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AUGUST 2022

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Trends[®] magazine

CAN YOU READ THE SIGNS?

Unlock the Mysteries of Cat Pain **22**

*2022 AAFP/AAHA Antimicrobial
Stewardship Guidelines*

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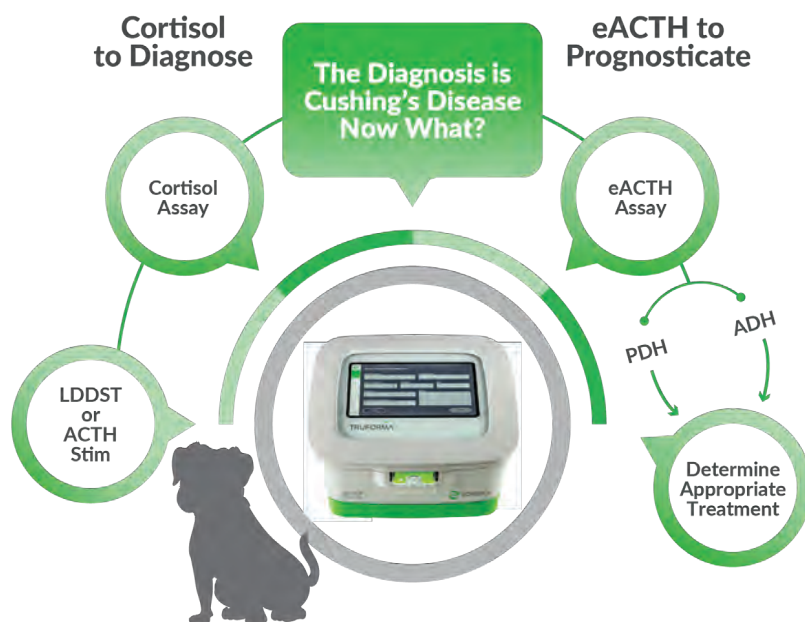
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They tell us—we just don't always listen

By Alison Gottlieb, CVT, VTS (ECC)

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Find out what's new in the latest guidelines

by Tony McReynolds



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from the editor's desk

CAT OWNERS OFTEN WONDER: WHAT IS MY CAT THINKING RIGHT NOW? But really, they should be asking: How is my cat feeling? This question can be answered by the cat themselves, if you know how to interpret the signs. This month's cover story looks into how to read the signals that a cat is not feeling well, or actually in pain. Case in point: George and Waffles, two cats whose friendship was tight as a ball of yarn, but only after the mystery of George's bad behavior was uncovered.

One of the many up-and-coming problems that veterinary medicine is facing is that of antimicrobial resistance. Fortunately AAHA and the AAFP have just released the *2022 AAFP/AAHA Antimicrobial Stewardship Guidelines*, which outlines ways in which practitioners can be more judicious in their use of antimicrobials, as well as offers advice on helping clients understand their role. Conscious oversight and responsible medical decisionmaking are at the heart of the guidelines, which are available to all on the AAHA website at aaha.org/guidelines.

Keep an eye out in the pages of *Trends* for excerpts of interviews from Central Line: The AAHA Podcast. This month we feature an interview with Deborah Thomson, DVM, author of *The Art of Science Communication*.

TECHS@WORK PHOTO CONTEST!

This October, *Trends* is running our annual Techs@Work photo contest, and we need your photos! Photos must be 300 dpi or better resolution, and we need photo credit, as well as the names and credentials of individuals in the photo. By submitting, you confirm that you own the copyright to the photos and allow AAHA to use the photos in print and digital publications. **Submit your best photos by August 10, 2022, at aaha.org/techsatwork.**

THE AAHA COMMUNITY

Thousands of your peers are already on the AAHA Community. Come and be a part of the new platform designed to connect AAHA members online. Try it out today at community.aaha.org. Now you can get Community on your mobile device as well. Just search for Tradewing in the Google Play Store or the App Store.

WIN \$500!

Do you know an outstanding veterinary professional who deserves recognition—and 500 bucks? Well, look no further, because the new *Trends* Employee of the Month winner will now receive \$500, thanks to generous sponsorship from CareCredit. Nominations must be submitted by a staff member at an AAHA-accredited practice, or an AAHA affiliate member. Now you can enter online—just head over to aaha.org/EOTM.

COMING NEXT MONTH

Topics in September will include feline endocrinopathies, coping with mental health issues, and nutrition.

As always, let me know what you think at trends@aaha.org.

—Ben Williams, Editor

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View from the Board

Dermatology: A Make-or-Break Connection with Clients

One of the biggest joys I get from working in this field is developing the relationships I am able to foster over many years with my clients. This is an amazing profession that allows us to speak for those without a voice and be their advocate. This month's *Trends* focuses on a few of the areas that really bond our clients to us and our practices but also have the potential to cause a loss of trust if we make an error or if a client chooses not to follow recommendations and is unhappy with the subsequent lack of results.

The very last rotation I had in my fourth year of veterinary school was dermatology. I will never forget Dr. Bob Kennis telling us that whether we liked dermatology cases or not, we would be seeing a ton of them in general practice, so we had better pay attention. I never doubted his wisdom, but I also didn't imagine the sheer volume of dermatology cases I would be seeing in my hospital. Helping a miserably atopic dog or discovering the ever-elusive food-allergic dog is wonderful and strengthens the human-animal bond along with the client-veterinarian bond. Unfortunately, the inverse is also the case. If we are not able to make the pet more comfortable and manage expectations, then we have not done our job effectively.

I went into this profession understanding that I would be challenged every day while helping pets, but I didn't realize every pet has people associated with them and that my interactions with those people would sometimes be just as challenging as the veterinary work. I know that I am not the only one who sees second-opinion dermatology cases because the client was not happy with the original outcome. I see these cases not because the first veterinarian did anything wrong, but because the client did not fully understand the limits of treatment. Managing expectations is a team effort and some days are better than others, but this problem can be mitigated with effective communication.

There are so many aspects of working in a veterinary hospital that I never considered when I was starting in

this profession. I never realized just how much I would be dealing with people and all of the unexpected questions that can sometimes come with that. I never thought I would actually have to say, "No ma'am, the tablet for the urinary tract infection is given by mouth, not introduced directly into the urinary tract." Anyone working in this field for more than a week will have some similar stories.

Twenty-two years into my career, I now love this aspect of working in a veterinary hospital. I used to become frustrated by having to respond to questions from left field, but now I have learned to embrace the chaotic days and never-ending curveballs thrown at our teams. Celebrate the clients who ask you questions you have never had to answer before and remember that we are the people that give their beloved pets a voice. We are there at the beginning and the end and everything in between. This is not a burden; it is a blessing that we should all embrace.

