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The best read veterinary team journal. Bam.

Pleased to eat you

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leadership
CHALLENGE
Pet Pain and Death



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 **PURINA**
PRO PLAN
VETERINARY
DIETS



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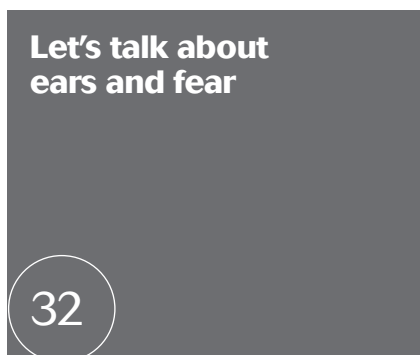
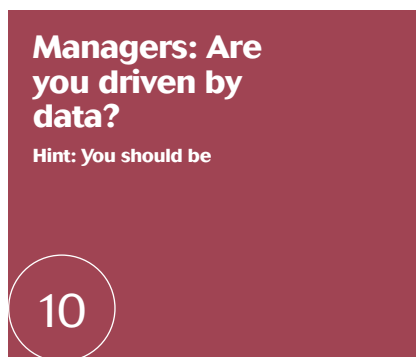
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*Law TH, Davies ES, Pan Y, et al. A randomised trial of a medium-chain TAG diet as treatment for dogs with idiopathic epilepsy. *Br J Nutr.* 2015 Nov 14;114(9):1438-47

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*as an adjunct
to veterinary
therapy



Let's get clinical

Top sessions for technicians at CVC Kansas City



Veterinary technicians—we have some good news, some bad news and some more good news.

The good news: CVC Kansas City offers a ton of opportunities to take your clinical knowledge and skills to the next level.

The (sorta) bad news: You can't attend all of the awesome sessions (due to timing conflicts).

More good news: We've put together a list of our top clinical picks to serve as a starting point when creating the conference schedule of your dreams! Here are some highlights ...



Geriatric medicine and end-of-life care:

The little things that make euthanasia better in clinics
Practical care for the geriatric patient

—Mary Gardner, DVM

Professional growth:

Body language for the veterinary team

—Dani McVety, DVM



Controlled substances:

What you really need to know

—Mary Berg, BS, RVT, RLATG, VTS (dentistry)

Practice management program:

Needs care, no \$\$\$... now what?

—Danielle Russ, LVT, BS, BA, AS



Public health:

If you cage creatures often enough ...
how to handle escapes

—Jenifer Chatfield, DVM, DACZM

Equine medicine:

You work in a dangerous profession! Teach your clients
to teach their horses to be cooperative patients

—Robert Miller, DVM



Go to **dvm360.com/letsgetclinical** for right-now resources on these topics, and find all the clinical sessions available to you at **thecvc.com/kc**. Not registered yet? Just click the "Register now" button to get going. We'll see you there.

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Dani McVety, DVM
Lap of Love Veterinary Hospice

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"This was my first year speaking for (and attending) the CVCs and frankly, I'm blown away. Every part of both the Virginia Beach and Kansas City events was well organized, well attended, personal, and simply fun. They didn't seem too big, too small, they were perfect. It was very exciting to see the engagement your team is inspiring in the profession." — Dani McVety, DVM

Register now, or learn more
at www.TheCVC.com/p1.



Kansas City, Aug. 25-28 | **San Diego**, Dec. 7-10 | **Virginia Beach**, May 17-20, 2018



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PEARLS

(Lustrously good advice and tips)

Techs: Find your spirit animal

Are you a pus-
loving lemur or a
psychic skunk?
True veterinary
tech spirit animal
enlightenment
awaits!



There's about a 90 percent chance you've already taken a spirit animal quiz. Forget the results and check out the animals on the following page to discover your true tech spirit animal (and perhaps the spirit animals of your fellow team members).



The Bacteria-Embracing Emu

You let all creatures great and small (and slobbery) lick you on the mouth. You have no personal bubble (or fear of germs).



The Coffee-Holding Hedgehog

You're physically unable to hold a conversation without holding a coffee cup.



The Psychic Skunk

You know what your team members need before they ask ... without being creepy.



The Pus-Loving Lemur

You get pouty when an abscess is lanced in your absence.



The Do-It-Yourself Duck

You scroll Pinterest like it's your second job and have a hack or recipe to fit every need.



The Organizing Opussum

Your ducks? Always in a row. You probably organize your closet by color and have your DVDs in alphabetical order.



The Harry Potter Panda

You don your cloak of invisibility when it's time to express anal glands.



The Hobbit Hare

You are constantly nibbling on the snacks stuffed in your pockets and would never miss second breakfast or elevenses.



The Comforting Koala

You dim the lights, plump the bedding, coax eating, massage pets, shush loud conversations and entertain boarders. Wait ... I think we're describing every single tech.



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¹Floerchinger AM, et al. Effects of feeding a weight loss food beyond a caloric restriction period on body composition and resistance to weight gain in cats. *J Am Vet Med Assoc.* 2015;247(4):365-374.
²Kruger JM, et al. Comparison of foods with differing nutritional profiles for long-term management of acute nonobstructive idiopathic cystitis in cats. *J Am Vet Med Assoc.* 2015;247(5):508-517.
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CC the Clinic Cat



Find more Clinic Cat comics and fun stuff at dvm360.com/cliniccat



3 tips for stabilizing and monitoring critical patients

The first few steps we take as technicians and veterinarians can be vital in providing lifesaving stabilization as well as obtaining diagnostic information, says CVC educator Kari Santoro Beer, DVM, DACVECC. Here are three quick takeaways from her CVC session.

TIP 1 In cases of acute hemorrhage, remember that patients will often have a normal to slightly high packed cell volume and low total solids concentration.

TIP 2 Recognize that the pulse oximeter is a finicky tool. If the patient's pulse rate isn't matching or isn't reading, the blood oxygen saturation (SpO2) level is likely not accurate. If you can't get a reading, don't let that change your plan.

TIP 3 If you're using the oscillometric method to measure a patient's blood pressure, check out the heart rate. If it doesn't match, the reading probably isn't right!

Cuff size matters.

It should be ...

40%

of limb
circumference
for dogs

30%

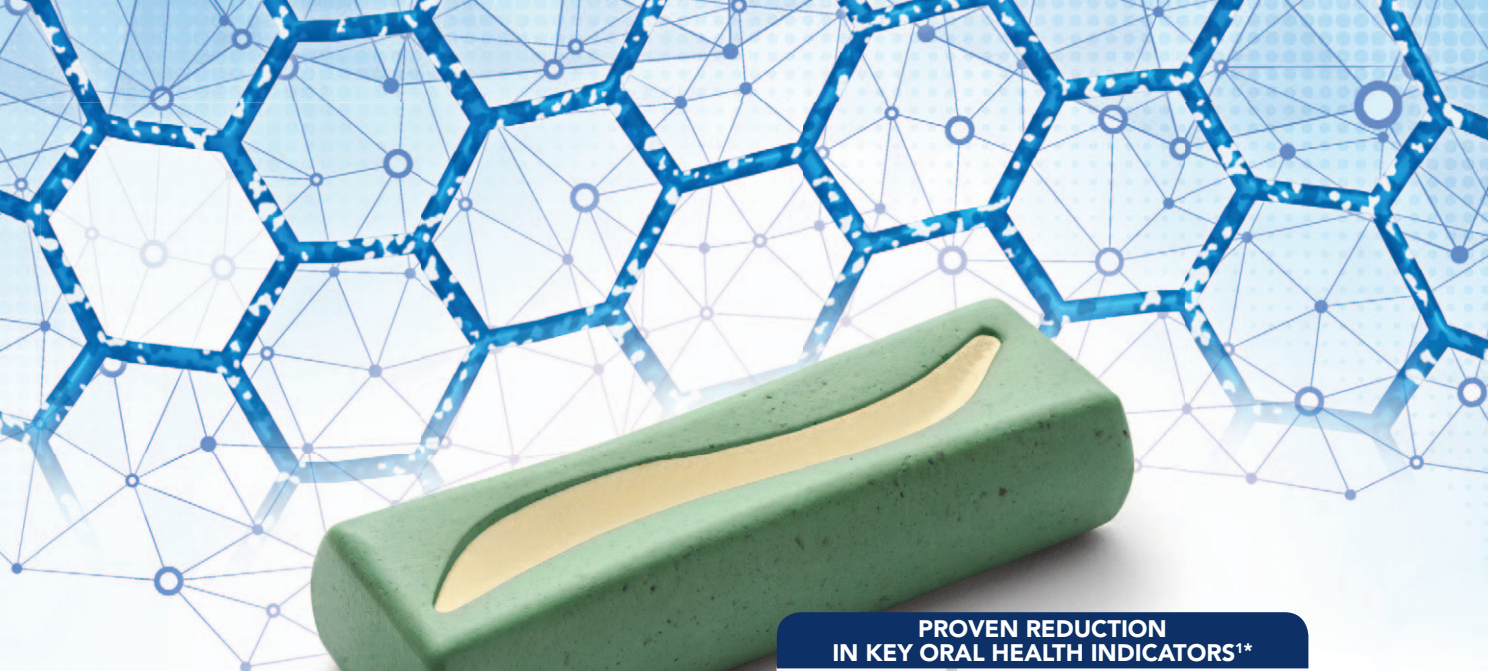
for cats

Too small = falsely high blood pressure.

Too big = falsely low.

Bonus audience tip:

Can't remember this? Here's help. Tight cuffs are like tight pants. If they're too tight your blood pressure will go up.



PROVEN REDUCTION
IN KEY ORAL HEALTH INDICATORS^{1*}

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- Efficacy demonstrated in multiple canine trials
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- Available through veterinarians

*Compared with dry diet alone.

References: 1. Data on file. 2. Steinberg D, Beeman D, Bowen W. The effect of delmopinol on glucosyltransferase adsorbed on to saliva-coated hydroxyapatite. *Archs Oral Biol.* 1992;37:33-38. 3. Vassilakos N, Arnebrant T, Rundegren J. In vitro interactions of delmopinol hydrochloride with salivary films adsorbed at solid/liquid interfaces. *Caries Res.* 1993;27:176-182.

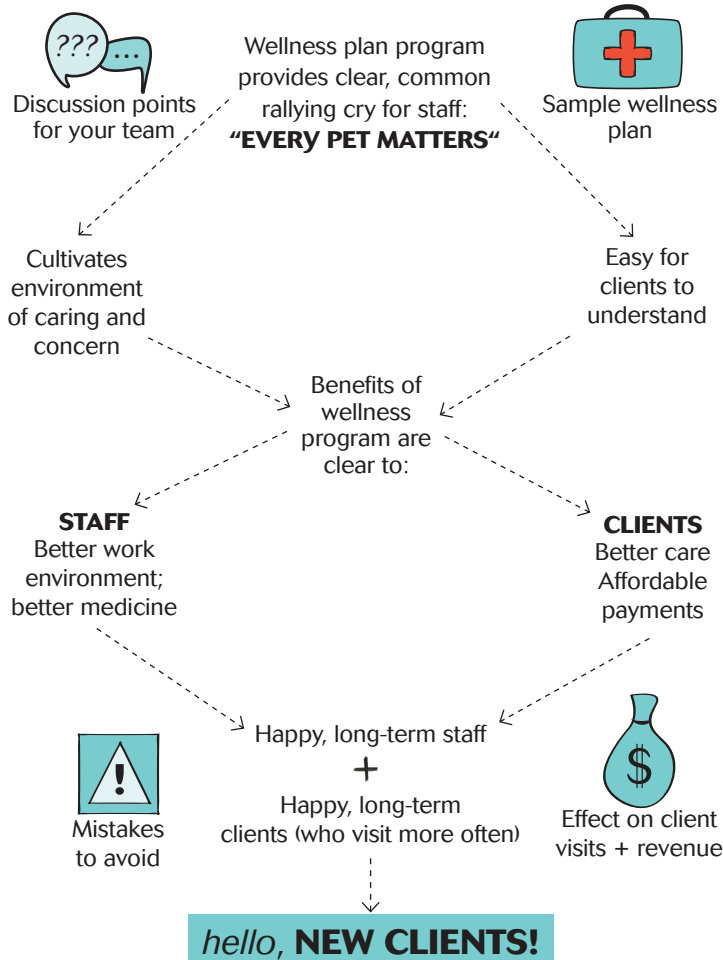


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Flow chart: Why wellness plans?

A veterinarian shared how a wellness plan program transformed her practice, so we turned her experience into a flow chart (because that's what we do).



We recently adopted a wellness plan program that has changed the way we practice. It's easy to understand and explain to clients and allows the staff to work together toward a common goal: "Every pet matters." The program is designed to encourage owners to maintain routine care of their pet at an affordable price. This allows employees to see the benefits to owners and creates an environment of caring and concern. We are helping preserve clients and bringing in new ones who are trusting us with the care of their pets long-term!

—Brandy Fraser, DVM
South Mississippi
Animal Health Center
Moss Point, Mississippi

Visit
dvm360.com/wellflow
for an interactive flow
chart with more tips to
implement a wellness
program.

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Dental tips with bite!

- 1 Dental goodie bags.** Include product brochures, free samples for at-home dental products and a \$10 discount off dental preventive products that day.
- 2 Before-and-after pics.** Send them home with the pet owner to show that the money on dental procedures was well-spent.
- 3 Flip book.** Keep copies of those before-and-after pics (you don't need to include patient or client names!) in a flip book at the practice to show other clients the importance of dental work.

—Bailey Parker
Wolf Creek Veterinary Clinic
Basehor, Kansas



GI DISEASE

Relief he's been waiting for



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Driven by data



Are you driving toward bigger profits and clients who stay with you forever and ever ... or steering off the beaten path?

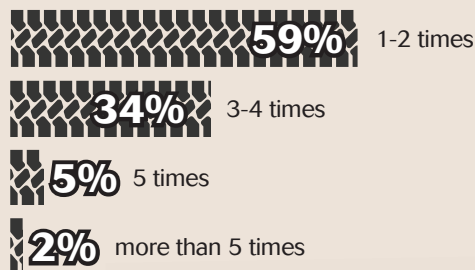
By Christine Shupe

Sure, collecting data is time-consuming. No, you don't have a spare minute. But if you're not putting data in the driver's seat at your practice, how will you ever choose the right road? The Veterinary Hospital Managers Association (VHMA) Insiders Insights survey, completed by 227 respondents, focused on tracking clients and data collection—specifically, how information is collected and the ways practices are using the information.

