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CHALLENGE

Mission:Nutrition



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Healthy team members = healthy pets

Receptionists are rock stars

By Julie Cappel, DVM



Veterinary receptionists handle phone shoppers, appointment scheduling, price quotes, prescription and food pick up, client concerns, dogs barking and even the occasional "accident" on the reception room floor. They handle our regular cast of client characters, with style and grace.

I saw a great example of this recently, when I was scheduled to see a woman and her daughter with the daughter's little pet bird. The mother was obviously unhappy from the minute she walked in the door.

She sat, glaring with her arms crossed, and didn't say much of anything, until I suggested that surgery might be needed: "We are not going to pay for surgery on a \$19 bird." I told her that I would do my best to treat the pet with medication, which I sent home.

Once she was back at the front desk, the woman exploded at my receptionist, who had nothing to do with the charges, and threatened to leave a bad review because of the "outra-

geous" bill. My receptionist kept calm and cool. She was kind, warm and patient. She may not have won over this particular client, but she did impress everyone nearby.

The very next appointment was a couple who'd seen the interaction between the receptionist and the woman. They were in awe that my receptionist had stayed calm. I told them it was all in a day's work for these front desk rock stars. It's something they deal with infrequently, but also far too often. They take the brunt of most of the problems that occur in any business. They're client service professionals of the highest caliber.

So, remember to love your veterinary receptionists. Pay attention to their needs. They're so important to the success of the veterinary team. They guard you from the cruel world that waits outside your veterinary hospital doors.

Julie Cappel, DVM, works as a small animal and exotic pet veterinarian, leadership and life coach, and runs a four-doctor practice in Warren, Michigan.

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¹ Poulet H, Minke J, Pardo MC, Juillard V, Nordgren B, Audonnet JC. Development and registration of recombinant veterinary vaccines. The example of the canarypox vector platform. *Vaccine*. 2007;25(30):5606-5612.

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Dear Bash:

I have a doctor everyone hates

It's time to face the truth: Practices should have zero tolerance for a-hole staff members and doctors.

Q: Dear Bash,

I have a doctor everybody hates and no one wants to work with. Team members tell me that she drives them nuts. I've heard that a few are thinking about quitting; that's how bad it is.

What's the best way to make her realize what she's doing and how it impacts her coworkers?

Signed,
At Wits' End in Wisconsin

A: Dear Wits' End,

After many years of tippy-toeing around a-hole team members (and being one myself), I can confidently say that practices should have zero tolerance for incivility in the workplace. Doctors may be hard to find, but the peace and mental health of your team are more important.

People aren't intolerable because they like being rude. They're intolerable because they're sitting on a mound of anxiety, depression, feelings of failure, insecurity and unresolved gunk.

Try another sit-down. Without shame, blame or threats, make your stance on the matter clear while emphasizing these points:

- > Incivility from people in power (like doctors) is like Popeye after a can of spinach. Their bad attitude goes extra far, extra long and hits extra hard. Help her see the extent of that damage. Remind her that she may be making lifelong impressions on the people she interacts with.

- > Ask her to check herself when she lashes out. At first, blowing a gasket is cathartic, but shortly thereafter it's replaced by remorse, blame, depression and anger. Challenge her to pause and ask herself what triggered those negative actions.

- > Ask her what she believes her actions accomplish. She's the equivalent of, "My leg really hurts and to show you just how much pain I'm in, I'm going to kick you in the shin." It's an imaginative approach she may not even realize she's using.

- > Remind her there are progressive labor laws in place on federal, state and local levels. In case of legal fallout, she has farther to fall.

- > Ask if the two of you can lean on one another for support: to sort through the frustrating moments and to respectfully challenge one another's actions.

Wits' End, I don't want to mislead you. Few people quickly turn around this kind of negative behavior ... if ever. Still, everyone may be much more forgiving of her behavior if they know she's genuinely trying to improve. Your initiatives toward adjusting her attitude may create an environment where people share more honestly, understand one another more fully, and express their emotions better in the workplace.

Bash Halow, LVT, CVPM, is a practice consultant, owner of Halow Consulting and a regular Fetch dvm360 speaker.

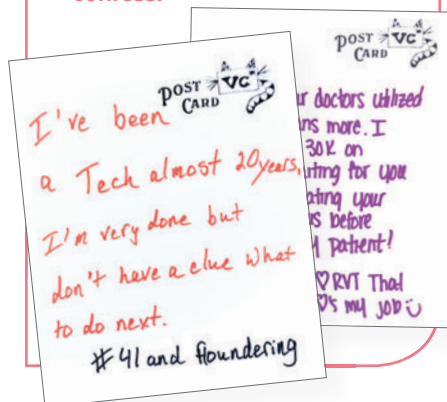
Confessions: Vet techs vent

The struggle is real.

Some feel underqualified, some feel underutilized, and some are flat-out tired. These veterinary technicians share some of the frustrations, worries and struggles they encounter (and endure) in the field. Are you a veterinary nurse who feels underpaid, undervalued and underestimated? Silver lining: You're not alone. Another silver lining: There is light at the end of the tunnel.

To see them all, head to dvm360.com/techs-vent.

Editor's note: Need to get something off your chest? You can submit an anonymous confession at dvm360.com/confess.





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Personality killed the cat?

... or at least made it sick? A recent study suggests that cats of neurotic owners are more likely to have negative behavior styles and poorer health.

By Sarah Mouton Dowdy

If the welfare of a human is impacted by a parent's personality traits (both negatively and positively), a recent study's authors hypothesized, couldn't the welfare of animals be similarly affected—especially when pets are increasingly viewed as and treated like children?¹

Taking inspiration from research on parent-child relationships, the authors wanted to explore whether parents of pets—specifically cats—affect the well-being of the creatures in their care.

What they did

More than 3,000 cat owners participated in an online survey in which they answered questions about their cat's breed, behavior and physical health. The questionnaire was also designed to assess respondents' management style and personality. The latter was measured using the Big Five Inventory, which assigns scores along five different personality dimensions: openness (imaginative, insightful, having wide interests), conscientiousness (organized, thorough, planful), extraversion (talkative, energetic,

assertive), agreeableness (sympathetic, kind, affectionate) and neuroticism (tense, moody, anxious).

What they found

At the most basic level, higher scores in cat owner neuroticism were associated with more negative outcomes for cats, while higher scores in cat owner openness, conscientiousness, extraversion and agreeableness were associated with more positive outcomes.

