10 dental hacks to enhance your veterinary practice in 2022

An oral care expert recommends products, protocols to better serve clients, patients

By Jan Bellows, DVM, DAVDC, DABVP, FAVD

Veterinary dentistry services may be made more efficient with a little help. Here are some useful hacks for helping veterinary professionals provide these services and improve patient experiences:

1. **Flowable hemostatic agent**
   - Excessive bleeding is a great cause of fear and anxiety in veterinarians when it comes to operative dentistry. A plant-derived injectable gel (Vetigel; Cresilon) quickly stops bleeding on external and internal wounds. The hemostatic gel uses a hemophilic polymer made from polysaccharides that forms a mesh that seals the wound. The ready-to-use gel is supplied in a pre-filled syringe.

2. **Cloud-based dental charting**
   - Dental charting completed on paper is often messy, hard to interpret, and may get lost. Electronic charts available

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Making room at the table

Black veterinarians are creating spaces to increase their visibility in the profession

By Charles D. McMillan, DVM

Underneath the turquoise Carolina sky, a little Black boy sits and waits for a croaking frog to hop by as he gathers his net. His sand-filled bucket is nearly full of frogs he has skillfully collected throughout the day. He has given names to each of his amphibian friends, and as the sunlight slowly gives way to moonlight, he bids them each a good night before releasing them. His evening is interrupted by his mother's voice summoning him inside to wash his hands and prepare for dinner. His wish is to one day be a veterinarian and care for all creatures, big and small. However, he is just as likely to see Santa Claus climbing down his chimney as he is to see a Black veterinarian. This fact skews

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Feline behavior
Fear Free techniques for anxious cats

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Pet hospice network resumes in-home care

Dermatology
Diagnosing adverse food reactions

Finance
Pharmacy challenges: past and future
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As 2022 moves into its second month, the dvm360® team is launching new initiatives and working to reach new heights to serve you and help you better serve patients. Some of these new and returning items are as follows:

- **A new appearance**: In March, lookout for a redesign of the dvm360® publication. Just as times and designs change, so does our publication. This new look will better showcase the outstanding content our authors work hard to curate. The content will continue to remain fresh, current, and informative.

- **A new Fetch conference location**: Our first Fetch dvm360® Conference of 2022 will be held in Charlotte, North Carolina (April 22-24), which is a new location for this meeting series. To view meeting details and to register, visit https://dvm360.com/fetch22-charlotte.

- **A new conference experience**: We are launching an additional veterinary conference to help meet your continuing education needs: Directions in Veterinary Medicine (DIVM). Be on the lookout for our first DIVM conference in Indianapolis, Indiana (June 24-25).

- **Returning conferences**: Additional Fetch conferences will be held in Kansas City, Missouri (August 26-28), and San Diego, California (December 2-4), and we will meet again in Atlantic City, New Jersey for the annual Atlantic Coast Veterinary Conference (October 10-12). The 2022 Penn Vet Working Dog Conference is now virtual only.

- **Veterinary Heroes™ 2022**: We are now accepting nominations for the 2022 Veterinary Heroes™ Awards, which has 4 additional categories this year. This is a fantastic way to recognize those professionals that go above and beyond every day for peers, staff, clients, and patients. Visit event.dvm360.com/d/n8q4x7/ to nominate a veterinary professional.

- **Hospital Design Competition**: We are also accepting nominations for the 2022 Hospital Design Competition and want to see those newly built and renovated practices. www.dvm360.com/hospital-design-awards to learn more about this annual event and to submit an entry.

- **dvm360® Flex**: We are proud to offer an online learning platform of RACE®-approved continuing education (CE) articles and on-demand webinars that are complimentary for you. We know how busy veterinary professionals are, and this service provides you with the "FLEX"ibility to view your courses anytime, anywhere.

- **New live webinars**: We are rolling out new virtual learning experiences. Our chief veterinary officer Adam Christman, DVM, MBA, will moderate most of them and lead excellent discussions in the virtual space on a variety of topics requested by our audience. Follow us on Instagram @dvm360mag and subscribe to our e-newsletter to stay updated about upcoming webinars.

- **Season 2 of The Vet Blast Podcast**: Be sure to subscribe wherever you listen to your podcast. And if you’re interested in being a guest on the podcast, reach out to Christman, our host, at achristman@mjhlifesciences.com. We are preparing to deliver some great discussions with incredible thought leaders in the veterinary space. These are just a few of the many initiatives that 2022 will bring you from our team at dvm360®. We hope you all enjoy what’s to come and take away valuable information from all that dvm360® has to offer.

—Mike Hennessy Jr
President and CEO, MJH Life Sciences®

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### CALENDAR

**MARCH**

- **AAVMC Annual Conference and Iverson Bell Symposium**
  March 3-5
  Washington, DC
  [https://annualmeeting.aavmc.org](https://annualmeeting.aavmc.org)

- **Veterinary Laser Surgery Symposium**
  March 4-5
  Las Vegas, Nevada
  [www.americanlaserstudyclub.org/symposium/veterinary](http://www.americanlaserstudyclub.org/symposium/veterinary)

- **Western Veterinary Conference 2022**
  March 6-9
  Las Vegas, Nevada
  [www.viticusgroup.org/wvc-conference](http://www.viticusgroup.org/wvc-conference)

**APRIL**

- **Austin Vet**
  April 5-6
  Austin, Texas
  [https://us.vetshow.com/austin](https://us.vetshow.com/austin)

- **Fetch dvm360® Charlotte Conference**
  April 22-24
  Charlotte, North Carolina
  [https://dvm360.com/fetch22-charlotte](https://dvm360.com/fetch22-charlotte)

- **The 2022 Penn Vet Working Dog Conference**
  April 22-24
  Virtual only

- **Spring Into Feline Medicine**
  April 24
  Virtual
  [https://catvets.com/education/conference/2022-spring-into-feline-medicine/](https://catvets.com/education/conference/2022-spring-into-feline-medicine/)

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Note that many of this year’s industry events are now being held online or via a combination of live and virtual learning. Please visit individual event websites for details.
Have you ever had a client say, "Doc, you can't just pull the teeth right now?" to a pet with severe stage 4 periodontal disease? It got me thinking whether there is a perception deception in veterinary dentistry. As we are well into National Pet Dental Health Month, I wanted to share my experience in both the social media setting and veterinary space with pets and oral health.

Clients are very passionate about their pet's oral health. I can tell you this: When I host my TikTok live streams on my channel, @dr.adamchristman52, about half the questions that come in are dental related. Here are the top 5 most requested questions I always receive from viewers:

1. How do I brush my pet's teeth?
2. What toothpaste can I use for my pet?
3. Do pets really have to go under anesthesia for a dental cleaning?
4. What are some good dental treats and water additives you can recommend?
5. Why is a dental cleaning so expensive?

Veterinarians, veterinary technicians, receptionists, and veterinary dentists do an incredible job in educating and recommending oral preventive and treatment care to animals, yet clients are still asking about it online. Do you think there's a disconnect from when they leave your practice to when they go online and do their own homework about it? Do you think they're not truly knowing the 4 stages of dental disease in their pets.

Let's face it. Pet owners talk to other pet owners. I'll never forget a situation where I had 2 clients compare their estimates in the reception area and question why one received an estimate of $1500 and the other received one for $800. I remember chatting with both clients and clearly explaining the differences between a prophylactic cleaning vs one that would require several extractions. They completely understood, as it made sense to them, and they booked the dental procedures!

Here are a few ideas to consider when recommending a dental procedure to a prospective client:

1. Show a video of the equipment and labor involved in a dental procedure. This can include the anesthesia monitoring equipment, dental radiology unit, dental machine, the dental anesthetic technician, veterinarian, and support staff. I have seen a practice talk to the camera as if they were speaking to the dog or cat and showing them the entire day of what their visit will look like. Brilliant marketing!
2. Social media posts with Instagram stories. Poll your audience about the urgency of oral care. Remember, polls and multiple choice questions on Instagram provide you with free data and lets you know who your top cheerleader clients are for your practice.
3. Do a Facebook or Instagram live event with your audience, answering the most common questions related to oral care in pets, from pediatrics to geriatrics.
4. Capture testimonials from previous clients and staff member's pets who have had a dental procedure performed on their pet at your practice. Hearing from other clients helps provide comfort and trust to your team.
5. Take pictures! Before and after pictures speak volumes. Remember, no client wants to see blood, but showing a beautiful gingival flap and following up with a picture of the flap recheck in 2 weeks will truly resonate with clients. Clients love to see before and after pictures of dirty teeth and clean teeth.

My final plea to my colleagues is this: Please recommend oral home care products and chew toys for pets to safely consume or chew on. It is a constant battle between what clients see online vs what we as veterinary professionals recommend for dental care. Be sure your message is consistent throughout the hospital and that everyone is on the same page with your at-home care recommendations.

Really, Pet Dental Health Month is every month! Thank you for all you do in keeping our pets' oral health in check!

—Adam Christman, DVM, MBA

FROM THE CVO

Providing oral health services and public information

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E very year, many young veterinarians match into internship and residency programs across the United States and Canada, entering postgraduate training programs to practice their skills or become highly specialized in a particular area. Along a career path that can sometimes seem like an endless series of low- and high-level decisions, the choice to pursue additional training is a major one, including a commitment to consistent long hours of hard work, a resolution to perform sometimes menial tasks, and the expectation of a meager salary. The desire, or even ability, to take on those additional years of lost income plays an important role in the decision-making of new veterinarians as they navigate growing debt loads, attempt to balance the stressors of professional life with enriched personal lives, and recognize the value of their time and education. As the industry struggles to address mental health, burnout, and suicide, the authors of a new study hope to provide compensation lower than annual internships had a negative impact on future gain on opportunity for socioeconomic, racial, ethnic, and gender diversity.

The effect of income on opportunity
Poor salaries likely create barriers to opportunity for socioeconomic, racial, ethnic, and gender diversity.

“The circumstances that contributed significant stressors in Josh’s life appear directly attributable to vast student debt [that has] accumulated over years of postgraduate training. As a specialist, I asked myself, ‘What more can we be doing as mentors, program directors, and employers to set up trainees for success outside [and inside] the clinic?’” said Kai-Biu Shiu, BVMS, DACVIM (Oncology), MRCVS, coauthor of the study.

The weight of low wages, income loss on future gain
This team of investigators was rounded out by Joe Thurston, BS, a third-year veterinary student at the University of Wisconsin-Madison, who has a passion for improving veterinary student financial literacy and well-being, mainly through his role as national vice president of the Veterinary Business Management Association. Thurston noted that the short-term effect of lost income during years of very low compensation can have major long-term effects, mainly through an inability for young veterinarians to establish investment savings and retirement accounts.

“The most common piece of advice I’ve heard for young professionals is to start an emergency fund and begin some form of savings. Unfortunately, neither of these is easily achievable on the average intern or resident salary,” he said.

The low income can also contribute to physical health stressors. “Interns and residents rarely have time to cook, much less exercise, and low income can limit access to quality ingredients, leading to a reliance on low-cost, ready-made meals. This, coupled with a high-stress work environment, can quickly deteriorate one’s physical health,” Thurston said.

