SINCE 1981
PENN Veterinary Supply, Inc.
Connection
July/August 2019 Edition

# Dog Days of summer!

## highlights for the season...

- Tips for increasing pet owner compliance with otitis treatments
- How-to guide for pet ear cleaning
- FREE Marketing and Client Education Resources

# July 2019

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | 1 ID Your Pet Day | 2 | 3 | 4 Independence Day | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 All-American Pet Photo Day | 12 | 13 |
| 14 | 15 National Pet Fire Safety Day | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 National Mutt Day | | | |

National Lost Pet Prevention Month!

## JULY is...

July 1 = ID Your Pet Day
July 4 = Independence Day
July 11 = All-American Pet Photo Day
July 15 = National Pet Fire Safety Day
July 31 = National Mutt Day

## AUGUST is...

Aug 4-10 = International Assistance Dog Week
Aug 8 = International Cat Day
Aug 10 = Spoil Your Dog Day
Aug 15 = National Check the Chip Day
Aug 22 = National Take Your Cat to the Vet Day
Aug 26 = National Dog Day
Aug 30 = National Holistic Pet Day

# August 2019

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 28 | 29 | 30 | 31 | 1 | 2 | 3 |
| 4 International Assistance Dog Week | 5 | 6 | 7 | 8 International Cat Day | 9 | 10 Spoil Your Dog Day |
| 11 | 12 | 13 | 14 | 15 National Check the Chip Day | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 National Take Your Cat to the Vet Day | 23 | 24 |
| 25 | 26 National Dog Day | 27 | 28 | 29 | 30 National Holistic Pet Day | 31 |

National Immunization Awareness Month!

# Congratulations!

**Winners of the Spring Quiz from our May/June Penn Connection:**

***Lasha Wheeland***
*from Easton Animal Hospital in Columbus, Ohio*
And
***Barbara O'Flynn***
*from Rau Animal Hospital in Glenside, Pennsylvania*
Each won a YETI Roadie 20 Cooler!

# UPCOMING EVENTS!

**AVMA Convention 2019**
August 2-6, 2019
Walter E. Washington
Convention Center
Washington, DC
*Penn Vet Booth #1021*

**44th Peter Piper Memorial Conference**
August 10 & 11, 2019
The Sundial Beach Resort & Spa
Sanibel Island, Florida

**13th Keystone Veterinary Conference**
August 15-18, 2019
Hershey Lodge
Hershey, Pennsylvania
*Penn Vet Booth #5*

**The Ohio Association of Veterinary Technicians - Discovery 2019**
October 13, 2019
Nationwide Hotel & Conference Center
Lewis Center, Ohio

**Atlantic Coast Veterinary Conference**
October 14-17, 2019
Atlantic City Convention Center
Atlantic City, New Jersey
*Penn Vet Booth #223*

**Penn Veterinary Supply & Ceva Animal Health Dermatology Seminar with Guest Speaker:**
*Dr. Michael A. Rossi, DVM, MNS*
*Diplomate, American College of Veterinary Dermatology, Director of Clinical Studies*
Grand Rapids, Michigan
September 8, 2019

# Table of Contents


## At Penn Veterinary Supply, we understand how stressful opening, moving, and expanding a veterinary practice is.

### But it doesn't have to be....

Our New and Expanding Practice Program experts will assist you in every step, offering guidance gained from more than 50 years of combined veterinary industry experience.

We have successfully assisted over 3,000 veterinarians in opening, moving, and expanding their businesses.

### Here's what we offer:

- *Flexible buy-in period, tailored to fit your needs*
- *Our team will assist in finding the right financing program to fit your situation best:*
  - ❑ In-house financing programs*
  - ❑ Third party leasing options*
  - ❑ Interest-free payments spread over 10 months with the first month deferred 30 days*
- *We are partnered with over 25 different vendor programs and will submit all the forms for your free products, so you do not have to worry about it.*

SINCE 1981 PENN Veterinary Supply, Inc.

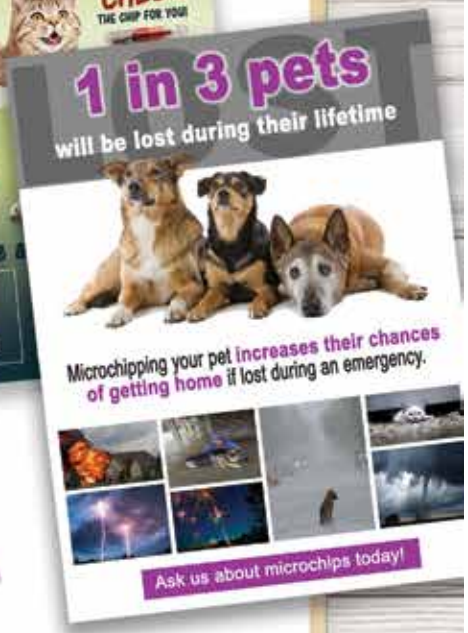
**Contact Rebecca Horvath at rhorvath@pennvet.com or call: 717-656-4121**

**For qualified accounts. Minimum purchase requirement.*

POWER IN PARTNERSHIP

# August 15th is National Check the Chip Day.

Ask your representative for any of these **FREE** digital assets or scan the QR code at the bottom corner of this ad for easy access to...









## ...Posters, hand-outs, Social Media, Counter-top Displays!

# Otitis: Increasing Client Compliance

**Managing patients with otitis can be frustrating and difficult for all involved; the veterinary care team, client, and of-course, for the patient.** Perhaps, one of the more aggravating aspects in the management of otitis externa, is the one out of our control, client compliance.

Successful management of any condition, requires the veterinary care team and the pet owner to work together; medications need given, at-home treatments need performed, and follow-up examinations need completed. Unfortunately, this is often where treatment plans break down. So, what can we do as veterinary professionals to support at-home care and ensure our patients are getting the care they need?

## Identifying the Barrier to Client Compliance

It is easy to blame cost as the sole roadblock to client compliance, but the reason behind this barrier, is never that simple.

A lack of compliance can be attributed to many factors:

- Client confusion
- Lack of knowledge
- Lack of perceived value
- Ability (or incapability) to administer prescribed medication or products correctly
- Failure to remember

Understanding the common roadblocks to client compliance allows you to create a strategy to combat them.

## Client Education

Client education is essential for success. This statement is probably one you have heard often, because it is one of the most important aspects in a successful veterinary practice. Clients need to understand the "why" behind treatment recommendations to fully grasp their importance and the need for compliance. When a patient is diagnosed with otitis, time should be spent educating the client on their pet's condition.

This should include:

- Basic information on otitis
- Explanations on the tests performed
- Information about the treatment plan

Clients may discontinue home treatments, and skip follow up exams because the pet's ears "appear" to be better, then end up frustrated when the infection reoccurs. By cautioning pet owners against stopping treatment prematurely and educating on the importance of completing recommended therapy, this frustration can be avoided. Clients need to understand that simply treating the clinical signs of an ear infection may not be enough. Most often, ear infections are caused by a separate underlying cause that also needs to be addressed and is crucial to avoid reoccurring infections.

## Communication Skills

A major component to client education is effective communication skills. You took careful time to explain to the pet's owner about their condition, tests involved, and expectations of treatment, but did the client leave the clinic with a good understanding of everything they were told or did they leave confused? A confused client is likely not to follow treatment recommendations, nor return for progress examinations.


Chin, Amanda. "Why Good Communication Is Key to Good Veterinary Practice." Veterinary Practice News, Kenilworth Media Inc., 22 Dec. 2017, www.veterinarypracticenews.com/why-good-communication-is-key-to-good-veterinary-practice/.

Felsted, Katen E. "Forward Booking Appointments: How to Fill Your Appointment Schedule." Partners for Healthy Pets, American Veterinary Medical Foundation, 2015, www.partnersforhealthypets.org/forward_booking.aspx.

Gerrard, Emma. "Owner compliance–Educating clients to act on pet care advice." VN Times 4 (2015): 5-7.

Liger, Marshall. "4 Steps to Improved Veterinary Client Compliance." Veterinary Practice News, Veterinary Practice News, 14 Sept. 2018, www.veterinarypracticenews.com/4-steps-to-improved-veterinary-client-compliance/.

MacKay, Clayton. "Client Compliance–The Key to Successful Veterinary Practice - WSAVA2005 - VIN." Veterinary Information Network, World Small Animal Veterinary Association, 2005, www.vin.com/apputil/content/defaultadv1.aspx?pid=11196&meta=generic&catId=307628&id=3854148.

Myers, Wendy S. "The Importance of Follow-up Care." Vet-Advantage, Veterinary Advantage, Feb. 2016, blog.vet-advantage.com/companion/the-importance-of-follow-up-care.

Ensure the time you spend on client education is well spent.

- Avoid over-use of medical jargon and terminology
- Use visual tools (i.e., ear models, video-otoscope)
- Send the client home with written handouts on what you went over in person (i.e., Understanding Otitis, Ear Cleaning Procedures)

Using a combination of written, verbal, and visual communication techniques will increase the likelihood that your message is understood, and directions are properly followed.

## Ensuring Proper Treatment Procedures at Home

You have provided your client with the education and take-home materials needed to ensure they understand what needs to be done, but this is only half the battle. The client needs to be able and willing to follow through with the home-care plan. A technician should demonstrate to the client how to properly clean the pet's ears and apply topical medications. Never assume a client is able or willing to comply with the at-home treatment plan. After the demonstration by the technician or veterinarian, ask the client whether they think they can do it at home, and will they?

If indicated by the pet's diagnosis, offer treatment plans that require less at-home care. Products like Osurnia®, from Elanco™, offer ear treatment options that require only two doses per affected ear, dosed one week apart.

## Ensuring the Recheck

Saying you want to "recheck the patient in two-weeks" often means something different to the client than what we intend. Clients often interpret this statement to mean, "come back in two-weeks, if the ears are not better". Using different terminology can increase the perceived value and need of the recheck exam. Using phrases such as, "I will need to see your dog again in two-weeks for reevaluation" or for "a medical progress exam" changes the client's interpretation.

If possible, clients should be checked-out while still in the exam room and the receptionist can forward book their next appointment, where there are less distractions.

Whether the client is checked-out in the examination room or lobby, progress exam appointments should be made at this time, prior to collecting payment. Clients should always leave the clinic with their next visit scheduled (forward booking). Life gets busy, and people are likely to forget or postpone veterinary appointments, but a client is much more likely to bring their pet back in if the appointment is already on their calendar. Offering a specific appointment slot is more effective than simply asking the client if they would like to schedule. A general rule is to offer the client the same day and time slot as today's appointment.

## The Post-Appointment Follow-up

Take one more step to ensure client compliance, by checking in a few days after the appointment. Have a technician reach out to the client and ask how home-care is going. Are they having any problems treating the ears? Have they missed any treatments? The purpose of this call is to evaluate the client's compliance with treatment and, if needed, make adjustments to the treatment plan.

Continual evaluation of client education and communication skills is a vital step in improving upon client compliance. Everybody wins when compliance increases; clients are happier and patients are healthier.

# PROMOTIONS

| VENDOR | END DATE | ITEMS | PROMOTION |
|---|---|---|---|
| 3M™ | 12/31/2019 | Avagard™ | For each bottle of Avagard antiseptic hand prep purchased, receive a wall bracket and foot pump ($55 value), or wall bracket and hand pump ($42 value) FREE. |
| Ceva | 8/31/2019 | Doxidyl™ (deracoxib) Chewable Tablets | Buy 4, get 1 free. Mix & match. PLUS for every $750 spent cumulatively on Doxidyl between now and Sept. 30, 2019, receive a FREE FitBark® 2, dog activity monitor. |
| | 9/30/2019 | FELIWAY®, ADAPTIL®, Senilife®, Urine Away™ | Buy 12 or more units, get buy 3, get 1 free. Buy 24 or more units, get buy 2, get 1 free. Buy 48 or more units, get buy 1, get 1 free. |
| | 9/30/2019 | Meloxidyl® (meloxicam) Oral Suspension | Buy 4, get 1 free. Mix & match. |
| | 9/30/2019 | Vectra®, Catego®, MilbeGuard™ | For every $5,000 purchased, get a Furbo Dog Camera free. |
| Dechra | 9/30/2019 | Carprofen Caplets | Buy 4, get 1 free. Mix and match. |
| | 9/30/2019 | Carprofen Chewable Tablets | Buy 4, get 1 free and 1 free Carprovet® Flavored Tablets 100mg 60 count. |
| | 9/30/2019 | Carprovet® Flavored Tablets | Buy 3, get 1 free. Mix and match. |
| | 9/30/2019 | Cefpodoxime Proxetil Tablets | Buy 3, get 1 free. Mix and match. |
| | 9/30/2019 | Malacetic® Otic Cleanser | Buy 5, get 1 free. Kind for kind. |
| | 9/30/2019 | Miconahex+Triz® Products | Buy 5, get 1 free. Mix and match. |
| | 9/30/2019 | Redonyl® Ultra Soft Chews | Buy 4, get 1 free. Mix and match. |
| | 9/30/2019 | Vetradent™ Products | Buy 4, get 1 free. Kind for kind. |
| | 9/30/2019 | Vetropolycin® and Vetropolycin® HC | Buy 4, get 1 free. Kind for kind. |
| Elanco | 12/31/2019 | Trifexis®, Credelio®, Interceptor® Plus, Interceptor®, Comfortis®, Cheristin® | Mix and match 10 cartons and receive a 2% discount. |
| Merck | 12/31/2019 | 2019 Perpetualy Loyalty Program: Bravecto® and Nobivac® Vaccines | Receive a rebate on all purchases of Bravecto and Nobivac vaccines for your clinic in 2019. Quarterly rebates are paid when minimum purchase requirements are met. This means at least $8,000 for Bravecto or $5,000 for Nobivac vaccines. |
| | 7/31/2019 | Orbax® Oral Solution | 10% off. Plus, buy 2, get 1 free bottle of Orbax Tablets, while supplies last. |
| Midmark™ | 7/31/2019 | 255 LED Procedure Lights, 120 LED Exam Lights, 130 LED Exam Lights | Receive a rebate of up to $300 on qualifying purchase. |
| | 7/31/2019 | M9 and M11 Automatic Sterilizers | Receive a $350 rebate on the purchase of a M9 and a $400 rebate on the purchase of a M11. |
| | 12/31/2019 | Dental Imaging Promotion | FREE! On-site dental radiography positioning and training and Midmark installation with the purchase of: CR Dental Radiography Reader, DR Dental Radiography Sensors, Complete CR Dental Radiography Systems, Complete DR Dental Radiography Sensor Systems. |
| Pala-Tech™ Laboratories, Inc. | 8/31/2019 | Canine & Feline F.A. / Plus | Buy 5, get 1 free. Kind for kind. |
| Penn Vet | 12/31/2019 | Sevoflurane | Purchase 48 bottles of Sevoflurane over a 2-year period and receive a free Sevoflurane vaporizer. |
| Vedco | 12/31/2019 | CeftiFlex Injection | Buy 11, get 1 free. Kind for kind. |
| | 8/31/2019 | Malmetazone™ Otic Suspension | Buy 11, get 1 free. Kind for kind. |
| | 7/31/2019 | PractiVet Syringe Pump or Infusion Pump | Buy either Pump at $895 and receive a PractiVet complimentary Administration Set Bundle free. Bundle offer has a value of $225 and contains 125 pieces. |
| Vetoquinol | 7/31/2019 | Flexprofen™ | Buy 3, get 1 free. Mix and match. |

# SHELTER AND 501c3 PROMOTIONS

| VENDOR | END DATE | ITEMS | PROMOTION |
|---|---|---|---|
| Ceva | 12/31/2019 | Vectra®, Catego®, MilbeGuard®, ADAPTIL®, FELIWAY® FELISCRATCH by FELIWAY® | Buy 1, get 1 free. |
| | 12/31/2019 | Meloxidyl®, TRP-Tri-COX®, TRP-Synovial-FLEX, SAMeLQ®, Derma-3®, DOUXO®, Clenz-a-dent, FELIWAY® Wipes, Urine Away™, Senilife™ | 20% discount. |
| Dechra | 12/31/2019 | Companion Animal Products | 10% discount. |
| Norbrook | 12/31/2019 | Carprieve® Chews, Carprieve® Caplets, Carprieve® Injection, Loxicom® Suspension, Loxicom® Injection | 10% discount. |
| | 8/2/2019 | Carprieve® Chews, Carprieve® Caplets | Buy 1, get 1 free. Kind for kind. |
| Penn Vet | 12/31/2019 | Companion Animal Products | Various offers! Ask your representative for complete details. |
| PRN Pharmacal | 12/31/2019 | CoproBan®, Zentrol®, Endosorb®, Linqui-Tinic™ 4x, Stat®, Mycodex Products, Polydrape™, Synphenol-3™, VPL Sutures, Collasate® Products | Buy 3, get 1 free. Kind for kind. |
| Vedco | 12/31/2019 | Vedco Suture | Buy 4, get 1 free. Mix and match. |
| Vetoquinol | 12/31/2019 | Companion Animal Products | Buy 4, get 1 free. Kind for kind. |

# Find the Pineapple

Hidden throughout this Penn Connection Magazine are several of the above pineapples. Find and count all of the hidden pineapples and send your total number to submissions@pennvet.com. Be sure to include your clinic name and phone number in your email. You can also scan the QR code below for a direct link to this contest or go to www.pennvet.com/customer/portal/catalog/home/quiz

One winner will be randomly chosen from all correct entries to win!