Digging a bit deeper, respondents who scored higher in neuroticism were more likely to describe their cat as "overweight" and as displaying stress-related sickness behaviors, "behavior problems," and aggressive or anxious and fearful behavioral styles. Respondents who scored higher in agreeableness, on the other hand, were more likely to report that their cat had a normal weight and displayed less aggressive and aloof or avoidant behaviors.

What it means

According to the study's authors, the results provide "the best evidence to date of the relationship

between owner personality and cat behaviour, welfare and lifestyle parameters, showing for the first time clear parallels with the parent-child relationship and the associated well-being outcomes for children."

But before you blame a cat's illness on its owner, it's important to note that the findings point to a correlation, not causation. Information about the cats' health and behavior came solely from the reports of their owners, which could be affected by a number of biases.

Thus, this study is a starting point for discussion and future research. But if you've always had a hunch that a neurotic client negatively affects more than just you and your team, you might be onto something.

Reference

1. Finka LR, Ward J, Farnworth MJ, et al. Owner personality and the wellbeing of their cats share parallels with the parent-child relationship. *PLoS One* 2019;14(2):e0211862.

Sarah Mouton Dowdy is a former associate content specialist for dvm360.com and is a freelance writer and editor in Kansas City, Missouri.

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Nutritional support basics for hospitalized patients

Adequate nutrition is vital to getting critical patients back on their feet. Here are five pointers to help.



By David Liss, MS, RVT, VTS (ECC, SAIM), CVPM, PHR

Providing nutrition to critically ill patients is paramount as these patients are in a catabolic state. Anorexia, shock and sepsis can all contribute to malnourishment and require nutritional support to adequately fuel the body to respond to this crisis. Although nutrition is not without any complications, the benefits of providing nutritional support far outweigh any possible side effects when implemented in a safe and protocol-based manner.

1. Provide nutrition earlier rather than later

Research in human medicine shows us that the earlier nutritional therapy can be started, the more beneficial the effects, including earlier discharge, reduced in-hospital complications and improved wound healing.¹ Delayed nutrition has been associated with negative effects such as increased nosocomial complications, lengthier hospital stays and even lower rates of patient survival. A 2012 study of dogs with septic peritonitis found a 1.6 day decrease in hospitalization stays when nutritional interventions were employed.² Nutritional support was instituted within 24 hours in that study. Current recommendations for acute pancreatitis suggest starting nutritional therapy within 48 hours of admission or immediately if there have been five or more days of anorexia.

2. Calculate nutritional requirements accurately

Several equations and illness factor multiples have been proposed over the years for calculating the caloric needs of small animals. No specific equation for critically ill small animals exists, but the generally accepted convention suggests using the Kleiber equation:³

Resting energy rate (RER) = body weight (kg) 0.75×70

This has been shown to best estimate caloric requirements in critically ill animals.³ In years past, illness factors were used to multiply the RER result by some factor, increasing the daily calories to be administered. These have been shown not to be necessary and may even, in some circumstances, be detrimental and so are no longer required.³ If patients have been anorectic more than three consecutive days, starting with one-third of the RER and ramping up over a few days is also suggested to prevent overfeeding and metabolic consequences of critical illness-related insulin resistance, which can lead to hyperglycemia and hypophosphatemia, among other consequences.

An example: If you have a 22-kg dog who has been anorectic for four days, you would administer $220.75 \times 70 = 711$ kcal/day base. You would start day 1 as one-third of this, so 235 kcal or so, then double on day 2 to 470 and finally end up at full RER (711 kcal) on day 3.

3. Provide nutrition enterally (if possible)

Enteral nutrition, through the gut, is generally accepted as preferable whenever possible to intravenous nutritional interventions (termed parenteral nutrition). Human studies have shown reductions in in-hospital infections, hospital stay and mortality when enteral nutrition is used over parenteral nutrition.³ Practically, providing parenteral nutrition in a veterinary hospital requires purchasing specialized intravenous solutions and placing aseptic catheters (central venous catheters if providing total parenteral nutrition), which may be impractical for the smaller facility. Enteral nutrition, however, requires inexpensive feeding tubes, a blender and liquid diets that have long shelf lives and are easily available.

4. Pick an appropriate diet, not the 'right' diet

Many veterinary professionals ponder about the "right" diet for feeding critically ill patients. Generally, these patients need a high-calorie, high-caloric-density diet to provide enough calories in the smallest volume possible. Pancreatitis, for example, is highly debated as to the fat content, but in actuality the connection between fat and pancreatitis is not clearly established. Since there are many "critical care" diets (Hill's A/D, Royal Canin Recovery, Iams Maximum

Calorie) the only choice is typically which vendor to use and whether the diet needs to be entirely liquid or can be blended with water to create a thinner consistency. Calculation of the kcal requirement can be somewhat daunting but involves figuring out how many kcal are present in a can, cup or ounce and then dividing by the volume of that container. That will provide the kcal/ml and can be used to finish the volume calculation.

An example: Hill's A/D contains 183 kcal in a 5.5-oz can and 5.5 oz is approximately 156 g. A solid gram is approximately equal to 1 liquid ml. So the caloric density is 183 kcal/156 ml or 1.17 kcal/ml. For our example, on day 1 the patient requires 235 kcal or about 200 ml of Hill's A/D.

5. Use a tube for anorectic patients

Oral enteral nutrition, fed as free-feeding, can be useful in providing enteral nutrition. However, anorectic patients require a feeding tube to provide effective and accurate caloric delivery. Nasogastric tubes are easily placed and maintained in both dogs and cats. There are other endoscopic/surgical options that are beyond the scope of this article (gastrostomy, PEG tubes). In most practices, a nasogastric or naso-esophageal option is easily placed by veter-

inary assistants and technicians, easily maintained and can provide a majority of liquid diets. Larger-bore tubes in larger animals may facilitate blended soft wet diets, but smaller-gauge tubes may require the use of a fully liquid diet such as Zoetis Clinicare, Nestle Vivonex or Virbac Rebound.

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David Liss, MS, RVT, VTS, CVPM, PHR, is an expert in veterinary critical care nursing and practice management. He has worked as a technician in emergency medicine, in academia and currently manages a 24-hour ER/GP hybrid hospital in Los Angeles, California. He enjoys the outdoors and time with his chihuahua, "Brut."

