

VOLUME 114, NUMBER 10

October 2019

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One heck of a tech!

Let the technicians in your practice know that their great work is not going unnoticed. (We like to think of them as verbal high fives.)

Do you work with a technician who's an ace at anesthesia, a pro at dental prophylaxis or a whiz at wound care (or perhaps a killer combination of all three)? Don't let another busy day at your practice pass without expressing your admiration!

While it's always a good day for practice owners, practice managers, practitioners and team members to recognize technicians' skills and hard work, the fact that this month marks National Veterinary Technician Week (Oct. 13-19) makes such efforts that much more timely.

Start some complimentary conversations with these complementary notes that you can personalize for the technicians who knock your socks off every day. Download and print out the notes at dvm360.com/heckofatech.



"You don't always have to draw the blood, place the catheter or intubate the animal. If we have licensed technicians and this is what they've been trained to do, we need to let them do their job so we can do our job more effectively."

— David Dycus, DVM, MS, DACVS-SA

.....

If you're the Type-A veterinarian who believes you have to do every last task in the exam room, we're here to tell you one thing: STOP. Yes, you are capable. But you have a lifeline in the form of your technicians, allowing you to redistribute responsibilities, lighten your load and provide excellent patient care. Dr. Dycus urges you to utilize your techs to do the things they were trained to do instead of hoarding responsibility. Your patients—and your peace of mind—will be better for it.

■ We celebrate ■ superhero techs!



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dvm360 is proud to partner with brands and companies that support our celebration of veterinary technicians everywhere. Thanks to Banfield for their support of our 2019 coverage of National Veterinary Technician Week! Find more #vettechweek coverage at dvm360.com, on Facebook (@dvm360) and on Instagram (@dvm360mag). Three cheers for superhero techs everywhere!





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Post vet school, 'I was super sleepy—and still am 12 years later'

Veterinarians and veterinary students on Facebook told us long hours were a given to get into the profession. But how do those hours affect practitioners, patients and the learning process?



When we posted news of a recent study on the long hours that veterinary students put in during school, Facebook users chimed in to say, "Yup, been there, done that."

"It's a big issue, I think. I was exhausted, and looking back I think I came out of vet school burnt out. There was never enough time to study. But then the reality is, when you get out of vet school and get a job, you're often expected to work 24 hours or more in a row. One weekend I worked 68 out of 72 hours."

— Liana Mawer, DVM

"I was super sleepy—and still am 12 years later. In vet school I used to stay at school until sometimes 8 or 9 at night, study until 1 a.m. then set my alarm for 4, study for a bit then go back to school. I can't believe I did it. Then 10 years of 'on call.' Needless to say, my sleep is now permanently screwed."

— Heather James, DVM

"The pinnacle for me was my surgery rotation. There were supposed to be eight students, but there was an outbreak of MRSA on the surgery ward, so four dropped it last minute. So we had the case load for eight with [only] four students. I was there every day until 11 p.m. and had to be back the next morning for 5 a.m. to have all my patients written up before rounds. Let's just say that is not the ideal way to learn. Definitely nearly passed out holding a leg for the surgeon. I lost 10 pounds in two weeks."

— Teresa Bousquet, DVM

"Just because it's the way it's always been doesn't mean it has to be that way forever. I'm sure someone will reply with something along the lines of 'Spoiled millennials' and 'We had to put in our time, so should you.' But if that's true, and you suffered, why not let that motivate you to effect change? IDK. I survived clinics despite the lack of sleep. I know of sleepless nights ahead. But if students after me can have it easier? Great. I want that for them."

— Lucy Rose, DVM

"I spend at least 12 to 14 hours on campus each day, including weekends. I definitely feel like addressing the wellness problem in the health profession in general means taking a closer look at where it all begins. You're trained to push yourself harder than you ever have before until it's this vicious cycle, where you get out into the world and accept it as life. It helps no one when the person standing between you and the grave hasn't slept in 24 hours."

— Kae Luh

HEY, ASSOCIATES!

Have something to say about whether long hours in veterinary school are a learning tool for the future or if exhaustion is a barrier to learning? Email us your thoughts at dvm360news@mmhgroup.com.

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Having a **vaccine** talk? Keep these 8 tips in mind

Your anti-vaxxer veterinary clients might never change their mind, but you can try a few different approaches.