**Pineapples on this page not included in count.**

## WINNING PRIZES!

## A Dog Days of Summer Lounge Kit.

**For your pet:** (1) Comfy N' Dry Indoor-Outdoor Waterproof Orthopedic Pet Bed Medium sized 28" x 36". Unique, ultra-supportive waterproof core. Cover can be machine washed or entire bed can be hosed off. (2) Pet Frosty Bowl. Simply freeze the bowl in the freezer for 2 hours. Water will stay cold for up to 8 hours. Holds up to 16oz.

**For you:** (3) Zero Gravity Chair Built of UV-resistant mesh, steel frame, and removable pillow. (4) Yeti Rambler Colster (White). Keeps standard 12 oz. cans and bottles cold with double-wall vacuum insulation.

NO PURCHASE NECESSARY. Void where prohibited by law. Promotional period: July 1, 2019 7:00am EST – July 31, 2019 7:29pm EST. Eligibility restrictions apply. For complete rules and details visit www.pennvet.com/newweb/pdf/other/officialRules_Sweepstakes_0719.pdf

POWER IN PARTNERSHIP

# What's in the numbers?

## The analytics and their meanings:


### TOP SPENDING CATEGORIES - PAST 6 MONTHS

This donut graph shows you, at a quick glance, your top 5 spending categories for the previous 6 months. The categories are listed to the right along with the dollars spent in each category.

Total spend: $97, 450.12
Average orders per month: 19
Average spend per order: $825.85

### LAST 6 MONTH SUMMARY

This section shows your total spend, your average number of orders per month, and average spend per order. These statistics may help give you a high-level look at your ordering efficiency.

### PAST 12 MONTHS SPENDING BY CATEGORY

You will see your spending in our 15 top-level product categories and you can click into each of these to dive more deeply into the specific product categories. *Look for more levels to be added to this section of the site including updates in the product level.


So, what's in the numbers? Overall, these numbers reflect our partnership. We hope you can use this information as another tool in your toolbox to know your business. Our goal is to put numbers at your fingertips that help you make the best decisions for your practice's success. If you'd like to dive deeper, your Penn Vet Sales Representative has access to your Spending Analytics Dashboard and can go over it with you upon request. As your distributor and as your partner, we root for your success and look forward to seeing our partnership grow. This is an area we plan on enhancing, so if you have ideas, please share them with our eCommerce team!

There are two different kinds of people in this world: people who like working with numbers and people who don't. No matter which one you are, we can't escape the fact that numbers are important, especially when it comes to your veterinary business. That's why we've created the **Spending Analytics Dashboard** with the launch of the updated pennvet.com!

Found on the My Penn Vet page, our visual graphics and organized tables make reading these numbers a breeze. However, do you really know what these numbers mean for you and your business? We're going to dive into the different analytics that we've provided you so that you can discover the value in these numbers and use them to further your success.


## SPENDING BY MONTH

You also will see a bar graph that compares your total spending with Penn Vet. This is based per month for the current calendar year and also takes into account the previous calendar year. There is also a chart that provides these statistics in numerical form.

## PAST 12 MONTHS SPENDING BY PRODUCT

The last chart on this page gives you a look at your product usage across the past 12 months. You can choose to see it in descending order of dollars spent or units purchased. This chart may help you decide what items would be best to put on subscription for your ordering convenience.

**Make sure you follow us on social media!**

Facebook: @pennvetsupply
LinkedIn: Penn Veterinary Supply Inc.
Instagram: @pennvetsupply

**Go to pennvet.com to order online.**

POWER IN PARTNERSHIP

# Are you Looking for FREE Client Education and Marketing tools? Look no further than www.pennvet.com

Penn Vet is proud to offer a digital library of resources for you and your clients including; Facebook posts, Posters, and Client Handouts. Visit www.pennvet.com and under Quick Links, select Resources OR simply scan the QR Code with your smartphone. **Check in often as new resources are being added every day!**

*https://www.pennvet.com/customer/portal/catalog/quicklinks/resources*

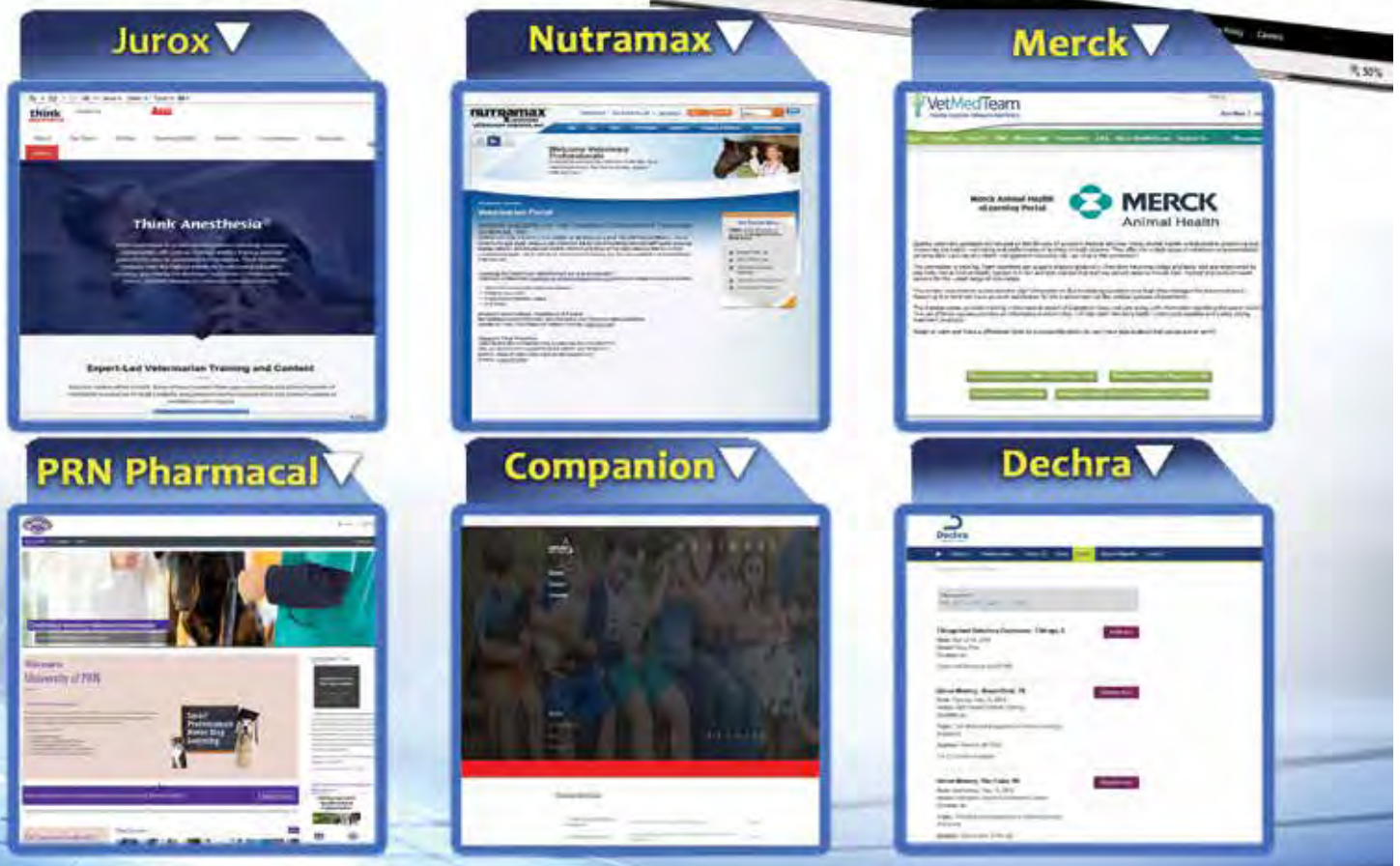



Need something you don't see in our library? Talk to your Penn Vet Rep about customizable marketing services!

# CONTINUING EDUCATION RESOURCES now available on www.pennvet.com


Find links to view online and in-person CE opportunities offered by our vendor partners, local meetings, and upcoming Penn Vet hosted CE seminars!

*Scan the QR code on this page to gain access to what's new on our event calendar.*

# Now Available from PENN VET!

## X-Ray Badges

**Penn Vet proudly announces our partnership with Radiation Detection Company (RDC) to offer our clients high-quality radiation monitoring services**

- ❑ **Flexible pricing and simplified billing**
- ❑ **No hidden fees**
  - *No set up fees*
  - *No account change fees*
  - *No maintenance fees*
- ❑ **Badges automatically ship** directly to your clinic monthly, bi-monthly, or quarterly
- ❑ RDC offers over 70 years of the **highest-quality** radiation monitoring services in the industry
  - *Highest Accreditation: RDC is accredited by NVLAP and ISO certified*
- ❑ Online access to **MyRadCare**, RDC's top-rated web-service
  - *View, download, print dose reports*
  - *Track badge issues, see return dates, get unreturned badge notifications*
  - *Create NRC reports*
- ❑ **Simple and efficient account management forms**
  - *Forms needed to add or remove employees, re-assign badges, or create an account, all at www.pennvet.com*
- ❑ **Dedicated Penn Vet Customer Service Team**



## Pala-Tech™ Tricky Treats™

Tasty and nutritious alternative to commonly used human food (i.e. cheese, hot dogs, peanut butter, etc.) for hiding pills, tablets and capsules when administering medication to pets.

- ❑ Simplify daily administration of medication for pet owners.
- ❑ Industry-first packaging to ensure freshness and for individualized dispensing.
- ❑ Available in two highly palatable flavors pets love to eat.
- ❑ Safe to use, especially for pets with food allergies.
- ❑ High quality soft chew formulation only includes all natural ingredients.
- ❑ 100% Palatability acceptance guarantee.
- ❑ Available in 2 package sizes.

## PROBIOS Pro-Pill™ Pods

Made with real peanut butter, each Pro-Pill™ Pod contains 200 million CFUs* of probiotics to help restore the balance of healthy gut in dogs. Pro-Pill™ Pods are highly palatable and available in two sizes (small & large) to fit both tablets and capsules.

*200 million CFUs per large Pro-Pill Pod, 100 million CFUs per small Pro-Pill Pod

# New Equipment You'll Love!

## EMMA™ Capnograph

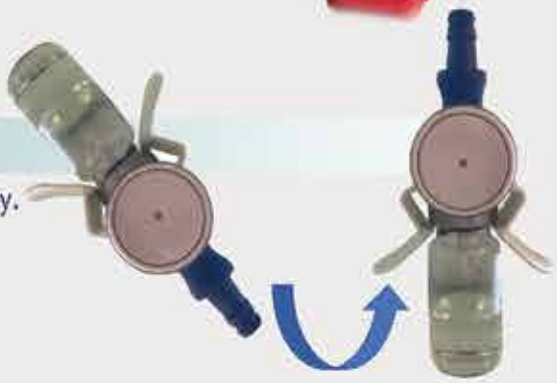

**Introducing the portable EMMA™ Capnograph from Masimo®**
This rugged, water-resistant capnograph displays accurate end-title carbon dioxide ($EtCO_2$) and respiration rate (RR) in just 15 seconds. It has a simple, easy-to-use interface for quick set-up and one-touch programming.
***See page 33 for more information, or contact your Penn Vet rep for a free in-clinic demo today!***

## Rad-57® Pulse CO-Oximeter®

This easy-to-use handheld pulse-ox offers continuous monitoring, featuring Masimo Signal Extraction Technology® (SET®), Measure-through Motion, and Low Perfusion™ technology. Rugged and lightweight, the Rad-57® Pulse Ox provides continuous measurements with the ability to store up to 72 hours of trend data.

**Masimo SET®**
Clinically proven to outperform other pulse oximetry technology, providing unmatched sensitivity and specificity.

## PractiVet Universal Vented Vial Spike



A needle-free vented vial adapter offers better flow rates and reliability. Ask your Penn Vet Rep about PractiVet's other needle-free closed system devices:

- ❑ Generate less biohazardous waste
- ❑ Customize to your protocol
- ❑ Intuitive luer lock design

The safe and easy way to start protecting yourself today!

## KVP Cura™


The KVP Cura system uses pulsed electromagnetic field (PEMF) technology to reduce pain and increase blood flow. It provides effective therapy for a variety of ailments. KVP Cura increases metabolism, blood flow, and lymphatic flow by using PEMF to accelerate the exchange of positive and negative ions through the cell membranes of an animal's body.
***Read more on page 35.***

***Interested in an in-clinic demo? Contact your Penn Vet rep today!***

Trifexis
(spinosad+milbemycin oxime)

LOVE ALL IN

# ONE

- ✓FLEAS
- ✓HEARTWORM
- ✓HOOKWORM
- ✓ROUNDWORM
- ✓WHIPWORM

## ALL-IN-ONE PROTECTION FOR THE ONE WHO COUNTS ON YOU

Close gaps in protection with all-in-one Trifexis. With one convenient tablet administered monthly, it's simple for owners, so you can continue to be confident your patients get the protection they need.

## INDICATIONS

Trifexis is indicated for the prevention of heartworm disease (*Dirofilaria immitis*). Trifexis kills fleas and is indicated for the prevention and treatment of flea infestations (*Ctenocephalides felis*), and the treatment and control of adult hookworm (*Ancylostoma caninum*), adult roundworm (*Toxocara canis* and *Toxascaris leonina*) and adult whipworm (*Trichuris vulpis*) infections in dogs and puppies 8 weeks of age or older and 5 pounds of body weight or greater.

## IMPORTANT SAFETY INFORMATION

Serious adverse reactions have been reported following concomitant extra-label use of ivermectin with spinosad alone, one of the components of Trifexis. Treatment with fewer than three monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention. Prior to administration of Trifexis, dogs should be tested for existing heartworm infection. Use with caution in breeding females. The safe use of Trifexis in breeding males has not been evaluated. Use with caution in dogs with pre-existing epilepsy. The most common adverse reactions reported are vomiting, lethargy, pruritus, anorexia and diarrhea. To ensure heartworm prevention, dogs should be observed for one hour after administration. If vomiting occurs within one hour, redose. Puppies less than 14 weeks of age may experience a higher rate of vomiting. For product information, including complete safety information, see page XX.



Elanco

Trifexis
(spinosad+milbemycin oxime)

**CONSUMER BRIEF SUMMARY FOR TRIFEXIS**

**Information for Dog Owners –** You should read this information before starting your dog on TRIFEXIS. The risk information provided here is not comprehensive. Talk with your veterinarian if there is something you do not understand or if you want to learn more about TRIFEXIS. **Always follow your veterinarian's instructions for giving your dog TRIFEXIS.** Ask your veterinarian, call 1-888-545-5973 or visit www.trifexis.com to obtain the full FDA-approved drug labeling.