Aside from the financial strain and inadequate financial reward are noted in the study as documented risk factors for burnout and poor well-being. Considering the length of careers, these stressors during postgraduate training could accelerate the path to burnout and poor well-being. Although trainee compensation has been discussed for years, it is not clear that locations have determined compensation proportional to cost of living. That disparity affects people’s choices and, ultimately, their careers and lives.

To study the correlation between postgraduate compensation and cost of living, intern and resident salaries were evaluated and controlled for cost of living by using the Massachusetts Institute of Technology’s Living Wage Calculator.1 This tool calculates the local minimum subsistence income required for an individual to live without having to rely on state or federal assistance programs, such as food stamps. Therefore, a living wage only really accounts for the most basic of needs and doesn’t allow for things such as savings, loan repayment, caring for pets, eating out, or vacations.

By comparing specific program salaries with the local living wage, the authors determined that 15% of residency programs and 22% of internship programs had a negative income surplus, or rather, the annual living wage was higher than annual program salary before considering taxes.1 Programs in academic institutions were compensated at a lower rate compared with those in private practice. Despite the urban location of many of these practices, the effect was not diminished even after controlling for regional cost of living. The hourly compensation rate, calculated using average working hours reported by the American Association of Veterinary Medical Colleges from a recent survey of resident and intern house officers,2 was also strikingly low; 85% of all residency programs and 92% of all internships provided hourly compensation lower than hourly living wages, and 17% of internships and 14% of residency programs provided compensation lower than an hourly minimum wage.1 Overall, there was minimal correlation between cost of living and how much salary a program offered, meaning employers may not consider what their trainees might need to live on when setting salaries.

The effect of student debt on mental health
The loss of friend and colleague Josh Smith DVM, DACVECC, to suicide in March 2021 has sent ripples through the veterinary profession.

“The circumstances that contributed significant stressors in Josh’s life appear directly attributable to vast student debt [that has] accumulated over years of postgraduate training. As a specialist, I asked myself, ‘What more can we be doing as mentors, program directors, and employers to set up trainees for success outside [and inside] the clinic?’” said Kai-Biu Shiu, BVMS, DACVIM (Oncology), MRCVS, coauthor of the study.

Calculating a living wage
A new study recently published in the Journal of the American Veterinary Medical Association1 took a quantitative and focused approach to demonstrating just how much financial strain postgraduate training may cause by considering regional cost of living. Financial strain and inadequate financial reward are noted in the study as documented risk factors for burnout and poor well-being. Considering the length of careers, these stressors during postgraduate training could accelerate the path to burnout and poor well-being. Although trainee compensation has been discussed for years, it is not clear that locations have determined compensation proportional to cost of living. That disparity affects people’s choices and, ultimately, their careers and lives.

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Additionally, interns and residents aren’t the only ones who experience inadequate compensation for their time and value. Technicians represent another huge group currently suffering from the same issue. Morello, who has spent her career in the equine industry, cites this as a problem that has plagued young, particularly female, equine associates for many years.

Morello has spent years researching professional sustainability and economic issues in veterinary medicine with a particular focus on gender and feminization. She now works collaboratively as a courtesy associate professor with Cornell University’s Center for Veterinary Business and Entrepreneurship to continue pursuing a goal of improving personal and professional lives through research that can help advance workplace structures and guide career decisions.

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Revolt is recommended for use in dogs six weeks of age or older and cats eight weeks of age and older for the following parasitic and infectious indications:
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  - Revolt kills adult fleas and prevents flea eggs from hatching for one month and is indicated for the prevention and control of flea infestations (Ctenocephalides felis), prevention of heartworm disease caused by Dirofilaria immitis, and the treatment and control of ear (Aural) infections. Revolt also is indicated for the treatment and control of roundworm (Toxocara canis) and intestinal hookworm (Ancylostoma tubaeforme) infections in cats.

WARRANTINGS:
- Not for human use. Keep out of the reach of children.
- In humans, Revolt may be irritating to skin and eyes. Reactions such as burning, itching and skin redness have been reported in humans in rare instances. Individuals with known hypersensitivity to Revolt should use the product with caution or consult a health care professional. Revolt contains isopropyl alcohol and the preservative butylated hydroxytoluene (BHT).
- Wash hands after use and wash off any product in contact with the skin immediately with soap and water. If contact with eyes occurs, then flush eyes copiously with water. In case of ingestion by a human, contact a physician immediately.
- The safety data sheet (SDS) provides more detailed occupational safety information.
- To report suspected adverse drug events, for technical assistance or to obtain a copy of the SDS, contact Aurora Pharmaceutical at 1-888-215-1256 or www.aurorapharmaceutical.com. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at www.fda.gov/reportanimal.

Flammable - Keep away from heat, sparks, open flames or other sources of ignition.

DOF:
Do not wash the product into the skin. Due to alcohol content, do not apply to broken skin. Avoid contact between the product and fingers. Do not apply to lesions, raw or moist wounds, or bath or shampoo the dog for 2 hours after treatment to reduce the effectiveness of Revolt against fleas and heartworms. Bathing or shampooing the cat 2 hours after treatment will not reduce the effectiveness of Revolt against fleas.

Stiff hair, clumping of hair, hair discoloration, or a slight powdery residue may be observed at the treatment site in some animals. These effects are temporary and do not affect the safety or effectiveness of the product. Discard empty tubes in your ordinary household refuse.

FEA CONTROL IN DOGS AND CATS FOR PREVENTION AND CONTROL OF FLEA INFESTATIONS:
Revolt should be administered at a minimum interval throughout the fleas season, starting one month before fleas become active. In controlled laboratory studies >98% of fleas were killed within 16 hours. Results of clinical field studies using selamectin monthly demonstrated >90% control of flea infestations within 30 days of the first dose. Dogs and cats treated with selamectin, including those with existing flea allergy dermatitis, showed improvement in clinical signs associated with fleas as a direct result of reducing the fleas from the animals and the environment.

If the dog or cat is already infested with fleas when the first dose of Revolt is administered, adult fleas on the animal are killed and no visible fleas hatch from eggs after the first administration. However, an environmental infestation of fleas may persist for a short time after beginning treatment with Revolt because of the delayed effect of Revolt on flea eggs from previous infestations. For the treatment of ear mite (Oidipsyllus) infestations in dogs and cats, Revolt should be administered once as a single topical dose. A second monthly dose may be required in some dogs. Monthly use of Revolt will control any subsequent or recurrent ear mite infestation.

Ear Mite Treatment in Dogs and Cats
- In dogs, Revolt should be administered once as a single topical dose. In cats, Revolt should be administered once as a single topical dose. A second monthly dose may be required in some cats. Monthly use of Revolt will control any subsequent or recurrent ear mite infestation.

Heartworm Prevention in Dogs and Cats
- For the prevention of heartworm disease, Revolt must be administered on a monthly basis. Revolt may be administered year round or at least once within one month after the animal's first exposure to mosquitoes and monthly thereafter until the end of the mosquito season. The final dose must be given within one month after the last exposure to mosquitoes. If a dose is missed and a monthly interval between dosing is exceeded, then immediate administration of Revolt and resumption of monthly dosing will minimize the opportunity for the development of adult heartworms.

Sarcoptic Mange Treatment in Dogs
- For the treatment of sarcoptic mange (S. scabiei) in dogs, Revolt should be administered once as a single topical dose. A second monthly dose may be required in some dogs. Monthly use of Revolt will control any subsequent sarcoptic mange infestation. Because of the difficulty in finding sarcoptic mange on skin scrapings, efficacy assessments were also based on resolution of clinical signs. Resolution of the pruritus associated with the mange infestation was observed in approximately 50% of the dogs 30 days after the first treatment; and in approximately 85% of the dogs 30 days after the second monthly treatment.

Tick Control in Dogs
- For the control of tick (Dermacentor variabilis) infections in dogs, Revolt should be administered on a monthly basis. In heavy tick infestations, complete efficacy may not be achieved after the first dose. In these cases, one additional dose may be administered two weeks after the previous dose, with monthly dosing continued thereafter.

Nematode Treatment in Cats
- For the treatment and control of internal helminth (A. tubaeforme) and roundworm (T. cati) infections, Revolt should be applied once as a single topical dose.

SAFETY:
Selamectin has been tested safe in >100 different pure and mixed breeds of dogs and over 15 different pure and mixed breeds of cats (e.g., Siamese, Maine Coon, American Shorthair, Balinese, New Zealand and domestic Shorthair, domestic Longhair, and ‘other’), with no adverse reactions observed. In pet and small animal clinical studies, no adverse reactions were observed in approximately 80% of all dogs and cats treated with selamectin. The most common reactions observed in animals treated with selamectin were temporary and do not affect the safety or effectiveness of the product. However, side effects such as skin irritation may affect the product effectiveness in some dogs and cats, particularly in cats that frequently have fleas. In one study, a cat treated with selamectin for 6 weeks developed an itchy rash and was removed from the study.

PRECAUTIONS:
Prior to administration of Revolt, dogs should be tested for existing heartworm infections. At the discretion of the veterinarian, infected dogs should be treated to remove adult heartworms. Revolt is not effective against adult worms and, while the number of circulating microfilariae may decrease following treatment, Revolt is not effective for microfilarial clearance.

In safety studies, selamectin was administered at 1, 3, 5, and 10 times the recommended dose to six-week-old puppies, and no adverse reactions were observed. The safety of selamectin administered orally was also tested in cases of accidental oral ingestion. Oral administration of selamectin at the recommended daily dose was given to 6-week-old or 8-week-old dogs. No clinical signs or abnormal laboratory findings were observed. Based on these studies, selamectin is considered safe for oral administration to dogs and cats.

In safety studies, selamectin was administered at 5, 10, 15, and 20 times the recommended daily dose to six-week-old puppies, and no adverse reactions were observed. Selamectin administered orally was also tested in cases of accidental oral ingestion. Oral administration of selamectin at the recommended daily dose was given to 6-week-old or 8-week-old dogs. No clinical signs or abnormal laboratory findings were observed. Based on these studies, selamectin is considered safe for oral administration to dogs and cats.

For the treatment and control of ear mite (Oidipsyllus) infestations in dogs and cats, Revolt should be administered once as a single topical dose.
and discussion around the most important and relevant issues we could provide. Veterinarians are scientists, and leveraging evidence about veterinary life through research is a great pathway to guide meaningful change,” Morello said.

Samantha L. Morello, DVM, DACVS-LA, is a graduate of Cornell University, and she completed her residency training at the University of Pennsylvania. Morello has spent over a decade in academic practice. She is a speaker on her research into professional sustainability, economic, and personal life issues in veterinary medicine. She is a self-employed consultant, a faculty member with Cornell’s Center for Veterinary Business and Entrepreneurship, the assistant director for continuing education for the American College of Veterinary Surgeons, and a board member for the Women’s Veterinary Leadership Development Initiative.

Kai-Biu Shiu, BVMS, DACVIM (Oncology), MRCVS, is a specialist veterinary oncology at the VCA Animal Hospitals in Middleton and Madison, Wisconsin, where he has been practicing since 2010. He is a graduate of the University of Glasgow Veterinary School and Royal Veterinary College in London, and he received postgraduate training at Cornell University and the University of Wisconsin-Madison. He also is a scientific adviser to the board of directors of Czar’s Promise, a nonprofit in Wisconsin, and founded the Dane County Veterinary Medical Association.