By Sarah Wooten, DVM



You're familiar with the increasing trend of veterinary clients coming in who are afraid that vaccines will hurt their pets.

Because many anti-vaxxer clients are driven by fear (and can't we all relate to some irrational fears?), it can be difficult or even impossible to convince them to vaccinate. However, some clients may change their mind about vaccines if you approach them in a consistent, empathetic way. If you run up against this, here are eight tips that have helped me.

1 Don't debate about core vaccines. They're required.

2 Don't assume that clients understand how vaccines

work. (Check out resources from the CDC which explain why there is no link between vaccines and autism.)

3 Draw parallels to human health where applicable—for example, the recent whooping cough and measles outbreaks due to the rise in people not vaccinating their children. Educate, don't scare.

4 Encourage dialogue with your client by asking about their concerns, using phrases like, "Tell me more about ..." or "Help me understand so I can best advise you."

5 Examine your own bedside manner—do you come off as overbearing or rigid?

6 Going hardcore? Drawing a line in the sand? Practice what you preach by firing anti-vaxxer clients.

7 Don't take it personally. Even though it feels like a personal rejection of your role as wise counselor when clients refuse to follow your vaccine recommendations, it's really not about you.

8 Above all, remember that the client wants to be heard, wishes to be respected, seeks credible information, desires informed consent and wants to be involved in decisions about their pet's healthcare.

If you come to a client from a place of understanding and are willing to hear their concerns, you might be surprised at who will come around once they've had the chance to say their piece. And, if not ... you can decide how to move forward.

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

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*Houston DM, et al. *Can Vet J* 2016; 57: 196–201.

*Houston DM, et al. *Can Vet J* 2017; 58: 45–50.

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What vets can do when pet owners *snarl*

A client is baring their teeth on social media—or even in person. Here's the first thing to do in either case.

As veterinary professionals, you're a little used to danger—after all, your patients come with naturally built-in weapons. But what happens when it's not a pet getting violent in your clinic? What if it's the pet's owner?

"The first thing I would recommend," Caitlin DeWilde, DVM (aka @thesocialdvm), says when asked what to do about managing an abusive pet owner, "is to protect your clinic name, your reputation, your staff."

The next thing she recommends is to assess the situation and act accordingly.

"If the pet owner is being physically threatening, or threatening monetary or bodily harm, that's a totally different context than just the unhappy pet owner," she says. "So once you've differentiated those two, I would look at it from that perspective. If they are harmful in any way, absolutely, they need to be blocked, they need to be reported and you need to consider removing them from your client list."

However, she says, there's a difference between being abusive and being unhappy, and you need to understand that difference as well.

"If they're just unhappy, is that an opportunity that we may have to connect with them?" she wonders. "Sometimes, yes—oftentimes, no—but if you at least make those attempts, you can feel better about moving forward."



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² Data on file.

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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.

NexGard® (afoxolaner) Chewables

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

Description:

NexGard® (afoxolaner) is available in four sizes of beef-flavored, soft chewables for oral administration to dogs and puppies according to their weight. Each chewable is formulated to provide a minimum afoxolaner dosage of 1.14 mg/lb (2.5 mg/kg). Afoxolaner has the chemical composition 1-Naphthalenecarboxamide, 4-[5-[3-chloro-5-(trifluoromethyl)-phenyl]-4, 5-dihydro-5-(trifluoromethyl)-3-isoxazoly]-N-[2-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 >83% 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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Surgery: Check thrice, cut once

Can a simple safety checklist reduce veterinary surgical complications?

By Amy Van Gels, DVM

As any carpenter knows, the adage "measure twice, cut once" highlights the wisdom of careful planning. Just as a rushed carpenter can cut a board too short by measuring only once, the veterinary team can make simple mistakes that can result in dire consequences for their surgical patients. Surgical complications can range from mild (such as a seroma at the incision site) to severe (such as major dehiscence, profound hemorrhage, multiple organ failure or anesthetic death).

A major study coordinated by the World Health Organization (WHO)¹ and other follow-up studies have found that utilizing surgical safety checklists reduces postoperative complications and mortality in people. A prospective study² performed at a university animal hospital in Sweden examined the use of surgical checklists in cats and dogs to see if a similar reduction in postoperative complications was found.

