscopy allows you to biopsy lesions but doesn't allow

you to resect them.

Endoscopy is a definitive tool in diagnosing GI ulceration in most of the GI tract. Unfortunately, it isn't possible to assess the entire GI tract with conventional endoscopy; there is a section in the middle of the tract that is inaccessible. Dr. Lidbury suggests endoscopy combined with exploratory laparotomy if you can't find a lesion by using conventional endoscopy. With this method, the surgeon pulls the intestine over the endoscope, guiding it further into the GI tract than a conventional endoscopy could do alone. While this is time-consuming, Dr. Lidbury says it allows you to visualize the entire GI tract.

### Treat the patient

Ideally, you treat the underlying cause of the bleeding, Dr. Lidbury says. For example, you would resect a tumor if it's the cause or administer vitamin K if there's vitamin K antagonism. Occasionally, resection of gastroduodenal ulcers is recommended. However, for GI ulceration, medical treatment is standard.

Sucralfate, proton pump inhibitor (PPI [omeprazole, pantoprazole]) or famotidine therapy (although this is less effective than PPIs) is the generally recommended medical treatment. Dr. Lidbury's treatment of choice is usually sucralfate combined with PPI. There does not appear to be an advantage to combining PPIs with famotidine.

### What about fecal occult blood tests?

Although it seems like a fecal occult blood test would be an important diagnostic tool in regards to GI bleeding, Dr. Lidbury rarely performs it. He says that it results in a lot of false-positives, most likely because of a patient's diet. Dr. Lidbury

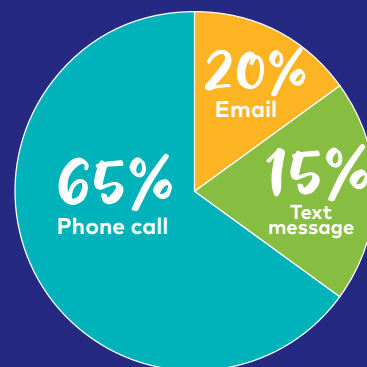
does note that there are sensitive and specific tests used in human medicine, and he is hopeful that a similarly effective assay will be developed for veterinary medicine.

*Alyson Collins is a freelance writer in Olathe, Kansas, and a former editor at dvm360 magazine.*

## A FAILURE TO COMMUNICATE?

In conditions like these, rechecks are an important of the process. Is part of the problem with client compliance that clients never got the message? A recent survey asked what clients really want when it comes to communication after a visit.

**If post-appointment follow-up is provided, how would you prefer to be contacted by the veterinary team outside of the examination room or after-hours?**



A sneak peek here.  
See the rest at  
[dvm360.com/clientcom](http://dvm360.com/clientcom).

# ProZinc®

## (protamine zinc recombinant human insulin)

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

**Description:** ProZinc® insulin is a sterile aqueous protamine zinc suspension of recombinant human insulin.

Each mL contains:

recombinant human insulin	40 International Units (IU)
protamine sulfate	0.466 mg
zinc oxide	0.088 mg
glycerin	16.00 mg
dibasic sodium phosphate, heptahydrate	3.78 mg
phenol (added as preservative)	2.50 mg
hydrochloric acid	1.63 mg
water for injection (maximum)	1005 mg
pH is adjusted with hydrochloric acid and/or sodium hydroxide.	

**Indication:** ProZinc (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in cats with diabetes mellitus.

**Dosage and Administration:** USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.

FOR SUBCUTANEOUS INJECTION IN CATS ONLY.

ProZinc insulin should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the cat.

Always provide the Cat Owner Information Sheet with each prescription.

The initial recommended ProZinc dose is 0.1 – 0.3 IU insulin/pound of body weight (0.2 – 0.7 IU/kg) every 12 hours. The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the cat at appropriate intervals and adjust the dose based on both clinical signs and glucose nadirs until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 150 mg/dL and clinical signs of hyperglycemia such as polyuria, polydipsia, and weight loss were improved.

Further adjustments in the dosage may be necessary with changes in the cat's diet, body weight, or concomitant medication, or if the cat develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

**Contraindications:** ProZinc insulin is contraindicated in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in the ProZinc product. ProZinc insulin is contraindicated during episodes of hypoglycemia.

**Warnings: User Safety:** For use in cats only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.

**Animal Safety:** Owners should be advised to observe for signs of hypoglycemia (see Cat Owner Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. An animal with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.

Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic cats that are difficult to regulate.