Joe Thurston, BS, is a 2023 DVM candidate at the University of Wisconsin-Madison School of Veterinary Medicine. Originally from Rice Lake, Wisconsin, he attended the University of Minnesota, Twin Cities in Minneapolis, graduating summa cum laude with a degree in animal science and a minor in management in 2015. Thurston is currently serving as the national vice president for the Veterinary Business Management Association.

REFERENCES
2. Peterson M. Clinician Wellbeing initiative: veterinary intern and resident wellbeing study. Presented at: 2021 American Association of Veterinary Medical Colleges Annual Meeting; March 4-6, 2021; Washington, DC.
Tooney’s Last Resort: an animal refuge

An animal hospital in New Jersey offers a haven for pets who require medical care their owners cannot manage or for animals who simply need a home.

By Julia Burke, Assistant Editor

B each Animal Hospital in Point Pleasant Beach, New Jersey, is just like any other veterinary clinic, except 1 difference—it is filled with pets who have found a home within the building. This is because it located on the practice’s premises is a not-for-profit animal sanctuary, Tooney’s Last Resort, that provides a temporary or long-term place of refuge for mostly cats, but also dogs, 1 chicken, and 1 bunny have found homes there since it was founded in 1995. In an interview with dvm360®, Laurel Himes, VMD, practice manager at Beach Animal Hospital, shared the uplifting details of Tooney’s Last Resort, describing its origins and what she sees in store for the philanthropy.

Why animals stay at Tooney’s Last Resort

Most animals find refuge at Tooney’s Last Resort because they require medical care for a condition—ranging from autoimmune disease to diabetes to kidney disease—that is more than their owner can manage financially or emotionally. However, once the animal hospital adopts the pet, they can provide them with proper care and treatment and offer them shelter. Other times, the sanctuary has taken in pets that simply need a home, whether they be those that an animal control officer couldn’t find an adopter for or those of a person who has gotten evicted, Himes used as examples.

Initially, the pets at Tooney’s Last Resort were housed in a garage near the animal hospital. However, because of the COVID-19 pandemic, that garage was converted into an area for owners to be with their pets during euthanasia. Therefore, the Tooney’s pets find solace and live amid all areas of the 4-story animal hospital.

“There’s a cat that prefers to live in the basement, and he has friends that come visit. There are cats that meander around the first floor, [and] there are a couple cats that sleep in the waiting room chairs, regardless of who comes in,” Himes said. “A fair number of [the cats] live on the second floor, where the office is, and the lunchroom and the cat ward, and then a couple of them live upstairs in the attic.”

The origins and Tooney, “the benevolent ruler”

The origins of the philanthropy date back to before the animal hospital was even opened—during its renovation in the 1990s. While Himes was working at a previous job, a client asked whether she would adopt a cat from outside the trailer park where he was living. “[The client]…said, ‘Hey, they put a notice up, [and] they’re going to catch up all the cats and dispose of them.’ He said, ‘One of the [cats] I feed is real old and crotchety. He’ll never make it as an indoor cat. But this other cat, he’s really nice,'” Himes said.

Himes agreed to take in the nice feline and thought Beach Animal Hospital would make a great home for him, so the client showed up to the veterinary clinic with a cat in an old-fashioned carrier. “[The client opened] the crate and this long, long, long cat [came] out. He just kept coming out of the carrier. He was like 19 lb and fit,” she said. “I thought [the cat] was a girl at first, so his name was Petunia, but then he got bigger and bigger, and I realized he was a neutered male, so we named him Tooney.”

The rest was history. Tooney’s image became the logo, and he was the eponymous cat of the sanctuary. Himes described Tooney as the “benevolent ruler” of the clinic among the other felines who were taken in. “Other cats could start to fuss with each other, and [Tooney] would just give them a look and they’d settle right down,” she said.

“It was great because you could have 20 cats roaming around the upstairs and no issues because [Tooney] just knew how to get along with everybody.”

Although Tooney passed away in 2008, the sanctuary was officially incorporated as a not-for-profit organization in 2009, when Himes decided to fundraise for and separate it from Beach Animal Hospital.

The future of Tooney’s Last Resort

Himes juggles between being a mother, running the animal hospital and seeing patients, and fundraising and doing paperwork for Tooney’s Last Resort. Although it’s hard to prioritize the animal sanctuary right now, she divulged that she sees herself dedicating more time to it in retirement so it can really take flight. “We’re definitely going to keep [Tooney’s Last Resort] going. It’s sort of in a plateau phase right now, so we’ll see where it goes in the future. It might be something even bigger than what it’s been from before,” Himes said.
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DVM360® NEWS

2022 Veterinary Heroes™ program is open for nominations

The second annual dvm360® Veterinary Heroes™ recognition program is celebrating the achievements of leading veterinary professionals in today's industry that have helped propel the field forward. This year's program has been expanded to include 4 new categories, bringing the total to 12.

This program is sponsored by Blue Buffalo Natural and Clevor®. Veterinarians, veterinary technicians, practice managers, and client service representatives are encouraged to nominate a veterinary professional who truly makes a difference in the industry. This special recognition is awarded to those who make a significant impact in improving patient outcomes. One honoree will be selected from each of the following categories:

- **Client service representative**
- **Dermatology**
- **Emergency medicine**
- **Equine medicine**
- **Feline medicine**
- **General practitioner**
- **Internal medicine**
- **Nutrition**
- **Oncology**
- **Practice manager**
- **Surgery**
- **Veterinary technician**

Nominate a veterinary professional who has demonstrated the following:

- Ability to go above and beyond in patient care
- Ability to help educate clients
- Knack for showing patience, compassion, and perseverance in the face of difficulties
- Understanding of the science and how treatments are designed

The nomination form is accessible at https://mjhlifesciences.tfaforms.net/383. The submission deadline is April 30, 2022. dvm360® thoughtfully selects the advisory board members who will choose the inductees. This year’s selected heroes will be honored at a reception to be held in August 2022 at the Fetch dvm360® Conference in Kansas City, Missouri.

For rules, judging criteria, and more information about the program, visit https://event.dvm360.com/d/n8q4x7/.

Enter the 2022 dvm360® Hospital Design Competition

Send us your entry by May 15, 2022, and your hospital could be featured in an issue of dvm360® magazine!

Have you created the veterinary hospital of your dreams within the past 5 years? Do you think it’s among the best in the country? If so, enter the 2022 dvm360® Hospital Design Competition! Tell us—and show us—why your practice's design stands out.

One grand-prize winner will be selected in each of the 2 categories based on hospital size—under 8000 square feet, and over 8000 square feet. In addition, multiple hospitals will earn Merit Awards. The number of Merit Award winners will be determined based on the number of entries received.

The winning hospitals will be featured in dvm360® magazine and on dvm360.com. Plus, the 2 grand-prize winners will win a trip to the FETCH dvm360® Conference in Kansas City, Missouri, to be held August 27-29, 2022, where we will feature 2 days of Hospital Design continuing education tracks. Nominated hospitals must have been completed—new build or renovation—between January 1, 2016, and December 30, 2021. All types of practices in the United States and its territories are encouraged to enter.

All submissions should be submitted online at www.dvm360.com/hospital-design-awards, using our convenient, easy-to-use digital form. Entries must be submitted no later than May 15, 2022.

A complete list of nomination criteria and competition rules can be viewed at www.dvm360.com/hospital-design-awards.

Questions? Email us at dvm360@mjhassoc.com
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*Compared to 4/10 control cats. A multi-center, placebo-controlled, randomized and masked field study including 176 cats with CKD and at least 5% unintended loss of body weight (as compared to the highest weight in the medical records for the 3 years preceding enrollment). Study period was 56 days (Day 0 – Day 55). Primary endpoint was percent change in weight from Day 0 to Day 55.

CKD, chronic kidney disease.

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At-home care is crucial to combating periodontal disease

Periodontal disease is a battle that needs to be fought daily, with pet parents on the front line.

By Emily Stein, PhD

February is National Pet Dental Health Month, the perfect time for pet owners to learn about the importance of getting their pets a much-needed visit to the clinic for a dental cleaning. However, pet dental care shouldn’t begin and end at the veterinary hospital. At-home care is vital for combating periodontal disease and keeping pets happy and healthy.

The complexity of periodontal disease

Not every dog suffers from this disease. Approximately 10% of dogs do not get periodontal disease, despite differences in diet, breed, and the significant variance in plaque and tartar burden.1 However, those that do develop disease show signs rapidly, and as many as 90% of dogs already show signs at 2 years old.2 Why do most dogs get it, and what is the cause? The field is still learning about the precise nature of all molecular and cellular disease drivers—the past 40 years of research show that it is very complicated. The things we do know include the following:

1. A combination of scaling and root planing (SRP), amoxicillin, and metronidazole was shown to be the most effective at reducing periodontal disease in 21 randomized clinical studies, but it is still not curative.3
2. SRP is not curative and shows no significant reduction in plaque or gingival index scores after 4 weeks.4
3. Plaque burden does not correlate with periodontal disease.5
4. Dysbiosis (having too many pathogenic microbes and insufficient beneficial microbes) predisposes dogs to periodontal disease.6,7
5. More important than dysbiosis is the metabolic activity of the oral microbiome, rather than composition, as the most significant driver of disease.8–12
6. Periodontal disease is triggered by a polymicrobial infection, which is why a single-pathogen vaccine approach does not work.11,12
7. Periodontal disease is an autoimmune disease, initially dependent on dysbiosis and pathogenic microbial metabolic activity.14–16

With such a complex set of factors that influence periodontal disease, the goal after an annual deep cleaning should be the maintenance of a healthy level of biofilm supragingivally and subgingivally. That’s why at-home care is so important. The question then becomes: What should the clinician recommend to pet parents to help maintain ideal oral health between visits?

At-home care

Toothbrushing is recommended, if done at least once a day. For small dogs, this is a must. Sadly, in 2 recent questionnaires answered by 505 dog owners, less than 3% brush their dog’s teeth on a regular basis.17 A great solution is to recommend the use of a cloth chew toy. Slow-motion movies of 10 dogs chewing cloth toys vs toothbrushing show there is more penetration, subgingivally, with soft toys over brushing along the molars. Moreover, compliance is likely to be higher because of a lower “hands-on” threshold. Finally, replacing toothbrushes every 2 months is extremely important, as is washing chew toys in soap and hot water every week to limit oral biofilm growth on these items.

Another critical task is to wash water and food bowls daily with soap and water. The food dish and water dish have a thick biofilm coating both surfaces that harbors enteric and periodontal pathogens.17

With respect to food, moderation is key. A diet with diverse proteins and vegetable fibers is ideal to keep the oral and gut microbiomes diverse. Limit foods with grains, tubers (potatoes, sweet potatoes, etc), and fruit to fewer than 2 days a week.

Ongoing research

There are numerous at-home care products in the dental category. Dental chews are the most popular; toothpaste is the least popular. It is understandable that clinicians rely on the Veterinary Oral Health Council (VOHC) certification to guide choices on recommendations. Problematically, the VOHC certification does not take into consideration what is now known about periodontal disease: It’s about the kinds of microbes that live in the plaque and tartar and what they do, and based on the data, it is only modestly about the reduction of plaque and tartar.8–12

Through this author’s laboratory, a thorough study examined all ingredients on online-only, veterinary-only, and diverse-channel products for at-home use. What was found may be surprising. This author has evaluated microbial biofilms for 22 years and we were not expecting how ineffective commonly used antiseptics are on a dental biofilm from an aged dog.