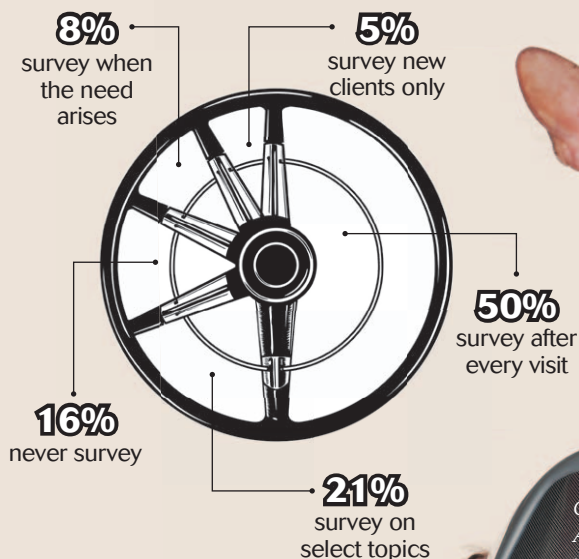
Why track? It's key to:

- > find out if your marketing efforts are working
- > gauge client loyalty
- > collect feedback from clients

How many times do you reach out to inactive clients?



How often does the practice receive feedback on the patient experience?



So how are you doing? About half of VHMA respondents said they keep tabs on deceased pets. And

65% say they engage and monitor inactive patients.

73% of practices don't have a formal reengagement program. Those who do most often opted for DemandForce and VetSuccess.

Data collection and analysis can yield essential information to improve a practice's success. But to be effective, the information should be the driver for outlining strategies and taking action.



Christine Shupe is executive director of the Veterinary Hospital Managers Association. The association is dedicated to serving professionals in veterinary management through education, certification and networking.

Relax!

3 behavior supplements for pets

1

GOT PACING POOCHES AND SCAREDY CATS?

Panting. Pacing. Pawing. An anxious pet can mean sleepless nights and distracted days for pet owners. One solution? Solliquin by Nutramax. Designed for pet owners seeking a behavioral health supplement, Solliquin is intended to help support normal behavior and facilitate a calming effect in anxious pooches and fraidy cats. Choose from a once-daily soft chew or chewable tablet, which contains L-theanine, magnolia and phellodendron extracts and a select concentrated whey protein.

2

WHEN SUMMER SHOWERS MAKE BAXTER COWER ...

Crash! Boom! Bam! Whether it's thunderstorms, fireworks, traveling or environmental situations, Zylkene from Vetoquinol is designed to get kitties off the curtains and pooches out from under the bed and in a calmer state of mind. It's a veterinary-exclusive product formulated with alpha-casozepine, which is derived from casein, a milk protein. But never fear. It's lactose-free!

3

IN SYMPHONY WITH HARMONEASE

Harmonase Chewable Tablets, from Veterinary Products Laboratories, are used to reduce stress in dogs. They boast a blend of *Magnolia officinalis* extract and an extract from *Phellodendron amurense*. These natural compounds bind to selective targets in the central nervous system associated with stress, but not to the receptors that would cause lethargy and muscle relaxation. The tablets come 30 to a bottle.

To find more behavior supplements for pets, visit dvm360.com/behaviorsupplements

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Creature comforts

Sit. Stay. Play! Food puzzles can be an effective tool to help you create more relaxed veterinary visits for pets in your practice.

By Mikkel Becker, CBCC-KA, CPDT-KA, CDBC, CTC, KPA Graduate, BA Communications

Food, glorious food! Toys and food puzzles are an excellent addition to your exam room, treatment area, hospital wards and kennels to help pets create positive associations with your practice and the veterinary visit. These tools offer healthy, happy distractions to occupy pets while you provide care. Or, if

you're conditioning a pet to feel more comfortable with a more intentional approach, the rewards can be licks of treats from the toy or an opportunity to play. Food puzzles also help reduce signs of stress and sickness in cats and improve the well-being of the pet during care—and at home, too, if the owner's game.

Here's a look at different types of food puzzles and when you might use them:

1 When you want the pet to hold still

Choose puzzles you can wash and disinfect easily in between patients. These include Kongs or other stuffable toys you can fill with soft food or harder treats. The soft-fill cavity toys are ideal when you're offering veterinary care, because they're easier to use in a stationary position. This helps keep cats and dogs in place as they lick out the inner contents and you offer the needed care.

2 When you're looking for a happy distraction

Opt for movable puzzles designed for dry food or treats for independent play and when you want the pet to move and focus on a task. For example, a moveable food puzzle may create a happy distraction when the pet's waiting for care. Some pets will enjoy searching for hidden treats beneath movable puzzle pieces or seeking scattered treats inside of a washable food mat toy (Wooly by Paw5, for example).

3 When you want to keep the pet focused or occupied

Puzzles can keep pets in kennels or cages happily occupied and focused on a task.





Anxiety and otitis: Trouble ahead

We all know ear appointments don't always go according to plan. The combination of fear, anxiety and ear pain can make things chaotic, fast. Help your patients with these key steps. **p6**



OTITIS MANAGEMENT

June 2017

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LOVE at one dose

Try Claro.[®] The one and only FDA-approved canine otitis externa treatment featuring:

- Single-dose treatment
- Vet administered to ensure compliance
- No work for your clients

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CLARO[®]

(florfenicol, terbinafine, mometasone furoate)
Otic Solution

Claro[®] Otic Solution is approved for the treatment of ear infections in dogs caused by susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Staphylococcus pseudintermedius*). CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. CONTRAINDICATIONS: Claro[®] should not be used in dogs known or suspected to be allergic to Claro[®] or any of its ingredients.

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Feeling underwater?

The 'ugh's and 'why's of chronic otitis

Managing a one-time case of otitis is bad enough. Treating difficult cases? Insert exasperated sounds here. Don't worry, here's your lifesaver.

By Meghan E. Burns, DVM





(florfenicol, terbinafine, mometasone furoate)

Otic Solution

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

The following information is a summary of the complete product information and is not comprehensive. Please refer to the approved product label for complete product information prior to use.

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

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

INDICATIONS:

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

DOSAGE AND ADMINISTRATION:

CLARO® should be administered by veterinary personnel. Administration is one dose (1 dropperful) per affected ear. The duration of effect should last 30 days. Clean and dry the external ear canal before administering the product. Verify the tympanic membrane is intact prior to administration. Cleaning the ear after dosing may affect product effectiveness. Refer to product label for complete directions for use.

CONTRAINDICATIONS:

Do not use in dogs with known tympanic membrane perforation (see **PRECAUTIONS**).

CLARO® is contraindicated in dogs with known or suspected hypersensitivity to florfenicol, terbinafine hydrochloride, or mometasone furoate, the inactive ingredients listed above, or similar drugs, or any ingredient in these medicines.

WARNINGS:

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

PRECAUTIONS:

Do not administer orally.

The use of CLARO® in dogs with perforated tympanic membranes has not been evaluated. The integrity of the tympanic membrane should be confirmed before administering the product. Reevaluate the dog if hearing loss or signs of vestibular dysfunction are observed during treatment.

Use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hyperadrenocorticism in dogs.

Use with caution in dogs with impaired hepatic function. The safe use of CLARO® in dogs used for breeding purposes, during pregnancy, or in lactating bitches has not been evaluated.

ADVERSE REACTIONS:

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

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

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

NADA 141-440, Approved by FDA.

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Chronic otitis is at it again

How do we prevent otitis from recurring? At CVC Kansas City, James Noxon, DVM, DACVIM, reviewed the best practices of ear treatment, focusing on *Pseudomonas* species infections.

>> Make a proper diagnosis.

This means perform a thorough ear examination, an otoscopic examination and key diagnostic tests. For example, according to Dr. Noxon, cytology is absolutely necessary to properly evaluate a patient with otitis.

>> Remove obstructions such

as wax and hair.

>> Clean the ears before treating for effectiveness of topical therapy.

>> Provide good client education.

>> Follow good principles of therapy—proper product, at proper dosage, for proper frequency and proper duration.

Recurrence is usually due to failure of figuring out why the infection is there. Dr. Noxon says otitis is all about the what and the why—what is going on and why is it there. He says *Pseudomonas* species infections should be suspected when:

>> Ears are extremely painful

>> Mucopurulent discharge accumulates toward the outer part of canal

>> A single populace of rods is seen on cytology,

especially gram-negative rods. Gram stains are recommended, and very helpful if rods are seen on cytology.

>> Tissue bleeds readily.

About that ear cleaning...

If you have a patient with a *Pseudomonas* species infection, Dr. Noxon says to do a deep ear cleaning and flush under sedation, irrespective of whether you can see the eardrum. He prefers to do the cleaning in the office as owners can over-clean and break down tight junctions in the skin from over-cleaning. According to

Dr. Noxon, he cleans ears thoroughly in his office, then repeats the cleaning at the patient's first recheck (2-4 weeks). He has the owners clean the ears at home only if the ear is rapidly filling with ceruminous debris.

Dr. Noxon says commercial products are the most effective—products with gentamicin, enrofloxacin

That darn biofilm!

So why are *Pseudomonas* infections so hard to deal with? Dr. Noxon says the bacteria is a biofilm producer along with other species of bacteria such as *Staphylococcus* species. Biofilm is a matrix of proteins that is gel-like, containing sugary strands also called an extracellular polymeric substance (EPS). Bacteria live within the biofilm and nutrients are delivered via channels. Biofilm protects bacteria from antibiotics, antibodies and phagocytic cells.

Dr. Noxon says that the advantages to bacteria from biofilm are:

- >> Structural stability
 - >> Adherence to biotic and abiotic substances
 - >> Resistance to the host's immune system
 - >> Resistance to antimicrobial therapy
- Biofilm is a very thin layer that is invisible. Penetration of the biofilm doesn't happen, according to Dr. Noxon. However, if it did, bacteria can respond due to added time since they are exposed to the antibiotic agent more slowly. You can't kill biofilm, but you can remove it with regular ear cleaning and removal of obstructions, says Dr. Noxon.

and polymyxin B sulfates. Polymyxin B is a great antibiotic for *Pseudomonas* species, and ear cleaning is important to allow the antibiotics to work more effectively, since many have reduced activity in the presence of pus. Dr. Noxon cautions jumping on the new-drug bandwagon with a perceived resistance case. He says to reexamine the diagnosis and

cleaning procedure.

Dr. Noxon recommends performing a culture at four weeks to determine if there is indeed a recurrence and warns that *Pseudomonas* species can be difficult to find on cytology. He also recommends a maintenance plan with some antiseptic or cleaner with antimicrobial activity once or twice a week to keep the ears quiet.

An overview of treating a *Pseudomonas* species infection

- >> Deep clean the ears.
- >> Administer an appropriate antiseptic and antibiotic.
- >> Monitor the infection by cytology and culture.
- >> Treat for two weeks after negative cytology.
- >> Administer concurrent glucocorticoids—topical and oral.

After you kill *Pseudomonas* species, since the ears were so moist, Dr. Noxon says it is common to get a secondary *Staphylococcus* species infection or more commonly *Malassezia* species yeast. So he prefers to treat with a commercial product that has activity for *Malassezia*.

Anxiety and otitis: **Trouble ahead**

Veterinary professionals, lend me your ear! Pain, otitis and anxiety are a combination not many want to mess with, but I've got some tips and tricks worth listening to. *By Darin Dell, DVM, DACVD*



We all know ear appointments don't always go according to plan. Things can go from cakewalk to chaos quickly—and much of that could be due in part to fear and anxiety in dogs. To get a leg up on the combination of pain, anxiety and otitis, consider these key steps:

Patients with the dreaded combo

In my dermatology referral practice, I'd estimate that almost every dog with otitis is painful, and about half of them are fearful or anxious. I think three factors may increase the risk of ear-related anxiety:

> The breed. Label them however you want, but we all know which breeds tend to be more stressed—especially in a veterinary environment.

> Time spent suffering. This doesn't just mean the current episode of otitis, but rather the length of time between the very first episode of otitis and the current episode. Most allergy dogs suffer from recurrent otitis for months, years or even their entire life.

> The owner's anxiety. We all know that dogs take cues from their owners. If clients are scared about cleaning or medicating the ears, dogs are more likely to think they should be worried. (Hey! Here's another reason why it's so important to demonstrate ear cleaning and medicating!)

Clients and home care

Many dogs resist ear cleaning and the application of ear medication. This includes those dogs that run and hide when they see the bottle of ear wash. But I see at least two other common presentations that clients should watch out for when they're at home with their pet.

> Becoming less social. These dogs eat and drink and do basic dog activities. But when given the choice, they are quiet and return to their bed or crate.

> The subtle shrug-off. There are dogs that imperceptibly move away when their owner rubs their ears. I have had many clients who never correlated the fact that their dog had become head-shy with the presence of an ear infection.

Less common symptoms I've seen include reduced food intake, reduced chewing on bones and reduced barking.

Veterinary team: Clinic care

To start, you have to be open to the idea that otitis is painful—and that pain is stressful.

Because of this, chronic pain is especially stressful. Second, veterinarians need to educate their team so everyone is on board and aware. This helps your team talk to clients on the phone and more effectively encourage exams rather than another refill of ear drops.

Be observant. This starts with receptionists observing the dog in the waiting area. Then technicians notice

behaviors when moving the patient to an exam room. Then finally the veterinarian must watch with a keen eye to pick up on subtle movements and actions in the exam room. All of this helps the veterinarian ask more specific questions such as:

"Our receptionist, Lauren, noticed that Spot was rubbing his head against the chair in the lobby, then whining. Does he do that at home?"

"I realize that Spot may be nervous today, but he seems to be avoiding your hand when you try to pet his head. Is this a change from his usual behavior?"

"Our technician, Molly, saw Spot with his head tilted a little and veering off to the side when you came to the exam room—have you seen him do this at home?"

Convince the owner! Most people are fortunate enough to have never experienced an ear infection. But those who have as an adult never forget the pain. This message may also



connect with parents of younger children—ear infections in kids are common, and many parents have spent sleepless nights trying to soothe crying children with their pain.