Scott Driever, DVM, is a director on the AAHA board. Driver is a Houston native who received his Doctor of Veterinary Medicine degree from Texas A&M University in 2000. Upon graduation, he moved back to Houston and began his veterinary career at Animal Hospital Highway 6 in Sugar Land, Texas, where he became a partner in 2005. In 2015, he purchased the rest of the practice and became a sole owner. His wife, Susan, is the office manager at the practice.





Community

Meet the 2022 AAHA-Accredited Practice of the Year Finalists

We're spotlighting the finalists for the prestigious **AAHA-Accredited Practice of the Year** award in the AAHA Community.

Log in at **community.aaha.org** to pick your favorites—and gain inspiration from all of the outstanding teams who've made it to the final round.

Which of these AAHA-accredited practices will take the grand prize? We won't find out until the awards ceremony during Connexity in Nashville next month!



This month in AAHA's Publicity Toolbox . . .

Here are the downloadable social media images available for AAHA-accredited members at **aaha.org/publicity** this month:

National Immunization Awareness Month

DOGust 1st
(Happy birthday to all shelter dogs!)
August 1

International Assistance Dog Week
August 7–13

International Cat Day
August 8

National Check the Chip Day
August 15

National Black Cat Appreciation Day
August 17

National Take Your Cat to the Vet Day
August 22

International Assistance Dog Week



We can't do it without them! Thank you to all the assistance dogs.



Research Recap

Through surveys, focus groups, interviews, and other channels, we'll be asking for your input as members of the veterinary community. Learn how you can contribute at aaha.org/research.

SPOTLIGHT ON **WORDS OF ENCOURAGEMENT**

With veterinary wellbeing on everyone's minds, the profession is finding new ways to come together and find support. As part of the quarterly AAHA Veterinary Outlook Survey, we asked respondents what they would say to someone just starting out in vet med.

From the **VETERINARY OUTLOOK SURVEY**

What words of wisdom or encouragement would you give to anyone who is considering a career in the field of veterinary medicine?

We received a wide range of open-ended responses, with these topics showing up most frequently:

Industry is growing positively
Rewards
Supportive practice
Self-care
Self-awareness/know yourself
work-life balance
Perseverance/preparation
Counseling/mental health support
Handling stress
Passion
Dealing with clients



Community

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The ElleVet Project, a national nonprofit dedicated to providing free veterinary care to pets in vulnerable communities, began their 2022 relief missions throughout the United States on June 2.

ElleVet Project to Offer Free Veterinary Care to Pets in Vulnerable Communities

The ElleVet Project—the national nonprofit of ElleVet Sciences—has announced the return of its veterinary relief tour providing free veterinary care, food, and supplies to pets in vulnerable communities throughout the United States. The tour began on June 2, 2022, and continues throughout the year. With an expanded list of states and cities, the ElleVet Project plans to reach thousands of animals this year. The complete schedule of dates and locations, as well as information about donations, is available on the ElleVet Project's website.

The project hosts a rotating team of veterinarians who provide free care to the most vulnerable animals. They partner with community-focused sponsors that donate medical supplies, food, and local professional assistance. Services offered

range from vaccines, flea and tick preventives, deworming, and general checkups to emergency surgeries.

“By expanding this year’s relief efforts to five new cities—Seattle, Portland, Boston, Chicago, and New York City—we will be able to reach more people and their much-loved pets,” said Amanda Howland, company cofounder and COO. “Our efforts these past few years have taught us firsthand how helping a pet can change their owner’s life for the better both emotionally and physically.”

“It has been incredible to see the steady growth of the ElleVet Project,” said cofounder and CEO Christian Kjaer. “We are excited to see the impact we will make this year in helping thousands of pets.”

MSU Surgeons Repair Kitten's Fracture with Patented Surgical Nail

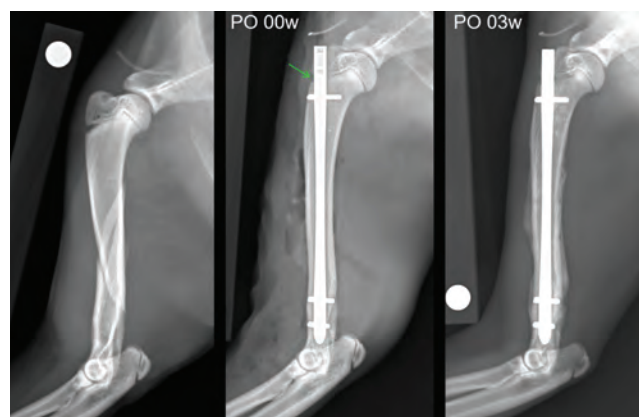
Otis, a seven-month-old kitten, recently made history at the Michigan State University College of Veterinary Medicine when, during surgery to repair a humeral fracture, he became the first cat ever to have an I-Loc 4-mm interlocking nail placed in his humerus. Kathryn L. Sullivan Kutil reported this story in an article for Michigan State University's *Vetschool Tails*.

Otis's owners sought reparative treatments but were repeatedly offered amputation until they spoke with Danielle Marturello, DVM, MS, DACVS, of the MSU College of Veterinary Medicine, Orthopedic Surgery Service. "I remember saying, 'Please don't cut it off! We can fix this,'" said Marturello. "Because we have such great expertise at MSU and the proper tools, we can fix most fractures without amputation."

Loïc Déjardin, DVM, MS, DACVS, DECVS, head of the MSU Orthopedic Surgery Service, patented the I-Loc nail. It provides stable repair of fractures in long bones, like the humerus, when implanted in the bone and locked with bolts.

Marturello said, "Our options were a 3-mm nail or a 4-mm nail. In our experience thus far, no cat humerus has been large enough to accept a 4-mm nail. However, in Otis' case, we were concerned about the open growth plate at the top of his bone, and we knew that we would only be able to place one bolt [as a point of fixation]. . . . I remember Dr. Déjardin and I looking at one another during surgery and saying, 'The 4,' at the same time. We felt it would give Otis the best chance for a smooth recovery and return to function."

After the operation, Otis recovered uneventfully. In fact, Marturello has a video of him walking around the day after surgery. Otis was allowed to return to normal activity at three weeks following surgery. Otis's owners said, "Today, Otis is as good as new; you would never know he had been injured."



Lateral projections of the initial fractured humerus (left), immediate postoperative X-ray (middle), and three-week postoperative X-ray (right). The green arrow indicates the growth plate, which was avoided during surgery.



Otis at MSU for his three-week recheck appointment.

QUOTE OF THE MONTH

"Fight for the things that you care about, but do it in a way that will lead others to join you."

—RUTH BADER GINSBERG, FORMER US SUPREME COURT JUSTICE

AAVMC 2021–2022 Annual Data Report

In 2021–2022, total enrollment in US colleges of veterinary medicine rose 4.7% over the previous year. Among those enrolled, the number of students from underrepresented racial and ethnic groups is higher than ever before at 23.2%. However, the percentage of men enrolled continues to decline, dropping a full percentage point from the previous year to 17.3%.