Here are the major takeaways from the aforementioned research. First, dental chews grow biofilms. Second, dental chews with antiseptics (cetylpyridinium, delmopinol, triclosan) select for resistant microbes, many of which are enteric pathogens. Additionally, water additives with alcohol or dioxide skewed the composition of the biofilm but did not significantly reduce dental pathogen burdens. Finally, water additives with sodium or potassium benzoates block the growth of good microbes at very high concentrations (that pose a risk to the dog’s mitochondria) and also do not affect biofilm production.

The complicated nature of the causes of periodontal disease, coupled with the often-surprising results at the frontier of treatment research, all point to 1 thing: There are no easy answers or simple solutions. Preventing periodontal disease requires diligence from the pet owner and an ongoing commitment to at-home care at the microbial level as well as the mechanical level.

References available online at dvm360.com
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Do we need a paradigm shift in canine neutering?

Canine neutering has become the prevailing standard practice in the US, but questions remain about whether this universal approach is appropriate in all cases.

By Kelly Johnson, DVM, MS, DACVS-SA

The history of spay and neuter

In the 19th century, urbanization and increased pet ownership were catalysts for performing neuters. Owners found a pet’s heat cycle in their home to be inconvenient, so neuters were performed to eliminate this annoyance. In the 1950s, neutering became the solution to overpopulation of pets in New York City. By the 1960s, when compliance to neuter contracts was low, humane groups made neutering a requirement prior to pet adoption. In 1975, the Maryland Society for the Prevention of Cruelty to Animals recommended early neuter to get as many pets neutered before adoption as possible. Then in 1993, the American Veterinary Medical Association supported early neuter for the purpose of curbing overpopulation.

A standard of practice

Neutering young dogs between 6 and 9 months of age is now common practice. This practice in the US contrasts with many European countries, where neutering is quite uncommon. For example, in Norway, it’s illegal to neuter a pet unless there is a valid medical reason. With these apposing philosophies, veterinarians in the US have begun questioning the validity of the juvenile neuter approach. Practitioners are asking: What are the clinical effects of removing these hormones? How early is too early? Are there even benefits to spay and castration?

Spay and neuter benefits

Preventing mammary tumors is a well-known justification for spaying female dogs before their first heat. Every vet student reads the classic paper, which reports only half a percent of female dogs developing mammary tumors if they are spayed prior to their first heat. In contrast, 26% develop tumors if they are spayed after their second heat. Removing these hormones has also been shown to decrease or eliminate the development of reproductive tract tumors and pyometra, which affects nearly 1 in 4 intact females dogs by age 10. It also eliminates other things, such as bleeding in the house and unwanted pregnancies. Additionally, there is evidence that these pets may live longer.

For male dogs, castration has similar benefits in reducing reproductive tract disease. Castration removes the risk of testicular cancer, which affects 27% of intact males dogs. Removing cryptorchid testicles is particularly important, as they have a significantly higher risk of developing tumors. There is also a reduced risk of prostate hyperplasia, perianal tumors, and perineal hernias with castration. There is even indication that castration decreases unwanted behaviors, such as urine marking in the house, roaming (which can lead to injury and reduced lifespan via fights and getting hit by cars), and mounting.

Unintended consequences

Spay and castration have a handful of negative effects worth noting. To start, it is a surgical procedure, which carries an inherent 6% risk of complications, including incisional infections and anesthetic events. It also increases the risk of urinary incontinence in females. Fewer than 1% of intact females dogs develop incontinence, but 4% to 20% of spayed female dogs are at risk. This risk goes up when spayed before 3 months of age. Another concern is leaving a pet with immature genitalia. Immature, recessed vulvas can lead to urinary tract infections and perivulvar dermatitis. Spay and castration have also been reported to increase the risk for hypothyroidism and vaccine reactions. Further, spaying can predispose female dogs to aggression toward family members. There may also be a faster progression of cognitive impairment in neutered pets, especially male pets. Finally, obesity, which has its own set of risks, is much more common in both spayed and castrated pets.

In addition to the above medical concerns, there are also various cancers that have been shown to be more prevalent in neutered pets. Mast cell tumors, hemangiosarcoma, lymphoma, and osteosarcoma have been reported to occur more frequently in neutered pets. A study of Rottweilers found that when spayed prior to 1 year of age, females had nearly 3 times the risk of developing osteosarcoma, and males had almost 4 times the risk. For neutered male dogs, there is also about 4 times the risk of developing prostate cancers. There are also orthopedic considerations for pets neutered at a young age. Early neuter has been shown to delay growth plate closure, resulting in taller pets. By altering bone growth, a pet’s conformation is affected and may predispose them to excessive tibial plateau angles. When the tibial plateau angle is excessive, there is a significantly greater risk of developing cranial cruciate ligament disease in 1 or both knees. Hip dysplasia has also been found to be more common in altered pets, especially when neutered before 6 months of age.

Predisposition considerations

Although identifying these unintended consequences is important, the potential impact of these diseases should also be considered. We must consider factors such as the frequency of the disease. Even though an increased risk of developing a specific cancer is identified, this cancer may only occur in a very small percentage of the population. For example, osteosarcoma affects less than 20% of the population. We must then also consider the severity of the disease, availability of treatments, and how effective these treatments are for the diseases with an increased risk from neutering.

Lastly, the impact of these diseases on specific breeds should also be individually evaluated. Luckily, multiple large studies—primarily out of the University of California, Davis—have recently attempted to tackle this complicated decision-making process for common breeds of dogs, including golden retrievers, Labrador retrievers, and German shepherds. These studies have made specific recommendations for male and female pets of more than 30 different breeds and mixed breeds.

When to spay and neuter

If broad conclusions are made from all these studies, then the standard recommendation of spaying prior to the first heat cycle can be continued. Early neutering is also still warranted in shelters to help curb overpopulation. However, castration after 2 years of age (or full maturity) is likely a more appropriate recommendation for male dogs.

That said, based on the evidence presented in these more recent studies, shifting away from the one-size-fits-all approach of neutering at 6 to 9 months of age is warranted. An open discussion of the pros and cons of neutering at various ages for different breeds should be discussed with every responsible owner. For example, female golden retrievers could be left intact because of their high risk of developing common cancers after being spayed. In these unaltered pets, owners would then need to diligently monitor for signs of pyometra or mammary tumors to allow for prompt treatment.

In conclusion, for any common surgical procedure, it is important to continually reevaluate when and why it is done, as new evidence could call for significant paradigm shifts.

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Making room continued from cover

his reality and redirects his future. Without the visibility, network, and mentors of color to confide in, his aspirations wither. His family, shielding him from the unknown, and society, nudging him toward something more common, map out his future into something less extraordinary.

Elsewhere, a little Black girl with cherry-red hair ties runs outside in her dad’s off-white special-occasions dinner jacket. She enjoys sneaking to put it on almost as much as she enjoys sneaking it back. The jacket makes her feel like a superhero—a veterinarian. It swallows her body and collects debris as she plays. She meets with the local dogs and cats and is occasionally joined by the neighbor’s rabbit, having escaped from its owner’s confines. Although the girl loves to congregate with her furry friends, this is considered unladylike and an empty pastime. The centripetal force of society gradually pulls her toward a typecast future more suitable for a woman of color.

The face of veterinary practice starts to change

Behind the momentum of the Higher Education Act of 1972, veterinary medicine began to shift from a male-dominated to a female-dominated profession. This trend reached its apex in 2009, when female veterinarians outnumbered male veterinarians. The shifting gender landscape caused consternation in the industry, where sentiments such as this were widely expressed: “Although the movement of women into veterinary medicine has had a very positive influence on the profession, a reasonable balance of men and women is believed to be desirable both for the profession and for society in general.”

Veterinary medicine’s grudging acceptance of gender parity came from the belief that women in the profession would eventually leave to tend to family issues, causing a void. Today, an estimated 63% of veterinarians are women, according to the American Veterinary Medical Association (AVMA).

Unmasking the reality of the profession’s makeup

In 1972, the first minority recruitment seminar/workshop in the history of veterinary medicine was held at Purdue University. At that time, Indiana’s African American population was 12%, whereas only 1.14% of their veterinarians were Black. The journey to racial parity in veterinary medicine has been circuitous. One conclusion from the 1972 meeting at Purdue was, “The veterinary profession has simply not voiced a concern about multicultural representation, and the issue has been overlooked in all previous meetings of veterinary and academic associations.”

In 1980, data reporting on the racial composition of applicants and admissions across veterinary schools and colleges became widely accepted, making it easier to observe trends. This pooling of data was the impetus for targeted outreach programs aimed at increasing minority representation. In 2010, the American Association of Veterinary Medical Colleges (AAVMC) announced a goal to “by 2014, increase the number of underrepresented minority students by 35% and increase the number of underrepresented minority faculty members by 20%.”

The AVMA adopted a similar strategic plan in 2008 and 2010, which included a workforce objective to “foster increased veterinary workforce diversity pertaining to professional areas of service and to cultural, ethnic, gender, and racial representations.” They went on to state that, “by 2020, the AVMA should create a strong and diverse sense of community within the veterinary profession.” Despite this, in 2021, veterinary medicine scored the lowest of all health care professions on Simpson’s Diversity Index, which measures the number of racial and ethnic groups represented and their distribution across a profession.

A 2019 AAVMC admissions report found selection bias in the admission cycle, concluding that “certain groups are directly or indirectly disadvantaged, to some degree, with the current admissions process and systems.” These included Black and Brown students, women, Pell Grant recipients, first-generation college students, and people from rural communities who sought to practice rurally.

Why visibility matters to aspiring Black vets

Likewise, lack of visibility remains a hurdle for aspiring Black veterinarians whose anemic numbers combined with their maldistribution foster feelings of isolation and unworthiness. Being unable to find mentors or others in your desired field who look like you creates doubt about whether the goal itself is achievable.

To counteract this, Tierra Price, DVM, a 2020 graduate of Virginia-Maryland College of Veterinary Medicine, created the BlackDVM Network in 2018. The network has blossomed into a major force across social media and is a place where people from all walks can see Black veterinarians doing what they love. It allows some to connect for the first time and others to reconnect. Stereotypes have a disproportionate impact because of the lack of balanced societal images of Black Americans, but Price and the BlackDVM Network aim to change that.

Social and professional networks are vital for organizations and individuals alike. As conduits for information, they create a social context for collaboration and provide opportunities for intentional and spontaneous sharing of power. Networks are also invaluable for social and emotional support. Coming from a small town in North Carolina, second-year veterinary student Marquis Harper, MSc, knows this well.

“I didn’t see any Black veterinarians, especially [men, growing up],” he says. Harper, the first Black class president at Virginia-Maryland College
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of Veterinary Medicine, started the Facebook group Black American Veterinarians to mentor the next generation of veterinarians.

“American African veterinarians work in the door having to prove our credentials and our competency, having to insist that we, too, have earned the right to be here,” Axam said in a recent interview with Georgia Veterinarian Magazine.

Each time Axam enters a new hospital, her excellence is on display. The inconvenient truth is that Black veterinarians may not get the benefit of individuality. Any individual shortcomings act as a referendum on an entire group.