What they did

The postoperative complications of 520 dogs and cats undergoing major soft tissue and orthopedic surgeries were evaluated. The surgical safety checklist, which was based on the one created by WHO, was read aloud at three essential time points: 1) before anesthetic induction, 2) before the start of surgery, and 3) before recovery. The checklists were not used for the first 300 patients but were completed for the final 220. Any complications that occurred during the four to six weeks following surgery were recorded and classified as mild, moderate or severe. The complications between the two groups were then compared.

What they found

A total of 67 postoperative complications occurred. There were significantly more complications in patients whose surgeries did not include a safety checklist (17%) as compared with the group that did (7%).

The most common types of complications were:

- > unexpected additional surgery
- > surgical site infection
- > wound complication without infection (such as dehiscence, delayed healing or seroma formation).

There were significantly fewer surgical site infections and wound complications after the implementation of the safety checklist. A significant difference was not found between the groups regarding the severity of complications or mortality. However, the low number of deaths (one with the checklist and four without) is not sufficient to accurately compare mortality rates between the groups.

Take-home message

Similar to what is seen in people, the use of a surgical safety checklist reduces postoperative complications in dogs and cats. This may be due to the combination of improved surgical team communication, identification of medication errors or equipment oversights, antibiotic administration, and sterility checks, or an overall improvement in the "safety culture" of the practice.

Considering a checklist's potential to reduce postoperative complications, practices should consider implementing one. The list should be modified to fit the practice's needs and then updated annually. >>

Are you familiar with the virtues of surgical checklists?

When you're ready to incorporate a checklist into your surgical procedures, you can either use one we've made (see the next page of this article) or use it as a springboard for creating your own. Either way, you're on a path to better patient care.

"It seems silly at first," says Jennifer Wardlaw, DVM, MS, DACVS, "but getting the 'boring' details out of the way helps to lessen mistakes and allows us to focus on the bigger picture."



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Keeping it short and easy to use is vital for continued staff compliance. Utilizing the surgical safety checklist is a simple and quick way to plan ahead—to check thrice and cut once—to improve patient outcomes and client satisfaction.

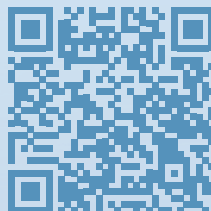
References

1. Haynes AB, Weiser TG, Berry WR, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *New Engl J Med* 2009;360:491-499.
2. Bergström A, Dimopoulou M, Eldh M. Reduction of surgical complications in dogs and cats by the use of a surgical safety checklist. *Vet Surg* 2016;45:571-576.

Dr. Amy Van Gels practiced companion-animal medicine for seven years before becoming a free-lance medical writer and editor. Drawing on her practical experience, she creates clinically relevant articles for veterinarians and their staff, training documents for sales teams, and educational materials for pet owners. Dr. Van Gels is passionate about relaying accurate medical information to everyone who impacts patient care, at every level of medical knowledge.

CHECK OUT THIS CHECKLIST

To get a downloadable surgical safety checklist based on the one used in this study and adjusted by Amy Van Gels, DVM, and Jennifer Wardlaw, DVM, MS, DACVS, scan the barcode below.



Surgical Safety Checklist																
Read aloud and check all boxes																
Before anesthetic induction	Before starting incision	After surgery (before recovery)														
Patient <input type="checkbox"/> Confirm patient identity <input type="checkbox"/> Any previous anesthetic complications? <input type="checkbox"/> Difficult airway? <input type="checkbox"/> Increased aspiration risk? <input type="checkbox"/> Increased bleeding risk? Procedure <input type="checkbox"/> Confirm procedure <input type="checkbox"/> Confirm surgical site Equipment <input type="checkbox"/> Anesthesia machine is complete and checked <input type="checkbox"/> Monitoring equipment is complete and checked <input type="checkbox"/> Multiple patient warming devices ready <input type="checkbox"/> Is any special equipment necessary? Medications <input type="checkbox"/> Perioperative antibiotics <input type="checkbox"/> Analgesics <input type="checkbox"/> Other?	Surgical Team <input type="checkbox"/> Confirm procedure and incision site <input type="checkbox"/> Announce team members' names and roles <input type="checkbox"/> Confirm equipment is sterile <input type="checkbox"/> Confirm any necessary medication has been administered Surgeon <input type="checkbox"/> What is the critical component of surgery? <input type="checkbox"/> Expected surgical time <input type="checkbox"/> Anticipated blood loss <input type="checkbox"/> Is diagnostic imaging necessary? <input type="checkbox"/> Any unique anesthesia concerns?	Patient <input type="checkbox"/> Any unique recovery risks? Procedure <input type="checkbox"/> Correct procedure done? <input type="checkbox"/> Any additional procedures? <input type="checkbox"/> Are any and all collected samples labeled? Equipment <input type="checkbox"/> All instruments, sponges, and sharps counted? <input type="checkbox"/> Any issues with instruments or anesthesia equipment?														
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Sources: World Health Organization; Amy Van Gels, DVM; Jennifer Wardlaw, DVM, MS, DACVS