These are some of the highlights of the recently released *2021–2022 Annual Data Report (ADR)*, published by the American Association of Veterinary Medical Colleges (AAVMC) and now available on the AAVMC website.

The ADR provides a comprehensive statistical portrait of the world of academic veterinary medicine. Other highlights from 2021–2022 include:

- 3,460 Americans are studying veterinary medicine outside of the US this academic year.
- Resident and nonresident tuition saw modest increases this year, 0.6% and 1.4%, respectively.
- Debt levels for indebted graduates stayed level in 2021.

On average, tuition made up only 16.4% of college revenue, while instruction, academics, and student support made up nearly a quarter of college expenditures.

The report contains data on enrollment, diversity, applicants, tuition and debt, personnel, budget, and other areas. It's produced on a dynamic, interactive software platform that enables users to explore information based on specific areas of interest in academic veterinary medicine.



Simple Steps to Increase Energy Efficiency

Small business owners everywhere are taking big steps to fight climate change and forge a more sustainable future. For example, California-based Ubiquitous Energy—a funding recipient of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)—developed a transparent coating that enables window glass to generate solar power, thus reducing a building's carbon footprint.

Even if your company isn't developing game-changing technologies, there are simple steps you can take to save energy and money while also lowering emissions. Here are a few examples:

Lighting: Making simple lighting adjustments to your place of business can lower your emissions and help you save on your electricity bills. The first step is to turn off lights when they aren't needed. Next, upgrade your lightbulbs to highly efficient light-emitting diodes, or LEDs. It's estimated that LEDs use about 75% less energy and last 25 times longer than incandescent lighting. Lastly, consider installing "occupant sensors" to automatically turn lights on and off. You can also install timers on outside lights.

Office equipment: Commonsense measures can go a long way toward increasing your business's energy efficiency. Start by turning off office equipment when it's not in use. If your computers aren't being used for a while, consider placing them in a low-power "sleep" mode. You can also use advanced power strips to prevent your electronics and office equipment from drawing energy when they don't need it. Finally, print double-sided pages to save paper, and reduce energy spent on printing if an electronic format is possible.

Buildings: Buildings account for about 38% of total energy consumption. To make your facility more energy-efficient, block direct sunlight from shining through windows in the summer—but let the sun in during the day in the winter—while covering the windows at night during both seasons. Sealing windows and doors with weather stripping or caulk can help you prevent air leaks, further saving you energy and money on heating and cooling.

For more ways to save energy and money, check out the Energy Department's *Energy Saver Guide* at energy.gov/energysaver/articles/energy-saver-guide.



Poodle-Cross Pups and Purebred Parents: By the Numbers

After analyzing policy and claims for 1.61 million dogs, Nationwide, the nation's largest provider of pet health insurance, reports that goldendoodles, Labradoodles, and other poodle-cross dogs are more popular and far less likely to have claims for cancer than the breeds used to create them.

"Veterinary practices have definitely been noticing how many more doodles they were seeing, and since we track purebreds, crossbreds, and mixed-breeds in our policy data, we thought it would be interesting to see just how strong the trend is," said Jules Benson, BVSc MRCVS, Nationwide's chief veterinary officer, in a press release. "Those results may not

be surprising, but the significant difference in the relative rate of cancer claims in purebred Labs, goldens, and poodles and their crossbred offspring is definitely a surprise."

Doodle popularity seems to have come at the expense of purebreds. From 2013 to 2021, goldendoodles alone have more than tripled their percentage among Nationwide's policies, while the percentage of poodles and Labrador retrievers dropped by nearly a third.

Cancer Claims

Nationwide's veterinary analytics team studied cancer claims for 1.61 million dogs over a six-year period, 2015 to 2021. The analysis showed that Labrador retrievers, golden retrievers, and standard poodles are significantly more likely to have a claim for cancer diagnosis and treatment than Labradoodles and goldendoodles. Among Nationwide-insured dogs:

- Golden retrievers and standard poodles, which are the parent breeds of goldendoodles, are 3.8 times more likely to have a claim for cancer than goldendoodles.
- Compared with all other dogs, goldendoodles are almost half as likely (47.4%) to have a claim for cancer.
- Labrador retrievers and standard poodles, which are the parent breeds of Labradoodles, are 2.5 times more likely to have a claim submitted for cancer than Labradoodles.
- Compared with all other dogs, Labradoodles are a little more than half as likely (61.9%) to have a claim for cancer.

Nationwide Policies

Crossbreds	Purebreds
Poodle crosses (all): ↑160%	Poodles (all sizes): ↓32%
Goldendoodles: ↑347%	Golden Retrievers: ↓4%
Labradoodles: ↑196%	Labrador Retrievers: ↓32%

UC Davis School of Veterinary Medicine Leads the Way in Establishing Nephrology and Urology Specialty

The American College of Veterinary Nephrology and Urology (ACVNU), veterinary medicine's newest specialty discipline, has provisionally been recognized by the American Veterinary Medical Association's (AVMA) American Board of Veterinary Specialties.

ACVNU's establishment has been championed by Larry Cowgill, DVM, PhD, DACVIM, a professor at the UC Davis School of Veterinary Medicine, along with an organizing committee of leading experts in the field. In a UC Davis School of Veterinary Medicine press release, Cowgill said, "We have dedicated leadership now for this specialty. With that critical mass . . . to populate the field, we can continue our advancements in therapeutic expertise and train more professionals to continue this specialty."

ACVNU aims to provide specialized diagnostic and therapeutic options for patients, a unique training vision in the form of a two-year residency, and an advanced standard of care for the management of urinary disease. UC Davis will play a vital role in that training.

Cowgill, a pioneer in the field, will serve as ACVNU's first president. Over the past 40 years, he has helped UC Davis evolve into a world leader in renal medicine and extracorporeal (outside of the body) therapies. He also established the first veterinary centers where clinicians can receive advanced training in kidney disease and procedures such as hemodialysis and therapeutic plasma exchange.

Cowgill leads two advanced, state-of-the-art centers for the treatment of urinary disease, the UC Davis Veterinary Medical Teaching Hospital (VMTH) and its Southern California satellite facility, the UC Veterinary Medical Center, San Diego (UCVMC-SD). These UC Davis locations were the first, and are currently the most prominent, locations in California for pets to receive hemodialysis and other advanced treatments for chronic kidney and urinary diseases. Both centers will be initial training centers for ACVNU and will likely establish the initial benchmark for training programs.

According to an AVMA press release, ACVNU's training program will require participants to already be board certified in another specialty discipline or have four equivalent years of experience in nephrology and urology.

"The advances we will make in nephrology and urology as a specialty will translate to other specialty groups and into general practice," Cowgill said in the release.