**What is TRIFEXIS?**

- RIFEXIS is a monthly chewable tablet, available by prescription only, used to:
  - Prevent heartworm disease caused by *Dirofilaria immitis*.
  - Kill fleas (*Ctenocephalides felis*) and prevent flea infestations.
  - Treat and control adult hookworm (*Ancylostoma caninum*), adult roundworm (*Toxocara canis* and *Toxascaris leonina*) and adult whipworm (*Trichuris vulpis*) infections in dogs and puppies 8 weeks of age or older and 5 pounds of body weight or greater.

**What dogs should not use TRIFEXIS?**

- Puppies less than 8 weeks of age or less than 5 pounds of body weight.

Ask your veterinarian about the use of TRIFEXIS prior to use in breeding females or in dogs with pre-existing epilepsy. The safe use of TRIFEXIS in breeding males has not been evaluated.

**How should I give TRIFEXIS?**

- Prior to use, dogs should be tested for existing heartworm infections and treated at the discretion of the veterinarian.
- Administer with food for maximum effectiveness.
- To ensure heartworm prevention, observe your dog for one hour after administration. If vomiting occurs within an hour of administration, redose with another full dose. Puppies less than 14 weeks of age may experience a higher rate of vomiting.

**What is the most important information I should know about TRIFEXIS?**

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

- The use of ivermectin at higher than FDA-approved doses at the same time as TRIFEXIS can result in serious side effects.
- Treatment with fewer than three monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention.

**What are the most common side effects that may occur while my dog is taking TRIFEXIS?**

- Vomiting
- Depression/Tiredness
- Itching
- Decreased appetite
- Diarrhea

Other reported side effects include inflammation of the skin and redness of the skin and ear.

**Tell your veterinarian if your dog experiences these or any other side effect.**

To report suspected adverse reactions, call 1-888-545-5973. **For additional information about adverse drug experience reporting for animal drugs, contact the Food and Drug Administration (FDA) at 1-888-FDA-VETS or http://www.fda.gov/AnimalVeterinary/SafetyHealth.**

**What if I give more than the prescribed dose of TRIFEXIS?**

- Contact your veterinarian as soon as possible.

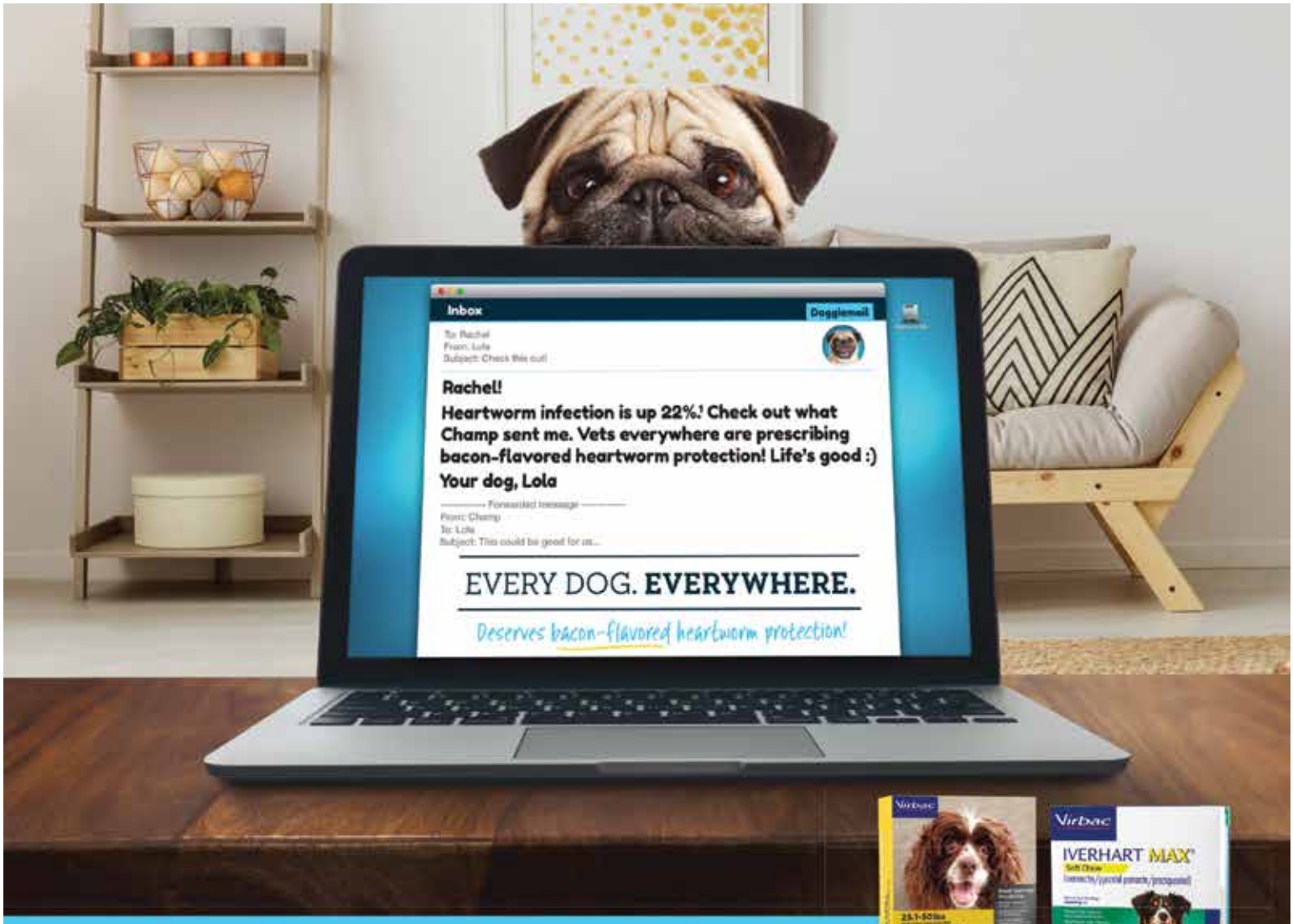
**Can I give TRIFEXIS with other medications?**

- Yes, TRIFEXIS has been given safely with a wide variety of products and medications. Tell your veterinarian about products that you give and/or intend to give to your dog.



TFX CBS 21JUN2018

Elanco




# The dogs have spoken.


**The bacon flavor dogs crave with the protection they need:**

**SENTINEL® SPECTRUM® Chews**
(milbemycin oxime/lufenuron/praziquantel)

**IVERHART MAX® Soft Chew**
(ivermectin/pyrantel pamoate/praziquantel)

With added flea prevention

Great protection, great value

**2 tasty options**

**To order both tasty options for your clinic, contact your Virbac representative at 1-844-4-VIRBAC (1-844-484-7222).**

**Important Safety Information for SENTINEL® SPECTRUM® Chews (milbemycin oxime/lufenuron/praziquantel):** Dogs should be tested for heartworm infection prior to use. Mild hypersensitivity reactions have been noted in some dogs carrying a high number of circulating microfilariae. Treatment with fewer than 6 monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention. For complete product information, refer to the product insert. To obtain a product insert, contact Veterinary Technical Product Support at 1-800-338-3659, or visit **us.virbac.com**.

**Important Safety Information for IVERHART MAX® Soft Chew (ivermectin/pyrantel pamoate/praziquantel):** All dogs should be tested for existing heartworm infection before starting treatment with IVERHART MAX Soft Chew. Use with caution in sick, debilitated, or underweight dogs weighing less than 10 lb. Gastrointestinal and neurological signs, such as convulsions, have been reported following the use of ivermectin products. For complete product information, refer to the product insert. To obtain a product insert, contact Veterinary Technical Product Support at 1-800-338-3659, or visit **us.virbac.com**.

For complete product information, please see pages 42 and 44.

**Reference: 1.** AHS announces findings of new heartworm incidence survey. American Heartworm Society website. https://heartwormsociety.org/newsroom/in-the-news/347-ahs-announces-findings-of-new-heartworm-incidence-survey. Accessed January 17, 2019.

Shaping the future of animal health

Virbac

Tri-Heart® Plus
(Ivermectin/Pyrantel)

# JUST AS EFFECTIVE, JUST AS PALATABLE.

## 94% of dogs love the chewable tablets.[1]

A taste test of Tri-Heart® Plus Chewable Tablets vs. Heartgard® Plus Chewables showed that dogs have no preference. If your dog doesn't accept the flavored chewable tablet, the full purchase price of the product will be refunded.

# THEY'LL BE PROTECTED FROM HEARTWORM DISEASE

Following the Tri-Heart® Plus year-round protocol and once qualified for the Guarantee, if your dog is diagnosed heartworm positive, the Tri-Heart® Plus Guarantee covers:

- **The full cost of diagnosis, including all professional fees**
  Your veterinarian simply contacts Merck Animal Health prior to commencing the tests. After confirming adherence to the Tri-Heart® Plus protocol and testing, your veterinary service fees will be covered by us. See eligibility details below.
- **Your dog will be dewormed for hookworms and roundworms**
  As long as the dose was administered within 31 days.
- **A year's supply – Free**
  With diagnosis of heartworms, a free one-year supply of Tri-Heart® Plus will be provided.

MERCK Animal Health



100% SATISFACTION GUARANTEE

All dogs should be tested for heartworm infection before starting a preventive program. In a small percentage of ivermectin/pyrantel treated dogs, digestive and neurological side effects may occur.

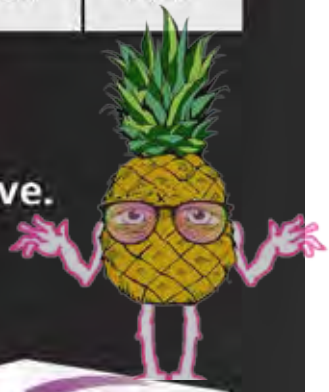
[1]September 2000, ANADA 200-338, Palatability of Chewable Tablets, Heska Corporation Submission.

# GREAT VALUE, GREAT COVERAGE.

**Offer the right preventive, at the right price, right from your clinic.**

| FOR DOGS | MILBEGUARD™ | Interceptor® | Interceptor® Plus | Iverhart Plus® | Iverhart Max® | HeartGard® Plus | Tri-Heart® Plus |
|---|---|---|---|---|---|---|---|
| FORM | TABLET | Tablet | Soft Chew | Tablet | Soft Chew | Soft Chew | Tablet |
| FLAVOR | BEEF | Beef | Chicken | Pork Liver | Bacon | Beef | Beef |
| HEARTWORM | X | X | X | X | X | X | X |
| HOOKWORM | X | X | X | X | X | X | X |
| ROUNDWORM | X | X | X | X | X | X | X |
| WHIPWORM | X | X | X | | | | |
| TAPEWORM | | | X | | X | | |
| VET COST PER DOSE | $3.22 | $4.61 | $4.68 | $3.32 | $3.86 | $4.59 | $3.50 |

Chart data based on FDA labels for dogs and 2018 manufacturer price lists.



## Help your clients protect their dogs and cats with a product you know and trust, now at a price they will love.

**MilbeGuard™** (milbemycin oxime)

**EFFECTIVE. AFFORDABLE. TRUSTED.**

**When discussing heartworm prevention with your clients, recommend MilbeGuard™** (milbemycin oxime).

**IMPORTANT SAFETY INFORMATION**

Dogs and cats should be tested for heartworm prior to use. In a small percentage of treated dogs, digestive and neurologic side effects may occur. Safety in heartworm-positive cats has not been established. Safety in breeding, pregnant, and lactating queens and breeding toms has not been established. In cats, safety studies up to 10 times the label dose did not detect any adverse drug reactions.


1. American Heartworm Society. AHS Announces Listing of New Heartworm Incidence Survey. https://heartwormsociety.org/news-room/in-the-news/347-ahs-announces-listings-of-new-heartworm-incidence-survey Accessed 26 July 2017.
2. Drake et al Veterinary Parasites & Vectors (2018) 11:39 https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-018-2631-0
3. Data on file – CAH
4. Based on manufacturer published veterinary pricing 10/9/2018

www.MilbeGuard.com

ceva

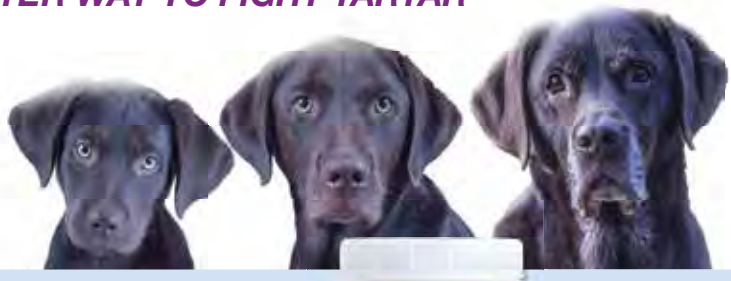
# Dechra's July & August Featured Products

## VETRADENT™

DENTAL

Buy any 4 **Vetradent™ Products**, Receive 1 FREE (no mix and match).*


***A SMARTER WAY TO FIGHT TARTAR***



## Phycox®

CANINE JOINT SUPPLEMENTS

PHYCOX® JOINT SUPPLEMENTS

Buy 5 bottles of **Phycox® Canine Joint Supplements Soft Chews** (mix/match), Receive 1 bottle of 75 mg **Carprovet®** (carprofen) **Flavored Tablets** (60 ct) **FREE.***


**CANINE JOINT SUPPORT** For Every Stage of Life

## Redonyl® Ultra Soft Chews

(Ultra-micronized Palmitoylethanolamide)

DERMATOLOGY

Buy any 4 **REDONYL® Ultra Soft Chews** (mix and match), **Receive 1 FREE** (free goods will be lowest price product purchased).*

**An ultra-small ingredient that offers ultra-big support for skin health.**

24 Hour Technical Support: 866-933-2472 | support@dechra.com www.dechra-us.com

*Offer valid through Sept. 30, 2019. Some restrictions apply. For complete promotional details and to view all Dechra promotions visit www.dechra-us.com/promotions or contact your Veterinary Distributor. Refer to the prescribing information for complete details. Dechra is a registered trademark of Dechra Pharmaceuticals PLC. Phycox is a registered trademark of Dechra Limited. Redonyl is a trademark licensed from Innovet Italia S.r.l. 01AD-DEC50130-0619

Dechra
Veterinary Products

FELIWAY®

ADAPTIL®

# HELPING PETS COPE WITH THE FIREWORK SEASON

## MORE PETS ARE LOST ON JULY 4TH THAN ANY OTHER DAY OF THE YEAR!

Up to **40%** of dogs are scared of **Fireworks**[1]

Up to **24%** of dogs are scared of **Thunder and Lightening**[1]

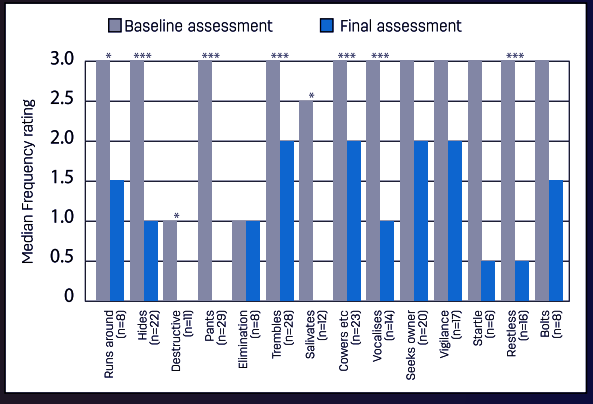
**ADAPTIL® Calm is clinically proven* to significantly reduce signs of fear associated with fireworks**

VETERINARIAN USED #1 CLINICALLY PROVEN BRAND AND RECOMMENDED

### Firework Fears*

Owners perception of the frequency of each sign at the baseline and final assessments.

*P<0.05 | **P<0.01 | ***P<0.005




Up to **34%** of cats are scared of **Fireworks**[1]

Up to **35%** of cats are scared of **Loud Noises**[1]

**FELIWAY® *CLASSIC* is clinically proven* to reduce signs of fear and stress in cats**

1. PAW report
*Data on file


SaveTheCouches.com
Ceva
Couches Everywhere Are Suffering
THERE IS HOPE.
Introducing
FELISCRATCH by FELIWAY®
Biggest. Scratching post. Ever.
FELISCRATCH® by FELIWAY and FELIWAY® are registered trademarks of Ceva Santé Animale S.A.
©2018 Ceva Animal Health, LLC

# Osurnia®

(florfenicol-terbinafine-betamethasone acetate)

Easy application may lead to better compliance with OSURNIA®.