For those clients who don't have the joy of either of those experiences, I use the analogy of a headache that won't go away or an infected tooth that needs a root canal. Ear pain is a type of pain that stays with you no matter how you walk, sit or lie down. There's no avoiding it. An observant team also helps convince the client. If several of your team members express genuine concern about the way the dog is acting, the owner might look at the problem from a new angle and realize that pain is part of an ear infection.

My top tips for soothing this painful process

First and foremost, **do no harm**. As you talk to the client and observe the dog's behavior, ask yourself if physically restraining the patient is viable. You can force most dogs into an otoscopic exam once ... but if it becomes a wrestling match, you may never get to look in that dog's ears again. Plus, if you and your team struggle with the dog to examine his ears, then what chance does your client have at home?

The dog that struggles in

the clinic remembers that any time someone touches his ears the result is pain and lack of control—both of which increase fear. Don't let your ego (i.e., "This dog is going to let me see his ears or else!") ruin your client's chance of good home therapy. It's better to sedate painful, anxious and uncooperative dogs.

Think low stress! When a dog presents for otitis, you need to avoid grabbing the ear as soon as the dog is on the table. Perform the rest of your physical exam and allow the dog to become more comfortable with you and the exam room first. Then approach the ears slowly and gently. If the dog is very painful or aggressive, stop and discuss sedation. If the dog is simply uncomfortable, try distractions with treats. You may have to look in one ear, then take a break for a few minutes before examining the other ear.

Finally, remember **positive rewards and practice make perfect**. This requires a client who sees the problem and wants to make it better. It's our job to show them how to do it, but obviously the practice and true work happen at home.

Have the client start with a sit or down command (an easy one so the dog can get a reward). Then start gentle

touching of the external pinna followed by a treat. They can slowly work through touching more of the pinna, then touching the aural opening, then wiping the aural opening and concave pinna with a gauze square or facial tissue.

After all of these steps have become easy and well-rehearsed, it's time to try actual ear cleaning by instilling some ear wash into the canal. Just like with any other training exercise, break the task down into small parts and go slow. Praise good behavior vigorously and avoid accidentally condoning bad behavior. Remember that even dogs without ear infection may resist having ear wash poured into their ear.

If your team or clients are feeling burned by otitis, stop and consider your approach. With some simple adjustments, you may be able to take much of the pain out of this process—for pets, for clients and for your team too.



Dr. Darin Dell spent six years in general practice and two years in emergency medicine before

becoming a diplomate of the American College of Veterinary Dermatology in 2012. He is currently on staff at Animal Dermatology Clinic in Indianapolis.

5 TIPS TO TACKLE OTITIS EXTERNA



James Noxon, DVM, DACVIM, had an audience laughing and learning in a recent CVC session. Here are a few of the takeaways he dished out for folks on making sure you and your clients get the most bang for your buck out of your dermatologic treatment.

1

CLEAN THE EARS

Remove debris that causes irritation. Remove debris that prevents your medicine from getting deep enough. Remove debris that interferes with the ear's natural self-cleansing mechanism. Remove debris that can actively interfere with ingredients in your ear medicine, like pus. Dr. Noxon is all about getting a better head start to give your therapy a better chance to be effective.

2

GET THE HAIR OUT

Dr. Noxon is not advocating for pulling hair for routine grooming or preventive care, but when there's a lot of hair, you know the medication may not be getting deep enough to be effective. In most cases, plucking the hair with hemostats works fine. His advice? Just make sure you're only grasping hair when you pull!

3

PICK A GOOD TOOL

What's Dr. Noxon like for ear cleaning tools? Here are his thoughts:

> Be careful with the bulb

"I'm not a fan of the bulb syringe. I've had to go in and tell people their dogs' eardrums are ruptured," Dr. Noxon says. "If you create a seal, pushing fluid in or pulling fluid out, pop—that eardrum's gone."



> Be leery of the loop

"I love ear loops, and I use them all the time, but they carry a steep learning curve," Dr. Noxon says. Your depth perception is minimal because you're working in a very small, relatively deep hole (the ear canal). Remember to advance the loop very slowly and carefully to avoid rupturing the tympanic membrane.



> Edge toward the elephant

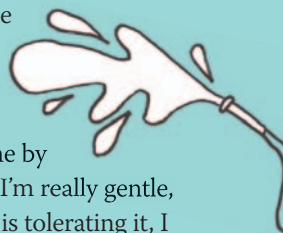
"I recommend a thorough deep flushing or cleaning technique," Dr. Noxon says, "but that always requires general anesthesia." A compromise to avoid general anesthesia, he says, is to use a system like the elephant ear cleaner or the rhino ear cleaner. They're messy as stuff gets pumped out of the ear, so he uses absorbent diapers to clean up that mess.



4

BE CAREFUL WITH YOUR PUMPING

You've settled on your water-blasting tool, but Dr. Noxon says it's the art of medicine when you judge how aggressive to be: "It's all done by feel," he says. "I'm really gentle, and if the dog is tolerating it, I might start being a little more aggressive." He's a fan of keeping the temperature as close to body temperature as possible, not hot water or chilled-from-your-plumbing iciness.



5

GET IT ON VIDEO

"The video otoscope is more fun," Dr. Noxon says, especially if you're trying to remove a solid plug down deep. And he absolutely uses general anesthesia, not just sedation—"I've never found a sedation protocol that works for getting out deep plugs of material, but if you've got one, I'll try one."



The nitty gritty details of collecting cytology samples

Are you interested in cutaneous cytology but unsure of how best to collect samples? You're in luck! Read this practical guide and you will be swabbing ears and tail folds like a pro in no time. *By Melissa Hall, DVM, DACVD*



Figure 1: Some of the supplies you'll need: a lighter, a clothespin and the three parts of a Diff-Quik stain.

Collecting debris from deep within ears, skin folds and inside pustules is not for the weak-stomached. But those of us in the veterinary profession are made of strong, gritty stock. We know that debris, which may be described as “gross” by a layperson, can provide us with valuable diagnostic information.

In fact, this information is so important that cutaneous cytology should be performed in almost all dermatology cases. Luckily for us, cytology is inexpensive, is relatively easy to perform, and, if evaluated in-house, has almost immediate results. So let’s gather up our cotton-tipped applicators—and a few more tools—and dig in.

Supplies

Most of the equipment you need to get started with cytology you probably already have (Figure 1):

- > **Binocular lens microscope**
- > **Slides and cover slips**
- > **Cotton-tipped applicators**
- > **Syringes and needles**
- > **Cytologic stain**
- > **A clothespin (to keep the stain off your fingers)**
- > **Heat source (e.g. lighter)**
- > **Transparent acetate tape (optional)**

Note about stains: For in-house cytology, I recommend Diff-

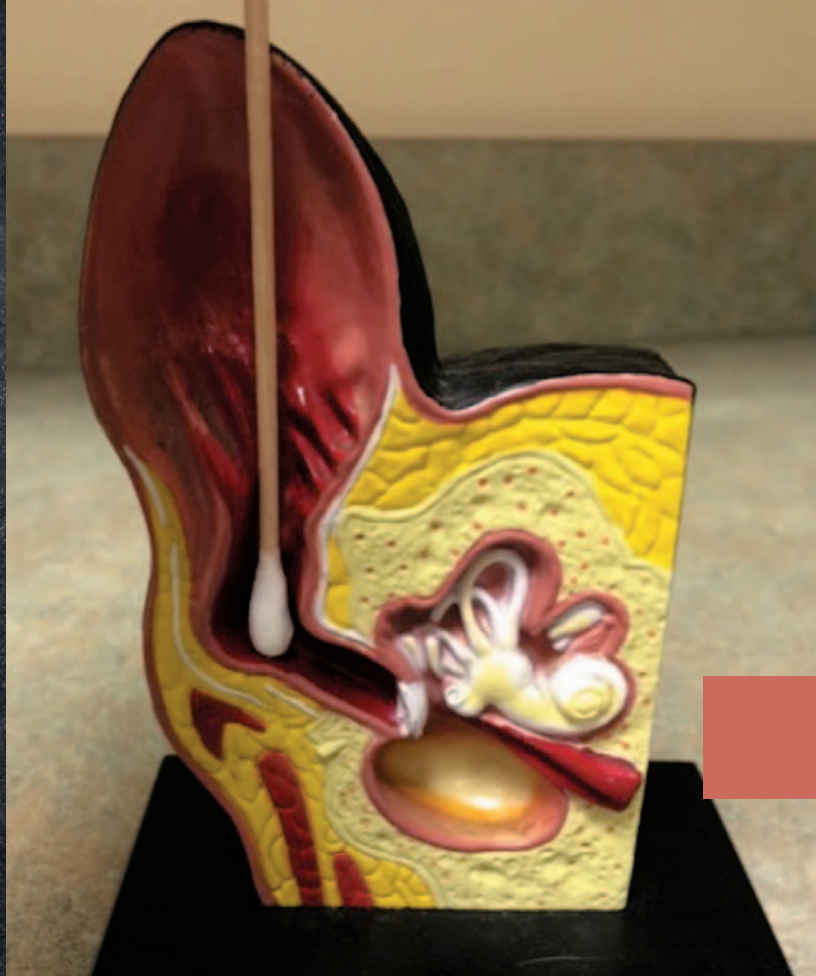


Figure 2: An anatomic model showing the correct placement of a cotton-tipped applicator in the ear canal.

Quik (Dade Behring) stain. Stains should be replaced at least every other week; at my practice we change them weekly. To reduce bacterial contamination, separate staining tubs should be used for dirty (anal gland, fecal) samples.

How to obtain samples from ...

Ears: Insert a cotton-tipped applicator into the vertical external ear canal. Then remove the applicator and roll it onto

the slide. Heat-fix the slide by applying flame to the back of the slide for a few seconds. Stain using the three-part Diff-Quik stain. With very waxy ears, you may need to keep the slide in the first step of the Diff-Quik (the fixative) longer.

You don’t want to damage the ear by accidentally placing the cotton-tipped applicator too far into the canal, so when inserting it, hold the applicator so that only an inch of it can be inserted (Figure 2).



Figure 3: Obtaining a sample from a claw fold.

Develop a method to keep track of left ear samples vs. right ear samples and then apply it consistently. I hold the slide with my left hand, so the samples from the left ear are next to the frosted part of the slide and the samples from the right ear are on the other side. Others like to make small Ls or Rs on their slides. The method is not as important as consistency is.

Skin folds or interdigital spaces: Insert a cotton-tipped applicator into the skin fold as deeply as you can and rub

it along the skin. Then roll the applicator onto the slide, heat-fix the slide, and stain it.

I have found getting samples from the tail folds of English bulldogs to be helpful in determining why the dogs are scooting around on the floor. Owners often think that anal glands need to be expressed when the issue is an irritating infection.

Claw folds: Gently insert a toothpick or a broken cotton-tipped applicator into the cuticle to draw out debris, which may be dark brown, thick

and adherent, and then apply that debris to a slide (Figure 3).

The debris might not look like much, but once you stain it, there may be a lot to see, especially yeast.

Claw fold sampling is a good idea for dogs that are licking their paws a lot, even if the paws appear to be healthy.

Moist or exudative lesions: Press the slide directly onto the lesion (Figure 4). Be careful not to rub the slide or move it side to side as this can disrupt the cells and make it more difficult to read. For these samples you can let them dry without heat fixing. When in a hurry, heat fixing with a lighter is also appropriate. Again, stain using the Diff-Quik system.

Pustules: Open the pustule and then press the slide directly onto the fluid and pustule and smear the debris across the slide. If you need a culture sample, you can apply the cotton-tipped applicator at the same site that was prepared from the slide. Ideally, you'll allow these slides to air dry to minimize trauma to the cells. To speed the process along, you can quickly heat fix by applying flame on the back side of the slide for a few seconds. Then fix the slide using the three-part Diff-Quik system.

Crusty lesions: Take the leading edge of the slide

(frosted side facing down onto the skin) and rub it at the beginning of the crust, getting under the crust, and then continue rubbing the slide against the affected skin. By using this technique, the sample you can collect from between the crusted material and the skin surface. Follow by heat-fixing the slide using a lighter and stain with the Diff-Quik.

Dry or scaly lesions: Press the sticky side of clear acetate tape firmly against the lesion. Stain the tape directly, skipping the fixation solution, and press the tape (sticky side down) onto a slide.

Acetate tape gets everything on the skin—it goes deeper than a direct smear—so samples obtained with this method can take longer to read.

I prefer to use the sample-collecting method described above for crusty lesions instead of the acetate tape method. If you collect the sample directly on the slide (see “Crusty lesions”), be sure to heat-fix the slide before staining.

Nodules or abscesses: Collect these samples through fine-needle aspiration, and then place the aspirate on a slide. If a large amount of material has been obtained, use a second slide to evenly distribute the sample (a similar technique to

preparing a blood smear slide). To preserve the integrity of the cells, do not heat-fix these slides. Once the slide sample is dry, stain using the three-part Diff-Quik stain.

Interpreting slides

Like most things, evaluating cytology slides is a matter of diligence and practice. If you are just starting out, I suggest studying samples from healthy animals first so you know

what normal results look like. Then when making slides with patients' samples, make duplicate slides. Send one slide to a laboratory, read the other one yourself, and then compare the results. You will learn a lot, and, eventually, you may be able to evaluate the slides in-house only. Of course, you can always send slides to a laboratory if you prefer, although you lose the advantage of immediate information.



Figure 4: Pressing a slide directly on an exudative lesion.

Use your eyes to detect lies about ears

"I tell veterinary clients, 'If you don't come back for a recheck, even if the animal looks good, then you've wasted my time, your time and your money.'" CVC educator James Noxon, DVM, DACVIM, helpfully but truthfully addresses the real elephant in the room when a dog has otitis and needs medicine at home.

Let's talk about how the veterinary team can maximize otitis treatment as well as client expectations about dermatology issues with dogs' ears.

Involve clients, set expectations and rock the recheck recommendation

The veterinary medical team needs to involve clients from the beginning.

"Clients need to know what the doctor is thinking, what the plan is, why that's the plan and what the goal for therapy is," Dr. Noxon says. "Because clients' goals are not always your goals.

Their goal is the dermatology problem goes away and never comes back."