Hope for a new look in veterinary practice going forward

Martin Luther King Jr once said, “The arc of the moral universe is long, but it bends toward justice.” Although sustainable and meaningful change has eluded veterinary medicine thus far, with people like Marquis Harper and Drs Price, Axam, and LaMarr, the future looks bright, inclusive, and diverse. So, when a little Black girl or boy sits and ponders their dreams underneath the deep blue sky, they won’t be forced to acquiesce to the pressure of society. They will see people who look like them, doing the things they dream of, and have people to champion their goals and celebrate their victories. They will go steadfast into a profession that sees them as meaningful contributors, not as outliers. 

REFERENCES
2. Navi EH, Shulman H, Black, JD. Health Professions Education for the Future: Schools in Service to the Nation. Pew Health Professions Commission, UCSF Center for Health Professions; 1993
Dental

continued from cover page

from vetdentalcharts.com allows the veterinarian and technician to record oral pathology using an Apple iPad, a tablet with a stylus, or a desktop computer. The process is so simple that you can record periodontal probing depths and write or draw pathology on the chart, or use the advanced version with dental nomenclature. It is even possible to customize your own dental terms. The program allows you to upload high-resolution clinical photographs, hang radiographs, and produce take-home instructions for clients. The charts are available for a trial period before subscribing at www.app.vetdentalcharts.com.

The ability to view the radiographs and dental charts on eye-level monitors greatly improves the dental diagnostic workflow.

Embrace oral cytology

Timely examination of cells from oral masses can be invaluable toward immediate diagnosis and treatment planning. Cotton-tipped applicator sticks can be used to obtain cells from open lesions. Fine-needle aspiration is best used to acquire cells from lesions that appear to be covered with oral mucosa. Cellular pleomorphism, anisocytosis, anisokaryosis, nuclear clumping, and the nuclear/cytoplasm ratio helps to differentiate between benign and malignant lesions. This will often save time and the need for a second surgery. For those who are not comfortable reading cytology, there is laboratory equipment that will digitize stained cytology samples that can be sent out for a quick pathologist opinion.

Four- or 6-handed dentistry

Dental workflow includes the veterinary assistant scaling and polishing the teeth, performing intraoral radiography and dental charting. With 4-handed dentistry the assistant also charts the veterinarian’s recommendations for care and monitors anesthesia parameters. Six-handed dentistry frees up one assistant to monitor anesthesia while another assistant helps with surgery.

Hack 1. Figure 1a: Excessive bleeding from mesial and palatal roots of the left maxillary fourth premolar. Figure 1b: Application of Vetigel to the extraction sites, Figure 1c: within seconds bleeding blocked.

Hack 2. Figure 2a: Diagnostic cat mouth chart. Figure 2b: diagnostic dog chart

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Even though daily tooth brushing is the gold-standard, less than 5% of clients are adherent. With my own dog, I use a dental wipe (Vetradent) daily. The wipe is rubbed over the buccal and facial tooth surfaces and is followed by feeding a Veterinary Oral Health Council-accepted treat. She loves it!

Jan Bellows, DVM, DAVDC, DABVP, FAVD, owns All Pets Dental in Weston, Florida. He can be reached at (954) 349-5800; and by email: dentalvet@aol.com.

Jan Bellows, DVM, DAVDC, DABVP, FAVD
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Fear Free techniques for anxious cats

Lisa Radosta, DVM, DACVB, shares why cats get especially anxious at the veterinary clinic, and she offers invaluable advice on using Fear Free methods to help these patients.

By Julia Burke, Assistant Editor

It’s no secret that cats are especially unfond of veterinary visits. Why is this? The obvious answer is that going to the veterinarian is often unpleasant for felines, according to Lisa Radosta, DVM, DACVB, owner of Florida Veterinary Behavior Service. However, the longer answer is that because cats seldom leave the house, it is virtually always associated with a negative experience, namely going to the veterinary clinic.

“(Cats) come to regard all the things we use to transport them and all the stimuli at the hospital—from the cat carrier to the look of the hospital to the parking lot to the way we look. Every single thing becomes regarded as a precursor of painful and uncomfortable things that are going to happen to them,” Radosta said.

“Take dogs, on the other hand. Dogs get tons of experience that are on the positive side of the scale [when they leave the house]. They leave the house lots of times to do really fun stuff, even just [going to] the backyard,” she said. “Dogs are definitely afraid of the vet, there’s no doubt. However, very close to 100% of cats are frightened at the veterinarian’s office. That’s the difference.”

Therefore, Fear Free, the culture of respect for animals and especially patient-centered medicine, is especially beneficial for anxious feline patients. Like humans, pets have a basic right to feel safe, Radosta said, and Fear Free empowers veterinary professionals to understand how their behaviors can be threatening to pets, recognize that animals feel the same emotions and pain that humans do, then modify their behaviors to respect that.

Fear Free methods

To implement Fear Free methods in your practice, Radosta first advised to discontinue some traditional methods for handling cats, including grabbing or pulling them out of carriers, dumping them out of carriers, and beyond.

“We want to be proactive in trying [supplements in] medications to help eliminate fear, [using] towels and gentle handling to facilitate restraint, keeping pet parents with their cats so they’re happier and calmer, examining cats in the carrier, and setting up the environment so cats are likely to be happier,” Radosta said.

She also suggested, if possible, setting up a dedicated cat room in your practice that promotes a positive experience for these patients. It should be far from the intensive care unit, where animals are recovering, and you can include a pheromone analogue and design it so there are reduced sounds in the room.

How practices can transition to Fear Free

Radosta explained that the veterinary technicians are the team members most responsible for implementing restraint, so it is important that they are trained in handling pets using Fear Free approaches. Additionally, she noted that transitioning to Fear Free involves leadership that evolves the entire practice culture and allows this innovative change to take place.

 “[Implementing Fear Free] has to be a culture change from top to bottom, and having worked in big practices but also having been in thousands of veterinary practices as a consultant, helping them change their culture—I promise you this: If it comes from the top down, it’s going to happen. If it comes from the bottom up, I don’t know. It usually does not happen,” Radosta said.

“We need leadership to step up and say, ‘This is our new culture, so this is all the information we’re going to give you. We’re going to train you [and] give you everything you need to be successful,’” she added.

Fear Free: the new standard of care

Radosta concluded that Fear Free is the new standard of care, and those in the veterinary industry should want to adhere to or exceed this standard.

YOU GET MORE FLIES WITH HONEY: A SUCCESS STORY USING FEAR FREE

Radosta had a cat patient that needed blood drawn. Although other veterinary clinics tried and failed to accomplish this task, Radosta and her team succeeded by incorporating Fear Free methods during his visit. This included the pet parent staying in the room and petting the cat, wrapping him in a towel, and drawing blood from the larger, more easily accessible cephalic vein in the front leg rather than the medial saphenous vein, which requires body manipulation to reach.

“Why were we able to do that? It was purely in the way we managed the cat, because I didn’t give him any medication. That’s one of thousands of stories of how we were able to get something done that couldn’t get done somewhere else just because of our approach. You get more flies with honey than vinegar. That is truthful. You will. And that happens in veterinary medicine, too,” Radosta said.

“[Fear Free] is [no longer] something that just soft-hearted veterinarians do,” Radosta emphasized. “It’s something we know affects our medical outcomes. It affects our client retention, client [adherence], and [is] something we’re all worried about in 2022. It affects our employee retention. We are all fighting to keep staff because they are switching jobs or switching careers.”
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National pet hospice network resumes in-home care

Hospice services for aging and terminally ill pets had been limited because of the COVID-19 pandemic.1

By Kristen Coppock, MA

Lap of Love Veterinary Hospice, a national service provider, has resumed in-home veterinary hospice care for aging and terminally ill pets after these offerings were limited in response to the COVID-19 pandemic.1 Founded in 2009,2 Lap of Love is the largest network of veterinarians in the United States dedicated to providing in-home euthanasia, hospice, and pet loss support services. The company is based in Tampa, Florida, and is a family-focused, medically supervised, and team-oriented service dedicated to maintaining the comfort and quality of life for terminally ill or senior pets, according to a company press release.1

“Hospice is about living well until the end, however that end may be. We make sure [each] pet is as pain free and as anxiety free as possible. There are many things we can help with that go far above just medicine. With in-home hospice services, our veterinarians will create a custom care plan, and each family will be supported by a full hospice care team, including dedicated hospice care nurses,” said Dani McVety, DVM, founder and CEO of Lap of Love, in a company press release.1

Although in-home euthanasia appointments continued during the pandemic, in-home hospice care services were suspended. During that time, the company provided virtual hospice care through teleadvice services. However, Mary Gardner, DVM, cofounder and chief information officer at Lap of Love, and author of It’s Never Long Enough: A Practical Guide to Caring for Your Geriatric Dog, noted that it can be difficult to provide remote hospice care.1 "Our goal is to maintain the bond between humans and animals while focusing on comfort and education for families," Gardner said in a company press release.1 “We are very pleased that our care teams are now ready to resume in-home hospice care following appropriate safety measures.”

In an interview with dvm360®, Suzanne Ellis, DVM, a veterinarian at Lap of Love in New Jersey, said the company aims to help clients and empower with control over their pets’ geriatric and end-of-life care. With many visits in general practice, pets are taken from their owners upon arrival, and that is the biggest difference for clients with in-home veterinary visits, she explained.2

“You’re in the home. The pet is not stressed. You don’t have them being anxious from their vet visit,” Ellis said.

Veterinary hospice care is focused on comfort and quality of life for terminally ill or geriatric pets by managing symptoms and keeping them happy. Hospice services are not focused on curing the animal’s condition, nor do they include routine care or diagnostic services, according to Lap of Love. Hospice care continues until death naturally occurs or a client has elected euthanasia.3

The euthanasia process for the Lap of Love veterinarian is largely the same as in general practice, according to Ellis. However, these visiting veterinarians do not place intravenous (IV) catheters.2 “We’re giving an initial injection, which is a very heavy sedative and pain medication. [It] gets the pet in a really good, sedative [state for the] final injection, either an IV or another route that helps them transition,” she said. Returning hospice care to in-home services is bringing Lap of Love back to its roots, according to McVety.1

Lap of Love veterinarians can serve up to 6 hospice care or euthanasia appointments a day, factoring in driving time between visits to clients, according to Ellis. Although their schedules are known in advance, veterinarians frequently receive same-day cancellations and last-minute appointments, Ellis said.2 Ellis said the most rewarding part of her job of performing hospice and euthanasia services is the reactions she receives from clients.1 “You never leave an appointment where people aren’t thanking you. They’re so appreciative and thankful we’re providing this service,” she said. “Everybody always thinks you’re going to be surrounded by sadness all day, but it’s the right kind of sadness. There’s also that feeling that you’re really helping. You’re just helping all day, every day—people and pets.”

REFERENCES


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Diagnosing adverse food reactions in canine and feline patients

Understanding the clinical picture and performing appropriate diet trials will improve identification of patients experiencing food reactions, including allergy.

By Kate Boatright, VMD

Adverse food reactions (AFRs) occur in canine and feline patients and commonly present with cutaneous or gastrointestinal clinical signs. AFRs encompass true food allergies, where the immune system is involved in a hypersensitivity reaction, and food intolerances, which lack direct involvement of the immune system, and can occur for metabolic reasons, toxins, or be idiosyncratic. It can be difficult to distinguish between intolerances and allergies because of similar clinical signs, inciting foods, and response to treatment.