**Precautions:** Animals presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia are essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdosage can result in profound hypoglycemia and death. Progestogens, certain endocrinopathies and glucocorticoids can have an antagonistic effect on insulin activity. Progestogen and glucocorticoid use should be avoided.

**Reproductive Safety:** The safety and effectiveness of ProZinc insulin in breeding, pregnant, and lactating cats has not been evaluated.

**Use in Kittens:** The safety and effectiveness of ProZinc insulin in kittens has not been evaluated.

### Adverse Reactions:

#### Effectiveness Field Study

In a 45-day effectiveness field study, 176 cats received ProZinc insulin. Hypoglycemia (defined as a blood glucose value of < 50 mg/dL) occurred in 71 of the cats at various times throughout the study. Clinical signs of hypoglycemia were generally mild in nature (described as lethargic, sluggish, weak, trembling, uncoordinated, groggy, glassy-eyed or dazed). In 17 cases, the veterinarian provided oral glucose supplementation or food as treatment. Most cases were not associated with clinical signs and received no treatment. One cat had a serious hypoglycemic event associated with stupor, lateral recumbency, hypothermia and seizures. All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Three cats had injection site reactions which were described as either small, punctate, red lesions; lesions on neck; or palpable subcutaneous thickening. All injection site reactions resolved without cessation of therapy.

Four cats developed diabetic neuropathy during the study as evidenced by plantigrade stance. Three cats entered the study with plantigrade stance, one of which resolved by Day 45. Four cats were diagnosed with diabetic ketoacidosis during the study. Two were euthanized due to poor response to treatment. Five other cats were euthanized during the study, one of which had hypoglycemia. Four cats had received ProZinc insulin for less than a week and were euthanized due to worsening concurrent medical conditions.

The following additional clinical observations or diagnoses were reported in cats during the effectiveness field study: vomiting, lethargy, diarrhea, cystitis/hematuria, upper respiratory infection, dry coat, hair loss, ocular discharge, abnormal vocalization, black stool, and rapid breathing.

#### Extended Use Field Study

Cats that completed the effectiveness study were enrolled into an extended use field study. In this study, 145 cats received ProZinc insulin for up to an additional 136 days. Adverse reactions were similar to those reported during the 45-day effectiveness study and are listed in order of decreasing frequency: vomiting, hypoglycemia, anorexia/poor appetite, diarrhea, lethargy, cystitis/hematuria, and weakness. Twenty cats had signs consistent with hypoglycemia described as: sluggish, lethargic, unsteady, wobbly, seizures, trembling, or dazed. Most of these were treated by the owner or veterinarian with oral glucose supplementation or food; others received intravenous glucose. One cat had a serious hypoglycemic event associated with seizures and blindness. The cat fully recovered after supportive therapy and finished the study. All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Fourteen cats died or were euthanized during the extended use study. In two cases, continued use of insulin despite anorexia and signs of hypoglycemia contributed to the deaths. In one case, the owner decided not to continue therapy after a presumed episode of hypoglycemia. The rest were due to concurrent medical conditions or worsening of the diabetes mellitus.

To report suspected adverse reactions, or to obtain a copy of the Material Safety Data Sheet (MSDS), call 1-866-638-2226.

**Information for Cat Owners:** Please refer to the Cat Owner Information Sheet for more information about ProZinc insulin. ProZinc insulin, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include: hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include: weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected cat does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.

**Effectiveness:** A total of 187 client-owned cats were enrolled in a 45-day field study, with 176 receiving ProZinc insulin. One hundred and fifty-one cats were included in the effectiveness analysis. The patients included various purebred and mixed breed cats ranging in age from 3 to 19 years and in weight from 4.6 to 20.8 pounds. Of the cats included in the effectiveness analysis, 101 were castrated males, 49 were spayed females, and 1 was an intact female.

Cats were started on ProZinc insulin at a dose of 0.1-0.3 IU/lb (0.2-0.7 IU/kg) twice daily. Cats were evaluated at 7, 14, 30, and 45 days after initiation of therapy and the dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, and 30.

Effectiveness was based on successful control of diabetes which was defined as improvement in at least one blood glucose variable (glucose curve mean, nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or body weight). Based on this definition, 115 of 151 cases (76.2%) were considered successful. Blood glucose curve means decreased from 415.3 mg/dL on Day 0 to 203.2 mg/dL by Day 45 and the mean blood glucose nadir decreased from 407.9 mg/dL on Day 0 to 142.4 mg/dL on Day 45. Mean fructosamine values decreased from 505.9 µmol/L on Day 0 to 380.7 µmol/L on Day 45.