And you know that may not be realistic. First, you know you tackle the starting issues: a dirty ear, a lot of discharge, an active infection. He recommends client educators say something like: "There's a what, and there's a why. The what is what's happening right now. If we treat the what and fail to address the why, the what will come back. We'll have treatment failure, because we'll still have all that stuff on top that covers up the underlying issues."

Then it's on to future treatment: "Today we'll address

the what, and you'll come back for an appointment in this much time. At that time, we'll start talking more about the why."

Dr. Noxon gives the information about possibly underlying causes, like allergies.

Listen to Noxon's tips below. And if you feel like you get burned too often by ear infections, sign up for our free Team Meeting in a Box here and educate yourself and the rest of your team. Learn more by scanning the code.



“The reality is, if they don't come back, everything you do to treat is wasted.”

They need to come back, he says. The recheck is crucial: “The reality is, if they don’t come back and they don’t address the underlying why, everything you do to treat is wasted. The problem will disappear, they’ll think the problem’s been solved.”

Dr. Noxon is extremely up-front with some clients, those who are no-nonsense, pragmatic pet owners: “I tell clients, ‘If you don’t come back for a recheck, even if the animal looks good, then you’ve wasted my time, your time and your money.’”

Maximize the value of your treatment

Now your pet owner is on board with tackling the “what” today. Remember to really clean the ears. Remove debris that causes irritation and that prevents the medicine from getting down where it needs to go. Removes debris, like pus, that can actively interfere with ingredients in your ear medicine.

“I’m all about getting a better head start to give our therapy a better chance to

be effective,” Dr. Noxon says. “Just sending pet owners home with a bottle of ear cleaner does not necessarily mean the ears are going to get clean.”

A first thorough cleaning should be done at the practice: “If there’s a plug in the way of the eardrum, I want that ear clean when I’m done.”

Don’t neglect a frank client conversation

For Dr. Noxon’s final tip, one he employs each and every time he sends ear medicine home with

a pet owner, check the audio clip, below left.

Want us to spill the beans right here?

“I always ask, ‘Can you do this?’” Dr. Noxon says. “And then when they say, ‘Yes,’ while you’re watching their eyes, you ask, ‘Will you?’ Those are different things. If they won’t, I’m not gonna be judgmental about that, but I need to find something else to do.”

Seem rude? Not to Dr. Noxon: “Now if you think it’s rude to ask a client that, I don’t care.

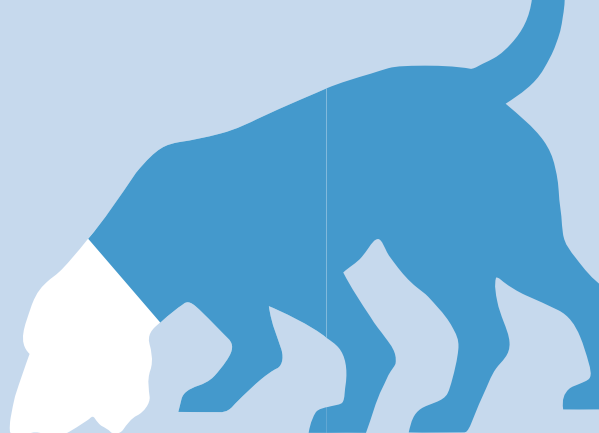
Because my reputation is going to be based on whether they do what I asked them to do. If it fails, who do you think they blame?”



“I always ask, ‘Can you do this?’ And then when they say, ‘Yes,’ while you’re watching their eyes, you ask, ‘Will you?’”

”

The great ear detectives



To get to the bottom of a tough otitis presentation in a patient, it's time for technicians to perform a little sleuthing.

By Paul Bloom, DVM, DACVD, DABVP

The challenge with ear disease is not only to find the “what” that is causing the otitis but the “why,” too.

Enter the veterinary technician. These super sleuths can help in many ways to determine both the “what” and the “why.” And it all begins with a detailed history.

Getting to the bottom of a patient's history is important for all dermatologic cases, and that doesn't change when it comes to ear disease. Some specific questions to ask:

In addition to obtaining the history, include the pet's age, breed and sex in the record. And don't forget to ask for a copy of medical records from the previous veterinarian. Many times you can expedite treatment by reviewing previous treatments and tests and the patient's response. Happy sleuthing!

When did Hank's symptoms first occur?

Has Hank ever had problems with excessive licking, scratching, chewing, biting or rubbing? Has he ever had ear problems before this episode? If so, when? And what was the medication used and Hank's response to it?

Is Hank an indoor or outdoor dog (or both)? What's the environment that he lives in like, especially the outdoor environment?

Is Hank on heartworm and flea preventive? If so, what product? How often is it administered? Is it year-round or seasonal?

Are there any other pets in the household? If so, what kind? Are they symptomatic? If they're cats, do they go outside?

Are any of the people in the household showing “new” skin problems? If so, what kind?

Do you board Hank or take him to obedience school, training or to the groomer? If so, when was his last visit to any of these places?

Do you know if Hank's parents or any of his siblings have ear or pruritic skin problems? If so, what was done and what was the response?

What does Hank eat?

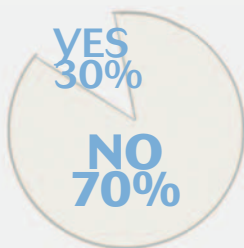
How do the ears seem today? Is today's presentation the best, worst or average since the problem began?

Do you notice if his symptoms are better, worse or no different between seasons?

We got an earful

New data looks at what's going on between *your* ears when it comes to otitis management.

Do you routinely recommend ear flushing to owners of dogs with no clinical signs of otitis?

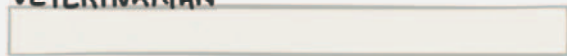


When you diagnose otitis in a dog and prescribe topical therapy, does someone on your team demonstrate to clients how to apply the medication(s) *before* they leave the practice?



WHO ON YOUR PRACTICE TEAM MANAGES THIS CLIENT EDUCATION?

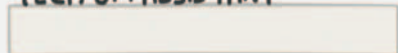
VETERINARIAN



59%

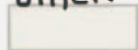
Hmm ... maybe it's time to delegate to your capable team members?

TECH OR ASSISTANT



39%

OTHER



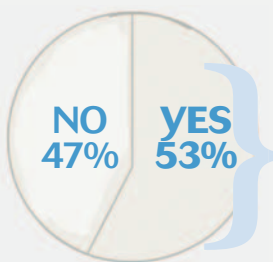
9%

<<< Most of you who picked "other" said it was both the vet and the tech!

Do you typically ask clients about dogs' responses to sounds at home (doors, "come" commands, cars pulling up) and do a basic test of the dog's hearing before you treat for otitis?



Have you had clients whose dogs were treated with a topical ear product report vestibular signs or deafness in their pet?



82% of those who said YES reported problems were temporary. Whew!

The dvm360 Clinical Updates: Otitis study was sent by email to subscribers of *dvm360* magazine, *Vetted* and *Firstline*. The survey generated 736 responses, creating a margin of error of about 3 percentage points (although sample sizes—and statistical reliability—on individual questions may be considerably lower). Respondents were able to download a free article titled "Canine otitis: Treatment advice from the ear tip to the tympanic membrane."

Tell your veterinary clients what you're going to ask them: The ear disease edition

Client compliance is big when it comes to ear disease. In order to heal those poor crusty-eared pooches, be up-front about the info you'll need from clients. We've organized it for you!

Client compliance is a big part of treating dogs with ear disease. But how can you possibly know if your clients are telling you the truth or giving you the best information about what they're seeing at home? Simple! Tell them what you're going to ask beforehand. (No, we're not kidding.)

Use this super-helpful handout to coach clients about what to look for when it comes to ear disease—you know, the head-shaking, crusty-eared messes.

>> You CAN impact the level of client compliance you get on canine ear conditions, but



you might have to work at it. Trust us—that's why we're here.

Scan to
download now

FROM YOUR VETERINARIAN

dvm360

Doggie ear disease: What to know, what to tell your vet

If you think your pup is suffering from ear problems, hightail it to your veterinarian. Think through these questions to prepare your pooch for an ear examination—and help him heal faster.

When your dog starts to show signs of ear trouble—things like scratching the ear, a bad odor, redness or swelling around the ears, crusts or scabs on the inside of the outer ear, hair loss, head shaking, a brown, yellow or bloody discharge, among the many—it's time to hightail it to the veterinarian.

Many ear diseases look the same—it's the underlying causes that vary. Before your veterinarian team can diagnose the specific problem, they'll need a detailed history. This starts by getting your dog's medical record. If the dog has had previous skin or ear disease, getting a copy of the medical records may help tremendously in developing a list of possible diagnoses. And just like a good detective novel, your veterinarian will begin at the start and retrace the "footsteps" looking for clues along the way.

Questions to consider

- 1. When did the symptoms first occur?** This is an important question. Your veterinarian isn't asking when this current episode of symptoms occurred, but the very first time you noticed symptoms X, Y or Z.
- 2. Has your dog EVER had problems with excessive licking, scratching, chewing, biting or rubbing?** Has your dog EVER had ear problems before this episode? If so, when? What medication was used to treat the problem, and how did your dog respond to that treatment?
- 3. Where does the dog live?**—indoors, outdoors or both? Think about how you would describe the environment, especially the outdoor environment.
- 4. Is your dog on heartworm and flea preventive?** If so, what product, how often is it administered and is it year round or seasonal?
- 5. Are there any other pets in the household?** If so, what kind? Are they suffering from any of the same symptoms as your dog? If you have cats, do they go outside?
- 6. Are any of the humans in the household showing "new" skin problems?** If so, what kind?

7. Do you board the dog, take her to obedience school, training or to the groomers? If so, when was the last time?

8. Do you know if the parents of the dog or any siblings have pruritic skin problems? If so, what was done and how did the dogs respond to treatment?

9. What does your dog eat?

10. How do the ears seem today? Are the ears the best, worse or average since the problem began?

11. Do you notice whether your dog's symptoms are better, worse during different seasons, or do you see no difference?

On to the exam

After you answer these questions for your veterinarian, the next step will likely be a complete physical examination of your dog, followed by a dermatologic examination. By preparing your answers ahead of time, you can help your veterinarian suss out the culprit for those itchy, uncomfortable ears—and get your pup on the road to recovery.



GETTY IMAGES

Source: Paul Bloom, DVM, DACVD, DABVP

Handout: Fight ear infection fiction

Give your clients some solid info about ear inflammation and infection with this handout.

FROM YOUR VETERINARIAN

Ear inflammation and infection: 5 facts to fight the fiction

"Otitis externa" is the fancy medical term for inflammation or infection of your pet's outer ear canal. Here are some things some folks believe about recurring ear problems ... and the facts.

You might think ...
"All ear infections are the same, so I can use the same medicine that worked the last time."

Fact! The veterinarian needs to examine a pet for each ear infection to determine the cause. Ear infections can be caused by a variety of bacteria and yeast, and the treatment recommendations and medications selected will depend on the specific infection and contributing factors. What's more, the veterinarian needs to examine the pet to determine whether this infection has shown up before or wasn't resolved.

You might think ...
"If I pluck the hairs out of my dog's ears, my dog will never get another ear infection."

Fact! You should avoid hair plucking if the hair isn't causing a problem. Experts don't recommend routine hair plucking, because it can cause inflammation.

You might think ...
"My dog has an ear infection, because he caught it from another animal."

Fact! Ear infections often occur secondary to inflammation in the ear, which may be a symptom of an underlying condition such as allergies. When the

environment in the ear is altered, bacteria or yeast can cause infection. These infections aren't caught from another pet.

You might think ...
"My dog scratches, licks, or chews because he's bored, grooming himself, or imitating the family cat."

Fact! Scratching, licking and chewing are signs of an itchy, allergic dog. If you notice these symptoms, schedule an appointment with the veterinarian. What does this have to do with otitis externa? Allergies are one of the most common causes of ear inflammation and infection. And if a dog is showing signs of allergies, it should have its ears checked too.

You might think ...
"My dog's ears will be cured so he'll never get another infection."

Fact! This may be true if the ear infection didn't occur due to an underlying problem. But if allergies were the culprit, the ears will be managed along with the allergy over your pet's lifetime. Your veterinarian needs your help to keep watch over the ears and may ask you to clean them regularly to help prevent inflammation and infection.



firstline

Here are some things many pet owners (maybe your own veterinary clients?) believe about recurring ear problems:

- > "All ear infections are the same, so I can use the same medicine that worked the last time."
- > "If I pluck the hairs out of my dog's ear, my dog will never get another ear infection."
- > "My dog has an ear infection because he caught it from another animal."
- > "My dog scratches, licks or chews because he's bored, grooming himself or imitating the family cat."
- > "My dog's ears will be cured so he'll never get another infection."

>> Help clients see past some misconceptions to the truth with this handout.

Scan to
download now



STOP the perpetual otitis resurgence

Two veterinary client communication tips to tip the scales of a long-term healthy ear in your favor.

James Noxon, DVM, DACVIM, knows ears and the problems that can erupt. He spent three hours on the subject at the CVC last year. We've turned our ears toward his advice and are amplifying two client communication tips to help you best help veterinary clients and patients fear the ear no more.

TIP 1:

It's the whats and the whys, not either/or.

This process comes down to aligning your goals, says Dr. Noxon.

- > **Client's goal:** Treat the clinical signs once, it's gone for good, right?
- > **Your goal:** Treat the signs now and then find the underlying cause so you have a chance at preventing recurrence.

Dr. Noxon's script to get clients on the same page: "There's a what, and there's a why. The what is what's happening right now. If you treat the what and fail to address the why, the whats come back. If you try to treat the why without treating the whats, it appears you have treatment failure, because you still have all that stuff on top that covers things up."

Next, reinforce the the whys and whats: "Today we're going to address the whats. You will come back for a recheck appointment in X amount of time. At that time, we'll start talking more about why."

At this point, Dr. Noxon gives clients a little information about underlying causes of otitis such as allergies. "The reality is if they don't come back and they don't address those issues, everything you do is wasted," says Noxon. That means a waste of your time but also your clients' money. He says not to shrink from telling clients this straightforward fact.

TIP 2:

Make sure clients will do follow-up care.