The ACVNU residency program is anticipated to begin at UC Davis in 2023.





Clinical Trial Tests New Combinations of Immunotherapy Drugs to Treat Osteosarcoma

When Patricia and Zach Mendonca's two-year-old Labrador retriever cross, Jelly Bean, was diagnosed with osteosarcoma, the leg was amputated and Jelly Bean started chemotherapy at Ocean State Veterinary Services in Rhode Island.

Osteosarcoma starts in the bone and can travel through the bloodstream. Despite chemotherapy treatment, the cancer spread to Jelly Bean's lungs. Doctors at Ocean State suggested looking into a clinical trial at Cummings School of Veterinary Medicine at Tufts University.

In a press release from the Cummings School of Veterinary Medicine, Holly Moriarty describes the clinical trial that helped Jelly Bean. Researchers in that clinical trial were testing combinations of three immunotherapy medications to treat dogs with metastatic osteosarcoma with spread to the lungs. Cummings School jointly launched the trial with Colorado State University (running a parallel study) in 2018, funded by the National Cancer Institute's Cancer Moonshot initiative.

Moriarty quotes Cheryl London, DVM, PhD, DACVIM (Oncology), "This clinical trial is entirely novel as there are few, if any, treatments that work in the setting of metastatic osteosarcoma." London is director of the Clinical Trials Office and associate dean for research and graduate education at Cummings School.

Typically, dogs with osteosarcoma live only 8 to 10 weeks once the cancer spreads to the lungs, even with treatment.

Natalie Smith, DVM, a specialty intern in Clinical Trials at Cummings School, told Moriarty, "We're trying to come up with treatment options to have more time—and more quality time—than 8 to 10 weeks. . . . This is a unique combination of medicines that don't kill cancer cells directly, but rather stimulate and retrain the dog's immune system to kill the cancer cells itself."

To date, 43 dogs have participated in the study, with most lasting four months. Jelly Bean entered the trial in October 2020 and, at the time of the press release, was approaching her 18-month mark.

"I didn't expect much to come of it," Patricia admits. "But by December, it was our Christmas miracle."

Within two months, the masses in Jelly Bean's chest had shrunk, and by March, they disappeared from her X-rays.

While the trial is still ongoing, the doctors reveal that the medications are stabilizing cancer in most of the dogs, giving them, on average, several more months of life instead of several weeks.

This trial could potentially impact treatment for humans as well.

2022 AAFP/AAHA Antimicrobial Stewardship Guidelines



Guidelines

IDEXX Laboratories, Inc. and Zoetis generously supported the development of the *2022 AAFP/AAHA Antimicrobial Stewardship Guidelines* and resources through an educational grant to AAHA.

Do you practice good antimicrobial stewardship?

Antimicrobial resistance is a growing threat to animal and human health. The whole veterinary team plays an important role in safeguarding our antibiotics and preventing antimicrobial resistance by:



Practicing good preventive medicine, routine health monitoring, and keeping vaccinations updated.



Teaching clients about good animal care practices and hygiene.



Using other alternatives to oral antibiotics, like bathing, sprays, and ointments.



Considering "watchful waiting" to observe whether a condition truly needs antibiotics or if patients can clear it on their own.



Using diagnostic testing to determine if an infection is bacterial and will respond to antibiotics.



Educating clients about antimicrobial stewardship and why prescribing antibiotics may not be the best option for some conditions.

Learn more about antimicrobial stewardship at aaha.org/antimicrobials.

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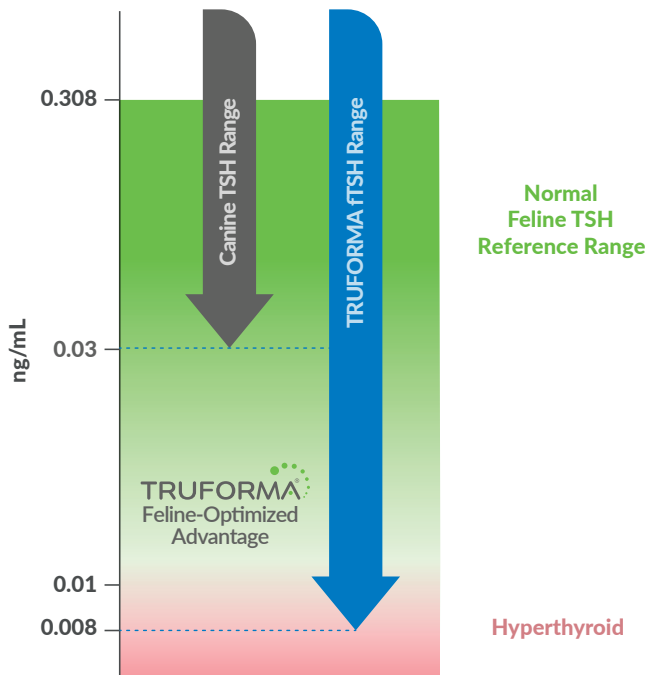
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FELINE PAIN: CAN YOU READ THE SIGNS?

They Tell Us—We Just Don't Always Listen

by Alison Gottlieb, CVT, VTS(ECC)



CATS ARE TRULY THE UNDERDOGS OF VETERINARY MEDICINE. They tend to be noncompliant patients, they are misunderstood, and often keep to themselves. When it comes to their health, they seem to want to be ignored. Medications are largely not researched or approved for cats, and honestly, we often can't reliably administer them anyway.

That being said, behavior issues are the feline way of wanting to tell us something. But do we listen?

These amazing creatures we live and work with are incredibly regimented and often sedentary, and although they are deeply bonded with us, we understand very little about them. This is particularly true when it comes to feline pain, which is frequently neglected until it affects behavior.

Barriers to Identifying Pain

There are many reasons cat owners and professionals have trouble identifying pain. Cats hide their pain. This is related to their wild instincts and is yet another obstacle to recognition. Feline chronic pain is also often not visible, even less so than their canine cousins.

One example of this is lameness with osteoarthritis. Cats are unlikely to present or display overt lameness. Several studies have confirmed that a notably low ratio of cats diagnosed with osteoarthritis (via radiograph) had presented with lameness. In addition, radiographs may not be the gold standard for cats, who may show all signs of joint pain that are not radiographically evident. They commonly have bilateral disease, which changes their gait and mobility slowly over time rather than the lameness on one limb that is often seen in dogs.

On physical examination, cats often do not react to painful or nonpainful palpation, which further adds to the litany of difficulties in detection.

Speaking of canines, the cues used to identify chronic pain for dogs often do not translate to cats. Lagging on walks, reluctance to jump in the car, and lameness in general and especially after long walks are just a few ways pain can be identified in dogs. Being primarily sedentary animals, cats provide us with a very small window to observe pain behaviors even when we're looking for them.