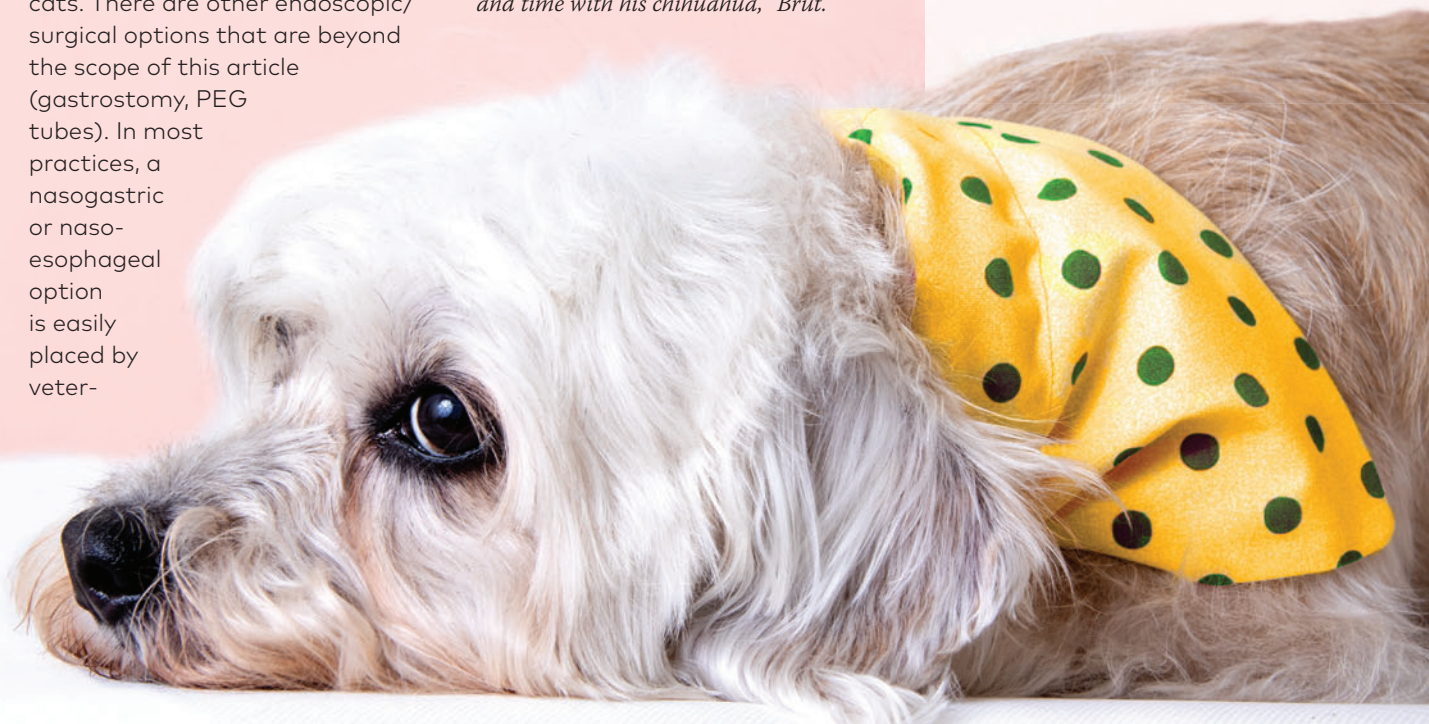
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dvm360

In *dvm360* we look at the dark side of pet nutrition (mythmongering and irrationality), the bright side (what food does for the human-animal bond), a checklist for evaluating pet food options, and a look at whether pets can eat vegan (Dr. Ernie Ward's response may surprise you!).



Team tip: Make **samples** that lead to **sales**

A client returns a bag of therapeutic food that their pet refused to eat. Don't fret! Instead, turn it into samples so future clients can test the food out before buying it. *By Jennifer Vossman, RVT, CMP*



We've all heard the story: You send home a bag of therapeutic food with a veterinary client and then they come back a few days later because Chance or Sassy refused to touch the stuff.

Now you have an open bag of food that you can't sell. Don't despair—this opens up a perfect opportunity. Simply take the remaining food and section it out into a sample pack large enough for a few days and label it with the expiration date and type of food.

Then, when the next dog or cat comes in the door with the same stomach complaints (or risk of diabetes or need for joint support), you can give samples of the recommendation to the client. If the pet gobbles it up, they can come back and buy a bag. If it's a no go? No problem!

Try several samples of different foods if needed to arrive on the perfect one. Make clients happy and save yourself on costs and waste.

Practice tip: Therapeutic diet? **It's in the cart**

If the veterinarian is recommending a therapeutic diet for a patient, put it in the online cart and set up reminders to increase client compliance.

By Gabrielle Roman

A client just found out her dog is showing potential signs of hip dysplasia. The veterinarian recommends a joint supplement, fish oil and a therapeutic diet.

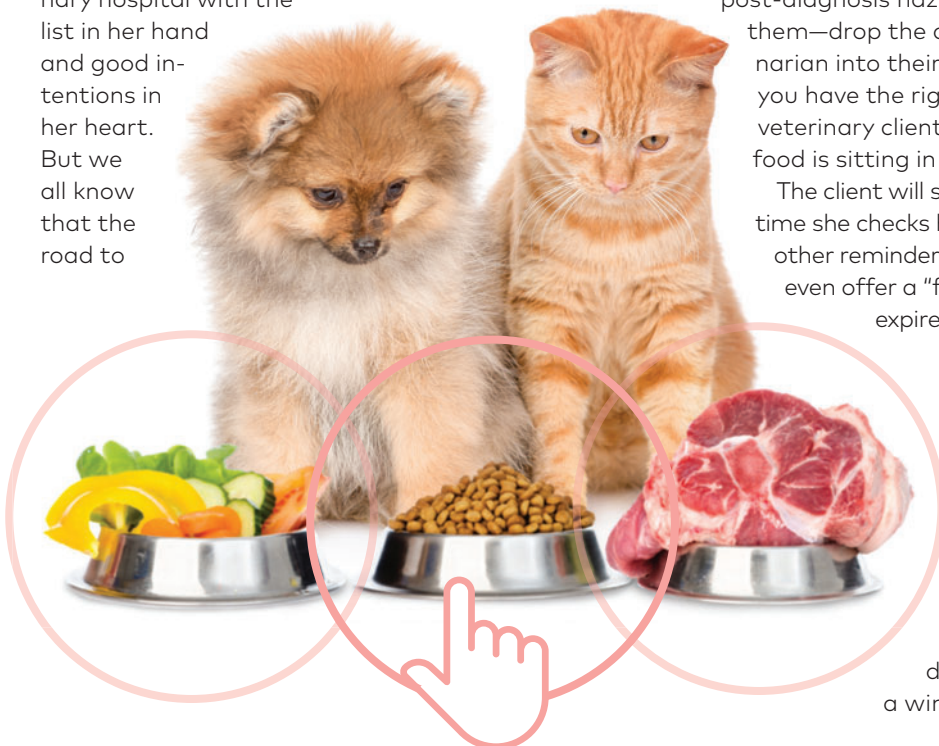
"Got it," says the client and walks out of the veterinary hospital with the list in her hand and good intentions in her heart. But we all know that the road to

noncompliance is paved with good intentions. The list gets lost, buried at the bottom of a bag or just forgotten in the shuffle.