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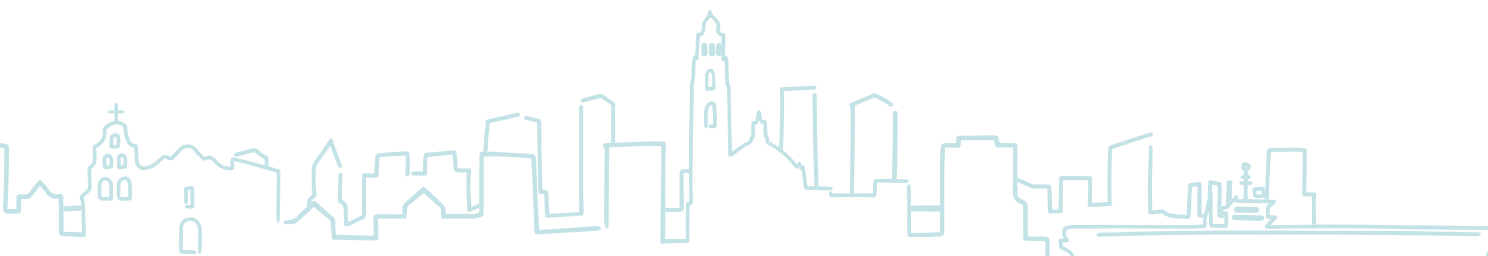
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Herpes (the gift that keeps on giving)

By DVM360 staff



When one of your feline patients develops this ubiquitous infectious disease, try these diagnostic, treatment and prevention strategies.

That's how Mary B. Glaze, DVM, MS, DACVO, an ophthalmologist at Gulf Coast Animal Eye Clinic in Houston, Texas, described feline herpesvirus (FHV-1) during her session at the 2018 Atlantic Coast Veterinary Conference, in Atlantic City, New Jersey. Epidemiologists think that upwards of 95% of cats throughout the world have been exposed to the virus, Dr. Glaze said, and probably 80% of those that have been infected are now carriers.

During her interactive, case-based lecture, she shared the recommended tests and most effective treatment options for this ubiquitous infectious disease.

Perceive the pathogenesis

FHV-1 is spread through close contact with an infected cat; respiratory, oral and ocular secretions are infective. "Cats invariably acquire the infection as neonates," Dr. Glaze noted. The queen, who is already stressed by all of the activity around her, is likely reactivating her own herpesvirus. As the kitten's maternal antibodies begin to wane and the queen's virus is continuing to shed, she shares that with her kittens." The kittens will either have signs of infection before their eyelids open (ophthalmia neonatorum) or they will have respiratory disease (rhinotracheitis) with bilateral conjunctivitis.

See the signs

Although both kittens and adult cats can be exposed to FHV-1, they tend to show very different clinical signs. Kittens usually present with bilateral, painful conjunctivitis with first a serous, then mucopurulent, exudate. In very young kittens, Dr. Glaze said, this conjunctivitis may be accompanied by a keratitis so severe that "adjacent raw epithelial surfaces adhere to one another, producing symblepharon."

Clinical signs in adult cats are more likely to represent viral reactivation from latency rather than primary infection. Recurrences tend to be unilateral rather than bilateral, affecting the same eye repeatedly while the other eye remains clinically normal. Recurrent conjunctivitis is the most common feature of viral recrudescence, although discomfort, conjunctival hyperemia, chemosis, and ocular discharge are usually less severe than with the initial infection.

Discern the diagnosis

Ophthalmologists don't really like to admit it, Dr. Glaze joked, but there really are only three diagnostic tests: tonometry (to check for secondary glaucoma or uveitis), the Schirmer tear test and fluorescein staining. All are used in potential cases of FHV-1.