After explaining to veterinary clients how to clean their pets' ears, Dr. Noxon always asks, "Can you do this?" The critical next question after the high likelihood that they say yes: "While you're watching their eyes, you ask, 'Will you?' Those are different things," says Dr. Noxon. "If they won't, I'm not going to be judgmental about that, but I need to find something else to do."

In case you're concerned that clients will think the second question is rude, remember this, says Dr. Noxon: "My reputation is going to be based on whether they do what I asked them to do. If it fails, who do you think they blame?"

You can take proactive measures to make sure compliance isn't such a pain, says Dr. Noxon. For example, instead of expecting clients to count out 20 drops a day, he says you can find adapters to fit most containers.



'Ear ye! Putting it all together



We here at dvm360 know otitis is a hot-button issue for veterinary teams—in fact, it's been the topic of some of our most popular articles and most popular sessions at CVC for years now. Don't suffer in silence! There are tons of otitis tools and resources at the ready. Go to **dvm360.com/otitistoolkit** to get them.



Baytril® Otic

(enrofloxacin/silver sulfadiazine)
Antibacterial-Antimycotic Emulsion

For Otitological Use In Dogs

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

Federal law prohibits the extralabel use of this drug in food-producing animals.

PRODUCT DESCRIPTION:

Each milliliter of Baytril® Otic contains: enrofloxacin 5 mg (0.5% w/v), silver sulfadiazine (SSD) 10 mg (1.0% w/v), benzyl alcohol (as a preservative) and cetylstearyl alcohol (as a stabilizer) in a neutral oil and purified water emulsion. The active ingredients are delivered via a physiological carrier (a nonirritating emulsion).

MICROBIOLOGY:

In clinical field trials, Baytril® Otic demonstrated elimination or reduction of clinical signs associated with otitis externa and *in vitro* activity against cultured organisms. Baytril® Otic is effective when used as a treatment for canine otitis externa associated with one or more of the following organisms: *Malassezia pachydermatis*, *Coagulans-positive Staphylococcus* spp., *Pseudomonas aeruginosa*, *Enterobacter* spp., *Proteus mirabilis*, *Streptococcus* spp., *Aeromonas hydrophila*, *Aspergillus* spp., *Klebsiella pneumoniae*, and *Candida albicans*.

INDICATIONS:

Baytril® Otic is indicated as a treatment for canine otitis externa complicated by bacterial and fungal organisms susceptible to enrofloxacin and/or silver sulfadiazine (see Microbiology section).

EFFECTIVENESS:

Due to its combination of active ingredients, Baytril® Otic provides antimicrobial therapy against bacteria and fungi (which includes yeast) commonly encountered in cases of canine otitis externa.

CONTRAINDICATIONS:

Baytril® Otic is contraindicated in dogs with suspected or known hypersensitivity to quinolones and/or sulfonamides.

HUMAN WARNINGS:

Not for human use. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with copious amounts of water for 15 minutes. In case of dermal contact, wash skin with soap and water. Consult a physician if irritation develops or persists following ocular or dermal exposures. Individuals with a history of hypersensitivity to quinolone compounds or antibacterials should avoid handling this product. In humans, there is a risk of user photosensitization within a few hours after excessive exposure to quinolones. If excessive accidental exposure occurs, avoid direct sunlight.

PRECAUTIONS:

The use of Baytril® Otic in dogs with perforated tympanic membranes has not been evaluated. Therefore, the integrity of the tympanic membrane should be evaluated before administering this product. If hearing or vestibular dysfunction is noted during the course of treatment, discontinue use of Baytril® Otic.

Quinolone-class drugs should be used with caution in animals with known or suspected Central Nervous System (CNS) disorders. In such animals, quinolones have, in rare instances, been associated with CNS stimulation which may lead to convulsive seizures.

Quinolone-class drugs have been associated with cartilage erosions in weightbearing joints and other forms of arthropathy in immature animals of various species.

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

ADVERSE REACTIONS:

During clinical trials, 2 of 113 (1.7%) dogs exhibited reactions that may have resulted from treatment with Baytril® Otic. Both cases displayed local hypersensitivity responses of the auricular epithelium to some component within the Baytril® Otic formulation. The reactions were characterized by acute inflammation of the ear canal and pinna.

For medical emergencies or to report adverse reactions, call 1-800-422-9874. For customer service or to obtain product information, including Material Safety Data Sheet, call 1-800-633-3796.

SAFETY:

General Safety Study:

In a target animal safety study, Baytril® Otic was administered in both ears of 24 clinically normal beagle dogs at either recommended or exaggerated dosages: 10, 30 or 50 drops applied twice daily for 42 consecutive days. A control group of 8 beagle dogs was treated by administering 50 drops of vehicle in one ear twice daily for 42 consecutive days, with the contralateral ear untreated. Erythema was noted in all groups, including both treated and untreated ears in the controls, which resolved following termination of treatment.

Oral Safety Study:

In order to test safety in case of ingestion, Baytril® Otic was administered, twice daily for 14 consecutive days, to the dorsum of the tongue and to the left buccal mucosa of 6 clinically normal dogs. No adverse local or systemic reactions were reported.

DOSAGE AND ADMINISTRATION:

Shake well before each use.

Tilt head so that the affected ear is presented in an upward orientation. Administer a sufficient quantity of Baytril® Otic to coat the auricular lesions and the external auditory canal. As a general guide, administer 5-10 drops per treatment in dogs weighing 35 lbs. or less and 10-15 drops per treatment in dogs weighing more than 35 lbs. Following treatment, gently massage the ear so as to ensure complete and uniform distribution of the medication throughout the external ear canal. Apply twice daily for a duration of up to 14 days.

Bayer

Bayer HealthCare, LLC
Animal Health Division
Shawnee Mission, Kansas
66201 U.S.A.

U.S. Patent No: 5,753,269

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NADA # 141-176, Approved by FDA

September, 2016

18645



BLOOD, SWEAT AND

EARS



BAYTRIL[®] OTIC

FEATURING ENROFLOXACIN
★ WITH SPECIAL GUEST ★
SILVER SULFADIAZINE

VS

★ THE ★
PSEUDOMONAS OTTIS OF
CHARLIE
“JAWS”
MALONE

BAYTRIL[®] OTIC
(ENROFLOXACIN/SILVER SULFADIAZINE)
ANTIBACTERIAL-ANTIMYCOTIC EMULSION

FIGHT NASTY

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian. Federal law prohibits the extra label use of this drug in food-producing animals. CONTRAINDICATIONS: Baytril[®] Otic is contraindicated in dogs with suspected or known hypersensitivity to quinolones and/or sulfonamides.

Many pets can be transitioned to using these puzzles for meals instead of eating from a bowl. This can ease tension in multi-cat homes and offer mental enrichment and physical exercise.

An important note: If ingesting the toy is a concern, there are special puzzles for dogs, including blue Kongs specifically for veterinary hospitals, designed to show up on radiographs.

Keep them clean

Discard toys that are fraying or breaking apart. And if dogs with mighty jaws will be left alone with the chew activity, choose stronger puzzles designed for tough chewers.

Use them for meals

Depending on the cat or dog's experience and motivation, you can use the puzzles to enclose special treats or soft food or to house the pet's meal. These transitions can decrease the pet's tension and increase positive indicators in the home.

The levels of food puzzles vary from beginner to genius level. How you pack the treats also influences how easily the pet can solve the puzzle and consume the treat. For pets just getting used to a puzzle, pack food loosely so kibble falls easily. Then, as the pet practices and learns how to unearth the food contents, increase the difficulty by packing more densely and freezing or using a more advanced puzzle.

The benefits of food puzzles for dogs

Food puzzles are an easy way to reduce excess energy and offer a calming activity for dogs. Many times, when pet owners switch a dog to eating from a food puzzle, they report their dogs are much more amicable to live with and noticeably fulfilled from using their physical and mental energy to uncover their meals.

The benefits of food puzzles for cats

Food puzzles can help decrease anxiety-related problems in the home and settle many behavioral issues. Liz Bales, VMD, is a champion of the food bowl, specifically her specially designed NoBowl that offers cats an indoor predatory experience at mealtime. The NoBowl system is made to start at an easy level and gradually increase in difficulty as the kitty improves—working up to the cat batting and nosing multiple mini-mice-shaped food dispensers to work out the inner food contents.

You can also give other food puzzles, such as the Twist 'n Treat Teaser Toy (Pet-Safe), with the top off as a modified bowl. And you can screw on the top portion of the puzzle once the cat's accustomed to eating from the bottom portion of the puzzle. You can twist it loosely to make the eating experience easy and tighten to increase difficulty and healthy challenge at mealtime.

Put food puzzles to work in your practice

For the hospital, find puzzles that are easily washable in between uses. A bottle brush and dish detergent are all that's needed to clean most cavity food puzzles. (Get the handout on cleaning food puzzles at dvm360.com/cleanpuzzles.) For other food puzzles, make sure the pieces are easily moved or disconnected for thorough cleaning between uses.

Encourage pet owners to use food puzzles at home and to consider bringing them to regular veterinary appointments. A Kitty Kong can occupy a cat in the carrier on the way to the vet. Or a movable food puzzle can channel a dog's energy and focus to distract from upsetting noises and sights.

North Idaho Animal Hospital (where my

Jonesy has settled down dramatically in her new home in large part from the help of channeling her energy into food puzzles. Just this little change and things in her new house are going much better, including improved relations with her canine housemates and acting calmer around the children in the house. Switching to food puzzles from the food bowl has made a major difference with little extra effort required for this busy family.



father, Dr. Marty Becker, works and where I've been an animal trainer) uses food puzzles regularly during veterinary care. The hospital sells the devices to pet owners to take home from the visit. This way we care for the pet's behavioral and emotional needs both during the visit and at home to create happy distractions and positive associations in future Fear Free visits.



Mikkel Becker, CBCC-KA, CPDT-KA, CDBC, CTC, KPA Graduate, BA Communications, is the resident trainer for vetstreet.com and works in conjunction with veterinarians and veterinary behaviorists to address behavior issues in dogs and cats. Her four-legged best friend is Willy the pug, a certified therapy dog through the Delta Society.

Pleased to eat you

Pointers for introducing cats to food puzzles

If your clients think food puzzles need no introduction, they'll likely end up with bored, frustrated felines. Share these tips for easing cats into the idea of working for their food. *By Sarah Mouton Dowdy, Associate Content Specialist*

When you first tried to ride a bike, did you start out with training wheels? And did you use bumpers on your first trip to the bowling alley?

Novel experiences often call for introductory adjustments that ease participants into the full-scale activities. Such modifications help kindle curiosity while avoiding exasperation (and often injury). The same is true when

introducing cats to food puzzles.

"You can't start a new forager out on a really complicated food puzzle," says CVC educator Elizabeth Colleran, DVM, DAVBP (feline practice). "The cat will walk away in frustration and never look at it again."

The authors of "Food puzzles for cats: Feeding for physical and emotional wellbeing," published in the *Journal of Feline Medicine and Surgery* last year, agree, calling proper puzzle introduction "the most important key to success."

The article provides several tips for successful implementation to pass along to your clients:

- What interests one cat may bore another, so expect to try several puzzles.
- Introduce the puzzle when the cat is likely to be hungry (i.e. mealtimes).
- If the cat tends to be anxious, introduce the puzzle in a quiet place.
- Start the cat on a puzzle that's clear and has several openings. At first, getting food from the puzzle shouldn't be more difficult for the cat than getting food from the bowl, and the puzzle should be at least half full.
- If the cat isn't used to having to work for its food, take its food bowl away when introducing the puzzle. However, if the cat becomes stressed by environmental changes, offer the puzzle as a choice next to its bowl instead.
- If using dry food, place food on the floor around the puzzle.

"Paws" to consider the products

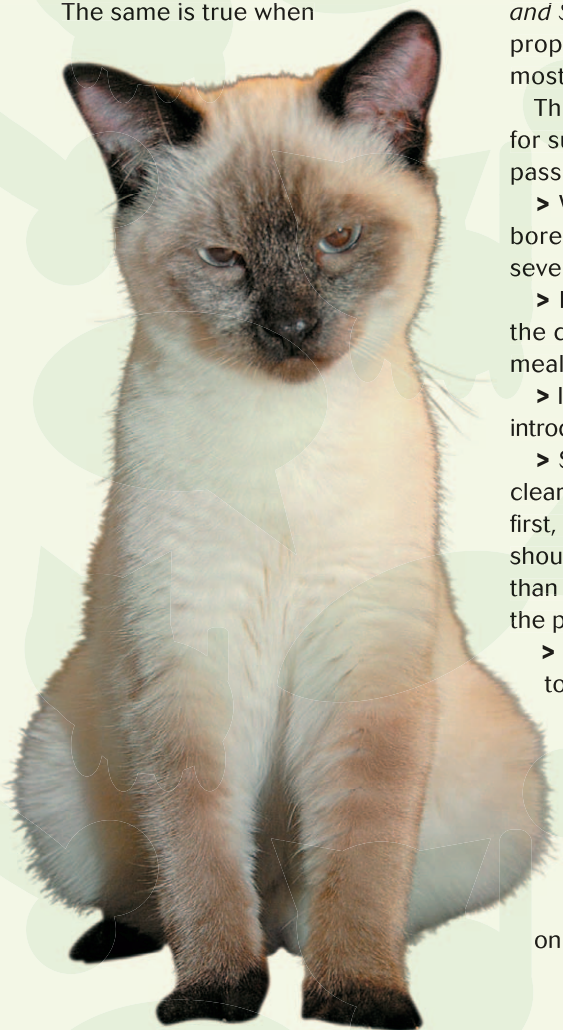
Check out feline (and human!) perspectives on some food puzzles designed to stimulate cats' natural hunting abilities and help get the weight off hefty cats. Our cat-on-the-scene, Maeby, highlights the top features at dvm360.com/foodpuzzles.



➤ To increase the cat's interest in the puzzle, fill it with a novel treat and later switch to its normal food once it becomes more comfortable with the device.

➤ If the cat is especially slow to show interest in working for its food, try putting small amounts of dry food in places that will be novel to the cat (e.g. in its bed, on the windowsill it frequents).

Eventually, the cat should be able to eat all meals from food puzzles. Regular puzzle use will require some extra work on the part of owners. Download the client handout on how to keep these animal apparatuses clean at dvm360.com/cleanpuzzles.