On the veterinary side, their overall anxiety in the clinic also presents challenges for pain identification. On physical examination, cats often do not react to painful or nonpainful palpation, which further adds to the litany of difficulties in detection. This becomes increasingly detrimental when trying to diagnose osteoarthritis (OA). In the veterinary setting, cats are reluctant to show gait; they cannot be viewed walking a straight line or through an examination room on a lead. Instead, feline patients will likely be found looking to hide or escape.

Should pain be identified, treatment options present additional roadblocks. Pharmacologic treatments for chronic pain have been limited, in addition to the lack of research, by different forms of delivery, small doses, and irrational fears. Other modalities of treatment, like physical



therapy, may not be suited to the personality of cats in general. This vicious cycle of treatment-reluctant cats and lack of feline knowledge leads to a lot of feline pain.

Behavior and Pain

Often, significant changes in the behavior of our cats force us to pay attention. When behavior that is disruptive to the household is noted, pain should always be at the top of our differential list!

Grooming behavior can indicate pain, including decreased grooming (resulting in greasy, clumped, or matted hair) and also the inverse—obsessive grooming. Perhaps the overgrooming is not just anxiety, but instead a sign of pain. A reluctance to jump onto furniture and countertops or a hesitancy to go up steps could be signs of chronic pain. Unwillingness to eat dry food can be a sign of oral pain. Perhaps weight loss is due to feeding stations located on high counters that are difficult for arthritic cats to navigate. Less obvious signs of pain might include changes in sleep patterns, hiding, lethargy, an overall decrease in appetite, and an objection to being brushed or stroked.

Often, behavioral changes are related to elimination behaviors. Cats are generally regimented about the litter pan, and as cat owners, we appreciate that. Alterations in litter habits are significant indicators that something is wrong, and they are also incredibly difficult to ignore. They may be physical or emotional or both and can signal many things. Cats with osteoarthritis pain may have difficulty accessing the pan owing to limited mobility. If the only pan is in the basement, an arthritic cat may be too uncomfortable to maneuver up and down flights of stairs and so may stop using the pan. Occasionally, cats with

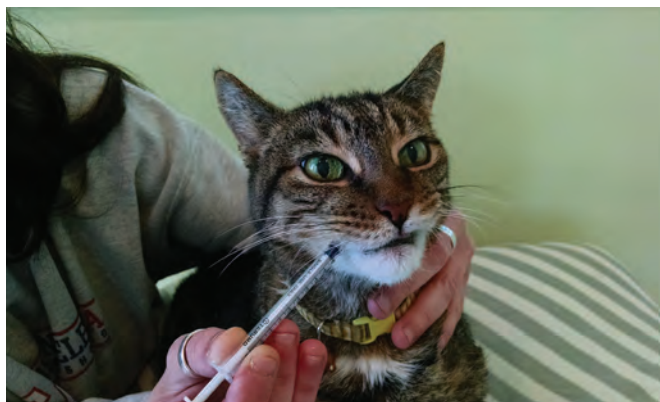
mobility issues will have difficulty positioning themselves or stepping into pans with high entrances and may void next to the pan. Cats with pain-related urination (urethra or bladder) will associate that pain with the box and seek elsewhere to urinate. Painful feet from declawing can deter a cat from stepping into an uncomfortable substrate.

The signs cats may display when they are experiencing pain are widely varied and vague. And, even when present, they do not provide much information as to the source or cause of the pain. But these behaviors are a cat waving a white flag. Perhaps they are telling us they can no longer hide their pain, or they know their inappropriate behavior will get our attention. One thing can be agreed upon: cat owners need to pay attention.

Case Study: George and Waffles

Disruptive behavior includes social issues as well. For example, intercat aggression or aggression toward humans can occur in the face of pain. The author observed a profound response to chronic feline pain with two cats in her home. George was a four-year-old male, a neutered domestic shorthair. He shared the house with several other cats (including his littermate) and two pit bulls. He and his brother were bottle fed. He showed signs of urinary pain, frequent licking, inappropriate urination, and frequent trips to the pan. He was treated at home, but also had a full obstruction that required hospitalization.

Several months before his overt urinary signs, a male domestic shorthair of unknown age (estimated to be five years old) named Waffles joined the household. He was a stray who was neutered and vaccinated. George was incredibly aggressive with Waffles, despite other



cats having come into the house with relatively easy integration. This was different and was ongoing despite time and behavioral and pharmacological interventions.

It was determined that George had a urinary obstruction and subsequently received periurethrostomy surgery. George returned home with sutures and inflammation and no aggression toward Waffles; in fact, they became incredibly bonded and were always together until the day George died. This was a clear lesson. George conveyed his pain with aggression, and once his pain was corrected, he was able to embrace Waffles and enjoy a relationship with him. No interventions were ever needed again.

Pain Awareness Education

Even though many behavior changes are related to pain or disease, these subtle differentiations are often just attributed to age or identified as something else by cat owners as well as veterinary professionals. Whenever behavior is involved, cat owners are the front line of defense. They know what is normal for their cat and can note changes in behavior. So, to make sure potential signs of pain aren't disregarded, education is the priority for recognizing feline pain.

Education begins with making everyone aware of typical and atypical signs of feline pain, such as those previously mentioned. Having literature and reliable sources readily available is an easy and effective method to begin educating. The addition of using pain checklists at checkups can start the conversation and alert everyone to changes. The veterinary team should focus on personalized education for clients to lead them to think about pain-related behaviors in their cats.

Pain and Quality of Life

Sometimes, chronic pain does not become obvious until the cat has become so debilitated that no treatment can restore an acceptable quality of life. When that happens, it is necessary to discuss euthanasia for humane reasons.

If chronic pain interferes with quality of life, the team needs to advocate for the patient and bring up this difficult topic. The late Bernard Rollin, PhD, who was known as the Father of Veterinary Medicine Ethics and a staunch advocate for felines, said it best in *Ethical Issues in Geriatric Feline Medicine*: "We need to know more and teach more regarding signs of pain and distress, and their alleviation. The role of the contemporary veterinarian is ever-increasingly assuring a decent quality of life and the absence of suffering at the end of life. Insofar as it appears that an animal judges its life by its 'nows,' we must assure that the final series of 'nows,' are not filled with pain, distress, and suffering."

A simple translation of this might read: sometimes we can't fix them, but we should do as much as possible to make our cats feel better. ✱

Want to hear more from Alison? Check out Episode 1 of Central Line: The AAHA Podcast, where Alison, who was on the task force for the 2022 AAHA Pain Management Guidelines, discusses how a team approach to pain improves patient care and the veterinary team experience. Find full audio, video, and transcript links at aaha.org/podcast.