Once the medical history, which is sometimes incomplete, is

obtained, diagnosis continues with a physical exam. Often, examination of a particularly painful eye can be facilitated by administering a topical anesthetic such as proparacaine. This also gives the patient temporary relief. However, a Schirmer tear test should not be performed subsequently, as the topical anesthetic can alter results of the tear test. Fortunately, Dr. Glaze noted, dry eye is not very common in cats with FHV-1 conjunctivitis, so the topical anesthetic has more value than risk.

Physical exam findings are often as expected (e.g. chemosis, hyperemia, ocular discharge), but considerable variation is possible. Dr. Glaze noted, "Cats can have some pretty profound ocular disease and not necessarily look as red as we're used to seeing in dogs."

She discussed two diagnostic paradigms when dealing with these cases. First, when a cat presents with conjunctivitis, it should be presumed infectious until proven otherwise. "This is why we advise against using symptomatic corticosteroid therapy in feline conjunctivitis," she said. Second, feline corneal ulceration should be considered a consequence of herpesvirus infection until proven otherwise.

Unlike other species, cats have primary conjunctival and corneal pathogens, so they don't require any other predisposing

factor or precipitating event to get conjunctivitis or ulceration. FHV-1 is frequently implicated, but *Chlamydia felis* may also be involved in feline conjunctivitis. However, chlamydia is not ulcerative. Adnexal disease, entropion, foreign bodies, and other conditions are also possible. When trying to distinguish physical exam findings, Dr. Glaze noted that "herpesvirus is a superficial corneal disease. If there is deeper corneal pathology, other factors, such as secondary bacterial infection, are at play."

FHV-1 is typically diagnosed based on three things: clinical judgment, lack of response to routine antibacterial therapy and improvement with antiviral therapy. Dr. Glaze pointed out that there is no diagnostically reliable test for FHV-1; not even the polymerase chain reaction test can distinguish between natural infection and vaccination. Some clinicians use response to antiviral therapy to support a diagnosis of FHV-1 conjunctivitis. However, Dr. Glaze cautioned, "if you're using response to antiviral therapy as a yardstick, then you need to choose an agent that is likely to be effective, and you need an exceptionally compliant client, as topical antiviral therapy requires frequent application." In most cases, she said, if you suspect FHV-1 in one of your feline patients, the next step is to begin treatment.

Take in the treatment

As a general rule, Dr. Glaze advised avoiding corticosteroids until an infectious cause is ruled out. And cats with secondary bacterial involvement may improve with antibacterial therapy. But what about cats with unresponsive or recurrent disease? Most cats and kittens with herpes viral conjunctivitis don't end up on antiviral drugs, which may leave practitioners wondering whether antiviral therapy is a safe,

Table 1. Antivirals effective against feline herpesvirus type 1

Drug	Trade name	Formulations	Dose
Idoxuridine	Compounded	0.1% solution; 0.5% ointment	At least five times daily (topical)
Vidarabine	Compounded	3% ointment	At least five times daily (topical)
Trifluridine	Viroptic; generic	1% solution	At least five times daily (topical)
Cidofovir	Compounded	0.5% solution	Twice daily (topical)
Ganciclovir	Zirgan; generic	0.15% gel	At least five times daily (topical)
Famciclovir	Famvir; generic	Tablets	90 mg/kg twice daily (oral)

effective and necessary option for the treatment of FHV-1.

Although antiviral agents cannot prevent or eradicate latent viral FHV-1 infection, Dr. Glaze advised, they should still be considered when ocular signs are severe, persistent or recurrent or when corneal ulceration is present. Dr. Glaze prefers systemic antiviral therapy to topical therapy, because orally administered famciclovir controls the disease well. However, she acknowledged that oral medication can be difficult to administer in some cats. She added, "Just remember that antiviral agents tend to be more toxic than antibacterial agents, even when applied topically. Use caution and your judgment."

Dr. Glaze recommended topical and systemic antivirals to manage FHV-1 successfully in feline patients (see [Table 1](#)).

She said to steer clear of acyclovir and valacyclovir, which are either ineffective or potentially lethal in cats. In contrast, she has had good results with topical idoxuridine, which has to be compounded, and commented that this medication is well-tolerated by most cats and financially feasible for many clients. Topical cidofovir has the advantage of twice-daily dosing compared with five times daily for idoxuridine,

but it is considerably more expensive. "Selection of an antiviral against FHV-1 is not necessarily a straightforward decision," Dr. Glaze warned. "An agent seemingly effective in one cat may have limited benefit in another."