Ultimately, recognizing and diagnosing an AFR in a dog or cat requires the veterinarian to recognize the clinical picture and perform a dietary elimination trial followed by food challenge. At the Fetch dvm360® conference in San Diego, California, Jennifer Aniya, DVM, DACVD, of the Pet Emergency and Specialty Center, discussed tips to appropriately recognize patients experiencing AFRs.

Clinical presentation

There is no age or gender predilection to AFRs. A recent review found that German shepherd dogs, Labrador retrievers, golden retrievers, and West Highland white terriers accounted for 4 of 10 affected dogs. This review also found that dogs tend to present with clinical signs at a younger age than cats, with 40% of dogs developing cutaneous clinical signs by age 1 year, whereas cats had a mean age of onset of 3.9 years. Cutaneous clinical signs are common in both dogs and cats with AFRs. Pruritus varies in its distribution, but most commonly includes generalized pruritus in dogs and face, head, and neck pruritus in cats. Aniya notes that although the ears, paws, and the abdomen are commonly affected sites in dogs, some patients may present with only cutaneous signs.

“Most common reported cutaneous manifestations of AFR are recurrent bacterial and yeast skin infections, otitis externa, and atopic dermatitis,” in dogs, Aniya said. All these may be present in the same patient. In addition to the “ring around the collar” pattern of pruritus seen in cats, they “can also present with self-induced alopecia, miliary dermatitis, [and] eosinophilic skin lesions, such as eosinophilic granulomas, plaques, and indolent ulcers,” Aniya said.

Gastrointestinal signs are also common in patient with AFRs. Aniya noted that various studies have shown dogs experiencing an AFR will have concurrent gastrointestinal and cutaneous clinical signs in 6% to 44% of cases. Diarrhea and increased numbers of bowel movements daily are the most common gastrointestinal signs in dogs. Additional clinical signs may include vomiting, changes in stool consistency, halitosis, borborygmy, flatulence, inflammatory bowel disease, anal gland impaction, and coprophagia in dogs. Cats are more likely to present with vomiting than dogs, although diarrhea is the most common clinical sign in this species, as well.

Dietary elimination trials

“There have been many tests developed to help diagnose food allergy,” Aniya said. "But the consensus remains that a dietary trial followed by dietary provocation is the most effective method of diagnosis.” Commercially available, prescription diet options for elimination trials include hydrolyzed and novel protein diets.

Hydrolyzed diets are formulated to contain amino acids and peptides less than 10 kDa, which is the size of allergenic proteins that trigger mast cell activation in humans with AFR. These diets vary in their protein source and the size of the peptides (measured in kDa) in each formula. Aniya noted that advantages of hydrolyzed diets “include nutritionally balanced formulas, generally good palatability, and formulations for growth, maintenance, and other medical disorders [with multifunction formulations].” Disadvantages of hydrolyzed diets include price and variable palatability. Even in patients exposed to numerous protein sources prior to a diet trial, it is reasonable to expect these diets to be efficacious. However, there is a chance that a patient with an allergy to the parent protein will still react to the hydrolyzed diet.

Novel protein diets are complete and balanced for diagnosis and maintenance. Aniya said she feels these diets also offer good palatability. However, because of the growing number of alternative protein sources available in OTC diets, finding a truly novel protein for a patient may be difficult, and new allergies can develop over time to the once novel protein. Additionally, these diets are rarely formulated for growth, making them inappropriate for young patients. Aniya also advises veterinarians that there is rising concern for the potential of cross-reactivity between food allergens, which could lead to a veterinarian ruling out a food allergy based on nonresponse to a novel protein, when in fact, the patient is cross-reacting. In one study, 9 cross-reactive IgE-binding allergens were present in chicken, white fish, and salmon.

Historically, literature has suggested an 8-week elimination diet was needed for over 90% of dogs and cats with AFRs to achieve remission. However, obtaining strict client adherence to a diet trial for this period is difficult. A recent study evaluated whether a short-course of prednisolone administered in the early stages of an elimination diet could shorten the overall diet trial duration. This study found that diet trial duration was reduced by 2 to 4 weeks with the use of low-dose prednisolone in dogs.

Aniya reminded veterinarians that fleas, yeast, superficial pyoderma, and other factors that cause pruritus should be controlled during the diet trial. Gastrointestinal signs generally improve within 2 weeks, but cutaneous clinical signs can take longer. Aniya recommends rechecking patients 2 to 4 weeks into the diet trial to assess the presence of secondary infections, monitor pruritus and other clinical signs, and assess owner adherence.

Take-home points

AFRs in dogs and cats can be frustrating for pet owners and veterinarians. Recognizing common clinical signs and starting diet trials with either a novel protein or hydrolyzed diet are important to obtaining an accurate diagnosis. Recent evidence suggests low-dose prednisolone used at the beginning of the diet trial may shorten the length of the diet trial in dogs. In some patients, multiple diet trials may be necessary if a patient has an allergy to the parent protein of a hydrolyzed diet or cross-reactivity to the novel protein source.

Kate Boatright, VMD, a 2013 graduate of the University of Pennsylvania, is a practicing veterinarian, freelance speaker, and author in western Pennsylvania. She is passionate about mentorship, education, and addressing common sources of stress for veterinary teams and recent graduates. Boatright is also actively involved in organized veterinary medicine at the local, state, and national levels.

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Puppy treated for burns from alkaline batteries

Nova’s story warns of a harmful item pet owners should bear in mind, and how the Pet Poison Helpline is raising awareness of common household hazards.

By Julia Burke, Assistant Editor

S pencer Howald in London, Ontario, Canada, recently arrived home to find her puppy, Nova, chewing on an alkaline battery, resulting in Nova suffering from mouth and tongue burns.

“We left a package of batteries behind the gaming station on our fireplace mantel, and apparently it had fallen to the floor. We noticed a black spot on the couch and realized Nova had been chewing on one of the batteries,” Howald said in a press release.1 “There was a puncture, the battery was leaking, and it caused blisters on her tongue and gums. We called the emergency pet hospital, who had us contact the experts at Pet Poison Helpline.”

At London Regional Veterinary Emergency and Referral Hospital, the veterinary staff discovered Nova had mouth and tongue ulcerations and put her on medication for vomiting and nausea. They also cleaned her mouth thoroughly with an oral dental rinse. The team then administered a sucralfate slurry to support healing of esophagus ulcers and the gastrointestinal tract, as well as a histamine blocker to reduce stomach acid production. Additionally, the staff gave her pain medication and placed her on a watered-down diet. They also performed an abdominal x-ray, which, fortunately, revealed Nova had not ingested any batteries.

“It was scary the day we brought her home,” Howald said.1 “She was crying, and there was nothing more we could do. She’s doing really well now, all things considered, and she was back to her normal personality by the next day. It is really up to the pet owner to keep an eye out for these dangers.” Nova visited her regular veterinarian a week after the incident, who deemed her to be in good condition.

Insight from the Pet Poison Helpline senior veterinary toxicologist

“What was interesting about Nova’s story is how quickly her clinical signs developed. When an animal ingests batteries or punctures and chews on batteries, they can develop those ulcers in the mouth, tongue, and esophagus. A lot of times, we don’t see those for maybe 12 [to] 24 hours afterward,” said Renee Schmid, DVM, DABVT, DABT, senior veterinary toxicologist and manager of veterinary medicine and professional services at Pet Poison Helpline, in an interview with dvm360®.

“In [Nova’s] case, she had significant sloughing off the tongue within just a couple hours after chewing on [the battery]. That was something that struck us as interesting—that she responded so quickly to the alkaline substance and just how much damage she had,” Schmid said.

Schmid explained that a pet chewing or swallowing batteries is a common call the Pet Poison Helpline receives. “The pet will chew on a remote control or a toy that has batteries in it and, by default, they end up chewing on those batteries as well,” she said.

“Alkaline batteries are often used in electronic toys and can be extremely harmful to pets when ingested or punctured, causing severe tissue damage in the mouth, esophagus, and gastrointestinal tract, which may require surgical or endoscopic removal, according to Schmid.1

Although Nova’s incident involved alkaline batteries, button-sized lithium batteries can be even more dangerous, as they can be easily swallowed and cause burns from the electrical current of the battery.1 A few additional hazards Schmid urged pet owners to be mindful of include chocolate, Xylitol, raisins, lilies, electric cords, glass ornaments, and essential oils.

Toxin Tails

Nova is among the 12 cases highlighted this year in Pet Poison Helpline’s Toxin Tails campaign. This initiative was launched to inform the veterinary community and pet parents on the various pet poison hazards. All the pets featured in Toxin Tails have been successfully treated and have fully recovered.

“Toxins Tails was designed to be a community outreach to help educate pet owners on different items that maybe they weren’t aware of that might be a concern for dogs or cats,” Schmid said. “We wanted to provide something that shows real-life stories, something that really happened, but had a successful and healthy outcome.”

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Pharmacy challenges: present and future

Tips for competing with retail and online pharmacies by practicing better medicine.

By Shawn P. Messonnier, DVM

Pharmacy Revenues have been decreasing over the past few years. Challenges from both conventional retail stores and internet pharmacies are taking market share away from veterinarians. Although I’m all for consumers saving money, the reality is that pharmacy income has helped financially support our practices. Losing a significant source of income is not sustainable, and we must either compete with other pharmacies or find ways to practice better medicine and otherwise make up for lost income. These insightful tips will help you face the pharmacy challenges in your practice.

Better Medicine equals better profit. Pets have many problems, most of which the owner doesn’t even notice (and some are not noticed by us until lab testing is done). If owners will allow us to find and treat problems, any lost pharmacy income is easily replaced by caring for our patients when ill, practicing preventive medicine all the time, and seeing our patients more frequently. Why simply guess when presented with a possible skin, bladder, or ear infection? Work up the case, practice better medicine, serve our patients and clients with outstanding service and care, and watch your business soar!

1. Injectable medications improve compliance and profitability. Giving most—if not all—pets a shot of a new injection or a vaccine is a great way to help patients. By giving your dog this injection, parents are more likely to come back and buy the same brand in the future.

2. Nutritional supplements help the patient and the practice. As a holistic doctor, I mainly use nutritional supplements for my patients rather than reaching for a conventional medication. Every pet can benefit from supplements, and all doctors are qualified to use the most basic supplements, such as fatty acids, antioxidants, enzymes and probiotics, and joint supplements. Adding 1 or more supplements to your patient’s treatment will benefit the pet, possibly prevent adverse effects from your prescribed medications, and help the bottom line. To prevent clients from buying on the internet, consider private labeling or purchasing from manufacturers who sell only to doctors. If you’re unfamiliar with the science of supplements, I’ll offer a self-serving plug by recommending my latest book, Nutritional Supplements for the Veterinary Practice: A Pocket Guide.