- Simple treatment for otitis externa infections in dogs*
- Just two doses per affected ear, dosed one week apart
- Helps maximize successful dosing


## OSURNIA is easy to use

**Premeasured, single-dose tube**

- Same dose of OSURNIA for any dog, regardless of size and weight
- Premeasured to help ensure the right dose every time
- No need to count drops into the ear which helps ensure successful dosing

**Flexible, soft tip**

- Gentle for a dog's ears

**Osurnia is an adaptable gel,[1] not a liquid or ointment**

- Ease of application and spreadability with gentle massage to the ear
- Active ingredients remain in ear canal for weeks

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

**Important Safety Information**

OSURNIA (florfenicol/terbinafine/betamethasone acetate) is for otic use only under veterinary supervision. Do not use in dogs with known tympanic perforation or a hypersensitivity to florfenicol, terbinafine or corticosteroids. Adverse reactions observed during clinical trials include vomiting, increased liver enzymes and transient loss of hearing. Please see product insert on page 41 for full prescribing information.

1. Elanco data on file.



Elanco

# HOW TO *CLEAN* YOUR PET'S EARS!

It may be useful to have an assistant help you keep the dog calm and still while you clean the ears, but an assistant is not always required. If you are cleaning the ears by yourself, position the pet between your legs for best control.

The ear cleanser should be at room temperature. Most pets shake their head when the ear canal is filled with fluid, so pick an area that is easy to clean afterwards, in case the pet shakes ear cleanser or debris out of their ear. Holding a towel over the ear and back of the head while the pet shakes can help confine possible mess.

The ear flap should be held back and upwards as the ear cleanser is poured into the canal opening. You should use enough cleanser to fill the entire ear canal.

Continue holding the ear flap upwards so the cleanser does not leak out of the canal. Gently massage the base of the ear, near the head, to work the cleanser into the deep parts of the ear canal and dislodge any wax or debris in the canal. You may see debris start to float to the top of the liquid. Continue to massage the base of the ear for about 15-30 seconds. Follow your veterinarian's instructions as some cleansers work best if there is 5-15 minutes of contact time. Holding the ear flap prevents the dog from shaking the head dislodging the ear cleaner and allows the contact time to make it most effective.

Use a cotton ball or other soft material to remove the dirt and debris that has floated to the top of the canal and is on the inside of the ear flap. Never place anything down into the ear canal such as a Q-tip or cotton ball as you could harm your pet.

Reinspect the ear canal and ear flap and repeat the procedure if you still see a lot of dirt and debris in the ear. Repeat the entire procedure in the other ear. Be sure not to over-clean sensitive ears and alert your veterinarian right away if your pet appears to be in pain when performing this procedure or if any redness or swelling develops after cleaning the ear.

**INSTRUCTIONS:**

Clean ears _____ times per week.

Using _____ ear cleaner.

Progress exam appointment in _____ weeks.


## DOG EAR ANATOMY

### Why should I pay attention to ear cleaning?

Many chronic or long term ear problems in pets are due to underlying allergies or other conditions that your veterinarian may need to diagnose and address. So it is important to get your pet examined by your veterinarian and follow all recommendations to achieve the best outcome for your pet long term. These recommendations may include diet changes, limiting their exposure to allergens in your house or yard, oral or topical medications or even allergy injections that help decrease your pet's sensitivity to allergens in their environment.

Dechra Veterinary Products 7015 College Blvd., Suite 525, Overland Park, KS 66211 (866) 933-2472 | www.dechra-us.com.
Special thank you to our model, Gunner! Four-legged friend of Dechra employee, Emilee.

POWER IN PARTNERSHIP

**Ask for your free digital copy of this handout OR visit the Resources page of www.pennvet.com!**

## Buy 11 Bottles and Get 1 Bottle of the Same Size FREE

**Effective**
**July 1 - August 31, 2019**

Each Gram Contains:

- Gentamicin Sulfate, USP, equivalent to 3mg gentamicin base
- Mometasone Furoate Monohydrate, equivalent to 1mg mometasone;
- Clotrimazole, USP 10mg

In a mineral oil-based system containing a plasticized hydrocarbon gel.

**Malmetazone™ Otic Suspension is available in 7.5g, 15g and 30g plastic bottles.**


# ONCE DAILY TREATMENT FOR OTITIS EXTERNA

## MALMETAZONE SUSPENSION

**A new suspension for the treatment of otitis externa in dogs that contains:**

- **Gentamicin Sulfate, USP, equivalent to 3 mg gentamicin base**
- **Mometasone Furoate Monohydrate, equivalent to 1 mg mometasone;**
- **Clotrimazole, USP 10 mg**
- **All in a mineral oil-based system containing a plasticized hydrocarbon gel.**

**Malmetazone Suspension is indicated for the treatment of otitis externa in dogs caused by susceptible strains of yeast (Malassezia pachydermatis) and bacteria (Pseudomonas spp. incl. P. aeruginosa, coagulase positive staphylococci, Enterococcus faecalis, Proteus mirabilis, and beta-hemolytic streptococci.)**

**Since Malmetazone only requires one treatment daily, it is easier for clients that have to treat their dogs that are suffering from an ear infection. And since mometazone furoate monohydrate is so much more potent than anti-inflammatory agents like betamethasone, Malmetazone Suspension rapidly controls the inflammation that can occur in the external ear while helping to reduce the related pain.**

**For dogs that weigh less than 30 lbs, administer 4 drops per ear, once daily for 7 days and for dogs that weigh more than 30 lbs, it is recommended to adminster 8 drops per ear, once daily for 7 days.**

**Malmetazone Otic Suspension is available in 7.5 g, 15 g, 30 g and 215 g plastic bottles.**

**For side effects and warnings, please see accompanying full Product Label.**

**VEDCO**
**St. Joseph, MO 64507**
**www.vedco.com**

Healthy Holistic

BLUE

NATURAL

Veterinary Diet®

VETERINARY EXCLUSIVE

# The Natural Alternative in Nutritional Therapy®

Healthy Holistic

BLUE NATURAL Veterinary Diet

VOLUME NO. 1

# BLUE BUFFALO CLINICAL REPORT

## Clinical Evidence for: HF Hydrolyzed for Food Intolerance

### KEY POINTS

1. **BLUE Natural Veterinary Diet HF Hydrolyzed for Food Intolerance features salmon hydrolysate,** a novel protein with a mean **molecular weight of 2 kDa** to help reduce the risk of adverse reactions to food.

2. Multiple research study findings support that BLUE Natural Veterinary Diet HF provides an ideal approach for nutritionally managing pets with adverse food reactions:

- •Novel protein **plus** low molecular weight
- •No animal protein antigen contamination
- •High digestibility
- •Preferred palatability
- •Ingredients preferred by clients

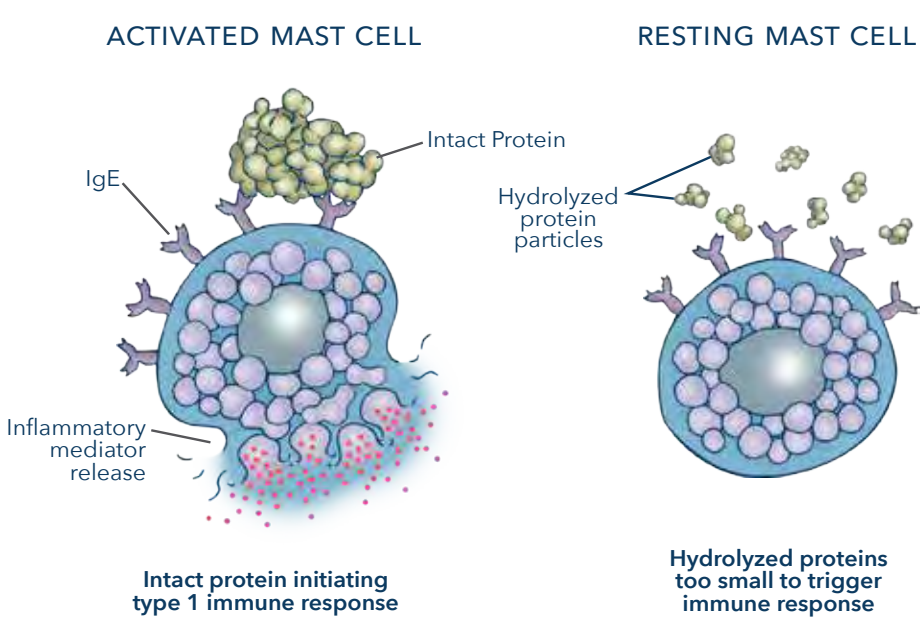



Figure 1. Hydrolyzed proteins help avoid immune reactions.

## BLUE Natural Veterinary Diet HF Hydrolyzed for Food Intolerance

Often times the ingredient exclusions in a diet are just as important as the inclusions. This is essential in cases of true food allergies as well as food intolerance. Food hypersensitivity (allergy) is the term used to describe the clinical disease induced by food ingestion in which there is an immunological reaction. This response is typically due to IgE-mediated type I hypersensitivity; however, types III and IV also are highly suspected.[1] The immunological reaction is usually attributed to dietary water-soluble glycoproteins that have molecular weights ranging from 10 to 70 kDa. [2, 3]

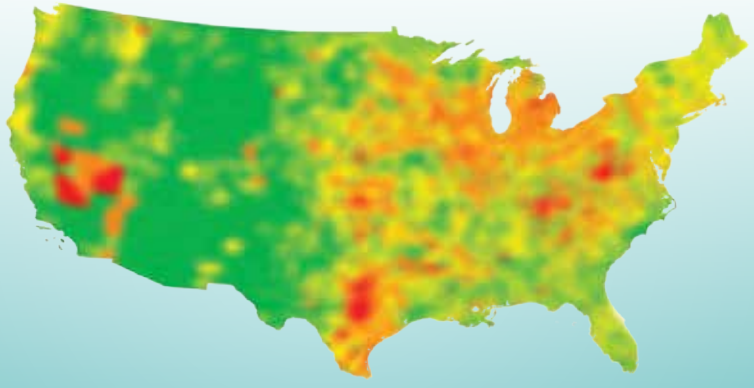
Food intolerance (also known as food sensitivity) is the term used for an adverse reaction to food due to a non-immunological abnormal physiological response. Digestive enzyme deficiencies, garbage ingestion, vasoactive amines, contaminants such as bacteria, metabolic, toxic, idiosyncratic or pharmacological effects of foods or food additives all can contribute to food intolerance. [1, 4, 5]

In a clinical setting, food allergy and food intolerance are rarely differentiated and frequently respond to a similar dietary approach. Because the precise immunologic processes of most adverse food reactions are usually not known,[4, 6, 7] on a practical level, the phrase adverse food reactions (AFR) is used to reference both conditions.

# LEPTOSPIROSIS CASES

## *across the U.S. are on the rise.*

**The Centers for Disease Control and Prevention (CDC) suggests that dogs get vaccinated against leptospirosis.[1]**




In 2017, leptospirosis cases spiked across the U.S. in all geographic locations and climates, such as cities and humid areas, and after flooding. In New Jersey, 5 dogs were infected, and 3 of them died.[3] Even dogs in arid climates, such as Arizona, where outbreaks have been reported in recent years, are at risk.[4]

## SYMPTOMS

Early signs may appear about a week after infection — but some dogs have no symptoms:

- May include fever, muscle weakness, a loss of appetite or energy, or depression
- Jaundice
- Abdominal discomfort
- Vomiting and diarrhea
- Blood in urine is uncommon but may occur

**Leptospirosis is a preventable, widespread disease.**

## TRANSMISSION OF LEPTOSPIROSIS

Infected animal urinates in water or on wet ground.

Dog plays in, swims in, or drinks from contaminated water.

Dog contracts leptospirosis through contact with urine of infected animal.

**Visit StopLepto.com for more information.**

Nobivac

PROTECT YOUR DOG FROM LEPTOSPIROSIS
**DON'T WAIT, VACCINATE**

**References: 1.** Centers for Disease Control; Leptospirosis in Pets; https://www.cdc.gov/leptospirosis/pets/prevention/index.html; Accessed June 12, 2018. **2.** White AM, et al. Hotspots of canine leptospirosis in the United States of America. *Vet J.* 2017;222:29-35. **3.** Rare Infection Spread By Rat Urine Leaves At Least 3 Dogs Dead In New Jersey; http://newyork.cbslocal.com/2017/03/24/; Accessed June 16, 2017. **4.** Leptospirosis outbreak in Arizona; https://www.maricopa.gov/4302/Leptospirosis; Accessed June 19, 2017.

MERCK Animal Health

Nobivac®
Essential protection for essential bonds

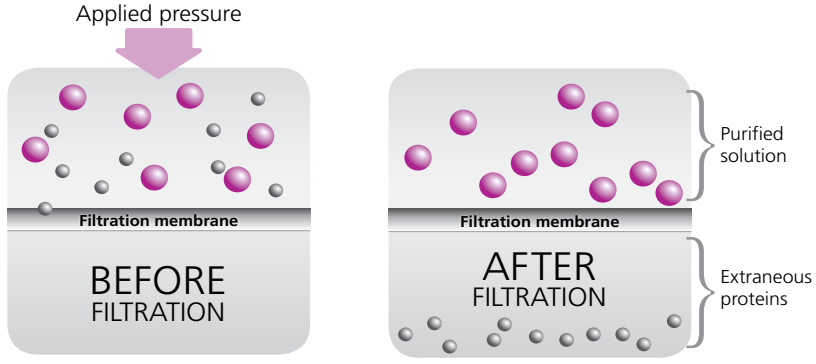
# Only Nobivac® Lepto$_4$ offers unmatched protection against disease, urinary shedding, *and* mortality.

## Nobivac Lepto$_4$ is the clear choice when compared side by side with other 4-way leptospirosis vaccines.

| | | Nobivac® Lepto$_4$ [1] | VANGUARD® L$_4$ [2] | RECOMBITEK® 4 Lepto [3] | ULTRA™ Duramune® 4L [4] | LEPTOVAX™ 4 [5] |
|---|---|---|---|---|---|---|
| Prevents or aids in the prevention of leptospirosis | | ● | ● | ● | ● | ● |
| Prevents leptospiruria caused by… | *Leptospira canicola* | ● | | ● | | |
| | *Leptospira grippotyphosa* | | | | | |
| | *Leptospira icterohaemorrhagiae* | | | | | |
| Aids in the prevention of leptospiruria caused by… | *Leptospira pomona* | ● | | ● | | |
| Aids in the prevention of mortality caused by virulent *Leptospira* serovars | | ● | | | | |

## Nobivac Lepto$_4$ compares favorably with other leptospirosis vaccines in protein levels.

Our VacciPure™ filtration reduces total proteins for a more purified final product.[6]




Nobivac®:Lepto$_4$

*Because life is precious*

MERCK Animal Health


ULTRA DURAMUNE®

PUREFIL™ TECHNOLOGY

## Keep it clean with ULTRA Duramune,® the highly purified ½ mL vaccine that lets dogs continue being dogs, even on the same day as their veterinarian visits.

**ULTRA Duramune is the highly purified ½ mL vaccine manufactured with PureFil™ Technology that is designed to:**

- **Minimize reactions associated with unwanted protein and debris**
- **Reduce discomfort**

Always read, understand and follow the label and use directions.