Cats that completed the effectiveness study were enrolled in an extended use field study. The mean fructosamine value was 342.0 µmol/L after a total of 181 days of ProZinc therapy.

**How Supplied:** ProZinc insulin is supplied as a sterile injectable suspension in 10 mL multidose vials. Each mL of ProZinc product contains 40 IU recombinant human insulin.

**Storage Conditions:** Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light.

Manufactured for:

Boehringer Ingelheim Vetmedica, Inc.  
St. Joseph, MO 64506 U.S.A.

Manufactured by:

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Charleston, SC 29405

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(protamine zinc recombinant  
human insulin)



**Important Safety Information:** For use in cats only. Animals presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdosage can result in profound hypoglycemia and death. Progestogen and glucocorticoid use should be avoided. PROZINC insulin is contraindicated in cats during episodes of hypoglycemia and in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in the PROZINC product.

**References:** **1.** Nelson RW, Henley K, Cole C; PZIR Clinical Study Group. Field safety and efficacy of protamine zinc recombinant human insulin for treatment of diabetes mellitus in cats. *J Vet Intern Med*. 2009;23(4):787–793. **2.** Nelson RW. Disorders of the endocrine pancreas. In: Nelson RW, Cuoto CG, eds. *Small Animal Internal Medicine*. 4th ed. St. Louis, MO: Mosby Elsevier; 2008:764–802. **3.** Rucinsky R, Cook A, Haley S, Nelson R, Zoran DL, Poundstone M; American Animal Hospital Association (AAHA). AAHA diabetes management guidelines for dogs and cats. *J Am Anim Hosp Assoc*. 2010;46(3):215–224.



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Please see Brief Summary on page 20.

# HOSPITAL DESIGN



Using their surroundings in Miami as inspiration, the finishings in the lobby bring to mind ocean views.

## Storage wars: Animal hospital edition

When building or renovating your practice in a small space, take notes from the 2019 under-8,000-square-foot Hospital of the Year.

**W**hen faced with renovating the West Kendall Animal Hospital in Miami, Florida, which is a more than 25-year-old practice that had a distinctly 1980s look and small 2,100 square foot space, the architects at Rauhaus Freedenfeld & Associates focused on making the most out of their available footprint. The *Vetted* team spoke with Eric Nelson, AIA, associate at Rauhaus Freedenfeld & Associates about the small touches that made a big difference.

### Small space doesn't mean no storage

"It was a very tight project in terms of overall space available, but we

mined every inch of it for storage," Nelson says. The kinds of storage needed were broken down into very accessible, less accessible and long term. Cabinets are intelligently placed, from below the countertops to lining the ceilings down the staff corridor and accessed only by a rolling ladder. "This is the most highly engineered project in terms of storage that we've been involved with to date."

### Embrace urban sophistication

Located within an unremarkable strip mall, the West Kendall Animal Hospital shines as an urban, sophisticated space that evokes thoughts of the ocean. "The wood variety was

selected to mimic driftwood, and the glass tiles connote the sense of light on water. The blue background reinforces that," says Nelson. A Rulon ceiling treatment creates a focal point, running across the ceiling and down the wall behind the reception area, and the soft colors of the laminate cabinet adds a calming vibe.

### Expand where you can

The West Kendall Animal Hospital was able to expand their leasehold to take over half the adjacent space, increasing their square footage by approximately 500 square feet. "This gave us just enough space so that inpatient areas had sufficient depth," Nelson





By expanding their leasehold, the clinic was able to add a third examination room.

says. "We wanted the functionality to revolve around the center of the hospital," and the expansion gave them room to do that. They also kept up the quality of the finishes into the back of the hospital, maintaining a warm feel throughout.



## WHO WON?!

Find out about all the winners in the 2019 Hospital Design Competition at [dvm360.com/2019winners](http://dvm360.com/2019winners). Next month, read all about (and see pictures of) the under-8,000-square-foot Hospital of the Year in these pages.



West Kendall Animal Hospital was resourceful in where they placed their cabinetry to maximize storage space.

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# Entertaining to watch, but **is it safe for cats?**

## Veterinarians weigh in on cat running wheels

Hamster wheels, but for cats. We asked three experts for their thoughts on One Fast Cat exercise wheels.

By Anissa Fritz, contributing writer

**S**afety is always a concern, but for cats, so is obesity. One Fast Cat's exercise wheel is designed to improve felines' physical and mental health without having them go outside. The wheel is designed for cats that do not exceed 25 lbs. According to One Fast Cat's website, this product is best fit for trainable cats with moderate to high energy levels.