So what can you do to help clients who are still in a post-diagnosis haze? You can take the first step for them—drop the diet recommended by the veterinarian into their cart in your online store. Make sure you have the right email address on file for the veterinary client, then set up reminders that the food is sitting in the cart.

The client will see that the food is there the next time she checks her email. If no action's taken, another reminder shows up a few days later. You can even offer a "final notice" that the cart is about to expire to help prompt the client.

This method works with any product the veterinary team recommends and your online store carries. If clients truly don't want to purchase the item, they won't. But if they simply forget because, well, life happens, you're offering them a convenient and gentle nudge to action. Compliant client, healthy dog, happy veterinary practice. It's a win-win-win.



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¹ Data on file.

² Data on file.

³ Data on file.

Be the best source of pet food info for your veterinary clients



Don't underestimate the power of your guidance when encouraging pet owners to make objective decisions about pet food. You're better armed than you think. *By Ashley Cox, BS, LVMT, VTS (Nutrition)*

You know bad marketing surrounding pet food is everywhere—reaching pet owners via commercials, social media, influencers, digital advertising and, of course, word of mouth.

And yet, understanding how to “read” pet food labels and appropriately compare diets can be overwhelming.

Veterinary teams should be helpful guides in this journey. Here's how best to leverage your knowledge and efforts.

For the team: Understand guaranteed analysis

While the guaranteed analysis (GA) is one of the many label requirements for manufactured pet food, pet owners often use this to try to quantify nutrient amounts, such as protein, within the diet.

Unfortunately, GA values are recorded as a percentage of weight as-fed—making it inaccurate to cross-compare, especially between dry and canned products due to the variation in moisture.

To be able to effectively evaluate the nutrient levels between products, typical content of protein and fat can be calculated into grams/1000 kcal (see Table 1). Just simply follow these steps:



1. Divide kcal/kg by 10,000 (kcal/kg listed on the bag).
2. Divide the estimated protein and fat percentage by the number obtained from step 1.

After doing the math for the examples in Table 1, you'll notice the canned food contains higher fat but lower protein than the dry product. You might not be able to appreciate this when trying to compare GA—again, showing the inaccuracy of comparison based upon GA due to the variation in moisture content.

For the super-involved pet owner: Questions to ask

There are likely some clients you'd qualify as “super-involved.” For these types, who are looking to pursue a more hands-on approach and make a more informed decision when evaluating a company or brand, you can encourage a few things. The pet owner could call the manufacturer directly and ask a series of questions (see Table 2) recommended by the World Small Animal Veterinary Association (WSAVA).

Remind these clients that most companies should be able (and willing!) to provide responses to the WSAVA questions. And if they're unable or unwilling to respond, clients should take caution when considering those diets.

Table 1: Example comparison of canned and dry pet food when looking at the guaranteed analysis vs. g/1,000 kcal.

Nutrient of concern	GA—DRY	g/1000 kcal DRY	GA—CANNED	g/1000 kcal CANNED
Protein—minimum	32	85.6	10.0	67.7
Fat—minimum	14	37.4	9.0	60.9
kcal/kg	3,740	NA	1,477	NA

AAFCO considerations

It's important to recognize that while the Association of American Feed Control Officials (AAFCO) provides recommendations for states to consider, they do not regulate or inspect pet food.

Regulations and enforcement of pet food labeling is done mostly at the state level by state feed control officials, not by AAFCO, but generally following their recommendations.

It's crucial that vet teams obtain an accurate patient history that accounts for diet, supplements, treats and foods used for medications, which will help guide appropriate feeding recommendations. In gener-

al, the balanced diet should account for 90% of food intake per day, with treats or supplements as less than 10% of the total daily energy needs.

Dare to ask (tough questions)

Recently, the Pet Nutrition Alliance, an independent, nonprofit organization, launched a resource for veterinary professionals, "Dare to Ask," that provides more than 200 manufacturers' responses to questions about their nutritional expertise, their ability to provide nutrient information when requested and where their food is manufactured. This can guide selection of pet food without influence from marketing.

Ultimately, educating pet owners to seek out facts beyond the label and ask specific questions to obtain as much objective information as possible will surround them with the knowledge they need to select the most appropriate diet for their beloved pet. Remember, your guidance goes a long way!

Reference

1. "WSAVA Global Nutrition Committee: Recommendations on Selecting Pet Foods." WSAVA, 2013, www.wsava.org/WSAVA/media/Documents/Committee%20Resources/Global%20Nutrition%20Committee/English/Selecting-the-Best-Food-for-your-Pet.pdf.

Table 2: WSAVA recommendations on selecting pet foods

Questions to ask pet food manufacturers, from WSAVA ¹
Do you employ a full-time qualified nutritionist? > What is the nutritionist's name and qualifications?
Who formulates your foods and what are his/her credentials?
Are your diets tested using AAFCO feeding trials or by formulation to meet AAFCO nutrient profiles? > If formulated, do you meet AAFCO nutrient profiles by analysis of the finished product?
Where are your foods produced and manufactured?
What specific quality control measures do you use to ensure the consistency and quality of your ingredients and the end product?
Will you provide a complete nutrient analysis for the dog or cat food in question?
What is the caloric value per gram, cup or can of the food?
What kind of product research has been conducted? Are the results published in peer-reviewed journals?



Brainwash

your veterinary patients

Wield the benevolent brainwashing powers of classical conditioning and desensitization to both fix *and* prevent problem behaviors in your veterinary practice. *By Monique Feyrecilde, BA, LVT, VTS (Behavior)*

Have you ever had a cat attempt to run away upon spying his carrier? The item itself isn't terrifying, but because the cat has come to associate it with an unpleasant experience, it provokes a fear response.

Classical conditioning is the process by which a meaningless stimulus is linked with a meaningful stimulus consistently enough that the previously meaningless stimulus starts eliciting the same response as the meaningful one.