Elanco


# EMMA™ Capnograph

## Immediate capnography at your fingertips

## Features

- **Clear, continuous capnogram** of carbon dioxide values
- **Simple, easy-to-use interface** for quick set-up and one-touch programming
- **Audible and visual alarm system** for No Adapter, Clogged Adapter, No Breath (Apnea), Low Battery and adjustable High and Low $EtCO_2$ alarm
- **Long battery life**—up to 10 hours of normal use with two standard AAA lithium batteries

## Benefits

- **Immediate results** — EMMA requires virtually no warm-up time, with full accuracy in 15 seconds to measure end-tidal carbon dioxide ($EtCO_2$) and respiration rate (RR)
- **Continuous capnogram** allows for confirmation of endotracheal tube placement, enables clinicians to assess the depth and effectiveness of compressions, and recognize return of spontaneous circulation (ROSC)
- **Small, portable capnograph** — lightweight design fits in the palm of your hand for unmatched mobility and convenience during short-term $EtCO_2$ monitoring of adult, pediatric, and infant patients
- **Flexible use at multiple points of care**, including pre-hospital, emergency medicine, operating room, intensive care unit, and long-term acute care
- **Helps clinicians assess the effectiveness of CPR and guide ventilation**, allowing them to make adjustments in the course of treatment, breath by breath
- **Rugged, water-resistant design** for reliable operation in challenging environments
- **Easy to maintain** — no routine calibration required

## Accessories

- **EMMA Kit***
  EMMA (mmHg) PN 3639

- **EMMA Airway Adapter**
  Adult/Pediatric

- **EMMA Airway Adapter**
  Infant

MASIMO

# PRACTIVET
## Solutions Specialists


## Vet Infusion Pump

**Compact and Portable**
**Featuring a Large LCD Display**
**Recalibrate In-Clinic Within 5 Minutes**
**WIFI Connectivity**
**Mountable On Pole or Cage**
**Warnings Both Visual and Audible**
**Free Flow Protection**
**Adjustable Infusion Rate**

## Vet Syringe Pump

**For Continuous Infusion Therapy Compact and Portable With Large LCD Display.**

**Stackable Up To 6 Pumps and Mountable On Either A Cage Or Pole.**

## July 1 - July 31, 2019 Admin Set Bundle Offer

**Buy Either The Vet Infusion Pump or Vet Syringe Pump At $895 And Receive A PractiVet Complimentary Admin Set Bundle Free. Bundle Offer Has A Value Of $225 And Contains 125 Pieces.**

**25 Each Free**
**VINV-PRAH-7215**
**OmniSet 103" 15 Drop Administration Set with MicroClave® Port Luer Lock/Luer Slip**

**25 Each Free**
**VINV-PRAH-7202**
**OmniSet 7" Smallbore Extension with MicroClave® and T-Port Luer Lock**

**25 Each Free**
**VINV-PRAC-CS10**
**Clave® Bag Spike**

**25 Each Free**
**VINV-PRAC-4358**
**50" Male/Female Extension Set**

**25 Each Free**
**VINV-PRAC-0011**
**MicroClave® Needleless Connector**

**Order as PractiVet Bundle Offer 050119.**

**Your PractiVet distributor will ship your PractiVet Pump to you and Vedco, Inc, on behalf of PractiVet will ship your Complimentary Admin Set Bundle to you as a separate shipment free.**

KVP CURA™

www.KVPvet.com

# The **KVP Cura™ Patch** features pulsed electromagnetic field (PEMF) technology to reduce pain.

*Transmits 27.12 MHz*

## HOW DOES PEMF WORK?

The KVP Cura™ system provides effective therapy for a variety of ailments by reducing pain and increasing blood and lymphatic flow by using PEMF technology to accelerate the exchange of positive and negative ions through the cell membranes of an animal's body.

## LIFESPAN AND EFFECTIVE DEPTH OF THE KVP CURA™ PATCH

The battery of the KVP Cura™ Patch is rated for 300 recharge cycles. The 900 hours lifespan is an estimation of the capabilities of the battery and is not meant to be an exact guarantee.

The KVP Cura™ Patch has an effective depth of 9-10 inches, regardless of patient's breed or size.

The KVP Cura™ is a proven, non-pharmaceutical treatment for pain management and inflammation. Completely safe for in-home treatment; no additional equipment or certification required!

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## INDICATIONS FOR USE

The KVP Cura™ System is designed for use with dogs who experience:

- Hip Dysplasia
- Spinal Arthritis
- Joint Pain or Discomfort
- Inflammation or Swelling of Joint(s)

## BENEFITS

- Reduce Inflammation & Pain
- Increased Blood Flow
- Improvement of Joint Function
- Improved Quality of Life
- Long-term Soft Tissue Repair
- Reduced Pharmaceutical Dependence

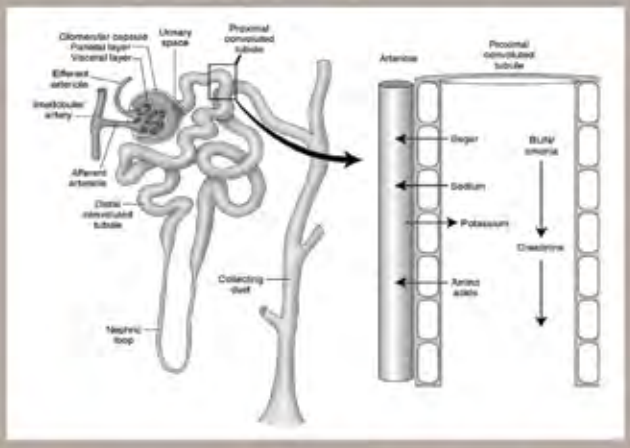
Guaranteed Results in **10 Treatments** or Your Money Back!

# Microalbuminuria Positive Results- Causes and Intervention Points in Dogs and Cats

Andrew J. Rosenfeld, DVM ABVP, Dennis J. Chew, DVM, Dip ACVIM (Internal Medicine)

The glomerulus performs the first step in renal function, which is to filter the blood. In healthy animals, very little protein can filter through the glomerulus, preventing protein loss into the urine.

Most plasma proteins are relatively large and contain electrical charges that inhibit filtration across the glomerulus. In healthy pets, a very small amount of albumin is filtered across the glomerulus, but nearly all of the albumin is reabsorbed by the proximal tubule, so that next to no albumin is excreted. The integrity of the glomerular barrier ensures that very little albumin is lost into the eventual urine.




When excess protein is detected with a urine reagent strip, urinary protein-to-creatinine ratio (UPC), or microalbuminuria (MA) testing, the clinician must decide if it is originating from the kidney. The causes for proteinuria can be classified into pre-renal, primary renal, and post- renal categories **(See Table I).**

An example of pre-renal proteinuria includes entry of hemoglobin (systemic hemolysis) and myoglobin (muscle trauma) into the urine since these are small molecular weight proteins that readily filter through the glomerulus. Hypertension is another cause of pre-renal proteinuria. High systemic blood pressure can increase glomerular capillary pressure and transglomerular forces that favor proteinuria/albuminuria. Amelioration of systemic hypertension often decreases the amount of proteinuria detected. Occasionally, fever/inflammatory disease can lead to pre-renal proteinuria.

The cause for post-renal proteinuria may be obvious after detailed review of the history, physical examination, urinalysis, and abdominal imaging (radiograph and/or ultrasound). The most common causes for post-renal proteinuria include: trauma, infection, inflammation, neoplasia, or stones in the lower urinary tract.

**Table I: Cause of Microalbuminuria: Conditions or diseasesthat may contribute to proteinuria:** A variety of systemic and renal disease processes can decrease glomerular barrier integrity so that there is less resistance to passage of plasma proteins (mostly albumin) into Bowman's space.

| | Cat[1] | Dog |
|---|---|---|
| Pre- renal | Multiple myeloma<br>Systemic hypertension<br>Drug reactions<br>Acute pancreatitis<br>Hyperthyroidism (seizures, heat stroke, fever, extreme exercise, congestive heart failure) | Multiple myeloma<br>Systemic hypertension<br>Drug reactions<br>Acute pancreatitis<br>Hyperadrenocorticism (seizures, heat stroke, fever, extreme exercise, congestive heart failure) |
| Renal | Acute renal failure<br>Chronic renal failure<br>**Glomerulopathy** Acute pancreatitis<br>Viral disease<br>Drug reactions<br>Systemic hypertension<br>Diabetes mellitus<br>Hyperthyroidism<br>Endocarditis<br>Exogenous steroid use<br>Any severe inflammatory disease, neoplasia, infectious or immune-mediated disease | Acute renal failure<br>Chronic renal failure<br>Glomerulopathy<br>Acute pancreatitis<br>Viral disease<br>Drug reactions<br>Systemic hypertension<br>Diabetes mellitus<br>Hyperadrenocorticism<br>Immune-mediated disease (systemic lupus erythema-tosus, immune-mediated hemolytic anemia, polyarthri-tis, hepatitis)<br>Tick-borne disease<br>Leptospirosis<br>Endocarditis<br>Heartworm disease<br>Exogenous steroid use<br>severe inflammatory disease |
| Post-Renal | Lower urinary tract disease Reproductive tract disease | Lower urinary tract disease<br>Reproductive tract disease |

Once pre-renal and post-renal sources of proteinuria have been ruled out, it is important to decide if proteinuria is due to primary kidney disease or a secondary process. The hallmark of renal-origin proteinuria (regardless of specific disease) is the documentation of excess protein with a non-inflammatory urinary sediment (< 10 RBC/HPF, < 5 WBC/HPF). Glomerular proteinuria can be associated with increased excretion of casts, especially hyaline casts.

Albumin is the protein measured semi-quantitatively on urinary reagent strips. In order to have a positive reaction, as much as 30 mg/dL is required. The reagent strip reactions should be confirmed by some combination of SSA precipitation, UPC, and MA. The degree of urine concentration (specific gravity) influences the protein concentration and the intensity of the colorimetric reaction on the pad.

The documentation of renal proteinuria (urine reagent strip, UPC, or MA) raises concern about ongoing glomerular damage that could result in a progressive loss of renal function. **Renal proteinuria can be detected before increased blood concentration of surrogates for declining glomerular filtration rate (GFR), such as increasing concentrations of creatinine, SDMA, or decreases in urinary specific gravity (USG), occur.** Renal proteinuria can exist in the face of normal or reduced GFR. As kidney disease advances, severe reductions in GFR can result in decreased renal proteinuria. The magnitude of proteinuria and trends for increasing or decreasing proteinuria over time are important considerations in determining how aggressive the diagnostic approach and/or treatment should be.

[1] Harley, Leyenda and Langston, Kathy, Proteinuria in the dogs and cats, Canadian Vet Journal, 2012 Kun; 53 (6): 631 638.
[2] CA Tuman, SL Vaden, TL Harris, WA Jensen. The Prevalence of Microalbuminuria in Dogs and Cats in an Intensive Care Unit. ACVIM 2004 Abstract.
[3] Brown, Scott, Surdyk, Katie, Brown, Cathy, THE IMPORTANCE OF PROTEINURIA AND MICROALBUMINURIA, IRIS Website.
[4] Harley, Leyenda and Langston, Kathy, Proteinuria in the dogs and cats, Canadian Vet Journal, 2012 Kun; 53 (6): 631 638.
[5] Pressler, Barrak, M. Clinical Approach to Advanced Renal Function Testing in Dogs and Cats, Veterinary Clinics of North America: Small Animal Practice, Volume 43, Issue 6, November 2013.

Albuminuria is a diagnostic marker that can support the presence of a renal disease in which glomerular permeability has been altered. Additionally, persistent albuminuria appears to promote progressive chronic kidney disease (CKD) through a variety of mechanisms beyond the scope of this white paper. Microalbuminuria (MA) is defined as the finding of 1 to 29 mg/dL of albumin. Normal dog and cat urine contains < 2.0 mg/dL or < 2.5 mg/dL of albumin, respectively, when measured by species specific ELISA methods. Urine is diluted to a standard USG prior to the measurement of MA, in order to remove the effect of highly concentrated urine on results. MA test results for dogs and cats are reported as negative (< 2.5 mg/dL) or with varying degree of positive reactions (mild, moderate, severe) based on the degree of color reaction on the reagent strip. (Test kits designed to detect human MA are not accurate in the measurement of dog or cat MA)

MA develops before overt proteinuria is detected on reagent strips and before UPC exceeds 0.5, and therefore is an extremely sensitive test for the evaluation of glomerular function. When prerenal and post renal causes of proteinuria have been excluded, a positive MA test result means that the permeability of the glomerulus is altered due to either primary kidney disease or a systemic process. It is recommended to repeat MA testing two weeks following the finding of an initial MA positive result to determine if the abnormality is persistent.

Persistent MA in the dog or cat does not imply that there will be progression to advancing stages of CKD, although that does happen in some patients. Early reports suggested that persistent MA status was mostly associated with kidney dysfunction in animals, but subsequent studies found that many of these patients had systemic diseases responsible for MA, rather than primary renal disease. Higher morbidity and all-cause mortality rates can be found in patients with persistent MA. Greater than 50% of critically ill dogs have been reported with MA.[3]

About 50% of dogs with persistent MA have been associated with underlying infectious, inflammatory, neoplastic, or metabolic diseases (hyperadrenocorticism, diabetes mellitus, hyperthyroidism) that could be associated with alterations in glomerular permeability or secondary glomerular injury, such as with immune complex or amyloid deposition. About 30% of dogs with persistent MA will be diagnosed with primary renal disease (progressive and non-progressive), and the remaining 20% will not have an association or cause that can be identified.

The repeatable finding of MA in a patient with no identifiable pre-renal or post-renal conditions is a tipping point for further investigation. UPC should be measured to see if borderline (0.2 to 0.4) or abnormal (> 0.4 cat and >0.5 dog) proteinuria is documented. If MA is positive and UPC is positive, UPC is followed in the future. If MA is positive and UPC is normal, MA should be followed to see if the magnitude of MA is increasing over time. A low-level of MA that is not increasing may reflect previous damageor a disease process that is no longer active. A low-level of MA that increases over time is a cause for concern that a primary or secondary disease process may be progressively damaging the kidney.

**MA positive status, after excluding pre-renal and post-renal causes, can be an entry point for classification into International Renal Interest Society (IRIS) CKD Stage 1.** The presence of MA and some combination of further escalation in magnitude of MA, submaximally concentrated urine, escalating serum creatinine (even if within the reference range), increased SDMA, and/or renal imaging abnormalities provide compelling data supporting categorization to IRIS Stage 1 CKD. In general, cats with advancing CKD have less proteinuria than dogs.

The finding of MA during routine clinical visits offers the clinician a chance to investigate and diagnose systemic and primary renal disease processes before the patient is clinically ill, and before UPC is increased.

Once MA exceeds 29 mg/dL, there is no longer value in future measurement of MA. At that point, continued follow-up should be measured with UPC. IRIS recommends UPC as part of their staging system, and includes MA as a possible entry point into IRIS stage 1.

It has not yet been determined if treatments for IRIS CKD Stage 1 that are designed to lower MA with diets or drugs should be prescribed. In human medicine, controlling MA is a goal in patients with diabetes mellitus and systemic hypertension. Variability in MA over the same day or between days in the same patient has not been studied, as it has with UPC in dogs.

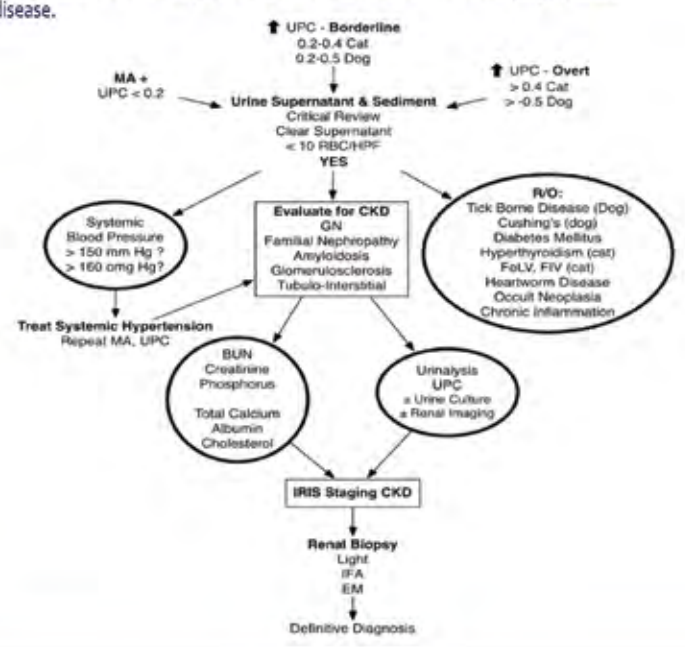
Urine testing for the presence of microalbuminuria should be considered for the following circumstances:

- Screening apparently healthy dogs that are ≥ 6 years old an cats that are ≥ 8 years old
- Animals with confirmed or suspected systemic hypertension
- Screening dogs or cats to detect possible onset of a hereditary nephropathy as early as possible.
- Animals with chronic illnesses that may be complicated by proteinuric nephropathies (e.g., systemic lupus).[3]

As a general rule, a urinalysis that includes an initial, semiquantitative evaluation of proteinuria should be performed on every dog or cat presented for clinical evaluation, in which routine blood work is indicated. Detection of proteinuria should first prompt a diligent search for any underlying disease. If proteinuria is persistent and/or does not resolve after treatment of the underlying disease, then further steps to monitor, treat, or pursue additional diagnostics are indicated.[4]

## Summary

Microalbuminuria testing may allow earlier detection of reduced GFR and localization of damage to a particular nephron segment, and is required for diagnosis or exclusion of some causes of kidney injury.[5] Overall documentation of MA is an important screening and diagnostic tool to evaluate the geriatric and ill patient for underlying renal disease, or other disease concerns since the presence of low levels of protein in the urine may be the first indication of serious underlying systemic disease.