We went ahead and asked three veterinarians to watch One Fast Cat's product video and share their thoughts on the design, as well as the potential pros and cons. Here's what they said:

### Behavior expert Dr. Lisa Radosta's thoughts

The videos of the cats that I've seen using exercise wheels show cats doing it voluntarily and happily.

As for whether or not it's well designed, that's going to vary by wheel. This one looks pretty sturdy.

If the cat is trained with positive reinforcement and chooses to perform this activity, it could be a great way to fight obesity and enrich the cat's life.

### Pain expert Dr. Michael Petty's thoughts

They seem safe enough, and not as bad as some of the knuckle-headed stuff cats will just do on their own.

[Dr. Petty said he is considering purchasing an exercise wheel since one of his daughter's 10-month-old cats is already out of shape.]



### Pain expert Dr. Robin Downing's thoughts

We know that for cats to be as safe as possible and to live as long as possible, they really need to live indoors. We also know that cats are extremely intelligent and that they do best when they have a rich environment in which to live—lots of mental stimulation.

Indoor cats don't receive the natural exercise that cats who live outdoors obtain. So, in addition to the mental doldrums in which cats may find themselves, they don't burn calories. Obesity remains the single most important preventable disease we deal with in feline patients. I love the idea of helping cats learn how to burn calories and build muscle by utilizing a game or toy like this one.

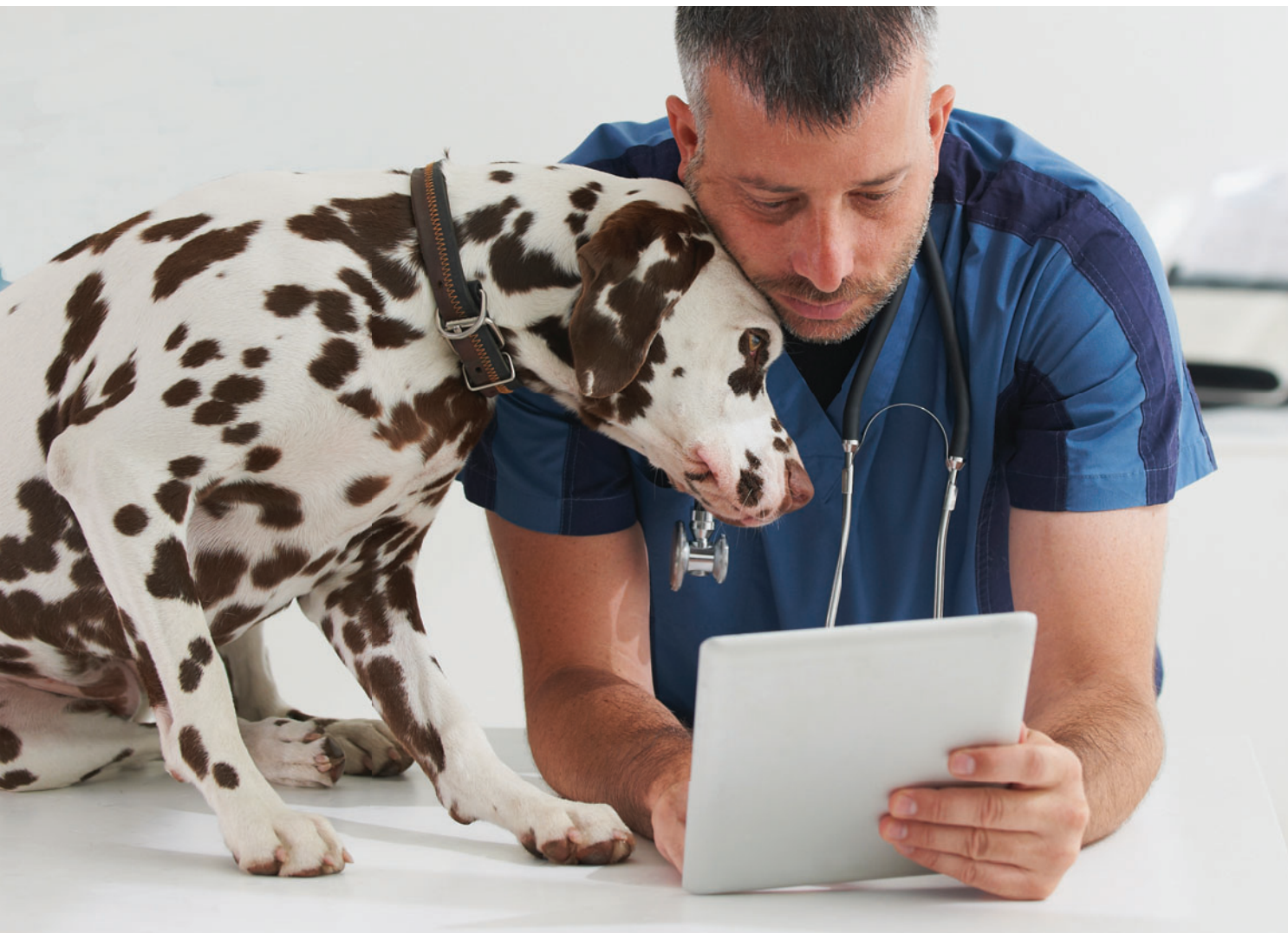
One caveat: Some cats will become very obsessive when they are taught to chase a laser pointer. It's important for people training cats to use an exercise wheel to utilize different enticements in order to minimize the risk of creating an obsessive "monster."