NOT ALL FLEA AND TICK CHEWS ARE CREATED EQUAL

Flea and tick protection that goes
on and on and on...all month long



 **Simparica**[®]
(sarolaner) Chewables
Dogged Protection

Recommend Simparica to your clients

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

Premium protection without the premium price—with our rebate offers and affordable price, you can compete against OTC brands and bring flea and tick protection back into your practice.

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

*Studies show Simparica starts killing ticks in 8 hours and is ≥96.9% effective for 35 days against weekly reinfestations of *Ixodes scapularis*, *Amblyomma americanum*, *Amblyomma maculatum*, *Dermacentor variabilis*, and *Rhipicephalus sanguineus*.^{1,2}

Learn more about Simparica.
Contact Zoetis Customer Service at
1-888-ZOETIS-1 or 1-888-963-8471.

References: 1. Six RH, Geurden T, Carter L, et al. Evaluation of the speed of kill of sarolaner (Simparica[™]) against induced infestations of three species of ticks (*Amblyomma maculatum*, *Ixodes scapularis*, *Ixodes ricinus*) on dogs. *Vet Parasitol.* 2016;222:37-42. 2. Six RH, Everett WR, Young DR, et al. Efficacy of a novel oral formulation of sarolaner (Simparica[™]) against five common tick species infesting dogs in the United States. *Vet Parasitol.* 2016;222:28-32.

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See brief summary on page 16



FOR ORAL USE IN DOGS ONLY

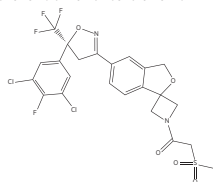
CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Description:

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

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

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



Indications:

SIMPARICA kills adult fleas, and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of tick infestations [*Amblyomma americanum* (lone star tick), *Amblyomma maculatum* (Gulf Coast tick), *Dermacentor variabilis* (American dog tick), *Ixodes scapularis* (black-legged tick), and *Rhipicephalus sanguineus* (brown dog tick)] for one month in dogs 6 months of age or older and weighing 2.8 pounds or greater.

Dosage and Administration:

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

Dosage Schedule:

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

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

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

SIMPARICA should be administered at monthly intervals.

Flea Treatment and Prevention:

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

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

Tick Treatment and Control:

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

Contraindications:

There are no known contraindications for the use of SIMPARICA.

Warnings:

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

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

Precautions:

SIMPARICA may cause abnormal neurologic signs such as tremors, decreased conscious proprioception, ataxia, decreased or absent menace, and/or seizures (see **Animal Safety**). The safe use of SIMPARICA has not been evaluated in breeding, pregnant, or lactating dogs.

Adverse Reactions:

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

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

Table 1. Dogs with adverse reactions

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

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

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

Clinical Pharmacology:

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

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

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

Mode of Action:

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

Effectiveness:

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

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

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

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

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

Animal Safety:

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

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

Storage Information:

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

How Supplied:

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

NADA #141-452, Approved by FDA

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Till the last good day

Every dying pet deserves a plan. Consider these inspiring case studies and tips for to illustrate the power you have in veterinary medicine to help pets live longer—with a better quality of life—for days, months or years on their path to a peaceful death.

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



Soft gray muzzles. Opaque eyes, still filled with the warmth that sparks memories of their spritely puppy- or kittenhood. Your sweet senior patients still have the hearts of the joyful youths who once bounded into the exam room with wet sloppy kisses and bright eyes. But as their bodies have changed, their needs have too.

It's true that pets are living longer—into their teens and even 20s—and better than ever, thanks to the efforts of our veterinary healthcare teams. And the evolving preventive-care practices that help them live longer mean these pets may face serious illnesses at the end of their lives: end-stage chronic kidney disease, chronic congestive heart failure and cancer—currently the leading cause of nonaccidental pet death.

Instead of the sudden hit-by-car deaths, we now see slow steady declines into the end of life. This monumental change in pet life expectancy demands a change in how we manage aging patients. We must prepare for the patient's end of life long before it arrives, thinking through how we will address the special needs of these special patients.

Fortunately, the recently crafted 2016 End-of-Life Care Guidelines from the American Animal Hospital Association and the International Association for Animal Hospice and Palliative Care provide a roadmap for teams to follow. Visit dvm360.com/AAHAhospice to learn more about the guidelines.

You're caring for pets and people

End-of-life care constitutes a critical stage in a pet's life, and the compassion and decision-making that happens is at

least as important as the accumulated lifetime of care before. Our collaborative relationship with clients takes on a new dimension and urgency in the face of the pet's changing medical needs as well as the pet owners' anticipatory grief and other powerful emotions.

Pet palliative and end-of-life care focuses on alleviating patient discomfort and controlling clinical signs while addressing the client's emotional, social and spiritual needs. When we care for these patients, our fundamental concerns are pain management, hygiene, nutrition, mobility and safety in the home. The next tier of care focuses on the pet's mental state and engagement with human family members as well as interactions with other household pets. Finally, the veterinary team needs to help clients appreciate the pet's will to live and to participate in its own care—for example, its willingness to take pain-relieving medications or to be handled for wound care.

You're helping craft end-of-life care plans

The success of a palliative-care plan hinges on the same principles as any other care plan. The difference: the palliative-care patient meets one or more of these criteria:

- The pet has been diagnosed with a life-limiting disease.
- The client has declined curative treatment.

- Curative treatment has failed.
- The pet's quality of life is harmed by clinical signs of chronic degenerative disease.
- The pet is experiencing progressive illness with complications.

These are pets with special needs, and their care plans will reflect elements not typically included in the care plans we create for other patients. An integrated approach to end-of-life care addresses the pet's needs and the client's needs, including financial realities. This requires open communication to foster collaboration between your team and your clients. Any end-of-life care plan will fail miserably if the client is unable (or unwilling) to execute it. All care plans must also consider the pet's willingness to participate in its own care. We can't create a care plan that the pet resents enough that it damages the precious family-pet relationship.

The needs of pets reaching the end of their lives change over time, so keep an open mind about how a care plan will evolve. Only by scheduling regular patient reassessments and revising the care plan can we continue to provide the care pets need and deserve.

You're checking in on patients—even at home

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A Fear Free focus in practice sets the stage at the beginning of a pet's life for easier trips to the veterinary hospital, for low-stress handling by the veterinary team and for high levels of patient cooperation with procedures. The immediate benefits are obvious for routine preventive healthcare. A less obvious benefit: dogs and cats who learn to love the veterinarian when they're young will continue to love the veterinarian when

they grow old. The bond of trust between pets and veterinary team members will pay its biggest dividends late in life. Reducing fear, anxiety and stress in a pet who's on his or her dying path reassures the human family and makes for a much more peaceful transition from this world to the next. To learn more about Fear Free certification for your veterinary team, visit dvm360.com/FFcertification.

BOO BOO

A real-life end-of-care example

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

Boo Boo was a 13-year-old Labrador with progressive rear limb weakness attributed to degenerative myelopathy (DM). As there is no cure for DM, the focus of her plan was palliative care—her comfort and the maintenance and adjustment of her activities of daily living as her disease progressed.

Boo Boo's care plan included effective pain management for osteoarthritis and physical medicine modalities to support her neuromuscular function as well as environmental adjustments at home to support her ability to negotiate her world safely and comfortably. Because Boo Boo loved nothing as much as a ride in "her" van, she continued to visit our practice for rehabilitation treatments, pain reassessments and other ancillary care. It provided her regular outings—which she enjoyed—as well as physiotherapy treatments like acupuncture and massage, which she also clearly enjoyed.

As Boo Boo's disease progressed, her neuromuscular failure became more and more dramatic. The focus

of her palliative care expanded to include guiding her human family to use various mobility devices to help her remain active. She used a walking wheelchair, and when that was no longer an option, she used a specialized harness vest that allowed her owners to support her while she walked on her weakened legs.

Boo Boo's metabolic profile changed over time too. She eventually faced chronic kidney disease that progressed to kidney failure. Her end-stage kidney failure coincided with her inability to stand and the loss of appetite, leading to the decision to provide humane euthanasia with her family in attendance.

At the time of her death, Boo Boo was just shy of her 16th birthday and had been a palliative-care patient for nearly three years. Her case illustrates our ability in veterinary medicine to facilitate increased longevity as well as increased quality of life. With reasonable interventions at appropriate times, we can help our patients and clients navigate the path toward a pet's peaceful death.



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Hospice and euthanasia: What's your role?

What can you do to help comfort the pet—and the veterinary client—during those final days?

By Julie Carlson, CVT



Receptionist

Develop a relationship of trust with your clients. They will often tell you things they won't tell the doctor. Your tasks:

- > Observe pets as they

walk and get in and out of the car. Report concerns to the veterinarian.



- > Prepare the exam room by placing soft bedding. Lower the lighting to calm pets and be easier on aging eyes.

- > Turn on soft music to soothe the patient and block out any hospital noise that could be stressful.

- > Keep referral materials on hand for specialists, mobile vets who provide treatments like fluid therapy at home, and in-home euthanasia services.

- > Document clearly in the patient's record when clients call with concerns. And schedule appointments when the veterinarian won't be rushed—avoid scheduling hospice or euthanasia patients at the same time as clients bringing in rambunctious pets.

- > Send a card or flowers after the euthanasia of a client's pet.

- > Call clients when cremains are ready for pickup and document this call in the chart.



Technician

Record accurate vitals, paying attention to how they compare to previous records and look for trends. Report any abnormalities to the veterinarian. Your tasks:

- > Handle and restrain patients in a calm, gentle manner. Pets with diminished sight or hearing can startle easily and may strike out.

- > Watch for signs of pain; pets can become accustomed to chronic pain and may not display obvious signs.

- > Educate the client on nutritional therapy and home accommodations, such as towel walking, elevating food bowls and using low-sided or ramped litter boxes.

- > Be a trusted liaison for the client and report their concerns to the veterinarian.

- > Be there for clients needing emotional support and provide resources about their pet's condition or for grief counseling as needed.

- > After euthanasia, prepare the remains discreetly and respectfully and clearly note the proper aftercare instructions (i.e. communal cremation versus private cremation).



Practice manager

Make sure that there is thorough communication among the team and that team members understand and follow hospital procedures.

Your tasks:

- > Maintain good rapport with the client so they feel they can come to you with any concerns about their pet's care.

- > Develop relationships with referral practices and ask for feedback from clients using their services.



- > Ensure that the team has what they need to provide excellent patient care, such as adequate training on nutrition and signs of pain, access to handouts and client education materials, a gurney and nonslip mats. Stock age- and condition-appropriate foods for hospice patients.



Veterinarian

Care for the patient's needs by providing good pain control, a nutritional plan and recommending in-home accommodations. Your tasks:

- > Offer referrals to specialists and in-home veterinary and euthanasia services.

- > Keep thorough records and review them before each visit so you can track behavior and trends. While it's important to support the client's decisions, you also need to advocate for the patient and inform the client if the pet's quality of life has deteriorated beyond a point of reason.

- > During euthanasia, don't rush the client; this interaction will stay with them forever.

- > Explain the procedure and advise the client of possible scenarios (i.e. loss of bladder/bowel control, postmortem muscle contractions, and the pet's eyes staying open after death).

- > Make sure that the client knows when the patient has passed away.



Julie Carlson, CVT, is a freelance author, the winner of the 2015 Hero Veterinary Technician Award from the American Humane Association and the Founder of Vets for Vets' Pets, a nonprofit organization providing medical care to the pets of homeless and at-risk veterans.







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See brief summary on page 22.

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INDICATIONS: Tri-Heart® Plus chewable tablets are indicated for use in prevention of canine heartworm caused by *Dirofilaria immitis* and for the treatment and control of ascarids (*Toxocara canis*, *Toxascaris leonina*) and hookworms (*Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*) in dogs and in puppies 6 weeks of age and older.

PRECAUTIONS: All dogs should be tested for existing heartworm infection before starting treatment with Tri-Heart® Plus chewable tablets. 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.

ADVERSE REACTIONS: 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.

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Midnight

A real-life end-of-care example

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

Midnight was a 15-year-old domestic shorthair cat who presented to our practice at the very end of her life. She'd been seen by two other veterinarians before her visit. The medical records and laboratory profile revealed that she was in end-stage renal failure.

Her owner understood this. He'd been advised to euthanize Midnight, but his Hindu belief system prevented him from actively ending the life of another being. His conflict was clear. He didn't want his beloved cat to suffer as she died, yet he couldn't proceed with active

euthanasia by a veterinarian.

Midnight's end-of-life care plan was unique, given our inability to provide euthanasia. Instead, our discussion turned to the priority of preventing pain and suffering. The mutually acceptable decision was made to provide Midnight with potent pain relief at home using transmucosal delivery of injectable buprenorphine with the clear understanding that Midnight would be somewhat sedated from the effects of the medication (pain-relieving sedation at the end of life is a well-defined practice in human hospice care).

Midnight's owner understood that Midnight might become relaxed enough to die a day or two sooner than she would have otherwise, but that our primary focus was providing her with comfort as she approached death.

When Midnight died, she was resting comfortably in his lap as she took her last breath two days after our meeting. We honored Midnight's owner's beliefs and addressed Midnight's need for comfort at the end of life.



3 HOSPICE CARE MYTHS



Lap of Love Veterinary Hospice co-founder and CVC educator Dani McVety, DVM, shares the top three myths she often hears about hospice:

Myth 1: Hospice care extends the life of the pet. Hospice care is designed to support the pet's comfort as long as the pet is still alive until the pet owners request euthanasia or the pet passes on its own.

Myth 2: Hospice and palliative care is a substitute for euthanasia. Instead, it's the time before euthanasia or natural death.

Myth 3: Hospice care exists to increase the price tag or to extend the pet's suffering. It's not designed to increase the cost for clients, and it may even decrease the cost if pet owners choose hospice or palliative care instead of extending diagnostics. Hear more from Dr. McVety at dvm360/hospicemyths.

in the virtual world. It's now a practical option to remotely monitor dogs and cats approaching the end of their lives. While many canine patients enjoy car rides, as they age and become infirm, travel may become challenging for them. Entering and exiting the vehicle may become difficult enough that very large dogs may become impossible to transport. Small dogs who are losing their sight or hearing may feel disoriented if removed from their home environment. And cats are notorious for resenting car transport, unless they are conditioned to it early in their lives.