Alison Gottlieb, CVT, VTS(ECC), graduated from Towson State University with a bachelor's degree in animal behavior. She earned certification in emergency and critical care in 2000. Alison has served on the board of AVECCT as a member at large and on the application committee. Alison is the cofounder and owner of Four Paws Consulting LLC, an education-based veterinary consultant.



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Acting Now to Preserve Our Future

The *2022 AAFP/AAHA Antimicrobial Stewardship Guidelines* help veterinary teams safeguard vital antimicrobial drugs

by Tony McReynolds

ANTIMICROBIAL RESISTANCE—THE ABILITY OF PATHOGENS LIKE BACTERIA AND FUNGI to evade antimicrobial drugs—is an issue of growing urgency worldwide, and the veterinary profession is not immune to this threat. Antimicrobial-resistant infections endanger both humans and animals and present what may be one of the direst public health crises of the past few decades. In

2019, the World Health Organization listed antimicrobial resistance as one of the 10 most urgent global threats. A 2022 global study published in *The Lancet* estimated that antimicrobial resistance contributed to nearly 1.3 million human deaths in 2019 and played a role in an additional five million deaths. Cases of antimicrobial-resistant infections are rising in animals as well.

A major goal of the new guidelines is to make sure that every member of the hospital team understands the importance of antimicrobial stewardship and is able to apply the core principles to their work, regardless of position.

Antimicrobial resistance is a complex problem caused by a variety of factors, but how and when we use and dispense antibiotics in our veterinary practices plays an important role. If antimicrobial resistance is permitted to continue to develop unchecked, veterinary teams will be faced with the very real possibility that in the near future, antimicrobial drugs needed to treat infections may not be available.

What is Antimicrobial Stewardship?

The 2022 AAFP/AAHA Antimicrobial Stewardship Guidelines provide veterinary team members with guidance on preserving the effectiveness of antimicrobial drugs, by implementing simple steps to practice antimicrobial stewardship. This concept was first defined for the veterinary profession by the American Veterinary Medical Association (AVMA) Committee on Antimicrobials in their 2020 report “Antimicrobial Resistant Pathogens Affecting Animal Health in the United States.” It defines antimicrobial stewardship as “the actions veterinarians take . . . to preserve the effectiveness and availability of antimicrobial drugs through conscientious oversight and responsible decisionmaking while safeguarding animal, public, and environmental health.”

Erin Frey, DVM, MPH, DACVPM, served as the 2022 guidelines Task Force Chair and represents AAHA as a member of the AVMA Committee on Antimicrobials. In that capacity, she helped craft the definition of antimicrobial stewardship in 2020 and ensured that AAHA’s antimicrobial stewardship efforts complemented the AVMA’s, as well as the efforts of other stakeholders invested in promoting antimicrobial stewardship. Frey noted that the AVMA report was the result of the combined efforts of veterinary organizations, species groups, and federal agencies responsible for oversight of food safety and public health.

The AVMA report articulated several core principles of antimicrobial stewardship that can be adapted to clinical

practice. According to Frey, an important priority of the 2022 guidelines was to make sure that every member of the hospital team understands the importance of antimicrobial stewardship and can apply these core principles to their work, regardless of position.

The core principles of antimicrobial stewardship as defined by the AVMA and endorsed by AAHA and the AAFP are:

- Commit to stewardship
- Advocate for a system of care to prevent common diseases
- Select and use antimicrobial drugs judiciously
- Evaluate antimicrobial drug use practices
- Educate and build expertise

What’s New in the Guidelines?

The 2022 Guidelines offer guidance specifically tailored to companion animal veterinary practices and remain in sync with the broader landscape of antimicrobial stewardship. The 2022 Guidelines, which update the 2014 AAFP/AAHA *Basic Guidelines for Judicious Therapeutic Use of Antimicrobials*, have integrated a more holistic approach to preserving antimicrobials that doesn’t just focus on when and how to prescribe. According to Frey, “that was really the focus back then: What does a veterinarian do at the time of prescribing? How can you thoughtfully consider when to use antibiotics? What to use? And when to stop?”

She said that focus changed in 2016 when the AVMA Committee on Antimicrobial Stewardship was first tasked to come up with a definition of antimicrobial stewardship. That involved taking a look at antimicrobial use on a more global level—with an emphasis on preventive medicine. The 2022 Guidelines reflect this broader approach.

“Every time you take an antibiotic, you’re changing the flora, opening up the possibility of resistance to infection.” Frey said a big part of stewardship involves being more deliberate in your choice of treatment and

using discernment to identify situations where antibiotics aren't necessary.

She noted that in the past, veterinarians would automatically prescribe antibiotics to treat certain routine conditions, from dental infections to diarrhea. "That time has passed," said Frey. "That's not appropriate anymore." The guidelines promote thinking about ways we can limit automatic responses like that "and get veterinarians thinking about what they're seeing in front of them."



"Bacteria and fungi have been practicing biological warfare for millennia."

—J. SCOTT WEESE, DVM, DVSc, DACVIM

For example, "If a lab culture shows bacteria in the bladder but the patient doesn't have clinical signs of infection, if they're asymptomatic, then they don't necessarily have a urinary tract infection and may not need an antimicrobial."

Implementing Antimicrobial Stewardship

J. Scott Weese, DVM, DVSc, DACVIM, associate professor in the Department of Pathobiology at the University of Guelph (UG) in Ontario, Canada, also served on the task force for the *2022 AAFP/AAHA Antimicrobial Stewardship Guidelines*. For the veterinary industry, antimicrobial resistance is an urgent issue because it's impacting our patients, said Weese. "We're seeing more resistant infections, and those can result in poor outcomes, longer treatments, more cost, more adverse effects, and other challenges."

Weese said the 2022 Guidelines dovetail with other efforts in the veterinary space to encourage antimicrobial stewardship by providing the clinical details that companion animal practitioners need: "Broad statements about using antibiotics right, not overusing them, and similar content are fine, but they don't tell you how to treat that patient in front of you," noted Weese. "[The new] Guidelines help us manage patients, and that's the biggest way to improve use." He conceded that they're not perfect: "We have limited evidence for many areas, but they're a start."

Tools for Antimicrobial Stewardship

According to the Guidelines, antimicrobial stewardship includes:

- Having a valid veterinarian-client-patient relationship in all cases where antibiotics are prescribed
- Emphasizing preventive care and routine health monitoring to prevent possible infections before they occur
- Never administering prophylactic antibiotics in place of good health management
- Recognizing risk factors for infection
- Considering other therapeutic alternatives, e.g., topical treatments
- Using diagnostic testing to determine if infection is present and select appropriate antibiotics
- Basing duration of therapy on scientific and clinical evidence



“The ultimate goal of antimicrobial stewardship is to preserve the effectiveness and availability of antimicrobials.”