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# Say *Hello* to two of our many valued Penn Vet Representatives who are always available to help with your needs.

## Shaun Gordon

### *Inside Sales Account Manager*

Shaun Gordon has been an Inside Sales Account Manager with Penn Vet Supply since July of 2011. In just 3 short years, he earned a spot in our President's Club for earning two consecutive awards early in his career with Penn Vet. Shaun recently married his wife, Sandy, in May of this year and together they have 1 dog, Clover, and 3 cats, Mufasa, Simba, and Stella. In Shaun's spare time, he enjoys and excels at running. He has completed a few 50k races, multiple half and full marathons, and a Tough Mudder. He also loves mountain biking, hiking, and anything outdoor or sports related. ▼



## Caitlin Sanderson

### *Territory Manager, Central New Jersey*

Caitlin Sanderson has been with Penn Vet Supply for almost one year. She lives by the Jersey Shore and is one of our Territory Managers, covering all of Central New Jersey. Caitlin enjoys coaching her son Kellan's soccer team, working out, and any outdoor activities with her family. Her favorite is spending time at the beach with Kellan and her 2 year old pup, Luca. ▲

# Osurnia™

## (florfenicol · terbinafine · betamethasone acetate)

**Otic gel**
Antibacterial, antifungal, anti-inflammatory

**For Otic Use in Dogs Only**

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

**Description:**
OSURNIA contains 10 mg florfenicol, 10 mg terbinafine and 1 mg betamethasone acetate per mL and the inactive ingredients propylene carbonate, glycerol formal, hypromellose, phospholipid, oleic acid and BHT in an off-white to slightly yellow translucent gel.

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

**Dosage and Administration:**
OSURNIA should be administered in the clinic. Clean and dry the external ear canal before administering the initial dose of the product. Administer one dose (1 tube) per affected ear(s) and repeat administration in 7 days.
Do not clean the ear canal for 45 days after the initial administration to allow contact of the gel with the ear canal. Cleaning the ear may affect product effectiveness (see **Effectiveness**).
If alternative otic therapies are required it is recommended to clean the ear(s) before application.
Open tube by twisting the soft tip. Insert the flexible tip into the affected external ear canal(s) and squeeze entire tube contents into the external ear canal(s). After application, gently massage the base of the ear to allow the gel to penetrate to the lower part of the ear canal.

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

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

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

**Adverse Reactions:**
The following adverse reactions were reported during the course of a US field study for treatment of otitis externa in dogs treated with OSURNIA with 1 tube per affected ear(s) and repeated after 7 days:

Frequency of Adverse Reaction by Treatment

| Adverse Reaction | | |
|---|---|---|
| | OSURNIA (n=190) | Placebo (n=94) |
| Elevated Alkaline Phosphatase | 15 (7.9%) | 3 (3.2%) |
| Vomiting | 7 (3.7%) | 1 (1.1%) |
| Elevated AST, ALT, ALP* | 2 (1.1%) | 0 (0.0%) |
| Weight loss (>10% body weight) | 1 (0.53%) | 0 (0.0%) |
| Hearing Decrease/Loss | 1 (0.53%) | 1 (1.1%) |

*Aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP). Two dogs with pre-existing elevations in ALP were reported to have an increase in liver enzymes (ALP, ALT and/or AST) at study exit. Subsequent clinical chemistries returned to pre-treatment levels in one dog, while no follow up was performed for the second dog.

To report suspected adverse drug events, contact Elanco US Inc. at 1-888-545-5973.
For additional information about adverse drug experience reporting for animal drugs, contact the FDA at 1-888-FDA-VETS or http://www.fda.gov/AnimalVeterinary/SafetyHealth
For technical assistance, contact Elanco US Inc. at 1-888-545-5973.

**Clinical Pharmacology:**
OSURNIA is a fixed combination of three active substances: florfenicol (antibacterial), terbinafine (antifungal) and betamethasone acetate (steroidal anti-inflammatory). Florfenicol is a bacteriostatic antibiotic which acts by inhibiting protein synthesis. Its spectrum of activity includes Gram-positive and Gram-negative bacteria. Terbinafine is an antifungal which selectively inhibits the early synthesis of ergosterol. Betamethasone acetate is a glucocorticosteroid with anti-inflammatory activity. OSURNIA dissolves in ear wax and is slowly eliminated from the ear mechanically.
Ear inflammation can increase the percutaneous absorption of active substances in OSURNIA.
In a laboratory study conducted in healthy dogs (see **Animal Safety**), low plasma concentrations of florfenicol, terbinafine, and betamethasone acetate were measurable during the first 2-4 days after administration of 1X dose, and during the first 2-7 days after administration of 5X dose.
No quantifiable plasma concentrations of any of the three active ingredients were observed in the pre-dose samples of most dogs prior to second and third administrations. Although total and peak exposure in the blood tended to be highly variable between dogs, systemic drug concentrations tended to increase in a less than dose-proportional manner as the administered dose increased from 1X to 5X.

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

In a field study (see **Effectiveness**), the minimum of 10 isolates from successfully treated cases with OSURNIA was met for *Staphylococcus pseudintermedius, Malassezia pachydermatis,* and *Pseudomonas aeruginosa*. However, there were only three dogs where *P. aeruginosa* was the only pathogen cultured and they were all treatment failures. Therefore, OSURNIA may not be effective in treating otitis externa in which *P. aeruginosa* is the only pathogen present.

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

**Animal Safety:**
In a target animal safety study, 24 mixed breed dogs (4 dogs/sex/group) were aurally administered 0X, 1X (1 mL/ear or 2 mL/dog with repeated administration in 7 days) or 5X (5 mL/ear or 10 mL/dog with repeated administration in 7 days) doses of OSURNIA for a total of 6 administrations in 5 weeks. All dogs remained in good health with normal hearing throughout the study. Decreased weight gain was noted in the 1X and 5X groups compared to the control group. Clinical findings included post-administration ear wetness in 1X and 5X groups and unilateral, transient brown/red discharge from one ear each in two 5X dogs, with erythema in one dog after the 4th application. Local microscopic changes in ears (without clinical effects) included: slight or moderate unilateral vesicle formation within the epithelium of the tympanic membrane in two 1X and four 5X dogs, and unilateral mucosal ulceration in the lining of the middle ear cavity in three 5X dogs.
Three 5X dogs had slightly elevated ALT activity, accompanied by minimal or mild microscopic hepatocellular vacuolation (in two dogs). Cortisol response to ACTH stimulation was decreased, but within the normal reference range, in 1X dogs. The 5X dogs had a decrease in serum cortisol levels after ACTH stimulation (below normal reference range) accompanied by decreased adrenal gland and thymic weights with minimal adrenal cortical atrophy and slight (in three dogs) or moderate (in one dog also noted with slightly lower lymphocyte counts) lymphoid depletion of the thymus. The ACTH stimulation test results are consistent with systemic absorption of betamethasone resulting in a likely reversible suppression of the hypothalamic-pituitary-adrenal axis as seen with administration of exogenous corticosteroids.

**Storage Conditions:**
OSURNIA should be stored under refrigerated conditions between 36° - 46° F (2° - 8° C).
To facilitate comfort during administration, OSURNIA may be brought to room temperature and stored for up to three months.

**How Supplied:**
OSURNIA is a gel in a single use tube with a flexible soft tip, supplied in cartons containing 2 or 20 tubes.

NADA # 141-437, Approved by FDA
Elanco, OSURNIA and the diagonal bar are trademarks owned or licensed by Eli Lilly and Company, its subsidiaries or affiliates.

**Manufactured for:**
Elanco US Inc. Greenfield, IN 46140, USA

Product of Great Britain

10/16

Elanco

PA100451AMX_Mkt1

OSU1

# IVERHART MAX®

**Soft Chew**

(ivermectin/pyrantel pamoate/praziquantel)

**For oral use in dogs only.**

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

**Description:** IVERHART MAX® Soft Chew is a combination of three anthelmintics (ivermectin/pyrantel pamoate/praziquantel). The soft chews are available in four sizes in color-coded packages for oral administration to dogs according to their weight **(see Dosage and Administration)**.

**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 roundworms *(Toxocara canis*, *Toxascaris leonina)*, hookworms *(Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*), and tapeworms *(Dipylidium caninum*, *Taenia pisiformis).*

**Dosage and Administration:** IVERHART MAX Soft Chew should be administered orally at monthly intervals and the recommended minimum dose level of 6 mcg of ivermectin per kilogram (2.72 mcg/lb), 5 mg of pyrantel (as pamoate salt) per kg (2.27 mg/lb), and 5 mg of praziquantel per kg (2.27 mg/lb) of body weight, as follows:

| Dog Weight Pounds | Soft Chew per Month | Soft Chew Size | Ivermectin Content | Pyrantel Pamoate Content | Praziquantel Content |
|---|---|---|---|---|---|
| 6.0 to 12 | 1 | Toy | 34 mcg | 28.5 mg | 28.5 mg |
| 12.1 to 25 | 1 | Small | 68 mcg | 57 mg | 57 mg |
| 25.1 to 50 | 1 | Medium | 136 mcg | 114 mg | 114 mg |
| 50.1 to 100 | 1 | Large | 272 mcg | 228 mg | 228 mg |

IVERHART MAX Soft Chew is recommended for dogs 8 weeks of age or older. For dogs over 100 lbs, use the appropriate combination of these soft chews.

Remove only one dose at a time from the packaging. Return the remaining soft chew(s) to their box to protect from light. The soft chew can be offered to the dog by hand or added, intact, to a small amount of dog food. Care should be taken to ensure that the dog consumes the complete dose. The treated dog should be observed for a few minutes after administration to confirm that none of the dose has been lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

IVERHART MAX Soft Chew 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 preventative product in a heartworm disease prevention program, the first dose of IVERHART MAX Soft Chew must be given within a month (30 days) of the last dose of the former medication. A heartworm test should be performed prior to switching heartworm preventative products.

If the interval between doses exceeds a month (30 days), the effectiveness of ivermectin can be reduced. Therefore, for optimal performance, the soft chew 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 IVERHART MAX Soft Chew and the recommended dosing regimen will minimize the opportunity for the development of adult heartworms.

**Warnings:**

**For use in dogs only. Keep this and all drugs out of reach of children and pets. In safety studies with ivermectin/pyrantel pamoate/praziquantel tablets, testicular hypoplasia was observed in some dogs receiving 3 and 5 times the maximum recommended dose monthly for 6 months (see Animal Safety).**

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.

**Precautions:** Use with caution in sick, debilitated, or underweight animals and dogs weighing less than 10 lbs **(see Animal Safety).** The safe use of this drug has not been evaluated in pregnant or lactating bitches.

All dogs should be tested for existing heartworm infection before starting treatment with IVERHART MAX Soft Chew, which is not effective against adult *Dirofilaria immitis*. Infected dogs should be treated to remove adult heartworms and microfilariae before initiating a heartworm prevention program.

While some microfilariae may be killed by the ivermectin in IVERHART MAX Soft Chew at the recommended dose level, IVERHART MAX Soft Chew 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.

**Adverse Reactions:** In a field study with IVERHART MAX Soft Chew, self-limiting adverse reactions, including vomiting, diarrhea, lethargy, difficulty swallowing, excessive salivation, increased water consumption, and coughing were reported. Self-limiting adverse reactions, including lethargy, limpness, salivation, shaking, diarrhea, decreased appetite, licking lips, and belching were reported between 20 minutes and 72 hours following treatment in a field study with ivermectin/pyrantel pamoate/praziquantel tablets.

In field studies with ivermectin/pyrantel pamoate tablets, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported in dogs following the use of ivermectin products: depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions, and hypersalivation.

To report suspected adverse events, for technical assistance, or to obtain a copy of the Safety Data Sheet (SDS), contact Virbac AH, Inc. at 1-800-338-3659 or us.virbac.com. For additional information about adverse drug experience reporting for animal drugs, contact the FDA at 1-888-FDA-VETS or online at http://www.fda.gov/AnimalVeterinary/SafetyHealth.

**Effectiveness:** Prevention of the tissue larval stage of heartworm *(Dirofilaria immitis)* and the elimination of the adult stage of hookworm *(Ancylostoma caninum*, *Uncinaria stenocephala*, *Anyclostoma braziliense)*, roundworm *(Toxocara canis*, *Toxascaris leonina)*, and tapeworm *(Dipylidium caninum*, *Taenia pisiformis)* infections in dogs was demonstrated in well-controlled laboratory studies.

**Palatability:** In a field study of 132 dogs, IVERHART MAX Soft Chew was offered once monthly for 3 months. The dogs voluntarily consumed 86.3% of the doses from the owner's hand or from a bowl within 5 minutes, 13.0% accepted the dose when it was offered in food or administered by placing onto the back of the dog's tongue (pilling), and 0.7% of the doses were unable to be administered.

**Animal Safety:** 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 dose level of 6 mcg/kg) than dogs of other breeds. At elevated doses, sensitive dogs showed more adverse reactions, which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitability, stupor, coma, and death. No signs of toxicity were seen at 10 times the recommended dose (27.2 mcg/lb) in sensitive Collies. Data from these studies support the safety of ivermectin products in dogs, including Collies, when used at the label recommended dose.

Because ivermectin and praziquantel are approximately 30% more bioavailable in the IVERHART MAX Soft Chew than in the ivermectin/pyrantel pamoate/praziquantel tablets used in the following target animal safety studies, the margin of safety is narrower than reported in these studies. The potential for adverse reactions may be greater in individual dogs administered IVERHART MAX Soft Chew than ivermectin/pyrantel pamoate/praziquantel tablets.

In a target animal safety study using ivermectin/pyrantel pamoate/praziquantel tablets, doses were administered to 8-week-old Beagle puppies at one, three, and five times the maximum recommended dose of 12.5 mcg/kg ivermectin, 10.47 mg/kg pyrantel, and 10.47 mg/kg praziquantel. The dogs were treated every 30 days for 6 months. Vomiting within 6 hours of dosing and soft or watery feces within 24 hours of dosing were observed. Other observations during the study were: ano-genital swelling, lethargy, head movements, shallow, audible or difficult breathing, and salivation. One dog in the 5X group had tremors and decreased activity. All of these signs were transient. No treatment was required. Histopathology showed testicular hypoplasia in the 3X and 5X groups **(see Warnings)**.

In a laboratory safety study using ivermectin/pyrantel pamoate/praziquantel tablets, 12-week-old Beagle puppies receiving 3 and 5 times the recommended dose once weekly for 13 weeks demonstrated a dose-related decrease in testicular maturation compared to controls. In this study, all treated puppies had significantly higher cholesterol levels compared to untreated controls.

In a reproductive safety study, adult males were treated at 37.5 mcg/kg ivermectin, 31.4 mg/kg pyrantel, and 31.4 mg/kg praziquantel every 14 days during two full spermatogenic cycles (112 days). The quality of semen and reproductive health were not affected by treatment. Treatment-related vomiting and soft feces were reported during this study.

In a study of the effectiveness of ivermectin/pyrantel pamoate/praziquantel tablets for the treatment of *Toxocara canis*, one 8.1 lb, 72-day-old puppy died 6 days after administration of the label dose. This puppy and many other puppies in the study had high worm burdens and were reported to have diarrhea, sometimes bloody, frequently before and after treatment. Dehydration and signs of anemia (pale mucous membranes) were the only abnormal gross necropsy finding observed. No definitive cause was determined. In a 90-day field study using ivermectin/pyrantel pamoate/praziquantel tablets, the most serious adverse reactions (lethargy, limpness, and salivation) were seen in dogs weighing less than 10 lbs **(see Precautions)**.