Rather than adding more fear, anxiety and stress to the lives of pets and pet owners, it makes sense to create strategies for remote monitoring.

One strategy is for a trusted veterinary team member to make regularly scheduled house calls to evaluate the pet in its natural environment. This person can be a veterinarian (if needed) or a well-trained and experienced veterinary nurse. These reassessments should include a hands-on pain assessment as well as a meaningful dialogue with the client about how the pet's doing. A veterinary nurse could take advantage of video streaming to interact in real time with the appropriate individ-

ual back at the practice to modify feeding, pain medication dosing and other aspects of the care plan.

And remember, using video in real time can connect clients and pets directly to the practice. The pet owner can ask questions and answer important questions from the veterinarian. These FaceTime or Skype calls or Google Hangouts are an opportunity to review medications and feeding. Best of all, a veterinarian can see firsthand the pet's environment and movement through regular activities.

Your veterinary team is poised to offer comfort and care as the days fade and pets reach the sunset of their lives. So make a plan to offer these pets and their parents comfort and support until their last good day—and beyond.

To learn more about how your team can offer support through the hospice and euthanasia process, see the dvm360 Leadership Challenge: Pet pain and death, at dvm360.com/petpainanddeath.

Suggested reading

1. 2016 AAHA/IAAHPC End-of-life Care Guidelines. Bishop G, Cooney K, Cox S, Downing R, et al. *J Am Anim Hosp Assoc* 2016; 52:341-356.
2. *Handbook of Veterinary Pain Management*, 3rd ed. Gaynor JS, Muir WW, eds. Elsevier Mosby, St Louis, 2015.



Marley's Garden: A patient memorial

This practice created a special garden to remember the pets that are no longer with them. This rock garden has become a foundation for their relationship with pets and their families. Visit dvm360.com/marley to read how they did it.



Robin Downing, DVM, DAAPM, DACVSMR, CVPP, CCRP, CVA, MS in Clinical Bioethics, is a founder and past president of the International Veterinary Academy of Pain Management. She owns Windsor Veterinary Clinic and The Downing Center for Animal Pain Management in Windsor, Colorado. She is also a member of the Veterinary Medicine Practitioner Advisory Board.



The dvm360 Leadership Challenge asks veterinarians and team members to meet challenges and opportunities facing the profession in new ways. This month *dvm360* and associated publications discuss pet pain and end-of-life issues, including:

- End of life as a One Health initiative
- Goal-setting in end of life care
- Talking to kids about pet euthanasia.



This issue of *Vetted* examines how addressing pet pain and death can be one of the most rewarding areas of veterinary medicine in which to practice. Coverage includes:

- The top six end-of-life conditions and how to manage them
- Unusual euthanasia requests, from the funny and the odd to the sweet and sad moments.



Join the discussion on pet pain and death and what it means for the future of veterinary medicine at CVC Kansas City, Aug. 25-28. Visit thecvc.com/kc to register or learn more. Looking for more information about hospice and palliative care? Check out our complete coverage at dvm360.com/petpainanddeath.



Stand with clients on the path to 'The End'


Veterinary medicine is a form of friendship, and caring for hospice and palliative-care patients is a team activity that asks for attention, care and skill from everyone. *By Sharon DeNayer*

"A good man will take care of his horses and dogs, not only while they are young, but when they are old and past service." — Plutarch, c. 100 CE

In summer 1992, a young kitten was wandering around a parking lot in search of food, water and attention. A family rescued him to keep him from being hit by a car and brought him to us. When we couldn't locate his owner and no

one was interested in adopting him, he became our clinic cat, Rooney. He lived with us until we euthanized him a few weeks before his 22nd birthday in 2014. Up until the day he died, Rooney continued to be a congenial host to all of our clients. We watched him

grow from a frisky kitten to a curious teenager to a mellow adult to a senior and, finally, to a geriatric cat. Rooney dealt with chronic kidney disease for many years, but it progressed to a point that he became a palliative-care patient the last two years of his



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life. Because he lived at the clinic, it was easier for our healthcare time to give him subcutaneous fluids when he needed them. They watched his kidney disease progress and managed the fluids accordingly. After he died, it was difficult for us to have clients ask each day, "Where's Rooney?" Although that was painful, it also gave us the opportunity to tell Rooney's story and honor his life.

Medicine as friendship

Leon Bernard, a French physician in the 1800s, said, "Medicine should be practiced as a form of friendship." Dr. Robin Downing and I chose to use this as the foundation of our practice culture for the past 31 years. This began with our Housecalls Unlimited mobile practice in Wyoming in 1986. In our house call practice, it was easy to work with older patients in places they were more comfortable. This set the stage for end-of-life care

down the road. We worked hard to understand our clients' relationships with their pets to offer services that fit their needs.

In 1991, we purchased Windsor Veterinary Clinic in Colorado. We've seen multiple generations of some families, providing womb-to-tomb care for thousands of pets. Years ago we realized how important bereavement services were to our clients.

When we developed The Downing Center for Animal Pain Management as a referral practice in 2006, we knew most of our patients would be closer to the end of their lives than the beginning, so we expanded our knowledge and skills in bereavement.

Hospice is a philosophy, not a place. Hospice and palliative care can take place in the home or in a veterinary clinic. Hospice care centers on the comfort needs of the patient, the wishes of the family caregivers and

the skills of the healthcare team.

Hospice as a team

All of our team members are cross-trained so they understand the importance of each position and can fill in as needed. That's especially important in hospice and palliative care, as we require a case manager for each patient. That person serves as the liaison between the client and the hospital. We highly value the following: an upbeat, can-do attitude, compassion for people and animals, communication skills, relationship building and teamwork, teaching skills, creativity, and a passion for lifelong learning. Here's why they're necessary for the work we do:

Relationship building. It's our job to help our clients deal compassionately with their pets'



Does your practice need a bereavement coordinator?

By Stephanie N. Ferrara

When clients give you their hearts—in the form of their furry little friends—how do you care for them? My suggestion: Consider a bereavement coordinator.

What does a bereavement coordinator do? To start, when the client comes into your clinic with their companion in an end-of-life situation and the veterinarian isn't available, the bereavement coordinator meets with the client. She reviews the clinic's aftercare protocol, explains the aftercare options with the client and assists with the paperwork.

The bereavement coordinator also answers clients' questions about the aftercare facility itself, provides the

client with information on pet loss support groups and offers additional reading on pet loss, death, grief and related topics.

The bereavement coordinator makes sure that the patient is transported on schedule, keeps records of the transports—these are considered part of the patient's medical record—and contacts clients once their pet's cremains have returned to the clinic.

Sometimes clients call after they've left the clinic and say they've changed their minds and would like to pick up their pet's body. Generally the procedure after a patient passes is to "bag it, tag it and send it off to cold storage." Unfortunately the pet may not be in the best shape to be picked up. That's when your bereavement coordinator steps in to schedule the pickup and prepare the pet.

My pro tip: When I'm prepping a deceased patient that's been in cold

storage for quite some time, I make sure the pet has been thoroughly thawed, bathed and blow-dried. You never know if the clients will open the coffin after they leave your practice.

Ideally, the bereavement coordinator will also work with management to organize team support groups. For example, it's a good idea to ask a local social worker or mental health professional to be on call to facilitate monthly team meetings or as a go-to person for team members to call or meet with.

Remember, pet owners are giving you a piece of their heart when they trust their pet's end-of-life experience to you. Treat the process with compassion and respect.

Stephanie N. Ferrara is the bereavement coordinator at Oradell Animal Hospital in Paramus, New Jersey. Visit dvm360.com/bereavement to read more about her job—and how she helps grieving clients.





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PLEASE FIND PRESCRIBING INFORMATION ON PAGE 28.

REFERENCE: 1. Bravecto Topical Solution for Cats [prescribing information]. Madison, NJ: Merck Animal Health; 2016.

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Indications:

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

Contraindications:

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

WARNINGS

Human Warnings:

Not for human use. Keep this and all drugs out of the reach of children. **Do not contact or allow children to contact the application site until dry.** Keep the product in the original packaging until use in order to prevent children from getting direct access to the product. Do not eat, drink or smoke while handling the product. Avoid contact with skin and eyes. If contact with eyes occurs, then flush eyes slowly and gently with water. **Wash hands and contacted skin thoroughly with soap and water immediately after use of the product.**

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

Precautions:

For topical use only. Avoid oral ingestion. Use with caution in cats with a history of neurologic abnormalities. Neurologic abnormalities have been reported in cats receiving Bravecto, even in cats without a history of neurologic abnormalities. Bravecto has not been shown to be effective for 12-weeks duration in kittens less than 6 months of age. Bravecto is not effective against *Dermacentor variabilis* ticks beyond 8 weeks after dosing. The safety of Bravecto has not been established in breeding, pregnant and lactating cats.

Adverse Reactions:

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

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

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

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

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

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

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

How Supplied:

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

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155373 R8



What NOT to say when a pet dies

"I know just how you feel."
"Time heals all wounds."
"You must get on with your life."
"It was God's will."
"God never gives us more than we can bear."
"Everything happens for a reason."
"You're holding up so well."
"Think of all you still have to be thankful for."
"You'll get over it."
"Just be happy he's out of his pain."
"At least she's not suffering."
"Now you have an angel in heaven."
"Aren't you over it yet?"
"You can always get another."
"It's a blessing in disguise."

What TO say when a pet dies

"I'm sorry for your loss."
"I heard about your loss. I don't know what to say."
"I've been thinking of you."
"I'm here for you if you need to talk."
"I remember the story you told me about ..."
"I've been thinking about you and your family."
"You're very important to me."
"What can I do to help you?"
"You're in my thoughts and prayers."

problems. That trust starts during their first visit—whether the pet is a youngster, adult or senior. We must show respect for the client and the patient so they look forward to their visits and feel comfortable here.

Communication skills. Listening is the most important communication skill. We ask open-ended questions to clarify and expand our understanding. We speak in laymen's terms and involve all family members present in the conversation (including children).

Never 'put pets to sleep'

Because we deal with many different client families of all ages, we're careful with our words. For instance, we avoid the phrase "put to sleep." (If a child needs surgery later, he or she may be shown the room by a doctor or nurse where they'll be "put to sleep.") Before we perform euthanasia, we never ask, "Are you ready?" No one is ever ready. We ask, "May I proceed?"

Teamwork. Everyone is cross-trained. We all speak with one voice to prevent mixed messages to clients, and we know each other's strengths.

Teaching skills. We often have to teach clients new skills—like wound care and how to administer subcutaneous fluids—to clients with hospice and palliative-care pets. We want those pets owners to feel comfortable and competent in their caregiving skills. The team needs to follow up regularly to see how these treatments are going.

Bereavement support

Anticipatory grief begins when the veterinarian diagnoses a life-limiting illness or disease. It's our responsibility to provide support throughout the bereavement process. This truly demands our most compassionate

care. The support should also carry on well past the death of the pet.

How we make hospice care a team activity

The entire team should be involved with the hospice and palliative care. The veterinarian develops the individualized medical care plan and revises it as needed. The veterinarian trains the team in the medical procedures needed for hospice and palliative care. The veterinarian carries out the euthanasia procedure.

Then the veterinary nurses and veterinary assistants can carry out medical care under the doctor's direction. Those team members can also train the family caregivers in procedures to be carried out at home. The case manager can be anyone. The case manager choreographs all of the services offered to these patients and is the liaison between the healthcare team and the family caregivers. These tasks can be carried out by any trained healthcare team member.

Last but not least, the bereavement companion provides the major bereavement support for family members. This position can be filled by any team member with the proper training.

In our practices, my position as practice manager provides me with the most flexible schedule of anyone on our healthcare team. My training, experience and passion allow me to regularly serve as a case manager and bereavement companion. These are my favorite—as well as the most personally rewarding—parts of my work.

Sharon DeNayer is a Firstline Editorial Advisory Board member and the practice manager at Windsor Veterinary Clinic P.C. in Windsor, Colorado.



When the client says, “Byproducts? Ewww!”

By Kyle Wendy Skultety, LVT, CVT

The client says: “The kid in the pet store told me that byproducts are bad! The food you recommend contains byproducts.”

How would you respond? Check out the right (and wrong) way to handle this client's concerns ...

DON'T SAY

“Geez, that kid at the pet store sounds so wise. Where did he get his veterinary degree?”

DO SAY


“Pet store employees aren’t trained extensively like veterinarians or veterinary technicians, so they may not have a complete picture of what’s nutritious for your pet. Byproducts are given a bad name because people might not understand exactly what they are. Byproducts are non-rendered, clean parts of the animal, like the kidney, liver or bone. They’re good because they contain essential minerals and nutrients that keep your pet healthy. The idea of eating liver may gross us out, but our pets don’t care. Byproducts are important components of pet food and not “filler” at all. Let’s take a walk the front desk, where we can read some more pet food labels together and I can show you the food the doctor has recommended today.”

facepalm

Take a deep breath. OK, good, one more. You’ve got this. Learn how to be a veterinary nutrition counselor to this misguided “foodie” pet owner.

Kyle Wendy Skultety, LVT, CVT, is technician supervisor at VCA Twin Rivers in East Windsor, New Jersey.





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¹ Poulet H, Minke J, Pardo MC. Development and registration of recombinant veterinary vaccines: The example of the canarypox vector platform. *Vaccine*. 2007;25:5606–5612.



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Anxiety and Otitis

Lend us your ear! Pain, otitis and anxiety are a combination not many want to mess with, but I've got some tips and tricks worth listening to.

By Darin Dell, DVM, DACVD

We all know ear appointments don't always go according to plan. Things can go from cakewalk to chaos quickly—and much of that could be due in part to fear and anxiety in dogs. To get a leg up on the combination of pain, anxiety and otitis, consider these key insights:

Patients with the dreaded combo

In my dermatology referral practice, I'd estimate almost every dog with otitis is painful, and about half of them are fearful or anxious. I think three factors may increase the risk of ear-related anxiety:

1 The breed. Label them however you want, but we all know which breeds tend to be more stressed—especially in a veterinary environment.

2 Time spent suffering. This doesn't just mean the current episode of otitis, but rather the length of time between the very first episode of otitis and the current episode. Most allergy dogs suffer from recurrent otitis for months, years or even their entire life.