—ERIN FREY, DVM, MPH, DACVPM, GUIDELINES TASK FORCE CHAIR

Other strategies described in the Guidelines, like watchful waiting and antimicrobial time-outs, offer the veterinary team opportunities to be both flexible and vigilant about their patients' care.

Frey said that the Guidelines serve as both an introduction to the concept and importance of antimicrobial stewardship, and as a directory of places

where AAHA members can go to find out more: “In the guidelines, we lay out some high-level principles people can use, but also direct them to other resources that are very specific.”

The push for awareness is hugely important because while antimicrobial resistance isn't new—“It's been around since before we had antibiotics,” noted Weese—the concept of antimicrobial stewardship is.

Weese said antimicrobial resistance is a natural phenomenon: “Bacteria and fungi have been practicing biological warfare for millennia. . . . Since [they] were producing substances to kill each other, they developed ways to avoid that,” Weese said. “That's how we got the idea—and most of the antibiotics” we use today.

Normally, the process of developing resistance would take place more slowly, but it's been sped up and amplified within bacterial populations due to the widespread use of antimicrobials in both human and animal populations. “What we've done is greatly enhance that natural process by providing a lot more exposure.”

“[Stewardship is] not really on the radar for most people,” said Weese, but it's something veterinarians do every day without knowing it. “Every time we make a decision to treat or how to treat, we're applying stewardship tools.”

More to the point: Weese said that everything we do to optimize health and reduce disease minimizes the need for antimicrobials. “So, we're just trying to get people to realize that and refine it so that the daily decisions both improve patient care and reduce resistance issues from developing.”

We Can't “Kick the Can Down the Road Anymore”

Practitioners need to know about and begin prioritizing antimicrobial stewardship. “We need to improve antimicrobial use to improve patient outcomes, reduce resistance, and protect our future patients and the public,” said Weese.

Frey added, “The ultimate goal of antimicrobial stewardship is to preserve the effectiveness and availability of antimicrobials.” She noted that every time science discovers a new antimicrobial, all the way back to

penicillin, it's only a matter of time before they discover a pathogen that's evolved to resist it.

"The thing that has gotten harder over time," said Frey, "is that when antibiotics were first discovered, new ones came up fairly frequently, so if one didn't work, we'd find another one that did. And if we found *another* one that didn't work, we'd find yet *another* one that did."

The problem is that now, science is discovering fewer new alternatives and there aren't a lot more on the horizon. "In the past if a drug didn't work, you could say, 'well, drug companies will find something else, and I can just switch to that new thing.' But where we are right now, even in companion animal medicine, we're using generic antibiotics that have been around for decades. And there aren't too many new ones coming out."

She said the situation today is more serious than it was 20 years ago, or even eight years ago when the previous Guidelines came out. Hence the increased urgency about promoting antimicrobial stewardship.

"We have to make sure what we have right now continues to work. We can't kick the can down the road anymore and say we'll just use the next best thing. What we've got is what we've got, and we need to try and preserve it for as long as we can for the sake of our patients. Because pretty soon there isn't going to be a next best thing." ✱



Tony McReynolds is AAHA's *NEWstat* editor.



The problem is that now, science is discovering fewer new alternatives and there aren't a lot more on the horizon.







Read the Guidelines Online

The 2022 AAEP/AAHA Antimicrobial Stewardship Guidelines are available online at aaha.org/guidelines. The guidelines were supported by a generous grant from IDEXX Laboratories, Inc., and Zoetis.

2022 AAFP/AAHA Antimicrobial Stewardship Guidelines



Top Tenets of Antimicrobial Stewardship

-  Practice good preventive medicine, routine health monitoring, and keep vaccinations updated.
-  Teach clients about good animal care practices and hygiene.
-  Use other alternatives to oral antibiotics, like bathing, sprays, and ointments.
-  Consider “watchful waiting” to observe whether a condition truly needs antibiotics or if patients can clear it on their own.
-  Use diagnostic testing to determine if an infection is bacterial and will respond to antibiotics.
-  The entire veterinary team plays a role in educating clients about antimicrobial stewardship and why prescribing antibiotics may not be the best option for some conditions.

Antimicrobial Resistance: What is it, exactly?

Bacteria naturally develop ways to avoid being killed or injured by antibiotics, but this happens faster when antibiotics are being used frequently or used for illnesses that are not bacterial. The bacteria that are not resistant die off, leaving behind a more highly resistant population.

Why should we worry about antimicrobial resistance?

- ✓ Resistant bacteria can infect an animal or person and cause serious disease.
- ✓ There may be no treatment available, or the only available drugs may cause serious side effects.

AVMA Resources for the Veterinary Team

Antimicrobial use in veterinary practice

www.avma.org/resources-tools/one-health/antimicrobial-use-and-antimicrobial-resistance/antimicrobial-use-veterinary-practice

Antimicrobial stewardship

www.avma.org/sites/default/files/2020-10/AntimicrobialResistanceReport-StewardshipBranded.pdf

Veterinary checklist for antimicrobial stewardship

www.avma.org/sites/default/files/2020-06/Veterinary-Checklist-Antimicrobial-Stewardship.pdf

Antimicrobial do's and don'ts (cat)

www.avma.org/sites/default/files/resources/AntibioticDoDonts_CAT.pdf

Antimicrobial do's and don'ts (dog)



www.avma.org/sites/default/files/resources/AntibioticDoDonts_DOGpdf.pdf

3/2/1


3 Takeaways

-  Antimicrobial resistance threatens animal and human health.
-  Veterinarians are important for safeguarding our antibiotics.
-  The whole veterinary team can be involved in antimicrobial stewardship.

2 Actions

-  Use antibiotics only when necessary and practice good preventive care.
-  Identify risk factors for infections to prevent them before they happen.

1 Thing to Never Forget

-  If we do not actively participate in stewardship, we may lose access to critical medications for our patients.



aaha.org/antimicrobials

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URINARY CARE

SOME SEE BARRIERS WE SEE BREAKTHROUGHS

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¹Kruger JM, Lulich JP, MacLeay J, et al. Comparison of foods with differing nutritional profiles for long-term management of acute nonobstructive idiopathic cystitis in cats. *J Am Vet Med Assoc.* 2015;247(5):508-517. ²Lulich JP, Kruger JM, MacLeay JM, et al. Efficacy of two commercially available, low-magnesium, urine acidifying dry foods for the dissolution of struvite uroliths in cats. *J Am Vet Med Assoc.* 2013;243(8):1147-1153. Average 27 days in vivo study in urolith forming cats. ³Pereira GG, Fragoso S, Pires E. Effect of dietary intake of L-tryptophan supplementation on multi-housed cats presenting stress related behaviours, in *Proceedings. BSAVA* 2010. ⁴Beata C, Beaumont-Graff E, Coll V, et al. Effect of alpha-casozepine (Zylkene) on anxiety in cats. *J Vet Behav.* 2007;2(2):40-46. ©2022 Hill's Pet Nutrition, Inc.