**Storage Information:** Store at 20°C to 25°C (68°F to 77°F), excursions permitted between 15°C and 30°C (59°F to 86°F).

**How Supplied:** IVERHART MAX Soft Chew is available in four dosage strengths **(see Dosage and Administration)** for dogs of different weights. Each strength comes in a package of 6 soft chews.

NADA 141-441, Approved by FDA.

Manufactured by:

Virbac AH, Inc.
Fort Worth, TX 76137 USA
Phone: 1-800-338-3659


302143-03

9/17

Virbac

# MilbeGuard™ (milbemycin oxime) Flavored Tablets

## INFORMATION FOR DOSING DOGS

The once-a-month tablet that prevents heartworm disease, controls adult hookworm, and removes and controls adult roundworm and whipworm infections in dogs and puppies.

**Caution:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian. Keep this and all drugs out of the reach of children.

**Description:** MILBEGUARD (milbemycin oxime) Flavored Tablets are available in four tablet sizes in color-coded packages for oral administration to dogs and puppies. Each tablet is formulated to provide a minimum of 0.23 mg/lb (0.5 mg/kg) body weight of milbemycin oxime. Milbemycin oxime consists of the oxime derivatives of 5-didehydromilbemycins in the ratio of approximately 80% $A_4$ ($C_{32}H_{45}NO_7$, MW 555.71) and 20% $A_3$ ($C_{31}H_{43}NO_7$, MW 541.68).

| Package color | Milbemycin oxime tablet |
|---|---|
| Yellow | 2.3 mg* |
| Blue | 5.75 mg |
| Purple | 11.5 mg |
| Red | 23.0 mg |

*for dogs only

**Indications:** MILBEGUARD Flavored Tablets are indicated for use in the prevention of heartworm disease caused by Dirofilaria immitis, the control of adult Ancylostoma caninum (hookworm), and the removal and control of adult Toxocara canis and Toxascaris leonina (roundworms) and Trichuris vulpis (whipworm) infections in dogs and in puppies four weeks of age or greater and two pounds body weight or greater.

**Dosage:** MILBEGUARD Flavored Tablets are given orally, once a month, at the recommended minimum dosage rate of 0.23 mg milbemycin oxime per pound of body weight (0.5 mg/kg).

**Recommended Dosage Schedule for Dogs**

| Body Weight | MILEBEGUARD Flavored Tablets |
|---|---|
| 2-10 lbs. | One tablet (2.3 mg) |
| 11-25 lbs. | One tablet (5.75 mg) |
| 26-50 lbs. | One tablet (11.5 mg) |
| 51-100 lbs. | One tablet (23.0 mg) |

Dogs over 100 lbs. are provided the appropriate combination of tablets.

**Administration:** MILBEGUARD Flavored Tablets are dual-purpose and may be offered in food or administered as other tablet medications. Watch the dog closely following dosing to be sure the entire dose has been consumed. If it is not entirely consumed, redose once with the full recommended dose as soon as possible.

MILBEGUARD Flavored Tablets must be administered monthly, preferably on the same date each month. The first dose should be administered within one month of the dog's first exposure to mosquitoes and monthly thereafter until the end of the mosquito season. If a dose is missed and a 30-day interval between dosing is exceeded, administer MILBEGUARD Flavored Tablets immediately and resume the monthly dosing schedule.

If MILBEGUARD Flavored Tablets replaces diethylcarbamazine (DEC) for heartworm prevention, the first dose must be **given within 30 days after the last dose of DEC.**

**Precautions:** Do not use in puppies less than four weeks of age or less than two pounds of body weight. Prior to initiation of the MILBEGUARD Flavored Tablets treatment program, dogs should be tested for existing heartworm infections. Infected dogs should be treated to remove adult heartworms and microfilariae prior to initiating treatment with MILBEGUARD Flavored Tablets. Mild, transient hypersensitivity reactions manifested as labored respiration, vomiting, salivation and lethargy, have been noted in some treated dogs carrying a high number of circulating microfilariae. These reactions are presumably caused by release of protein from dead or dying microfilariae.

**Adverse Reactions:** The following adverse reactions have been reported following the use of MILBEGUARD Flavored Tablets: Depression/lethargy, vomiting, ataxia, anorexia, diarrhea, convulsions, weakness and hypersalivation.

**Efficacy:** MILBEGUARD Flavored Tablets eliminate the tissue stage of heartworm larvae and the adult stage of hookworm (Ancylostoma caninum), roundworms (Toxocara canis, Toxascaris leonina) and whipworm (Trichuris vulpis) infestations when administered orally according to the recommended dosage schedule.The anthelmintic activity of milbemycin oxime is believed to be a result of interference with invertebrate neurotransmission.

**Safety:** Milbemycin oxime has been tested safely in over 75 different breeds of dogs, including collies, pregnant females, breeding males and females, and puppies over two weeks of age. In well-controlled clinical field studies, 786 dogs completed treatment with milbemycin oxime. Milbemycin oxime was used safely in animals receiving frequently used veterinary products such as vaccines, anthelmintics, antibiotics, steroids, flea collars, shampoos and dips.

Two studies in heartworm-infected dogs were conducted which demonstrated mild, transient hypersensitivity reactions in treated dogs with high microfilaremia counts (see Precautions for reactions observed). Safety studies in pregnant dogs demonstrated that high doses (1.5 mg/kg =3X) of milbemycin oxime given in an exaggerated dosing regimen (daily from mating through weaning), resulted in measurable concentrations of the drug in milk. Puppies nursing these females which received exaggerated dosing regimens demonstrated milbemycin-related effects. These effects were directly attributable to the exaggerated experimental dosing regimen. The product is normally intended for once-a-month administration only. Subsequent studies included using 3X daily from mating to one week before weaning and demonstrated no effects on the pregnant females or their litters. A second study where pregnant females were dosed once at 3X the monthly use rate either before, on the day of or shortly after whelping resulted in no effects on the puppies.

Some nursing puppies, at 2, 4, and 6 weeks of age, given greatly exaggerated oral milbemycin oxime doses (9.6 mg/kg = 19X) exhibited signs typified by tremors, vocalization and ataxia. These effects were all transient and puppies returned to normal within 24 to 48 hours. No effects were observed in puppies given the recommended dose of milbemycin oxime (0.5 mg/kg). This product has not been tested in dogs less than 1 kg weight.

A rising-dose safety study conducted in rough-coated collies, manifested a clinical reaction consisting of ataxia, pyrexia and periodic recumbency, in one of fourteen dogs treated with milbemycin oxime at 12.5 mg/kg (25X monthly use rate). Prior to receiving the 12.5 mg/kg dose (25X monthly use rate) on day 56 of the study, all animals had undergone an exaggerated dosing regimen consisting of 2.5 mg/kg milbemycin oxime (5X monthly use rate) on day 0, followed by 5.0 mg/kg (10X monthly use rate) on day 14 and 10.0 mg/kg (20X monthly use rate) on day 32. No adverse reactions were observed in any of the collies treated with this regimen up through the 10.0 mg/kg (20X monthly use rate) dose.

**How supplied:** MILBEGUARD Flavored Tablets are available in four tablet sizes (see Dosage section), formulated according to the weight of the dog. Each tablet size is available in color-coded packages of 6 tablets each, which are packaged 10 per display carton.

**Storage conditions:** MILBEGUARD Flavored Tablets should be stored at room temperature, between 68° and 77°F (20-25°C).

## INFORMATION FOR DOSING CATS

The once-a-month tablet that prevents heartworm disease and removes adult roundworms and hookworms in cats and kittens.

**Caution:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian. Keep this and all drugs out of the reach of children.

**Description:** MILBEGUARD Flavored Tablets for Cats are available in three tablet sizes in color-coded packages for oral administration to cats and kittens. Each tablet is formulated to provide a minimum of 0.9 mg/lb (2.0 mg/kg) body weight of milbemycin oxime. Milbemycin oxime consists of the oxime derivatives of 5-didehydromilbemycins in the ratio of approximately 80% $A_4$ ($C_{32}H_{45}NO_7$, MW 555.71) and 20% $A_3$ ($C_{31}H_{43}NO_7$, MW 541.68).

**Indications:** MILBEGUARD Flavored Tablets for Cats are indicated for use in the prevention of heartworm disease caused by Dirofilaria immitis, and the removal of adult Ancylostoma tubaeforme (hookworm) and Toxocara cati (roundworm) in cats and kittens six weeks of age or greater and 1.5 lbs. body weight or greater.

**Dosage:** MILBEGUARD Flavored Tablets for Cats are given orally, once a month, at the recommended minimum dosage rate of 0.9 mg milbemycin oxime per pound of body weight (2.0mg/kg).

**Recommended Dosage Schedule for Cats**

| Body Weight | MILEBEGUARD Flavored Tablets |
|---|---|
| 1.5-6 lbs. | One tablet (5.75 mg) |
| 6.1-12 lbs. | One tablet (11.5 mg) |
| 12.1-25 lbs. | One tablet (23.0 mg) |

Cats over 25 lbs. are provided the appropriate combination of tablets.

**Administration:** MILBEGUARD Flavored Tablets for Cats may be offered in food or administered as other tablet medications. The tablets can be broken for ease of administration. Watch the cat closely following dosing to be sure the entire dose has been consumed. If it is not entirely consumed, redose once with the full recommended dose as soon as possible.

MILBEGUARD Flavored Tablets for Cats must be administered monthly, preferably on the same date each month. The first dose should be administered within one month of the cat's first exposure to mosquitoes and monthly thereafter until the end of the mosquito season. If a dose is missed and a 30-day interval between dosing is exceeded, administer MILBEGUARD Flavored Tablets for Cats immediately and resume the monthly dosing schedule. It is recommended that cats be tested for existing heartworm infection prior to starting treatment with MILBEGUARD Flavored Tablets for Cats (See Precautions).

**Precautions:** Do not use in kittens less than six weeks of age or less than 1.5 lbs. body weight. Safety in heartworm positive cats has not been established. Safety in breeding, pregnant, and lactating queens and breeding toms has not been established.

**Efficacy:** MILBEGUARD Flavored Tablets for Cats eliminate the tissue stage of heartworm larvae and hookworm (Ancylostoma tubaeforme) and roundworm (Toxocara cati) infections when administered orally according to the recommended dosage schedule. The anthelmintic activity of milbemycin oxime is believed to be a result of interference with invertebrate neurotransmission.

**Safety:** Milbemycin oxime has been tested safely in over 8 different breeds of cats. In well-controlled clinical field studies 141 cats completed treatment with milbemycin oxime. Milbemycin oxime was used safely in animals receiving frequently used veterinary products such as vaccines, anthelmintics, anesthetics, antibiotics, steroids, flea collars, shampoos and dips.

Safety studies were conducted in young cats and kittens and doses of 1X, 3X and 5X the minimum recommended dose of 2.0 mg/kg demonstrated no drug- related effects. Tolerability studies at exaggerated doses of 10X also demonstrated no drug-related adverse effects in kittens and young adult cats.

**How supplied:** MILBEGUARD Flavored Tablets for Cats are available in three tablet sizes (see Dosage section), formulated according to the weight of the cat. Each tablet size is available in color-coded packages of 6 tablets each, which are packaged 10 per display carton.

**Storage conditions:** MILBEGUARD Flavored Tablets for Cats should be stored at room temperature, between 68° and 77°F (20-25°C).

**Manufactured for:**
Ceva Animal Health, LLC
Lenexa, KS 66215

Made in Canada.

ANADA #200-629, Approved by FDA

Virbac

# sentinel® spectrum® chews

(milbemycin oxime·lufenuron·praziquantel)

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

**Description:** SENTINEL® SPECTRUM® Chews are available in four strengths in color-coded packages for oral administration to dogs and puppies according to their weight. Each chewable flavored tablet is formulated to provide a minimum of 0.23 mg/pound (0.5mg/kg) of milbemycin oxime, 4.55 mg/pound (10mg/kg) of lufenuron, and 2.28 mg/pound (5mg/kg) of praziquantel.

Milbemycin oxime consists of the oxime derivatives of 5-didehydromilbemycins in the ratio of approximately 80% A4 (C32H45NO7, MW 555.71) and 20% A3 (C31H43NO7, MW 541.68). Milbemycin oxime is classified as a macrocyclic anthelmintic.

Lufenuron is a benzoylphenylurea derivative with the following chemical composition: N-[2,5-dichloro-4-(1,1,2,3,3,3,-hexafluoropropoxy)-phenyl-aminocarbonyl]-2,6-difluorobenzamide (C17H8Cl2F8N2O3, MW 511.15). Benzoylphenylurea compounds, including lufenuron, are classified as insect development inhibitors (IDIs).

Praziquantel is an isoquinolone anthelmintic with the chemical name 2-(Cyclohexylcarbonyl)-1,2,3,6,7,-11b-hexahydro-4H-pyrazino[2,1-a] isoquinolin-4-one.

**Indications:** SENTINEL SPECTRUM Chews are indicated for the prevention of heartworm disease caused by Dirofilaria immitis; for the prevention and control of flea populations (*Ctenocephalides felis*); and for the treatment and control of adult roundworm (*Toxocara canis*, *Toxascaris leonina*), adult hookworm (*Ancylostoma caninum*), adult whipworm (*Trichuris vulpis*), and adult tapeworm (*Dipylidium caninum*, *Taenia pisiformis*, *Echinococcus multilocularis* and *Echinococcus granulosus*) infections in dogs and puppies two pounds of body weight or greater and six weeks of age and older.

**Dosage and Administration:** SENTINEL SPECTRUM Chews should be administerd orally, once every month, at the minimum dosage of 0.23 mg/lb (0.5 mg/kg) milbemycin oxime, 4.55 mg/lb (10 mg/kg) lufenuron, and 2.28 mg/lb (5 mg/kg) praziquantel. For heartworm prevention, give once monthly for at least 6 months after exposure to mosquitoes (see **EFFECTIVENESS**).

**Dosage Schedule**

| Body Weight | Milbemycin Oxime per chewable | Lufenuron per chewable | Praziquantel per chewable | Number of chewables |
|---|---|---|---|---|
| 2 to 8 lbs. | 2.3 mg | 46 mg | 22.8 mg | One |
| 8.1 to 25 lbs. | 5.75 mg | 115 mg | 57 mg | One |
| 25.1 to 50 lbs. | 11.5 mg | 230 mg | 114 mg | One |
| 50.1 to 100 lbs. | 23.0 mg | 460 mg | 228 mg | One |
| Over 100 lbs. | Administer the appropriate combination of chewables | | | |

To ensure adequate absorption, always administer SENTINEL SPECTRUM Chews to dogs immediately after or in conjunction with a normal meal.

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

***Heartworm Prevention:*** SENTINEL SPECTRUM Chews should be administered at monthly intervals beginning within one month of the dog's first seasonal exposure to mosquitoes and continuing until at least 6 months after the dog's last seasonal exposure (see **EFFECTIVENESS**). SENTINEL SPECTRUM Chews may be administered year-round without interruption. When switching from another heartworm preventative product to SENTINEL SPECTRUM Chews, the first dose of SENTINEL SPECTRUM Chews should be given within a month of the last dose of the former product.

***Flea Treatment and Prevention:*** Treatment with SENTINEL SPECTRUM Chews may begin at any time of the year, preferably starting one month before fleas become active and continuing monthly through the end of flea season. In areas where fleas are common year-round, monthly treatment with SENTINEL SPECTRUM Chews should continue the entire year without interruption.

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

***Intestinal Nematode and Cestode Treatment and Control:*** Dogs may be exposed to and can become infected with roundworms, whipworms, hookworms, and tapeworms throughout the year, regardless of season or climate. Clients should be advised of appropriate measures to prevent reinfection of their dog with intestinal parasites. Because the prepatent period for *E. multilocularis* may be as short as 26 days, dogs treated at the labeled monthly intervals may become reinfected and shed eggs between treatments.

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

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

**Precautions:** Treatment with fewer than 6 monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention (see **EFFECTIVENESS**).