### MORE THAN TOYS AND GAMES

Sort through a toybox full of thoughts on environmental enrichment at [dvm360.com/petenrichment](http://dvm360.com/petenrichment).



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1. Cardholder Engagement Study, Q2 2018.

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# HELPFUL STUFF

## Comparing third-party veterinary payment options

When the question goes beyond “What’s in your wallet?” with pet owners, the answer is the companies providing third-party loans and credit card options to veterinary clients. We asked a number of companies offering third-party payment options for veterinary clients to give us the basics on their products and services that pet owners can use to pay a veterinary bill in the clinic.



Download a PDF at  
[dvm360.com/3rdpartyay](https://dvm360.com/3rdpartyay).

	CareCredit	ClearGage	Scratchpay	Wells Fargo Health Advantage
How long have you been in vet market?	25 years	10 years	Since early 2016	10 years
Product details?	Credit card with promotional financing available on purchases of \$200 or more; no interest if paid in full within six, 12 or 18 months; otherwise, accrued interest applies	Loans for three to 36 months for \$300 up to \$5,000; interest rates set by—and go to—provider and are limited by state maximums	Loans for \$200 to \$10,000 for (1) 90 days interest-free (Pay Later) and (2) 12 or 24 months with interest ranging from 5.9 to 29 percent, depending on the borrower's application as well as the state (Pay Over Time)	Loans for (1) no interest if paid in full and (2) fixed-rate plan at 12.99% (at press time)



	CareCredit	ClearGage	Scratchpay	Wells Fargo Health Advantage
What does this cost the practice?	Merchant fee based on financing option	\$69-\$99/month license fee, plus \$19 per activated agreement	Flat 5 percent transaction fee for the veterinary clinic per Scratchpay transaction, no matter which plan the client chooses	Varies based on plan type and length, but can be lower than accepting a regular credit card
How long until the practice is paid?	Two days	Down payment in 2 to 5 days; balance within 10 business days	Practice paid in full within two to three business days	Within 48 hours (24 hours for practices banking with Wells Fargo)
Do you do a credit check on the pet owner?	Yes	"Soft" credit pull that does not affect the pet owner's FICO score	Yes (Pay Over Time), No (Pay Later); no Scratchpay plan affects a veterinary client's credit just to see if they qualify	Yes
What percentage of veterinary clients are typically not accepted?	Varies	ClearGage accepts 100% of veterinary clients with a valid government-issued ID, social security number and two unique forms of payment	Varies depending on state as well as how the clinic offers Scratchpay to clients	Competitive
What marketing support do you offer?	Field staff provide personalized orientation, onboarding and training, along with an online and print advertising toolkit as well as CareCredit Direct software for veterinary clients to quickly and privately apply for credit	Brochures, table tents and product flyers	Brochures, signage options, a how-to guidebook and other items	Table tents, window clings, "take-ones" and brochures
Can your product be used for anything else?	CareCredit can be used at more than 210,000 locations nationwide for a variety of health and wellness procedures, treatments, products and services	Yes, also for human healthcare providers	No	Yes, also for human dental, audiology and vision

## HELPFUL STUFF

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## Bring down the stress in boarding

You can't guarantee that every pet staying won't get scared, but you can make some small tweaks to make their stay less stressful and more comforting.