3 The owner's anxiety. We all know that dogs take cues from their owners. If clients are scared about cleaning or medicating the ears, dogs are more likely to think they should be

worried. (Hey! Here's another reason why it's so important to demonstrate ear cleaning and medicating!)

Veterinary team: Clinic care

To start, you have to be open to the idea that otitis is painful—and that pain is stressful. Because of this, chronic pain is especially stressful. Second, veterinarians need to educate their team so everyone is on board and aware. This helps your team talk to clients on the phone and more effectively encourage exams rather than another refill of ear drops.

Be observant. This starts with receptionists observing the dog in the waiting area. Then technicians notice behaviors when moving the patient to an exam room. Then finally the veterinarian must watch with a keen eye to pick up on subtle movements and actions in the exam room. All of this helps the veterinarian ask more specific questions such as:

> "Our receptionist, Lauren, noticed that Spot was rubbing his head against

the chair in the lobby, then whining. Does he do that at home?"

> "Our technician, Molly, saw Spot with his head tilted a little and veering off to the side when you came to the exam room—have you seen him do this at home?"

> "I realize that Spot may be nervous today, but he seems to be avoiding your hand when you try to pet his head. Is this a change from his usual behavior?"

Convince the owner! Most people are fortunate enough to have never experienced an ear infection. But those who have as an adult never forget the pain. This message may also connect with parents of younger children—ear infections in kids are common, and many parents have spent sleepless nights trying to soothe crying children with their pain.

For those clients who don't have the joy of either of those experiences, I use the analogy of a headache that won't go away or an infected tooth that needs a root canal. Ear pain is a type of pain that stays with you no matter how you walk, sit or lie down. There's no avoiding it. An



observant team also helps convince the client. If several of your team members express genuine concern about the way the dog is acting, the owner might look at the problem from a new angle and realize that pain is part of an ear infection.

First and foremost, do no harm. As you talk to the client and observe the dog's behavior, ask yourself if physically restraining the patient is viable. You can force most dogs into an otoscopic exam once ... but if it becomes a wrestling match, you may never get to look in that dog's ears again. Plus, if you and your team struggle with the dog to examine his ears, then what chance does your client have at home?

The dog that struggles in the clinic remembers that any time someone touches his ears the result is pain and lack of control—both of which increase fear. Don't let your ego (i.e., "This dog is going to let me see his ears or else!") ruin your client's chance of good home therapy. It's better to sedate painful, anxious and uncooperative dogs.

If your team or clients are feeling burned by otitis, stop and consider your approach. With some simple adjustments, you may be able to take much of the pain out of this process—for pets, for clients and for your team too.

Dr. Darin Dell spent six years in general practice and two years in emergency medicine before becoming a diplomate of the American College of Veterinary Dermatology in 2012. He is currently on staff at Animal Dermatology Clinic in Indianapolis.

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Feline food and foraging:



Today's cats have it so easy! So easy, their waistlines are showing it. What can we learn from cats' feral roots? Heed these sage words of advice from Elizabeth Colleran, DVM, DACVB (feline), to get cats back in fine form.



Dr. Colleran says the nonneutered wild and feral cousins of domestic cats spend eight to 12 hours per day hunting. Of the hunting attempts per day, 10% to 40% percent will be successful, depending on whether the cat is hungry, has recently eaten or is nursing kittens. With a failure rate as high as this, a cat may expect to have periods during which the amount of prey captured barely meets energy expenditure. On successful days, the cat may catch a whole mess of food.

The result is that, in cats, hunting activity is not related to hunger or satiation. A cat would soon be vulture food itself if it took a break for several hours after every meal, because this would mean it would miss the best hunting op-

portunities. A hungry cat will hunt more vigorously, but even cats with a full tummy will hunt. Hunting is not related to the pleasurable taste of the prey, either. Small mammals and birds do not come in a variety of appetizing flavors. The type of prey is entirely related to availability and size. And, in any case, the cat's perception of flavor is geared to detect spoilage, not to enable it to be a gastronome.

Other feral factors

- > It is theorized that the satiety center in cat brains is more affected by amino acids than carbohydrates.
- > Cats in the wild feed themselves and are not fed by someone with ulterior motives.
- > Cats don't have a posse. For cats,

eating is not a social activity. They don't hunt in packs. Sharing is not in their repertoire unless there are kittens involved. Besides, meal sizes are small for safety reasons. A solitary hunter can't call for help if the prey is big enough to cause injury.

- > Cats are more active when you don't feed them ad libitum. The more well-fed our domestic cats are, the less enthusiastic they are about hunting and more sedentary they are.

So how do we mess cats' instincts up?

- > We neuter them, which dramatically reduces their basal metabolic rates and increases their appetites.
- > We keep them inside, not providing enough opportunities for enrichment

- and expressing hunting behaviors.
- We feed them food that is too high in carbohydrates. By the time they get enough amino acids to activate their satiety center, they have eaten too many carbohydrates and associated calories.
 - We love and misinterpret them. Turns out, having a close relationship with your pet cat is a risk factor for it being obese. Some theorize that people with the best of intentions frequently misinterpret what the cat is asking for. Specifically, when the cat is exhibiting attention-seeking behavior, it may be misinterpreted as food-seeking behavior.
 - We feed them in groups. This can encourage competitive feeding, leading to the cats eating more and faster than they would when fed by themselves. And we tend to feed them ad libitum—a big no-no.
 - We have to feed them commercial food for it to be convenient, safe, complete and balanced, but it truly is the wild wild West when it comes to commercial pet food and its labeling. In reading some feeding instructions on bags and cans of “light” cat food, Dr. Colleran has found that those recommendations are designed to make them fat. Some of your fat-cat-owning clients were just following the instructions on the food bag.

Shut down the excuses and free feeding

You need to shoot down any excuses such as, “He’s just fluffy” or “She’s just big-boned.”

Address feeding strategies, both what is being done now and what is best for the weight health plan you would like to initiate. Find out who is feeding the cat. Recommend that they measure the food once and then portion out the food for feeding three to six times a day. Dr. Colleran says to tell clients to make sure to feed all cats in the house separately, especially if there is one fat cat and one cat that is normal-weight.

Also, select appropriate food. We all know that cats don’t negotiate—they either like a food or they don’t, and you have to find something that works for them that they will eat. It has to have the correct feel in their mouth and odor for them. So keep in mind that labels mean next to nothing and you are the expert. You wear the white hat—er, white coat and can ride to their rescue.

There is no magic bullet for weight loss in cats. But it has been proven that the key to all successful weight loss programs is giving clients support. Get creative with supportive text messages or a “Biggest Loser” feline weight loss support group with incentive prizes.

NexGard® (afoxolaner) Chewables

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

Description:

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

Indications:

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

Dosage and Administration:

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

Dosing Schedule:

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

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

Flea Treatment and Prevention:

Treatment with NexGard may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with NexGard should continue the entire year without interruption.

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

Tick Treatment and Control:

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

Contraindications:

There are no known contraindications for the use of NexGard.

Warnings:

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

Precautions:

The safe use of NexGard in breeding, pregnant or lactating dogs has not been evaluated. Use with caution in dogs with a history of seizures (see **Adverse Reactions**).

Adverse Reactions:

In a well-controlled US field study, which included a total of 333 households and 615 treated dogs (415 administered afoxolaner, 200 administered active control), no serious adverse reactions were observed with NexGard. Over the 90-day study period, all observations of potential adverse reactions were recorded. The most frequent reactions reported at an incidence of >1% within any of the three months of observations are presented in the following table. The most frequently reported adverse reaction was vomiting. The occurrence of vomiting was generally self-limiting and of short duration and tended to decrease with subsequent doses in both groups. Five treated dogs experienced anorexia during the study, and two of those dogs experienced anorexia with the first dose but not subsequent doses.

Table 1: Dogs With Adverse Reactions.

	Treatment Group			
	Afoxolaner		Oral active control	
	N ¹	% (n=415)	N ²	% (n=200)
Vomiting (with and without blood)	17	4.1	25	12.5
Dry/Flaky Skin	13	3.1	2	1.0
Diarrhea (with and without blood)	13	3.1	7	3.5
Lethargy	7	1.7	4	2.0
Anorexia	5	1.2	9	4.5

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

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

In the US field study, one dog with a history of seizures experienced a seizure on the same day after receiving the first dose and on the same day after receiving the second dose of NexGard. This dog experienced a third seizure one week after receiving the third dose. The dog remained enrolled and completed the study. Another dog with a history of seizures had a seizure 19 days after the third dose of NexGard. The dog remained enrolled and completed the study. A third dog with a history of seizures received NexGard and experienced no seizures throughout the study.

To report suspected adverse events, for technical assistance or to obtain a copy of the MSDS, contact Merial at 1-888-637-4251 or www.merial.com/NexGard. 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>.

Made of Action:

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

Effectiveness:

In a well-controlled laboratory study, NexGard began to kill fleas four hours after initial administration and demonstrated >99% effectiveness at eight hours. In a separate well-controlled laboratory study, NexGard demonstrated 100% effectiveness against adult fleas 24 hours post-infestation for 35 days, and was > 93% effective at 12 hours post-infestation through Day 21, and on Day 35. On Day 28, NexGard was 81.1% effective 12 hours post-infestation. Dogs in both the treated and control groups that were infested with fleas on Day -1 generated flea eggs at 12- and 24-hours post-treatment (0-11 eggs and 1-17 eggs in the NexGard treated dogs, and 4-30 eggs and 0-118 eggs in the control dogs, at 12- and 24-hours, respectively). At subsequent evaluations post-infestation, fleas from dogs in the treated group were essentially unable to produce any eggs (0-1 eggs) while fleas from dogs in the control group continued to produce eggs (1-141 eggs).

In a 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of NexGard against fleas on the Day 30, 60 and 90 visits compared with baseline was 98.0%, 99.7%, and 99.9%, respectively. Collectively, the data from the three studies (two laboratory and one field) demonstrate that NexGard kills fleas before they can lay eggs, thus preventing subsequent flea infestations after the start of treatment of existing flea infestations.

In well-controlled laboratory studies, NexGard demonstrated >97% effectiveness against *Dermacentor variabilis*, >94% effectiveness against *Ixodes scapularis*, and >93% effectiveness against *Rhipicephalus sanguineus*, 48 hours post-infestation for 30 days. At 72 hours post-infestation, NexGard demonstrated >97% effectiveness against *Amblyomma americanum* for 30 days.

Animal Safety:

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

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

Storage Information:

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

How Supplied:

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

NADA 141-406, Approved by FDA

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HomeAgain (Merck)	homeagain.com	Kenilworth, New Jersey	Free with registration	<ul style="list-style-type: none"> • First year free • \$19.99 lifetime registration after that 	✓
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Pro ID Mini Chip Pro ID Buddy ID (Microchip ID Systems)	microchipidsystems.com	Covington, Louisiana	Varies according to chip	<ul style="list-style-type: none"> • Free or \$13.95, depending on the chip 	✓

you may agree with this statement: Every pet owner—for their peace of mind and their cat or dog's future safety—needs an ISO-compliant (for maximum readability everywhere) microchip inserted in that cat or dog. Then the pet owner needs to register that microchip in any of a number of national databases and keep the information updated through any moves or changes in ownership.

Microchips can't guarantee a pet will come home, but they sure improve the chances.

Tip: Register a microchip with Savethislife.com, and folks who find your dog can Google the ID number and find a website with an instant way to email or




text-message you to tell you they've found your dog and how to reach them. It could potentially save a good Samaritan a visit to the veterinarian, a shelter or animal control.

Visit dvm360.com/fishnchips for more resources and information, like:

- Where you fit in when it comes to microchip education
- How to overcome common pet owner objections.
- How to promote microchipping and your practice

And be sure to check out dvm360.com/microchips to browse other products to help pet owners keep track of their pets.

... where you inject them after researching some of the biggest names in microchip technology and their current products to get lost pets home faster.

Designated code?**	Where are chips made?	Which scanners can read chip?	Are chips on AAHA's petmicrochip lookup.org?***	Additional services?
956 	Europe	Any scanner that reads ISO chips	✓	<ul style="list-style-type: none"> • 24/7/365 call center • Calls, emails, texts and/or snail mail to contact lost pet owners • Broadcasts lost pet info to Reunited Network
11784/ 11785	France	Universal scanners	✓	Additional subscription for enhanced pet recovery and emergency medical hotline
982	Europe	Universal scanners 	✓ 	<ul style="list-style-type: none"> • Tchip has temperature-reading capability • 24/7/365 call center • 24PetMedAlert, which includes critical medical behavior information (with lifetime membership)
981	Switzerland, Italy, Slovakia, Thailand, United States	Universal scanners	✓	<ul style="list-style-type: none"> • International search engine petmaxx.com • Online "lost pet" gallery • Lost pet posters and social media template
Several	Worldwide	All scanners	✓	<ul style="list-style-type: none"> • 24/7/365 call center • SearchAlert • Safe Places • Lost pet posters • Mobile-friendly dashboard

***Why is this important?**

ISO-(International Organization for Standardization) compliant is the standard; ISO-compatible is not the same thing.

****Why is this important?**

The International Committee for Animal Recording designates a prefix for a company's microchip ID numbers. A dedicated prefix means more reliable, faster recoveries. Verify numbers at www.dvc.services, and check manufacturers at service-icar.com/tables/tabella3.php.

*****Why is this important?**

Every microchip company has its own registry; some include just their chips, and some include other companies' chips too if those pet owners register them there. The best way to make sure a shelter, humane society or veterinary hospital with a scanner can scan a chip and figure out which company should have the chip registered is through AAHA's lookup search engine.



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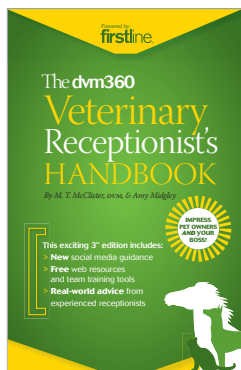
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47% of respondents said veterinarians spend the most total time educating clients about tick control, while **42%** said it was a technician or assistant. **10%** said it was the receptionist and **1%** said practice manager.



The 2017 dvm360 Clinical Updates: Parasitology Survey was sent to subscribers of *dvm360*, *Vetted* and *Firstline*. The survey generated 343 responses, creating a margin of error of about 5 percentage points (although sample sizes—and statistical reliability—on individual questions may be considerably lower).





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