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

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

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

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

The safety of SENTINEL® SPECTRUM® Chews has not been evaluated in dogs used for breeding or in lactating females. Studies have been performed with milbemycin oxime and lufenuron alone (see **ANIMAL SAFETY**).

**Adverse Reactions:** The following adverse reactions have been reported in dogs after administration of milbemycin oxime, lufenuron, or praziquantel: vomiting, depression/lethargy, pruritus, urticaria, diarrhea, anorexia, skin congestion, ataxia, convulsions, salivation, and weakness.

To report suspected adverse drug events, contact Virbac at 1-800-338-3659 or the FDA at 1-888-FDA-VETS.

For technical assistance, call Virbac at 1-800-338-3659.

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

**Effectiveness**

***Heartworm Prevention:*** In a well-controlled laboratory study, SENTINEL SPECTRUM Chews (*milbemycin oxime, lufenuron, praziquantel*) were 100% effective against induced heartworm infections when administered once monthly for 6 consecutive months. In well-controlled laboratory studies, neither one dose nor two consecutive doses of SENTINEL SPECTRUM Chews provided 100% effectiveness against induced heartworm infections.

***Intestinal Nematodes and Cestodes Treatment and Control:*** Elimination of the adult stage of hookworm (*Ancylostoma caninum*), roundworm (*Toxacara canis*, *Toxascaris leonina*), whipworm (*Trichuris vulpis*) and tapeworm (*Dipylidium caninum*, *Echinococcus multilocularis*, *Echinococcus granulosus*, *Taenia pisiformis*) infections in dogs was demonstrated in well-controlled laboratory studies.

***Flea Prevention and Control:*** In well-controlled studies, SENTINEL SPECTRUM Chews were effective in preventing flea eggs from hatching, thus providing control of the development of flea populations (*Ctenocephalides felis*).

***Palatability:*** In a field study of 117 dogs offered SENTINEL SPECTRUM Chews, 113 dogs (96.6%) accepted the product when offered from the hand as if a treat, 2 dogs (1.7%) accepted it from the bowl with food, 1 dog (0.9%) accepted it when it was placed in the dog's mouth, and 1 dog (0.9%) refused it.

**Animal Safety:** In a margin of safety study, 40 ten-week-old puppies (10 per group) were administered either a sham dose (0X) or doses of 1, 3, or 5X the maximum exposure dose of SENTINEL SPECTRUM Chews once every two weeks for a total of seven treatments. Transient ataxia, lethargy, tremors, and salivation were seen in the 3X and 5X groups following each of the seven doses. Lethargy and ataxia were occasionally reported in sham-dosed (0X) and 1X dogs. Tremors were observed twice post-treatment in the 1X treatment group. Vomiting was seen in all treatment groups but at a higher incidence in the 3X and 5X groups. At the 5X dose, shallow breathing was noted in two dogs and one dog was unable to stand following two different doses. All clinical signs resolved within 24 hours.

In a second margin of safety study, 64 six-week-old puppies (16 per group) were dosed with either a sham (0X) or 1, 3, or 5X the maximum exposure dose of SENTINEL SPECTRUM Chews on days 1, 15, 29, and 43. A dose dependent increase in ataxia, decreased activity, tremors, and salivation was seen within 24 hours of treatment. Splayed hind limbs were observed once in one dog in the 5X treatment group. Vomiting was observed in the 5X treatment group.

For SENTINEL SPECTRUM Chews, the maximum exposure based on product dosing is 2.5 mg/kg for milbemycin oxime, 50.7 mg/kg for lufenuron and 25.1 mg/kg for praziquantel, which is higher than the minimum effective dose used in the safety studies for milbemycin oxime and lufenuron (see below).

***Milbemycin Oxime:*** Two studies were conducted in heartworm-infected dogs treated with milbemycin oxime. Mild, transient hypersensitivity reactions were observed in dogs with high microfilariae counts (see **PRECAUTIONS**).

Safety studies in pregnant dogs demonstrated that doses of 0.6X the maximum exposure dose of SENTINEL SPECTRUM Chews, (1.5 mg/kg of milbemycin oxime), administered daily from mating through weaning, resulted in measurable concentrations of milbemycin oxime in milk. Puppies nursing these females demonstrated milbemycin oxime-related effects (depression, decreased activity, diarrhea, dehydration, nasal discharge). A subsequent study, which evaluated the daily administration of 0.6X the maximum exposure dose of SENTINEL SPECTRUM Chews, from mating until one week before weaning, demonstrated no effects on the pregnant females or their litters. A study, in which pregnant females were dosed once, at 0.6X maximum exposure dose of SENTINEL SPECTRUM Chews before, on the day of, or shortly after whelping, resulted in no effects on the puppies.

Some nursing puppies, at 2, 4, and 6 weeks of age, administered oral doses of 9.6 mg/kg milbemycin oxime (3.8X the maximum exposure dose of SENTINEL SPECTRUM Chews) exhibited tremors, vocalization, and ataxia. These effects were all transient and puppies returned to normal within 24 to 48 hours. No effects were observed in puppies administered 0.5 mg/kg milbemycin oxime (minimum label dose).

A rising-dose safety study conducted in rough-coated Collies resulted in ataxia, pyrexia, and periodic recumbency in one of fourteen dogs administered milbemycin oxime at 12.5 mg/kg (5X the maximum exposure dose of SENTINEL SPECTRUM Chews). Prior to receiving the 12.5 mg/kg dose on day 56 of the study, all animals had undergone a dosing regimen consisting of 2.5 mg/kg milbemycin oxime on day 0, followed by 5.0 mg/kg on day 14, and 10.0 mg/kg on day 32. No adverse reactions were observed in any of the Collies treated with doses less than 12.5 mg/kg.

***Lufenuron***: In a ten-month study, doses of lufenuron up to 2X the maximum exposure dose of SENTINEL SPECTRUM Chews (10 mg/kg) caused no overt toxicity. A single dose of 200 mg/kg had no marked effect on adult dogs, but caused decreased activity and reduced appetite in eight-week-old puppies. Lufenuron tablets were evaluated with concurrent administration of flea adulticides containing carbaryl, permethrin, chlorpyriphos, and cythioate. No toxicty resulted from these combinations. Lufenuron tablets did not cause cholinesterase inhibition nor did they enhance cholinesterase inhibition caused by exposure to organophoshphates.

Two laboratory and two well-controlled field studies were conducted to evaluate reproductive safety of lufenuron tablets in breeding dogs. In one of the laboratory studies, in which lufenuron was administered to Beagle dogs as three divided doses, equivalent to 17.8X the maximum exposure dose of SENTINEL SPECTRUM Chews (10 mg/kg), the ratio of gravid females to females mated was 8/8 or 100% in the control group and 6/9 or 67% in the lufenuron-treated group. The mean number of pups per litter was two animals higher in the lufenuron versus control groups and mean birth weights of pups from treated females in this study was lower than control groups. These pups grew at a similar rate to the control pups. The incidence of nasal discharge, pulmonary congestion, diarrhea/dehydration, and sluggishness was higher in the lufenuron-treated pup group than in the control pup group. The incidence of these signs was transient and decreasing by the end of lactation.

Results from three additional reproductive safety studies, one laboratory and two field studies, evaluating eleven breeds of dogs, did not demonstrate any adverse findings for the reproductive parameters measured, including fertility, pup birth weights, and pup clinical signs, after administration of lufenuron up to 1X the maximum exposure dose of SENTINEL SPECTRUM Chews. The average milk: blood concentration ratio was approximately 60 (i.e. 60X higher drug concentrations in the milk compared to drug levels in the blood of treated females). Nursing puppies averaged 8-9 times higher blood concentrations of lufenuron compared to their dams.

**Storage Information:** Store in a dry place at controlled room temperature, between 59° and 77°F (15-25°C).

**How Supplied:** SENTINEL SPECTRUM Chews are available in four strengths, formulated according to the weight of the dog. Each strength is available in color-coded packages of six or twelve chewable tablets each.

Manufactured by: Virbac AH, Inc.
P.O. Box 162059
Fort Worth, TX 76161
NADA 141-333, Approved by FDA.



2/18
302219 - 03

# BRAVECTO® (FLURALANER)

Flavored chews for dogs.

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

**Description:**
Each chew is formulated to provide a minimum dose of 11.4 mg/lb (25 mg/kg) body weight.

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

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

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

**Dosage and Administration:**
Bravecto should be administered orally as a single dose every 12 weeks according to the **Dosage Schedule** below to provide a minimum dose of 11.4 mg/lb (25 mg/kg) body weight.

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

Bravecto should be administered with food.

**Dosage Schedule**

| Body Weight Ranges (lb) | Fluralaner Content (mg) | Chews Administered |
|---|---|---|
| 4.4 – 9.9 | 112.5 | One |
| >9.9 – 22.0 | 250 | One |
| >22.0 – 44.0 | 500 | One |
| >44.0 – 88.0 | 1000 | One |
| >88.0 – 123.0* | 1400 | One |

*Dogs over 123.0 lb should be administered the appropriate combination of chews

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

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

**Warnings:**
Not for human use. Keep this and all drugs out of the reach of children. Keep the product in the original packaging until use, in order to prevent children from getting direct access to the product.

Do not eat, drink or smoke while handling the product. Wash hands thoroughly with soap and water immediately after use of the product.

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

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

**Percentage of Dogs with Adverse Reactions in the Field Study**

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

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

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

**Clinical Pharmacology:**
Peak fluralaner concentrations are achieved between 2 hours and 3 days following oral administration, and the elimination half-life ranges between 9.3 to 16.2 days. Quantifiable drug concentrations can be measured (lower than necessary for effectiveness) through 112 days. Due to reduced drug bioavailability in the fasted state, fluralaner should be administered with food.

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

**Effectiveness:**
Bravecto began to kill fleas within two hours after administration in a well-controlled laboratory study. In a European laboratory study, Bravecto killed fleas and *Ixodes ricinus* ticks and reduced the numbers of live fleas and *Ixodes ricinus* ticks on dogs by >98% within 12 hours for 12 weeks. In a well-controlled laboratory study, Bravecto demonstrated 100% effectiveness against adult fleas 48 hours post-infestation for 12 weeks. In well-controlled laboratory studies, Bravecto demonstrated ≥93% effectiveness against *Dermacentor variabilis*, *Ixodes scapularis* and *Rhipicephalus sanguineus* ticks 48 hours post-infestation for 12 weeks. Bravecto demonstrated ≥90% effectiveness against *Amblyomma americanum* 72 hours post-infestation for 8 weeks, but failed to demonstrate ≥90% effectiveness beyond 8 weeks.

In a well-controlled U.S. field study, a single dose of Bravecto reduced fleas by ≥99.7% for 12 weeks. Dogs with signs of flea allergy dermatitis showed improvement in erythema, alopecia, papules, scales, crusts, and excoriation as a direct result of eliminating flea infestations.

*Palatability*: In a well-controlled U.S. field study, which included 559 doses administered to 224 dogs, 80.7% of dogs voluntarily consumed Bravecto within 5 minutes, an additional 12.5% voluntarily consumed Bravecto within 5 minutes when offered with food, and 6.8% refused the dose or required forced administration.

**Animal Safety:**
*Margin of Safety Study*: In a margin of safety study, Bravecto was administered orally to 8- to 9-week-old puppies at 1, 3, and 5X the maximum label dose of 56 mg/kg at three, 8-week intervals. The dogs in the control group (0X) were untreated.

There were no clinically-relevant, treatment-related effects on physical examinations, body weights, food consumption, clinical pathology (hematology, clinical chemistries, coagulation tests, and urinalysis), gross pathology, histopathology, or organ weights. Diarrhea, mucoid and bloody feces were the most common observations in this study, occurring at a similar incidence in the treated and control groups. Five of the twelve treated dogs that experienced one or more of these signs did so within 6 hours of the first dosing. One dog in the 3X treatment group was observed to be dull, inappetant, with evidence of bloody diarrhea, vomiting, and weight loss beginning five days after the first treatment. One dog in the 1X treatment group vomited food 4 hours following the first treatment.

*Reproductive Safety Study*: Bravecto was administered orally to intact, reproductively-sound male and female Beagles at a dose of up to 168 mg/kg (equivalent to 3X the maximum label dose) on three to four occasions at 8-week intervals. The dogs in the control group (0X) were untreated.

There were no clinically-relevant, treatment-related effects on the body weights, food consumption, reproductive performance, semen analysis, litter data, gross necropsy (adult dogs) or histopathology findings (adult dogs and puppies). One adult treated dog suffered a seizure during the course of the study (46 days after the second treatment). Abnormal salivation was observed on 17 occasions: in six treated dogs (11 occasions) after dosing and four control dogs (6 occasions).

The following abnormalities were noted in 7 pups from 2 of the 10 dams in only the treated group during gross necropsy examination: limb deformity (4 pups), enlarged heart (2 pups), enlarged spleen (3 pups), and cleft palate (2 pups). During veterinary examination at Week 7, two pups from the control group had inguinal testicles, and two and four pups from the treated group had inguinal and cryptorchid testicles, respectively. No undescended testicles were observed at the time of necropsy (days 50 to 71).

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

**Storage Information:**
Do not store above 86°F (30°C).

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

NADA 141-426, Approved by FDA

Distributed by:
Intervet Inc (d/b/a Merck Animal Health)
Madison, NJ 07940

Made in Austria



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MERCK Animal Health

# Tri-Heart® Plus (Ivermectin/Pyrantel)

## Chewable Tablets

**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:** Tri-Heart® Plus ivermectin/pyrantel chewable tablets 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 | Chewable Tablets per Month | Ivermectin Content | Pyrantel Content | Color Coding on Blister Card and Carton |
|---|---|---|---|---|
| Up to 25 lbs | 1 | 68 mcg | 57 mg | Blue |
| 26 to 50 lbs | 1 | 136 mcg | 114 mg | Green |
| 51 to 100 lbs | 1 | 272 mcg | 227 mg | Brown |

Tri-Heart® Plus ivermectin/pyrantel chewable tablets are recommended for dogs 6 weeks of age and older. For dogs over 100 lbs, use the appropriate combination of these tablets.

**ADMINISTRATION:** Remove only one chewable tablet at a time from the blister card. Because most dogs find Tri-Heart® Plus chewable tablets palatable, the product can be offered to the dog by hand. Alternatively, it may be added intact to a small amount of dry food or placed in the back of the dog's mouth for forced swallowing.

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.

Tri-Heart® Plus chewable tablets 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 Tri-Heart® Plus chewable tablets 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 tablet 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 Tri-Heart® Plus chewable tablets and resumption of the recommended dosing regimen minimizes the opportunity for the development of adult heartworms.

Monthly treatment with Tri-Heart® Plus chewable tablets 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:** Tri-Heart® Plus chewable tablets 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. Tri-Heart® Plus chewable tablets are also effective against canine ascarids (T. canis, T. leonina) and hookworms (A. caninum, U. stenocephala, A. braziliense).

**ACCEPTABILITY:** In acceptability trials, Tri-Heart® Plus chewable tablets were shown to be a palatable 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 Tri-Heart® Plus chewable tablets which are not effective against adult D. immitis. Infected dogs must be treated to remove adult heartworms and microfilariae before initiating a program with Tri-Heart® Plus chewable tablets.

While some microfilariae may be killed by the ivermectin in Tri-Heart® Plus chewable tablets at the recommended dose level, Tri-Heart® Plus chewable tablets are 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 at controlled room temperature of 59-86° F (15-30° C). Protect product from light.

**ADVERSE REACTIONS:** In clinical field trials with ivermectin/pyrantel, 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 ivermectin at the recommended dose: depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

**SAFETY:** 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 of 6 mcg/kg) 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. Ivermectin 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 ivermectin products in dogs, including Collies, when used as recommended.

Ivermectin/pyrantel 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 ivermectin/pyrantel in a heartworm disease preventive 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:** Tri-Heart® Plus chewable tablets are available in three dosage strengths (See DOSAGE section) for dogs of different weights. Each strength comes in convenient packs of 6 chewable tablets.

For Technical Assistance, call Merck Animal Health: 1-800-224-5318

Manufactured for: Intervet Inc. a subsidiary of Merck & Co. Inc., Summit, NJ 07901.
Manufactured by: Diamond Animal Health, Inc., a wholly owned subsidiary of Heska Corporation, Des Moines, IA 50327



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