By Robin Downing, DVM, DAAPM, DACVSMR, CVPP, CCRP, CVA, MS

It's easy to assume that a boarding environment in your veterinary hospital can't ever really be comfortable for the residents because it isn't home. This actually need not be the case. Look to Fear Free and the growing body of data supporting low-stress techniques to enhance patients' experiences in your facility.

Creating a Fear Free boarding environment does not mean a complete facility makeover. Far from it! Attention to detail, some imagination and an understanding of Fear Free principles—coupled with the willingness to look at the boarding experience from your patients' perspective—can transform

simple overnight care to true tender loving care.

### Adjust sight lines

**> Provide visual barriers.** Fear Free boarding means creating visual barriers between occupants. One example is making all the cages in a ward face a single direction to eliminate any aggressive posturing or the stress of feeling pursued or dominated by patients across the way. Some pets may appreciate a privacy curtain at the front of their spaces.

**> Cats like to hide and go vertical.** If possible, install cat-specific condos. These provide great flexibility in housing, and most have built-in shelves for cats to climb onto. There


are also made-for-cats cubbies that can be placed in an existing cage to provide privacy and offer a raised surface for perching.

### Change your protocols

**> Pheromones, pheromones, pheromones.**

You can't overdo pheromones: Adaptil diffusers for dog spaces and Feliway Classic diffusers in the cat spaces. Adaptil reminds dogs of time with their mommas, and Feliway leverages the way cats mark objects with their chins and faces. Another option for dogs is an Adaptil collar, which creates a "zen zone" around their head. You can also spray





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## HELPFUL STUFF

dog bedding with Adaptil and cat bedding with Feliway about 10 to 15 minutes before a patient arrives. Ask team members to spray their tops or jackets with Feliway and pants with Adaptil at the beginning of their shifts and halfway through the day. This reassures the residents.

### > No harsh chemicals, please.

Quaternary ammonia and bleach products are effective at killing bugs, but equally effective at rendering cats and dogs "nose blind." Cats and dogs rely heavily on their

sense of smell, so it's incredibly disorienting for them to lose that sense. It's time to use the same accelerated hydrogen peroxide products that are used in most human hospitals. (Virox makes relevant products.) These products kill all the bugs, but break down into water and oxygen—no odors and no residue.

Find more insights on touching up your interior design to the benefit of boarding pets (go for pastel colors instead of bold colors

and LED instead of fluorescent lights), plus thoughts on music and medication at [dvm360.com/relaxedboarding](http://dvm360.com/relaxedboarding).

*Dr. Robin Downing, who holds a master's degree in clinical bioethics, is a diplomate of the Academy of Integrative Pain Management, a diplomate of the American College of Veterinary Sports Medicine and Rehabilitation, a certified veterinary pain practitioner, a certified canine rehabilitation practitioner and hospital director at the Downing Center for Animal Pain Management in Windsor, Colorado.*

## 3 products to help cats lose weight

Shed fat, not tears. Here are three products we scoped out that will help felines achieve and maintain a healthy physique.

### PortionPro Rx

Portion control just got a whole lot easier. With the PortionPro Rx, your clients are equipped to serve their cats the professionally recommended meal portions for healthy weight loss. Designed by Vet Innovations, the PortionPro Rx automatically dispenses timed, portion-controlled meals. Made for overweight pets in multi-pet households, the system can be set up to dispense certain amounts of food to each animal at specific times, while preventing access to all other pets. The PortionPro Rx is designed to reverse and prevent obesity in multi-pet homes. And it only takes 60 seconds to set up!



### The Indoor Hunter Feeder

A large contributor to obesity in cats is a lack of psychological stimulation, which is why Doc and Phoebe's Cat Co. invented the Indoor Hunting Feeder. These mouse-shaped gadgets hold healthy portions of food and trigger innate feline behaviors associated with eating, like hunting, catching and playing with prey. As a result, the Indoor Hunting Feeder provides an outlet for exercise, improves eating habits and eases feline anxiety.



### Cosequin for Cats

Reward good behavior while also protecting joint health? Now, that's a win-win. Cosequin for Cats soft chews contains FCHG49 glucosamine and TRH122 sodium chondroitin sulfate for joint support. But that's not all. These chews are also packed with omega-3 fatty acids EPA and DHA to promote healthy skin and coat, allowing cats to look as good as their joints feel.