Conditioned responses can make treatment difficult, unpleasant or just plain impossible for both pet owners and veterinary professionals, but it's not a hopeless situation.

To efficiently change a conditioned response, you will need to use desensitization in conjunction with classical and operant counterconditioning.

Desensitization is the process by which a certain stimulus is presented to the learner repeatedly at a carefully controlled intensity so that he learns it's not harmful and doesn't respond to it. It begins with identifying the trigger, then deconstructing it into a hierarchy of progressive approximations that can be used for gradual controlled exposures. This hierarchy must have a nonstressful starting point.

I always suggest breaking trigger stimuli into the smallest imaginable

increments. When done properly, desensitization attempts will not elicit any significant noticeable response from the learner. It should be about as exciting for the learner as watching paint dry.

Because animals can't talk, desensitization is a process of trial and error.

Because animals can't talk, desensitization is a process of trial and error. If the learner shows mild stress (and this will happen, no matter how careful you are), pause the session and return to the most recent successful exposure level. If the learner shows a response to the lessened stimulus, stop the session and try again later.

However, desensitization alone, even when expertly done, is too slow and unreliable for practical behavioral modification. For this reason, we generally use it in combination with classical and operant counterconditioning.

Classical counterconditioning is the process by which a classically conditioned negative stimulus is reconditioned to provoke a new preferred involuntary response, while **operant counterconditioning** produces a replacement voluntary response from the learner.

To combine desensitization with classical counterconditioning, determine the desensitization stimulus hierarchy. Next, identify stimuli that already produce the desired emotional response. For example, if you want an excited, happy learner, common stimuli are treats, toys, play, distance from triggers and verbal praise.

To begin training, present the trigger stimulus at the lowest level (as planned in the previously determined stimulus hierarchy) before introducing a stimulus provoking a positive emotional response. So for a cat with a fear of its carrier, the client might walk to the closet where the it's kept and then produce the cat's favorite treat. Then the client might touch the doorknob or open the door before giving the cat another treat, and so on.

Once the stimulus can be presented at a reasonable level, you can incorporate operant conditioning by asking the learner to perform a preferred behavior such as sitting, lying down or stepping away. When the pet responds accordingly, immediately provide a positive stimulus. When done correctly, the trigger stimulus becomes the cue for the new emotion and the new desirable behavior.

Monique Feyrecilde is a certified veterinary technician specialist in behavior and the former president of the Society of Veterinary Behavior Technicians.

BRAVECTO[®]
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TOPICAL SOLUTION



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Give them **one less thing to forget.**

Only BRAVECTO[®] delivers **up to 12 weeks*** of flea & tick protection with one topical dose

Fewer doses = fewer potential gaps in protection = less stress for cats, pet owners, staff.¹

Ask your Merck Animal Health Rep about BRAVECTO or Visit Bravectovets.com

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

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

IMPORTANT SAFETY INFORMATION:

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

See full Prescribing Information on page 16.



(fluralaner topical solution) for Cats

Caution:

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

Description:

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

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

Indications:

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

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

Dosage and Administration:

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

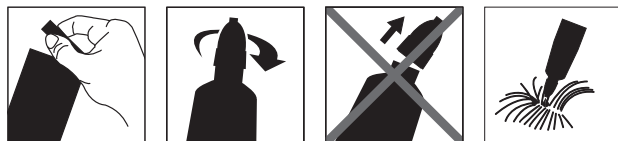
Bravecto may be administered every 8 weeks in case of potential exposure to *Dermacentor variabilis* ticks (see **Effectiveness**).

Dosage Schedule:

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

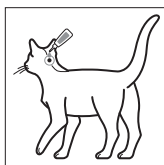
* Cats over 27.5 lb should be administered the appropriate combination of tubes.

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



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

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



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

Contraindications:

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

WARNINGS

Human Warnings:

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

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

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

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

Precautions:

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

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

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

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

Adverse Reactions:

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

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

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

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

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

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

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

Clinical Pharmacology:

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

Mode of Action:

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

Effectiveness:

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

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

Animal Safety:

Margin of Safety Study: In a margin of safety study, Bravecto was administered topically to 11- to 13-week (mean age 12 weeks)-old-kittens at 1, 3, and 5X the maximum labeled dose of 93 mg/kg at three, 8-week intervals (8 cats per group). The cats in the control group (0X) were treated with mineral oil.

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

Oral Safety Study: In a safety study, one dose of Bravecto topical solution was administered orally to 6- to 7-month-old-kittens at 1X the maximum labeled dose of 93 mg/kg. The kittens in the control group (0X) were administered saline orally. There were no clinically-relevant, treatment-related effects on physical examination, body weights, food consumption, clinical pathology (hematology, clinical chemistries, coagulation tests, and urinalysis), gross pathology, histopathology, or organ weights. All treated kittens experienced salivation and four of six experienced coughing immediately after administration. One treated kitten experienced vomiting 2 hours after administration.

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

Storage Conditions:

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

How Supplied:

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

NADA 141-459, Approved by FDA

Distributed by:

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3 ways your veterinary practice can get started in telemedicine



It's time to turn those late-night texts from all sorts of characters who own pets into a lucrative opportunity for you and your team. Here's how.

By Hannah Wagle, Associate Content Specialist

Stacee Santi, DVM, wants to know if this sounds familiar: "Hello Stacee," she reads from her phone in a recent Fetch dvm360 session. "I have a border collie mix. His nose turned horrible. It clears up just like allergies but when it starts back up it gets bad. What can I do for him?"

"So," Dr. Santi tells attendees, "I responded like any veterinarian. 'Who is this?'"

It was a man she'd gone to high school with, named Rodney, who followed his short re-introduction with a photo of his dog's nose that would make any self-respecting veterinarian shake their head in dismay. The rest of the conversation went like this:

Dr. S: This is an auto-immune disease that is in a very aggressive state. He needs some high-powered medication.

Rodney: Last time, [my vet] didn't suggest anything other than I just watch it. [The Fetch dvm360 attendees roll their eyes practically in unison at this one.]

Dr. S: I'm sure this isn't what it looked like last time.

Rodney: Wish you were closer.

"Isn't that weird?" she asks attendees, who chuckle. "I spent a lot of time wondering, 'Why did he message me? And why does he wish I was closer?' I haven't talked to him in 20-some years!"