3. Prescribe only enough medications on the first visit to ensure success. This idea is helpful for several reasons. First, there is no reason to prescribe a 3- to 4-week dosage of a medication that may not work. Second, prescribing a 5- to 7-day dosage plus the all-important recheck/progress exam ensures efficacy and allows you to change the medication if your initial choice is ineffective. Third, keeping in touch by seeing the patient again is good medicine. Finally, more visits equate to more bonding with the client and provides needed

CLEVOR® (ropinirole opthalmic solution) 30 mg/mL

For ophthalmic use in dogs only

Single use dropper

BRIEF SUMMARY: Before using CLEVOR® (ropinirole opthalmic solution), please consult the full prescribing information, a summary of which follows:

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

INDICATION: For induction of vomiting in dogs.

DOSAGE AND ADMINISTRATION: This product should be administered by veterinary personnel.

Dosing Instructions: Administer the appropriate number of eye drops topically according to Table 1. The number of eye drops administered corresponding to body weight results in a target dose of 3.75 mg/m² (dose band 2.7 - 5.4 mg/m²). If the dog does not vomit within 20 minutes of the first dose, then a second dose may be administered:

Dog Administration:

- 4.1 to 11 lbs (1.9-5 kg), 1 drop. Example: 1 drop into each eye.
- 11.2 - 22.1 lbs (5.1-10 kg), 2 drops. Example: 1 drop into each eye.
- 22.2 - 44.1 lbs (10.1 - 20 kg), 3 drops. Example: 2 drops in one eye and 1 drop in the other eye.
- 44.2 - 77.3 lbs (20.1 - 35 kg), 4 drops. Example: 2 drops in each eye.
- 77.3 - 132.3 lbs (35.1 - 60 kg), 6 drops. Example: an initial dose of 2 drops in each eye, followed 2 minutes later by 1 drop in each eye.
- 132.4 - 220.5 lbs (60.1 - 100 kg), 8 drops. Example: an initial dose of 2 drops in each eye, followed 2 minutes later by 2 drops in each eye.
- Wear gloves and protective eye wear when handling or administering this product to prevent accidental exposure.

- Open the dropper by twisting off the tail.
- Keep the dog’s head steady in a slightly upright position.
- Hold the dropper in an upright position without touching the eye.
- Rest your finger on the forehead of your dog to maintain the distance between the dropper and the eye.
- Squeeze the prescribed number of drops into the eye(s).
- CLEVOR is a single use dropper and is light sensitive.
- After administration, with gloves on, return the dropper to the aluminum pouch and place in the carton.
- If the dog does not vomit, a second dose can be given 20 minutes after administration of the first dose.
- This second dose is the same number of drops as the first dose.
- Thirty minutes after opening, with gloves on, dispose of dropper, aluminum pouch, and carton.

Refer to the Animal Safety Warnings section for treatment of protracted vomiting.

CONTRAINdications:

Do not use in dogs with central nervous system depression or seizures.

Do not use in cases of ingestion of sharp foreign objects, corrosive agents (acids or alkalis), volatile substances or organic solvents.

Do not use in cases with corneal ulceration, ocular irritation, or ocular injury.

Do not use when there is a known sensitivity to ropinirole or the inactive ingredients.

WARNINGs: Human Safety Warnings:

Not for use in humans.

- Wear protective clothing when handling or administering this product to prevent accidental exposure.
- Wear gloves and protective eye wear when handling or administering this product to prevent accidental exposure.
- Seck medical attention if accidental exposure occurs and show the package insert or label to the physician.
- Exposure to this drug may cause adverse reactions such as headache, nausea, vomiting, dizziness, orthostatic hypotension, and sleepiness. Avoid contact with the product if pregnant, planning to become pregnant, or breast feeding, as exposure has been shown to have adverse effects on embryo-fetal development based on rodent studies.

Animal Safety Warnings:

This drug should be administered by veterinary personnel.

Dogs should be monitored for CLEVOR-associated clinical signs, including protracted vomiting, salivation, muscle tremors, evidence of abdominal discomfort, lethargy, transient tachycardia, transient decrease in blood pressure and signs of oculic irritation, including conjunctival hyperemia, mild blepharoconjunctivitis, and protrusion of the third eyelid. These clinical signs are related to the pharmacological action of ropinirole.

To stop protracted vomiting, administer metoclopramide (depramine D2 antagonist) at a dose of 0.5 mg/kg intravenously (IV) or subcutaneously (SQ). Metoclopramide also decreases the prevalence of most CLEVOR-associated clinical signs.

PRECAUTIONs:

The use of CLEVOR has not been evaluated in dogs with cardiac disease or cardiovascular compromise. CLEVOR can cause transient tachycardia and transient decreased systolic blood pressure. The safe use of CLEVOR has not been evaluated in dogs with hepatic impairment. CLEVOR is metabolized by the liver.

The safe use of CLEVOR has not been evaluated in dogs younger than 4.5 months of age and weight less than 4 pounds.

The safe use of CLEVOR has not been evaluated in dogs that are pregnant, lactating, or intended for breeding.

ADVERSE REACTIONS:

Safety was evaluated during a field study that enrolled 132 dogs (100 in the CLEVOR group and 32 in the vehicle control group).

CLEVOR was administered as drops into the eyes at the dose as directed by the dosing table (see DOSAGE AND ADMINISTRATION). The following table shows the number of dogs exhibiting ocular symptoms, and clinical pathology adverse reactions. Adverse Reactions Reported During the Study (all dogs): Ocular safety of CLEVOR was excellent. Dogs treated with CLEVOR or the vehicle control did not have ocular safety issues.

- Conjunctival hyperemia, mild blepharoconjunctivitis, and protrusion of the third eyelid, conjunctival swelling, scratching/ rubbing of eyes, eyelid, conjunctival area.
- Nausea and vomiting.
- Tachycardia and transient decrease in blood pressure and signs of oculic irritation, including conjunctival hyperemia, mild blepharoconjunctivitis, and protrusion of the third eyelid.

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/animal兽医/nvsa.htm.

CLEVOR is a trademark of Orion Corporation

Manufactured by: Orion Corporation
Distributed by: Vetoquinol USA Inc.

Approved by FDA under NADA # 141-534

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income that compensates you for your time and expertise.

5 Rechecks/progress exams are a must for a refill.
As a doctor, you’re more qualified than the owner to determine the progress of the pet and whether continued treatment with the original prescription is in the pet’s best interest. Rechecks are needed to continue medications and often uncover additional diseases to be treated. If you use a longer-acting injection at the initial visit, you won’t have the automatic progress exam. To compensate for the lack of income, charge correctly on the first visit.

6 Regular lab testing is also a must for a refill.
Patients on chronic medications require constant evaluations. This is true in human medicine and needs to become the norm in veterinary medicine. Check your patients frequently. Most of the pets seen in my holistic practice have not had regular monitoring despite multiple refills of strong and potentially toxic medications. Don’t make this mistake. For example, iatrogenic Cushing is a real disease. Often, my evaluation reveals new diseases that should have been and would have been detected earlier if only the initial prescribing doctor did his job correctly. “No testing, no refills,” and “No rechecks, no refills,” are good medicine and good business.

7 If you can’t beat them, maybe you can meet them.
If you really want to keep the sale and avoid losing money, meet local pharmacy costs whenever possible. I’m not a big fan of losing money or discounting, but if you follow the suggestions above to replace lost income, then lowering drug costs to a smaller profit may not ultimately affect your pocketbook. Make payment easy and less expensive with pet insurance, wellness plans, and third-party payment companies. Many of my clients have pet insurance and Care Credit, which allows them to do the things listed above so we can practice high-quality medicine and be mindful of the pet’s best interests. Not all insurance is the same, and some companies are easier to work with than others, but the goal of insurance is to allow clients to say yes to your treatment. Care Credit allows clients to budget realistically for higher-priced treatment plans. Many practices, mine included, find monthly payments for wellness plans highly appreciated and accepted by pet owners. Not only do these plans, which allow for easily budgeted pet expenses and savings to the owner, result in more frequent health care visits, but these visits further bond clients and pets to your practice. Regular visits also present more opportunities to find problems that require treatment.

8 Evaluate your fees regularly.
Perform a fee diagnosis. Let’s face it: If you lose income in one area of the practice, it must be made up in other areas. Make sure your fees adequately compensate you for being a doctor. Raising fees in one area can allow you to lower your pharmacy fees and not lose income. There is more net profit in services performed than products sold. Make money for your knowledge and skill rather than for drugs anyone can sell.

9 Shipping medications/supplements equal owner convenience.
For clients who don’t have the time because of busy schedules or travel distances to your practice, mailing medications/supplements may offer a solution. It helps the client by saving travel time to pick up medications and ensures proper treatment of the pet.

10 Autoship commonly used medications.
Online (and retail) pharmacies do this, so if you want to increase compliance, and client bonding, this is a must. Yes, this can be a pain and requires a dedicated employee, depending upon the number and frequency of shipped products, but it may be worth it to your practice. Autoshipping provides a steady flow of funds to the practice, saving potentially lost income.

Although these suggestions can help you battle lost pharmacy revenue and practice better medicine, at the end of the day, you’ll need to decide how much of your pharmacy business—if any—you choose to keep. The suggestions listed here have stood the test of time and helped doctors maintain or even increase their incomes despite the threat from yet another unexpected source of competition.
Implementing virtual care in veterinary practice

To better serve clients and patients, consider the following advice when selecting a telemedicine or digital platform for your practice.

By Kelsey Gustafson, Associate Editor

Since the height of the COVID-19 pandemic, the veterinary profession has demonstrated robust adaptability—especially in streamlining services through virtual care. So how can you navigate the vast world of telemedicine without succumbing to information overload?

Crista Wallis, DVM, Virtual Care Consultant and Vet2Pet telemedicine coach from Shawnee, Kansas, said, “Understanding these types of platforms and successfully managing that information will help you make your platform decision.” During her lecture at the 2021 Atlantic Coast Veterinary Conference in Atlantic City, New Jersey, Wallis highlighted a few pearls to help professionals better understand these platforms—from integral virtual care features to nuances between all-in-one platforms and telemedicine.

What to look for in a telemedicine platform

Wallis encouraged veterinary professionals to consider what they want from a telemedicine platform. “Make a list of the features that are important to your team, clients, and practice, and focus on 3 platforms to demo that have those features,” she advised.

For those whose clinics may already have a communications platform, she recommended calling the customer service representative to see whether they are added or new features. Following are some areas to consider in making the best selection.

Security

A strong cybersecurity program is a must when searching for a reliable platform. This feature employs a comprehensive infrastructure that supports vital and confidential record keeping.

According to Wallis, questions to ask when assessing platform security include the following:

• Are there liability or usage waivers that clients must read and sign before using the platform?
• What security backup is offered if something goes wrong with the technology? (Do-it-yourself platforms may not have the security required for practices.)

Usability

The platform must have a user-friendly interface to help streamline services. If the platform is difficult to operate, veterinary team members may grow frustrated and give up. To limit confusion between staff and clients, Wallis advised ruling out any videos that require too many steps, clicks, or screens.

Documentation

When conversing with clients through a 2-way chat or video consultation, professionals must be able to easily save the conversation. When selecting the best platform for your clinic, make sure it can record and document teletriage and telemedicine conversations with clients.

Wallis encouraged attendees to ask these questions:

• Do you have to cut and paste?
• How do you integrate the cases into practice management systems (PMS)?
• What PMS integrates with the platform?
• Can you take notes, or can the videos and pictures be saved and downloaded?