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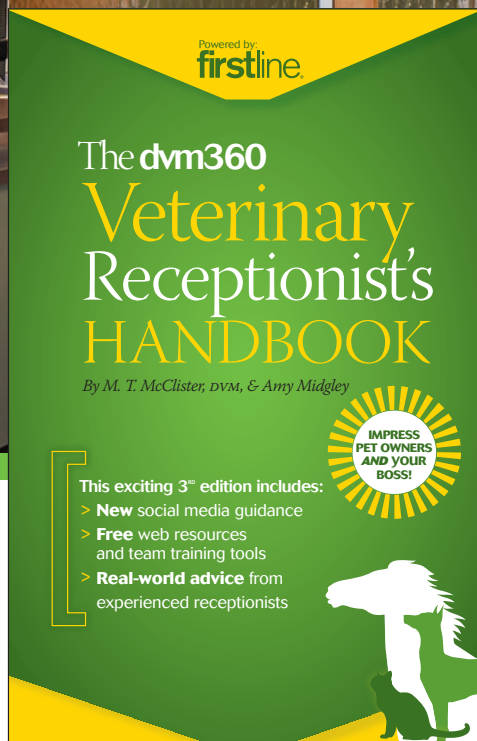


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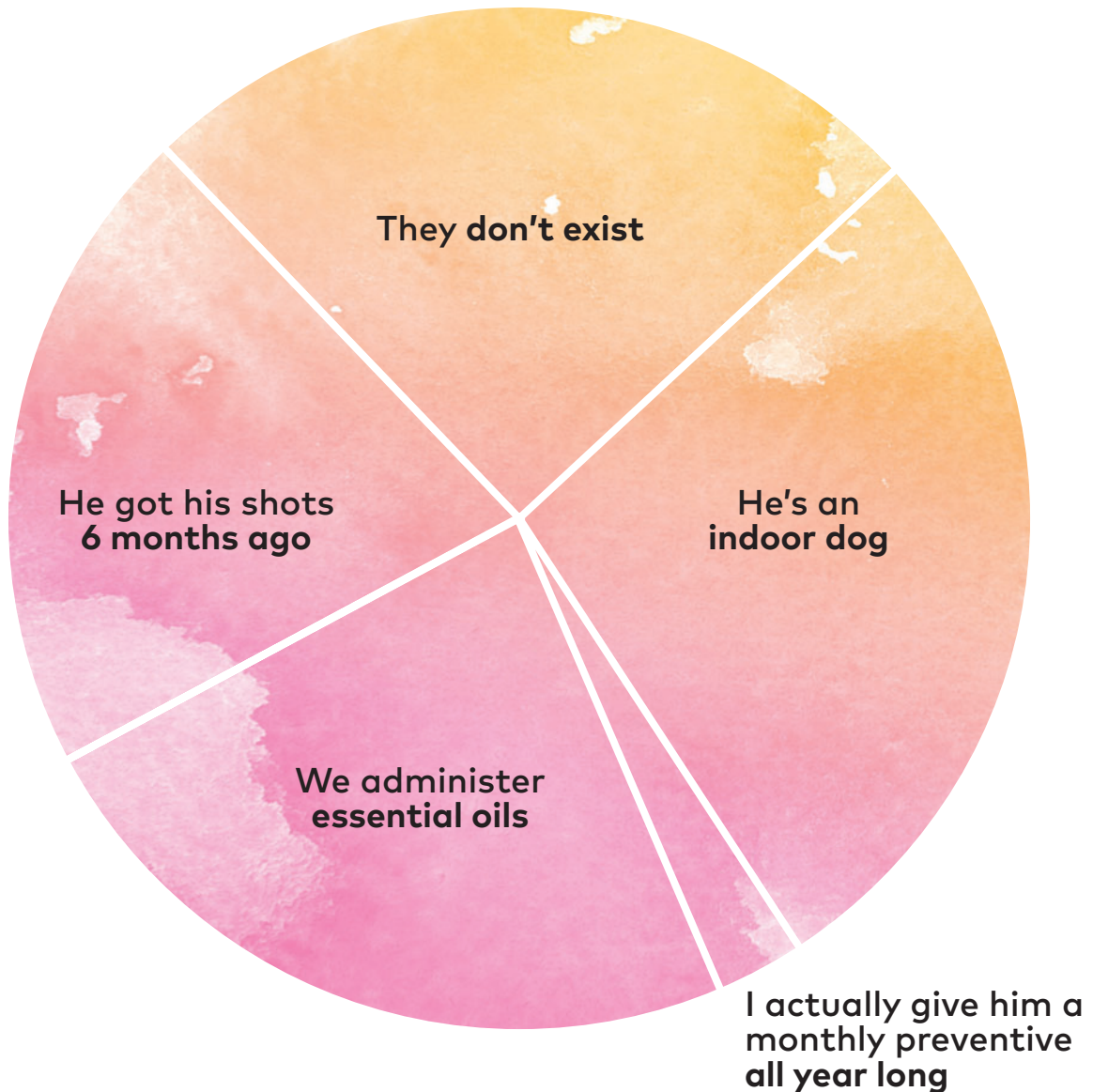
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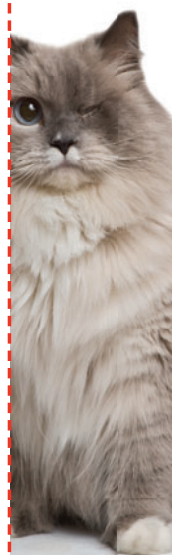
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Clinical techniques	\$
Addl. proceedings	\$
Total	\$