Which, of course, is the crux of telemedicine: trustworthiness, accessibility and affordability are all reasons why a classmate you haven't seen for decades would text you about his dog's funky nose. They're also the reasons why telemedicine is such a smart move. But how can veterinary teams (as in you!) start charging for those type of services? Dr. Santi, creator of the Vet2Pet mobile app for veterinary practices, has a few ideas.

1. Create office hours

The doctors in your practice have been taking phone calls from clients for years. Do you charge? Oftentimes not, but how do you start charging for something that's

been free for your clients for so long? Here's where telemedicine can come into play.

Dr. Santi's idea is to tell your clients that your practice has a new service: "doctor office hours," where your veterinarian is willing to advise clients on the phone for one hour on certain days of the week, for a small fee. "This is a way you could dip your toe in the water and introduce this idea," Dr. Santi explains. You might run into a few snags, but you can work through them as you figure out how telehealth fits overall in your practice.

2. Decide which case—and client—is right for this

Jack, one of Dr. Santi's favorite patients, is a standard black poodle who's missing all of his teeth after an incident involving a children's baseball game. "And then," she tells attendees, "for some random reason he decided to get a heart arrhythmia with a case of [hemorrhagic gastroenteritis]—we spent several nights together there. He also got bitten by a rattlesnake—Jack and I are so close—and then

VETORYL® CAPSULES (trilostane)

5 mg, 10 mg, 30 mg, 60 mg and 120 mg strengths
Adrenocortical suppressant for oral use in dogs only.

BRIEF SUMMARY (For Full Prescribing Information, see package insert.)

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

DESCRIPTION: VETORYL Capsules are an orally active synthetic steroid analogue that blocks production of hormones produced in the adrenal cortex of dogs.

INDICATION: VETORYL Capsules are indicated for the treatment of pituitary- and adrenal-dependent hyperadrenocorticism in dogs.

CONTRAINDICATIONS: The use of VETORYL Capsules is contraindicated in dogs that have demonstrated hypersensitivity to trilostane. Do not use VETORYL Capsules in animals with primary hepatic disease or renal insufficiency. Do not use in pregnant dogs. Studies conducted with trilostane in laboratory animals have shown teratogenic effects and early pregnancy loss.

WARNINGS: In case of overdosage, symptomatic treatment of hypoadrenocorticism with corticosteroids, mineralocorticoids and intravenous fluids may be required. Angiotensin converting enzyme (ACE) inhibitors should be used with caution with VETORYL Capsules, as both drugs have aldosterone-lowering effects which may be additive, impairing the patient's ability to maintain normal electrolytes, blood volume and renal perfusion. Potassium sparing diuretics (e.g. spironolactone) should not be used with VETORYL Capsules as both drugs have the potential to inhibit aldosterone, increasing the likelihood of hyperkalemia.

HUMAN WARNINGS: Keep out of reach of children. Not for human use. Wash hands after use. Do not empty capsule contents and do not attempt to divide the capsules. Do not handle the capsules if pregnant or if trying to conceive. Trilostane is associated with teratogenic effects and early pregnancy loss in laboratory animals. In the event of accidental ingestion/overdose, seek medical advice immediately and take the labeled container with you.

PRECAUTIONS: Hypoadrenocorticism can develop at any dose of VETORYL Capsules. A small percentage of dogs may develop corticosteroid withdrawal syndrome within 10 days of starting treatment. Mitotane (o,p'-DDD) treatment will reduce adrenal function. Experience in foreign markets suggests that when mitotane therapy is stopped, an interval of at least one month should elapse before the introduction of VETORYL Capsules. The use of VETORYL Capsules will not affect the adrenal tumor itself. Adrenalectomy should be considered as an option for cases that are good surgical candidates. The safe use of this drug has not been evaluated in lactating dogs and males intended for breeding.

ADVERSE REACTIONS: The most common adverse reactions reported are poor/reduced appetite, vomiting, lethargy/dullness, diarrhea, elevated liver enzymes, elevated potassium with or without decreased sodium, elevated BUN, decreased Na/K ratio, weakness, elevated creatinine, shaking, and renal insufficiency. Occasionally, more serious reactions, including severe depression, hemorrhagic diarrhea, collapse, hypoadrenocortical crisis or adrenal necrosis/rupture may occur, and may result in death.


VETORYL® CAPSULES
(trilostane)

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Jack got a mast cell tumor."

Jack's owner works for a big pharmaceutical company, and her husband is a firefighter. They're raising three children, and they have little time for in-person appointments with the veterinarian. "She's the kind of client I'm very comfortable doing telemedicine with," Dr. Santi says. "I can jump on a call with her, I can have her send me pictures, I can have her video me. There's no question that Jack isn't coming in; I just need to know how much time I need to block off to talk with them."

To make the best decisions on who is and who isn't a great candidate, Dr. Santi has three criteria: duration of the condition (acute cases are better suited for telemedicine than chronic, Dr. Santi says), severity ("You vomited twice? I can deal. You vomited 12 times? You're coming in.") and ease for you and your client (as in, a client who trusts you and you trust back, and good availability to schedule electronic meetings with).

3. Make a game plan

Trying to implement telemedicine overnight in your veterinary practice can backfire. Dr. Santi says the best thing a veterinary team can do is make a plan that works for their hospital and execute it

systematically. After all, one size does not fit all.

"You can't just roll it out, piece by piece, and call it good," she says. "You need to think about what your plan is. You need to think about making announcements, creating brochures. You need to educate—you should let that woman with the fat Lab on her lap know during her wellness exam that you have these services available."

"I've practiced for 20 years," Dr. Santi tells attendees. "I'm just like you; I know what it's like." Which is why she understands that veterinary telemedicine is a big idea to wrap your head—and heart—around. But it's easier than it looks, and most veterinary practices who've been successful in telehealth started small.

"You can do it!" Dr. Santi says.

TACKLE TELEHEALTH

Instead of looking at what the future holds, we're diving into what's happening now in this new arena of client satisfaction, relationship-building and innovative pet care. Find it all at dvm360.com/telemedicine-spotlight

Treat Their Hyperadrenocorticism. Help Restore Their Vitality.



Prior to treatment with
VETORYL Capsules



Following 3 months of treatment
with VETORYL Capsules



Following 9 months of treatment
with VETORYL Capsules



VETORYL® CAPSULES (trilostane)

VETORYL Capsules are the only FDA-approved treatment for pituitary-dependent and adrenal-dependent hyperadrenocorticism in dogs (Cushing's syndrome). They contain the active ingredient trilostane, which blocks the excessive production of cortisol.