Ancillary therapies include lysine (although its effectiveness has recently been brought into question, especially among shelter cats) and interferons. Dr. Glaze commented that L-lysine given in boluses twice daily helps some cats, but interferon does not seem to diminish clinical signs or viral shedding effectively. If prolonged treatment with an antiviral and/or an antibiotic fails to improve the patient's clinical signs, Dr. Glaze recommended stopping treatment for a few days and prescribing hyaluronan-based artificial tears to provide soothing for the patient during the washout period.

Treatment choices vary widely among ophthalmologists, she said, and antiviral regimens should be tailored to the individual. Topical irritation is common, she noted, especially with trifluridine, and is often misinterpreted as treatment failure when conjunctival inflammation worsens. In addition, the stage of infection, the severity of clinical signs, owner finances and compliance should all be considered.

Why is your veterinary clinic giving up *pharma sales*?

By Brian Conrad, CVPM

I often hear practice owners and managers complain about how the internet and big-box stores are taking over their prescription business and cutting into their profits. But there's a little irony here, as a lot of the same practice owners and managers who cry about the prescription marketplace are buying their eyeglasses at national discount outlets and their groceries at Costco, and playing veterinary distributors against each other for the best deals for products and supplies to stock their clinics. So I have to ask: Why is it OK for you to shop around but not your clients? Don't get me wrong, I'm on your side, but some of what we're seeing is human nature.

Clients want 'easy'

Veterinarians know what's best for their patients. And after a doctor makes the recommendation and educates, explains, sets expectations and convinces a client about the need for a product, the client will be disappointed if that product isn't in stock.

Clients value "easy." The days of "Come back next week and we'll have the product for you" are over. Drug stores fill prescriptions in 30 minutes and text you when they're ready for pickup. Don't bother getting out of your car—they've got a drive-thru. See? Easy!

Carry the product and close the open loop

I see doctors every day working tirelessly to evaluate medical plans and communicate those plans for optimal patient health. This care often includes products

to achieve or maintain peak health that clients want for their beloved pets. The veterinarians have done the research, been educated on the products and expected results, and understand the safety information and precautions. They've worked harder and harder in recent years to improve their ability to communicate these recommendations to clients.

But what happens when veterinarians convince a client, but then they have to be shy about product availability?

I know veterinarians don't like to think of themselves as salespeople, but in a sense, we're all salespeople. What's so wrong with assuring a client their pet needs something and making sure you've got that on hand to sell right now?

Making the recommendation, convincing a client of the need for a product, and then selling it in the hospital is anything but dirty. It's closing the gap between recommendation and compliance. It's doing what is in the best interest of the pet. When you recommend something but don't sell it, you decrease the likelihood that the client will find the exact product on the internet or in the pet store or big-box store and follow the exact directions you intended. Selling the product is closing the loop; sending clients off into the wild, wild world of pet care outside your doors is leaving it open. When the client



walks out your door without the pharmaceuticals, the supplements, the behavior aid or the nutritional product you recommend, you're playing the odds. And the odds favor a negative outcome when the client runs into less-informed salespeople out there on the internet and in stores, giving well-meaning misinformation. Ultimately, the pet loses.

'But I can't compete with the internet!'

Before you give up on your pharmacy, have you, your manager or your best product-minded team member explored all the options to improve your ability to carry and sell products your patients need?

- > Dump across-the-board markups and hard-and-fast percentages—especially for

flea, tick and heartworm preventives, NSAIDs and other long-term medication you prescribe. As long as my clinic experiences positive cash flow on these purchases, I'm happy. It's not just about the profit on a bottle of something. The relationship your team is building with clients, face to face, is priceless, and the more times you can get clients to walk through the doors, the greater likelihood they'll be back for future services and products. Client loyalty and stability are worth a few percentage points off any product sale.

- Watch for rebates and promotions. Product and drug manufacturers offer significant deals to you and your clients. I see many clinic leaders refuse to participate in programs like these—too much like “sales

programs,” right? Do your business a favor and investigate today all the ways you can offer clients deals on products you recommend. You'll find you can compete with the internet and not take a huge hit to your bottom line. Embrace these programs and educate your staff to spend time educating clients on the advantages of purchasing products with you as opposed to calling around to other sources to find them a better deal and losing the sale in the process.