Credit card expiration must be valid through May 2019. Cancellation must be requested in writing by mail, fax, or email and received by March 27, 2019. A \$50 processing fee applies.

**Register by phone: 800.255.6864, ext. 6**

Register online: [www.fetchdvm360.com/register](http://www.fetchdvm360.com/register)

Mail to: 11140 Thompson Ave., Lenexa, KS 66219



# Hidden Disease. Visible Answer.



As your experts in endocrinology, Dechra Veterinary Products is proud to offer **ZYCORTAL® Suspension** (desoxycorticosterone pivalate injectable suspension)

- Replacement therapy for mineralocorticoid deficiency in dogs with primary hypoadrenocorticism (Addison's Disease)
- FDA approved for subcutaneous use
- 4mL vial of 25mg/mL suspension
- Available direct from your preferred distributor
- Three year shelf life from the date of manufacture

## FREE CE ON ADDISON'S DISEASE

Learn how to diagnose and treat Addison's Disease from one of the top minds in the field of Veterinary Endocrinology, Dr. Audrey Cook. This course is approved by the AAVSB RACE to offer a total of 2.00 CE Credits for both veterinarians and technicians. Each module earns you 1.00 CE Credit in the Scientific category. This course is free to veterinarians and technicians through Dechra Academy at [dechra-us.com/CE](http://dechra-us.com/CE).



NADA 141-444, Approved by FDA

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

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## ZYCORTAL® SUSPENSION (desoxycorticosterone pivalate injectable suspension)

Mineralocorticoid for subcutaneous use in dogs only.

Brief Summary (For Full Prescribing Information, see package insert)

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

**DESCRIPTION:** Desoxycorticosterone pivalate is a mineralocorticoid hormone. Zycortal Suspension contains 25mg/ml of desoxycorticosterone pivalate.

**INDICATION:** For use as replacement therapy for mineralocorticoid deficiency in dogs with primary hypoadrenocorticism (Addison's disease).

**CONTRAINDICATIONS:** Do not use ZYCORTAL Suspension in dogs that have previously had a hypersensitivity reaction to desoxycorticosterone pivalate.

**WARNINGS:** Use ZYCORTAL Suspension with caution in dogs with congestive heart disease, edema, severe renal disease or primary hepatic failure. Desoxycorticosterone pivalate may cause polyuria, polydipsia, increased blood volume, edema and cardiac enlargement. Excessive weight gain may indicate fluid retention secondary to sodium retention.

**HUMAN WARNINGS:** Not for human use. Keep this and all drugs out of the reach of children. Consult a physician in case of accidental human exposure.

**PRECAUTIONS:** Any dog presenting with severe hypovolemia, dehydration, pre-renal azotemia and inadequate tissue perfusion ("Addisonian crisis") must be rehydrated with intravenous fluid (saline) therapy before starting treatment with ZYCORTAL Suspension. The effectiveness of ZYCORTAL Suspension may be reduced if potassium-sparing diuretics, such as spironolactone, are administered concurrently.

**ADVERSE REACTIONS:** The field safety analysis included evaluation of 152 dogs. The most common adverse reactions reported are polyuria, polydipsia, depression/lethargy, inappropriate urination, alopecia, decreased appetite/anorexia, panting, vomiting, diarrhea, shaking/trembling, polyphagia, urinary tract infection, urinary tract incontinence and restlessness. Reports of anaphylaxis and anemia have been associated with a different desoxycorticosterone pivalate injectable suspension product.

**Distributed by:**  
Dechra Veterinary Products  
7015 College Boulevard, Suite 525  
Overland Park, KS 66211

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