“Ease of documentation is a must to maintain a valid VCPR [veterinary-client-patient relationship], which is still an essential relationship for practicing medicine,” noted Wallis.

Virtual payment

Wallis said one of the most critical questions veterinarians and practice managers can ask when entering the telemedicine world is, “How are fees collected?” During the decision process, it is important to ask questions such as the following:

• What does the platform charge?
• Is there a monthly fee, a transaction fee, or both?
• What does the merchant sign-up process look like within the platform?
• Is it cumbersome or simple to sign up?

“With a successful platform, you can easily and efficiently collect fees through a secure virtual payment feature,” said Wallis.

All-in-one platforms

These platforms offer more features than telemedicine, including appointment reminders and loyalty programs, prescription and food refills, push notifications and email blasts, chat/video telemedicine capabilities, and more. These robust services allow veterinary clinics to efficiently communicate with clients, removing the need for multiple apps and services that can be confusing for staff and clients. However, there are drawbacks. For starters, Wallis pointed out that these comprehensive platforms tend to be less savvy than their telemedicine counterparts. Also, unlike telemedicine, all-in-one platforms tend to be more expensive.

Say no to information overload

Now that you have asked questions, reviewed options, and selected your ideal platform, what comes next? If you ask Wallis, the final piece is eliminating additional input and focusing on successfully integrating your new platform into the workplace.

When information overload occurs, it can create indecision and doubt, overcomplicating the search for the best fit. To combat this, Wallis advised tuning out all the incoming information and applying your efforts in making the platform a success.

Additionally, she recommended using a 6-month time frame before determining whether you are unhappy with the services and deciding to start anew.

“Picking a platform can be overwhelming for anyone; however, if you prepare your questions before the demo, then you will be able to navigate the waters when they get bumpy and come out on top with a platform that best suits your needs,” Wallis said.
HOUND
Veterinary recruiting and job search platform

This free online platform helps veterinary professionals find employees and helps veterinary professionals find career opportunities. Its goal is to modernize veterinary job searching and recruiting while simplifying the process. Talent and employers can chat with one another and schedule interviews to decide whether it is an ideal fit. Hound also offers users several complimentary perks, including dream vacation giveaways, cash rewards, positivity packs, and unlimited custom profiles, users, job posts, and applications.

For more information, visit www.hound.vet

Deactivate
Handheld LED UVC disinfection device

This handheld, UV-C disinfection device uses high-powered LEDs to create UV light that deactivates pathogens. According to Xenex Disinfection Services, the product’s manufacturer, Deactivate is proven to destroy SARS-CoV-2 in 30 seconds at 1 m and methicillin-resistant Staphylococcus aureus in 1 minute at 1 m. It does not require warm-up or cooldown time, and it does not leave behind any chemical residue. The disinfected area is ready for use within minutes.

For more information, visit xenex.com/deactivate-led

ioVet Healthy Gums
Pet periodontal support

Healthy Gums is a patented, first-of-its-kind molecular iodine–based canine and feline periodontal health product that promotes gum and periodontal health, freshens pet’s breath, and supports overall well-being. This easy-to-use, effective solution should be added daily to a pet’s drinking water and begins working instantly to dramatically decrease dental plaque formation. According to an ioVet news release, a recent study found that using molecular iodine as a water additive was 177% more effective than brushing teeth every 2 days and 444% more effective than brushing teeth weekly. As a result, molecular iodine earned the Veterinary Oral Health Council Seal of Acceptance for its effectiveness in safely reducing pet dental plaque formation.

For more information, visit iotechinternational.com/product-page/healthy-gums-by-iovet-1

Charlotte’s Web Skin Health & Allergy Support Chews
Hemp extract–infused chews for dogs with seasonal allergies

These chews created for dogs with sensitive skin due to seasonal allergies feature proprietary full-spectrum hemp extract and other natural botanicals, including biotin, nettle leaf, burdock root, and marshmallow root. Each chicken-flavored chew is grain free, nongenetically modified, and includes USA-grown hemp. These chews help dogs maintain the normal moisture content of their skin and promote overall skin health while supporting the normal detoxification process. They are available in a 30- or 60-count package and are tested for quality and safety assurance.

For more information, visit charlottesweb.com/skin-health-allergy-support-chews-for-dogs
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The dilemma: approaching retirement

An older practice owner weighs future options for his business

**EDITOR’S NOTE:** All names and businesses in this dilemma case are fictitious, but the scenario is based on real occurrences.

Veterinarian Jim Nye is the owner of Nye Pet Care. He started this practice 41 years ago. He has 4 associate veterinarians and a thriving practice. Over the years, he had built the brand that his community associated with quality pet care. He was a good boss, had little staff turnover, and all but 1 of his associate veterinarians had been with him for over 10 years.

Nye was well into his 60s and was still a vibrant and energetic veterinarian. Two of his younger senior veterinary associates were discussing that Nye was getting older and were curious about his future plans for his veterinary practice. Their interest was primarily rooted in their own job security, as Nye never mentioned any of his plans for the practice to anybody.

The younger associates respected their boss and were very comfortable asking him what he had planned for the upcoming years. Nye was a bit startled at first. He hadn't thought of himself as old. He certainly had not thought of winding down or retiring, but 41 years is a long time to be on the job. After consulting with trusted friends and advisors, he decided he needed an exit strategy.

He did not even know where to start when it came to planning a future exit strategy. Clearly the first step for Nye was to recognize he had been in a state of denial in recent years. When he thought about getting older, slowing down, or even retiring, he just put it out of his mind. Although he recognized he did not have to retire immediately, he certainly had to think about the not-too-distant future both for his sake and the sake of his coworkers.

To begin with, he needed answers to some pivotal questions. Were any of his associates interested in the ultimate ownership of his practice? Should he consider taking on an interested associate as a partner, which may ultimately lead to ownership? What was the value of his practice, and where could he get this information? Finally, was he able to assign a time frame to his practice sale and ultimate retirement. After pondering these questions, it was clear to him why he was in denial.

Nye met with his associates and explained his journey of exploration toward an exit strategy. He learned that one of his associates was interested in becoming a partner, which may ultimately lead to ownership. He was clear to him why he was in denial. Nye met with his associates and explained his journey of exploration toward an exit strategy. He learned that one of his associates was interested in becoming a partner, which may ultimately lead to ownership. He was clear to him why he was in denial.

The expert he consulted gave him some guidelines to think about. First and foremost, he should not be forced into something that made him uncomfortable. If his goal was to continue to work and wind down his practice activity as he aged, then he should plan for that scenario. He was also cautioned about making these planning decisions in a timely fashion or, unfortunately, these decisions may be made for him. After considering an outright sale and retirement, or a sale and a timeline retirement, he ruled both options out. He would rather take the opportunity to bring in an associate as a partner so that practice ownership could transition while he remained a significant member of the practice health care team as he advanced through his senior years.

He now respected the wake-up call that was initiated by his valued associates. He explored his options and decided on his future exit strategy. More importantly, he took control of his destiny and the possibilities that may lie ahead. Do you think Nye handled his exit strategy appropriately? Were his associates out of line when suggesting he think of retirement? We would like to know your thoughts.

Dr Rosenberg’s response

This was a cautionary tale. It applies to not only when you should consider retiring but also to all phases of a veterinary career. When is it time to move on? Should you start your own practice? Should you consider a partnership?

The message is that all professionals should take as much control of their destiny as possible. Always consider where you’ve been, where you are, and where you may be going. When a veterinary career is viewed in this way, it ultimately will be very fulfilling.
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How research of an FIP treatment for cats is saving human lives

The work of Niels C. Pedersen, DVM, PhD, provided a foundation for investigators studying an antiviral drug for treating COVID-19.

Few know more about coronaviruses than Niels C. Pedersen, DVM, PhD, distinguished professor emeritus at the University of California–Davis (UC Davis) School of Veterinary Medicine. Pedersen has been chasing various species-specific coronaviruses for decades.

For those who aren’t familiar with his legendary status, Pedersen was also heavily involved with research into the genetic basis of autoimmune disorders of dogs and genetic diversity among breeds. Pedersen was the director of the Center for Companion Animal Health and the director of the Veterinary Genetics Laboratory at UC Davis. His name is on approximately 300 peer-reviewed papers, he has contributed chapters to many books, and he authored his classic text, *Feline Husbandry: Disease and Management in the Multiple-cat Environment*.

One constant from the very start of Pedersen’s career was unraveling mysteries of coronaviruses in various species—most of all, domestic cats. It was Pedersen who figured out that the typically benign feline coronavirus is responsible for feline infectious peritonitis (FIP). For decades, FIP was considered fatal and has only recently been adjusted to treatable, largely because of Pedersen’s work.

“We studied FIP for many years and tried to develop vaccines at first, but they weren’t working,” Pedersen said in an interview on WGN Radio. “Finally, about 7 years ago, I thought about antivirals, as I had experience with antivirals for [human immunodeficiency virus]. I discovered a drug [that] was intended for Ebola but didn’t work very well—a nucleoside analogue—and I knew it had a wide spectrum of activity against coronaviruses.”

With funding from what was then the Winn Feline Foundation (now EveryCat Health Foundation), Pedersen used a drug very closely related to the antiviral remdesivir to treat cats with FIP. He was even surprised by the overwhelming success. The kitties were living and thriving for well over a year after his initial work, which is unheard of for cats correctly diagnosed with FIP.

However, Pedersen was unable to obtain the patent for the drug, so he and Yunjeong Kim, DVM, PhD, an associate professor in the Department of Pathobiology and Diagnostic Medicine at Kansas State University College of Veterinary Medicine, created a drug they called GC376, which ultimately had an even higher degree of success in treating the wet form of FIP.

Anivive Lifesciences, an animal health pharmaceutical company, recognized the potential. It was announced at the 2019 Winn Feline Foundation FIP Symposium that Anivive is in the process of seeking approval for GC376 through the FDA Center for Veterinary Medicine for treating FIP.

Although treatment for cats with FIP has been approved in other nations, it is not yet approved by the FDA Center for Veterinary Medicine for use in the United States. So other companies came along, selling products to desperately cat parents, and these knock-off products mostly appear to work.

Meanwhile, along came the pandemic. If it weren’t for Pedersen’s studies with a drug nearly identical to remdesivir succeeding for cats with FIP, it’s unlikely anyone would have thought about using this long forgotten about antiviral. However, it turns out remdesivir has now been used around the world to treat COVID-19, caused by SARS-CoV-2. Remdesivir has saved countless human lives, or at least has contributed to saving lives, and is also used to treat FIP, saving cat lives.

Being the expert on coronaviruses, Pedersen was asked what his crystal ball looks like regarding the pandemic. He was optimistic and said the “Omicron [variant] is what we were hoping for. The worst is at first, and in a quirky sense, it’s to their [the coronaviruses] genetic advantage not to make victims so sick that they die. We have a highly transmissible virus, which isn’t nearly as pathogenetic compared [with] the previous isolates.”

He said he believes the most common variant at the time, Delta, may have landed in another mammal, such as a mouse. Inside the mouse, the virus recombined and ultimately was transmitted back to a human. “Omicron may be humanized now and will be endemic. It’s certainly not benign and, being a coronavirus, may continue to change some,” Pedersen said. “But for now, at least this is the dominant strain around the world, and I think it will be this way for some time. At least that is the hope.”

REFERENCES


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