As with all drugs, side effects may occur. In field studies and post-approval experience, the most common side effects reported were: anorexia, lethargy/depression, vomiting, diarrhea, elevated liver enzymes, elevated potassium with or without decreased sodium, elevated BUN, decreased Na/K ratio, hypoadrenocorticism, weakness, elevated creatinine, shaking, and renal insufficiency. In some cases, death has been reported as an outcome of these adverse events. VETORYL Capsules are not for use in dogs with primary hepatic or renal disease, or in pregnant dogs. Refer to the prescribing information for complete details or visit www.dechra-us.com.

To order, please contact your Dechra representative or call (866) 683-0660.
For full prescribing information please visit www.dechra-us.com.

24-hour Veterinary Technical Support available (866) 933-2472.
Nonurgent Technical Support available via email support@dechra.com.

NADA 141-291, Approved by FDA CAUTION: Federal law restricts this drug to use by or on the order of licensed veterinarian.
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Please see brief summary on page 18


Dechra
Veterinary Products

01AD-VET50167-0319

Top 5 ways to start brushing a dog's teeth (really!)

Give this handout to clients for something wonderful to chew on to teach some doggone good toothbrushing techniques.

We already presented some great first steps (in fun GIF form!) to helping dogs learn to love the toothbrush, toothpaste and brushing. But what if you want it all in a handy printable client handout? Well, there you go. Head to dvm360.com/dog-teeth for the handy-dandy PDF. (Psst! You'll find the GIFs there too.)



May we also present: How to brush a cat's teeth (oh, yeah)

Use this handout (with an optional video!) as a feline dental compliance one-two punch.



Regular brushing of a cat's teeth help prevent oral disease that can spread bacteria to other parts of a cat's body. Make sure clients understand how important it is to get their cat comfortable with toothbrushing using the methods in our video, then download our free client handout to provide even more help. You can find them both at dvm360.com/cat-teeth.

Now that you've got the tools and the knowledge, go forth and educate your clients about brushing pets' teeth, you brave veterinary dental heroes!

Be the dentistry expert your patients need

At Fetch dvm360 conference in Kansas City, we've got sessions that'll make you more of an expert than the tooth fairy herself. Head on over to fetchdvm360.com/KC to learn more!

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Client handout: Get the facts about parasitic colitis in dogs

Here's the low-down on this relatively common and very treatable canine condition.

When your veterinary client's pup is having poop problems, parasites may be at play. Colitis—or inflammation and irritation of the large bowel (or colon)—can have a number of causes, including parasites. We've created a handout to help your clients understand this condition and its treatment.

Head to dvm360.com/colitis-handout to snag it!



Veterinary Technician Nerd Book: Internal parasites

The next chapter of this handy tool is ready to worm its way into your daily veterinary practice life. *By Sarah Mouton Dowdy; Julie Carlson, CVT*



Nerd Book

As you well know, early birds aren't the only ones that get worms. That's why Julie Carlson, CVT, a veterinary assisting instructor, nerdy technician and the founder of Vets for Vets' Pets, a

nonprofit that provides supplies and medical care to the pets of homeless and at-risk veterans, has devoted the next chapter of the nerd book to internal parasites—both large animal and small animal.

A couple of notes before you go forth and conquer internal parasites in your practice:

- > Be sure to change your print settings to "Actual size" before printing. If you don't, the pages won't be the correct size.
- > In many cases, the lists of intermediate and definitive hosts are not exhaustive. However, they should give you a good idea of where you'll be most likely to see the parasite in question.

Now it's time to nerd out! Get your fix at dvm360.com/nerd-internal-parasites.

New to the nerd book?

The nerd book is essentially a portable cheat sheet for day-to-day veterinary technician life that is small enough to fit in your scrub pocket. To find instructions on creating your own nerd book and download the first chapter (which covers external parasites), visit dvm360.com/nerd.



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Having fun with all creatures old and young

No matter your veterinary patient's age, everyone on the team (yes, you!) can still make sure their experience is a great one. Here's how. *By Amy Newfield, CVT, VTS (ECC)*

Pets come in all sorts of shapes, sizes and ages. But with our many different patients at different life stages, how can we best support them? Let's break down the stages of aging and walk through what we can do to help them, from the front to the treatment area to home, throughout a pet's entire life.

Puppies and kittens

Fur babies! From the moment these adorable pets come into the clinic, we need to make sure that their experience is a positive one. Trust me, if you make the visits in their early years fun, it will pay off in the future.

Receptionists: Be sure to move the little ones into an exam room to avoid any scary or overwhelming stimulation that may occur. Remember, new pet owners can be easily overwhelmed at discharge, so make sure everything's written down for them.

Vets and techs: You should consider the very first visit to be a "hello." That means no vaccinations and no physical exams. Make sure that nothing scary happens and that the new pet is rewarded with some playtime and treats. When it is time to vaccinate, I've learned that a little peanut butter goes a long way for puppies (smear a tiny

amount on a table right before the injection). Catnip and Feliway usually make for a happy experience for kittens.

Restraining these wiggling babies for procedures can be difficult at times, but if you can manage food rewards, it will help decrease the wiggles. Sedation may be necessary in order to get the procedure done. Remember, it's better to sedate than to struggle, which could cause irreversible behavior problems for the pet.

Adult pets

By this time, most adult dogs and cats have had some experience at the vet clinic. Based on past experience, their behavior may range from happy to nervous to aggressive.

Front desk team: You play an integral role in managing the waiting room. If there is a stressed pet, get them into a closed room to try and destress the experience. I'm sure you've realized by now: cats are not going to enjoy sitting across from a dog staring at them in the waiting room for 15 minutes. If you are part of the front desk team, you can make a big difference by reading pets' reactions and ensuring you keep their experiences as stress-free as possible.

Veterinary team: Anyone can provide a basket of towels that have been sprayed with Feliway in the morning. On the basket, you can place a note that says something like, "Have a cat? Put this towel over the carrier." Feliway helps to reduce stress, and taking away the visual stimulation of panting dogs and running kids will help make any cat's experience better.

Vets and techs: When examining bigger dogs, keep them on the floor. Unless the pet is used to being picked up (like a small dog or cat), most procedures and examinations should occur on the floor. It will cause less stress and less struggling for the exam or procedure, making your job easier.

Talk to the pet! So many times, we address the client and forget to say hello to the pet. Be sure to use words they're familiar with because this puts them at ease. If you speak their language, they're more likely to trust you. With adult dogs, ask them to perform their commands. Instead of struggling with them to get them to lie down, see if the dog will lie down by asking them. The nice thing about adult pets is that they probably know a few tricks!