I did it. You can, too.

I firmly believe it is a huge mistake to dismiss product and prescription sales. By no means is it easy, but if it were, everyone would be doing it. When I led an initiative in my clinics to improve product sales, we saw double-digit growth in flea and tick preventives in 2017 and the start of

2018. The product was one you can find on multiple websites, in many supermarkets and plenty of big-box stores. Yet we still found success with our recommendation and the ability to leverage manufacturer rebates and consumer programs.

It's time to rally your troops and take back what you've lost. Get yourself and your staff excited and focused. Find unique ways to stay competitive and celebrate with the clients as they walk out your doors with the most advanced and efficacious products available for their beloved pets from the most knowledgeable pet person in the community: you.

Frequent Fetch dvm360 speaker Brian Conrad, CVPM, has been practice manager for Meadow Hills Veterinary Center in Kennewick, Wash., since 1999. He is a past president of the Veterinary Hospital Management Association.

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1 cGMP - Current Good Manufacturing Practices

2 Varies based on individual state law. Federal law allows dispensing and administration - FDA Federal SEC. 503B, [21 U.S.C. 353b]



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

For more information, please see full prescribing information for cats on the right hand page.

References: **1.** Data on file. Boehringer Ingelheim Animal Health USA Inc. **2.** Gostelow R, Scudder C, Hazuchova K, et al. One-year prospective randomized trial comparing efficacy of glargine and protamine zinc insulin in diabetic cats. In: Proceedings from the American College of Veterinary Internal Medicine Forum; June 8-10, 2017; National Harbor, MD. Abstract EN10. **3.** ProZinc[®] (protamine zinc recombinant human insulin) [Freedom of Information Summary]. St. Joseph, MO: Boehringer Ingelheim Vetmedica, Inc.; 2009. **4.** Rucinsky R, Cook A, Haley S, et al. AAHA diabetes management guidelines for dogs and cats. *J Am Anim Hosp Assoc.* 2010;46(3):215-224. **5.** American Association of Feline Practitioners. AAEP practice guidelines. <https://www.catvets.com/guidelines/practice-guidelines>. Accessed September 19, 2018. **6.** Sparkes AH, Cannon M, Church D, et al. ISFM consensus guidelines on the practical management of diabetes mellitus in cats. *J Feline Med Surg.* 2015;17(3):235-250.

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ProZinc®

(protamine zinc recombinant human insulin)

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

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

Each mL contains:

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

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

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

FOR SUBCUTANEOUS INJECTION IN CATS ONLY.

DO NOT SHAKE OR AGITATE THE VIAL.

ProZinc insulin should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. One mixed, ProZinc suspension has a white, cloudy appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial.

Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the cat.

Always provide the Cat Owner Information Sheet with each prescription.

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

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

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

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

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

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

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

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

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

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

Adverse Reactions: Effectiveness Field Study

In a 45-day effectiveness field study, 176 cats received ProZinc insulin.

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

All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

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

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

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

Extended Use Field Study

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

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

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

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

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

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

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

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

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

Storage Conditions: Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use within 60 days of first puncture.**

Manufactured for:
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3 ways to celebrate techs

Whether it's National Veterinary Technician Week or any other week of the year, your technicians are amazing. Here are three ways you can show how much you care.

By Hannah Wagle

We know you know: Technicians are vital to any veterinary practice. And yet, so many are left feeling underappreciated, underutilized and just plain dissatisfied after a hard day's work. Veterinary technician extraordinaire Kenichiro Yagi, MS, RVT, VTS (ECC, SAIM), understands this on a deeply personal level, and while steps are being taken to help combat this, he has

a few ideas for ways veterinary teams can show their appreciation for techs this month, in honor of National Veterinary Technician Week (Oct. 13-19).

At his technician critical care sessions at Fetch dvm360 conference in San Diego, Yagi suggested many creative ways for veterinary practices to show how much they appreciate their hard-working techs.

"It was an awesome day facilitating for Ken Yagi in the technician critical care lectures," Elizabeth Johnson, DVM, assistant dean of student success and assistant professor of veterinary medicine at Lincoln Memorial University College of Veterinary Medicine, wrote on the Fetch dvm360 conference app. "In our last session, we discussed ideas for [NVTW] (or vet tech appreciation anytime!)."

Suffice to say, their brainstorming session, with attendees chiming in with their own creative ideas, was a success. Here are a few of the ideas they came up with.

New fit, new feel

One thoughtful way to show your technicians how appreciated they are is to offer them all the bells and whistles, completely personalized just for them. That includes new scrubs, personalized tools and instruments (think bandage scissors, thermometers and stethoscopes) and technician patches that can be ironed onto clothing. Yagi suggested gifting your technician team with one item for each day of NVTW—but feel free to present them in any way you see fit.

Treats for techs

Next on the list were special gifts meant solely for pampering. That includes spa and nail salon gift cards, Uber Eats credit, a day (or more) off and personalized wine glasses for your techs to sip out of after a long day at work. First



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thing's first, though—find out what your technicians like and give that to them, rather than guessing. Might we also suggest gas cards?

Make it an event!

Whether it's a day at a theme park, a lunch out somewhere or another fun trip you think your techs would enjoy, you can treat your team to a day out on the town. (A night out wouldn't be a bad idea, either.)

Another idea the group came up with: Vet Tech Olympics, with one "event" per day where techs can win prizes. You can spin this however you'd like, such as creating small challenges (like making that client with an ever-present rain cloud hanging over them smile) or playing actual games (veterinary bingo, anyone?).

No matter how you show appreciation for your techs, putting some thought and just a little bit of elbow grease into it will make them feel more valued no matter what time of year it is. Go out and make a tech's day!

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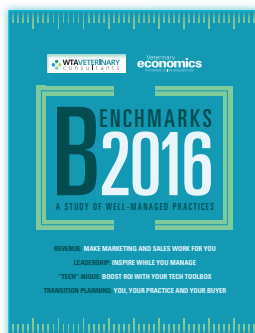
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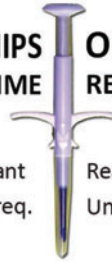


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LIMBO — Running into a Narcotics dog in public

LUST — Removal of a foreign body (underwear)
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GLUTTONY — Those break room cookies
aren't gonna eat themselves!

GREED — The pet owner who pulls up to
the low-cost clinic in a
brand new Mercedes

WRATH — "YOU DON'T CARE ABOUT
ANIMALS!!"
(says the client who can't afford care)

HERESY — Pulse-ox says 98%
but the cat is blue

VIOLENCE — Fractious
Cats

FRAUD — impostor syndrome

TREACHERY — "He JUST started
vomiting today"

These are just some examples of the more hellish aspects of life as a veterinary professional. Of course, there are inspirational moments and the joy of working with healthy, happy pets. There's also paperwork (also known as the 10th circle of hell). But we don't want you to perish in paperwork hell! Our tip? Ask your technicians to assist with notes in the exam room. They're more than up for the task. Don't stop there! This month marks National Veterinary Technician Week, and we're offering up all kinds ways you can celebrate vet techs in your clinic and beyond (on page 24 and over at dvm360.com/vettechweek)!

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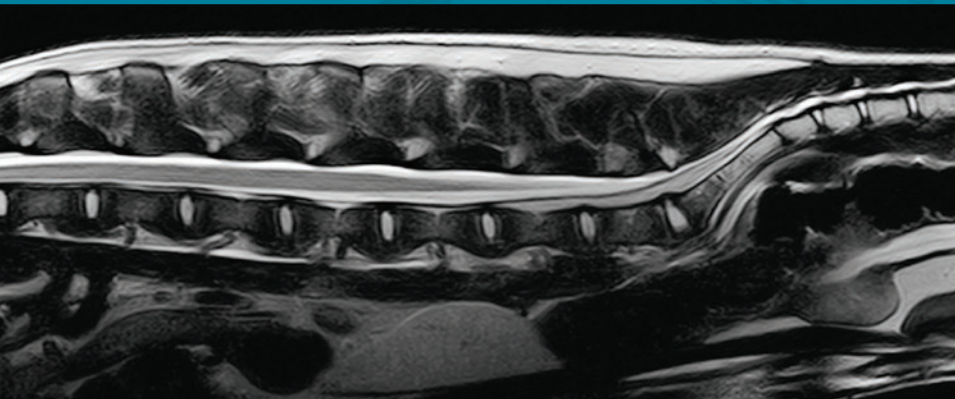
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