Cats do not do well with being scruffed. Instead, use towel wraps, Feliway and catnip. Studies have



shown scruffing increases fear and aggression in our feline patients. Instead, practicing patience, calm and towel wrapping allows you to perform most beneficial medical procedures.

When a pet needs to be hospitalized, don't forget about comfort. Luckily, there are simple fixes to make both cats and dogs feel at ease in your practice. For instance, cardboard boxes can decrease a cat's stress level. Small dogs are used to laps, so roll up some blankets and make a circular bed for your patient.

Senior pets

This is perhaps one of the best and hardest stages of life. Most senior pets know the ins and outs of a clinic and are more tolerant. Unfortunately, the stress can be harder on both the pet and client. Fortunately, there are a few things you can do to make it better.

Front desk team: You often need to be the guardian of the senior pet. If a younger dog or cat (or a young child) is harassing a calm senior pet, move the older pet into a room for safety and relaxation, away from the busy waiting area. Remember, age is not a disease, so be sure not to tell the owner, "He's so old!" Instead, tell them, "He's so

handsome!" Owners love to hear their pet looks good.

Keep in mind, almost all senior pets have arthritis and likely can't see and hear clearly as well. Go slow. Don't startle them. Be careful if you have to pick them up. Because their taste buds decrease as they age, you may want to microwave their food or treats for five to seven seconds so it brings out the smell more.

So many times, we tell owners what we think they want to hear rather than the truth. Be honest and, if you do it with compassion and empathy, they will hear you better.

Vets and techs: If the older pet needs to be hospitalized, be sure to provide soft, cushioned bedding to alleviate any arthritis pain.

Allow pet owners extra time with pets that have to stay overnight. I believe visiting hours rules can be broken when you're dealing with a senior pet that has a terminal disease. If the owner wants to

sleep overnight, let them—it's best not only for the client, but also for the pet! Happiness equals a faster recovery, and allowing owners to spend time with their pet is the best way to help a sad heart.

The hardest part of talking to owners about senior pets are the conversations revolving around terminal illness or death. The most important things are to be compassionate, have empathy and be honest. So many times, we tell owners what we think they want to hear rather than the truth. Be honest and, if you do it with compassion and empathy, they will hear you better.

Regardless of the pet's life stage, remember this advice: Have fun. Your veterinary patient is an awesome, furry (or, in the case of the hairless dog or cat, smooth) animal that brings joy to us crazy, imperfect human beings. We have the most amazing job of helping them live their best life through veterinary medicine. Supporting pets through all stages of life is one of the most rewarding aspects of our job. Let's celebrate that!

Amy Newfield is a certified veterinary technician specializing in emergency critical care at BluePearl Pet Hospital in Waltham, Massachusetts.

Putting the "NuT" in "NuTRITION" by dvm360

dvm360

"Yes, I give my macaw vegetables."
"Great, which ones?"
"French fries & ketchup." 🤔

@jhazeb3

Long conversation with a woman about why her cat can't be Vegetarian, explaining cats are obligate carnivores did NOT help. She asked if there was a plant-based, high-protein cat food. 🤔

@erinredert0

Me="Your dog has diabetes, please only feed this diabetic food."
Pet owner="So I can't give her tea & yogurt anymore?"
I thought she was kidding. She wasn't.

@gastropodian

My dachshund will ONLY eat PANCAKES + SAUSAGE. 🤔

@pandvm92

Oof. Brace yourselves: We asked your veterinary peers for the craziest nutrition conversations they'd ever had with pet owners, and, boy, they did not disappoint. Unsurprisingly, their stories regarding nutrition were indeed crazy.

They ranged from the unbelievable ("Rabbits are hard-wired by nature to only eat foods that can't harm

it. If pizza wasn't good for my rabbit, he wouldn't eat it.") to the downright dangerous ("Yes, dear owner, your dog needs water more than once a week!").

Want to see them all? Head over to dvm360.com/nutty-nutrition and scroll through. Do you have a wild story you'd like to share with us? Be sure to send it to firstline@mmhgroup.com!



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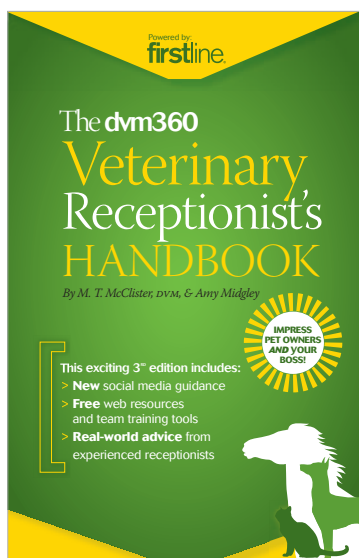
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NexGard® (afoxolaner) Chewables

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

Description:

NexGard® (afoxolaner) is available in four sizes of beef-flavored, soft chewables for oral administration to dogs and puppies according to their weight. Each chewable is formulated to provide a minimum afoxolaner dosage of 1.14 mg/lb (2.5 mg/kg). Afoxolaner has the chemical composition 1-Naphthalenecarboxamide, 4-[5-[3-chloro-5-(trifluoromethyl)-phenyl]-4, 5-dihydro-5-(trifluoromethyl)-3-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. NexGard is indicated for the prevention of *Borrelia burgdorferi* infections as a direct result of killing *Ixodes scapularis* vector ticks.

Dosage and Administration:

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

Dosing Schedule:

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

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

Flea Treatment and Prevention:

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

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

Tick Treatment and Control:

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

Contraindications:

There are no known contraindications for the use of NexGard.

Warnings:

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

Precautions:

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

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

Adverse Reactions:

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

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

Table 1: Dogs With Adverse Reactions.

	Treatment Group			
	Afoxolaner		Oral active control	
	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

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

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

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

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

Post-Approval Experience (July 2018):

The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse events are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data.

The following adverse events reported for dogs are listed in decreasing order of reporting frequency for NexGard:

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

Contact Information:

For a copy of the Safety Data Sheet (SDS) or to report suspected adverse drug events, contact Merial at 1-888-637-4251 or www.nexgardfordogs.com.

For additional information about adverse drug experience reporting

for animal drugs, contact FDA at 1-888-FDA-VETS or online at

<http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

Mode of Action:

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

Effectiveness:

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

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

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

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

Animal Safety:

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

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

Storage Information:

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

How Supplied:

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

NADA 141-406, Approved by FDA

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What one little chew can do

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



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¹Data on file.