TALKING TO YOUR CLIENTS ABOUT THE NUTRITION OF c/d MULTICARE FOODS

- 1 Urinary issues require lifelong care to manage and minimize future recurrences
- 2 65% of FIC signs will recur in 1-2 years if left unmanaged
- 3 Prescription Diet c/d Multicare can help cats get back to their day-to-day life and rejoin the family

Beyond Closure

Postsurgical Wound Care

by Justin Ganjei, DVM, DACVS-SA

The surgical incision doesn't often reflect the complexity of the procedure performed. This is true whether it be a massive, 14-centimeter incision to remove a lipoma that has been present for six years, slowly growing to the size of a watermelon, or four 1-centimeter incisions used to complete a laparoscopic adrenalectomy for a pheochromocytoma.

Regardless, there is a certain satisfaction that comes with placing that final suture to close your incision and complete the surgical procedure at hand. As the only visual evidence that a surgery has been performed coupled with the potential for that incision to cause a permanent alteration in the patient's appearance, it is reasonable to assume that a surgeon takes great pride in the final appearance of their wound closure.

It is also extremely upsetting when a postoperative patient returns for a recheck examination and you discover that there has been an incisional dehiscence or infection. Although owner compliance plays a large factor in the development of postoperative incisional complications, there are other factors that are more under the control of the surgeon and can be used to minimize these complications.

Wound healing is a complex process consisting of three different phases: inflammatory phase, proliferation phase, and maturation phase. These phases are overlapping and work



Example of a recovery shirt used to protect the surgical incisions in a patient that underwent a thoracoscopic thoracic duct ligation and pericardiectomy. This shirt was used instead of an E-collar.

together to provide hemostasis, a decontamination process and barrier against infection, and a robust vascular supply, all of which allow wounds to heal and return to some level of prewounding strength. These phases can be affected by various factors, such as the type of wound, infection, species differences, anatomic location, systemic disease processes, and many other factors. These phases can also be manipulated in both a positive and negative manner by proper or improper wound management.

Stick to Your Principles

The road to minimizing postoperative incisional complications begins with Halsted's seven principles. The following tenets revolutionized surgery more than a century ago and continue to be vital to minimizing postoperative complications and maximizing successful outcomes in the present day.

- Gentle handling of tissue
- Meticulous hemostasis
- Preservation of blood supply
- Strict aseptic technique
- Minimum tension on tissues
- Accurate tissue apposition
- Obliteration of dead space

Gentle tissue handling minimizes postsurgical pain to the patient, decreases postoperative inflammation of the surgical site, and preserves the vascular supply of the skin edges. Closing incisions in multiple layers helps to eliminate dead space and minimize tension on the surgical incision. Maintaining aseptic technique and meticulous hemostasis decreases bacterial burden and media for bacterial colonization, thus decreasing the risk of infection.

Accurate tissue apposition is also critical, not only for wound healing but also in minimizing scar formation.

The postoperative management of wounds depends highly on the type of wound that is present. Wounds that can be primarily closed require minimal direct wound manipulation. The most important and often most problematic aspect of managing primarily closed wounds is keeping the patient or other dogs and cats away from the wound. Most commonly this is achieved with the use of an Elizabethan collar.

As effective as these products are at keeping the patient away from the incision, they have been anecdotally associated with negative impacts

on patient welfare. This has led to the development of alternative products—such as soft, inflatable donut collars, and recovery suits—that deter patients from traumatizing their incision while attempting to minimize negative impacts on patient welfare. Although these products appear to be effective, there have been no clinical studies performed to evaluate the efficacy or impact on patient welfare on one over another.

Different Wounds, Different Options

Primarily apposed surgical incisions require very minimal postoperative care. They may be left exposed or can be covered with a wound dressing. Wound dressings may provide physical support to the incision, offer



Use of a non-adherent, breathable wound dressing to cover an abdominal incision postoperatively.



Acellular fish skin graft used to enhance epithelialization following a failed skin flap.

The postoperative management of wounds depends highly on the type of wound that is present.

protection of the incision, and allow for absorption of wound exudate. Additionally, the applications of topical ointments to provide a moist wound environment may be beneficial for wound epithelialization. Despite these theoretical benefits, there have been no clinical studies that demonstrate superior wound healing or decreased incidence of surgical site infections when using wound dressings compared with leaving primarily closed incisions exposed.

There will be situations where surgeons encounter wounds that are not amenable to primary closure. In these situations, open-wound management will be necessary until the wound either is amenable to

closure or will necessitate healing by second intention. If at any point in the wound healing process there is an opportunity for closure, this should be pursued as it will greatly facilitate the healing process.

In situations where it is not possible, the creation and maintenance of a moist wound environment are favored as this strategy is believed to have numerous advantages over a dry wound environment. Moist wound healing allows for a reduced inflammatory reaction in the wound bed, thus limiting the inflammatory phase of wound healing and injury progression. Numerous studies, including those dated back to the 1960s, have shown improved rates of

epithelialization when using a moist wound environment compared with a dry wound environment.

Establishing a moist wound environment is easily accomplished using various topical agents and hydrophilic dressings that are readily available nowadays. There are a variety of products available that can accommodate the specific needs of each wound, which is usually dependent on the degree of wound exudate. Dry to minimally exudative wounds are best treated with water-based hydrogel dressings that serve to rehydrate wound tissue. Mild to moderately exudative wounds benefit from the application of a hydrocolloid dressing that is very effective at absorbing exudate and transforming it into a gelatinous layer.

More heavily exudative wounds benefit from colloidal dressings such as calcium alginate. These dressings, derived from seaweed, have excellent fluid absorption properties and have also been shown to enhance wound healing through increasing granulation tissue and altering collagen ratios. Many of these products are now impregnated with various concentrations of silver, honey, or other antimicrobial agents with the aim of decreasing inflammation and preventing or treating infection.

Advancements in Wound Management

We are fortunate to be alive during a time when new products and techniques are constantly being developed to facilitate wound healing. Some examples of more advanced techniques and products used in veterinary wound management

We are fortunate to be alive during a time when new products and techniques are constantly being developed to facilitate wound healing.

include hyperbaric oxygen therapy, negative-pressure wound therapy, and acellular fish skin grafts.

Hyperbaric oxygen therapy is widely used in human medicine to treat complex wounds and in situations where wound healing is inhibited for some reason. It does not have any beneficial effects for healthy wounds but can be quite helpful for wounds where there is a concern about tissue hypoxia, such as crush injuries, infection, and swelling.

Negative-pressure wound therapy involves the local application of subatmospheric pressure across a wound. This is purported to improve wound perfusion, reduce edema,

stimulate granulation tissue formation, decrease bacterial colonization, and remove wound exudate.

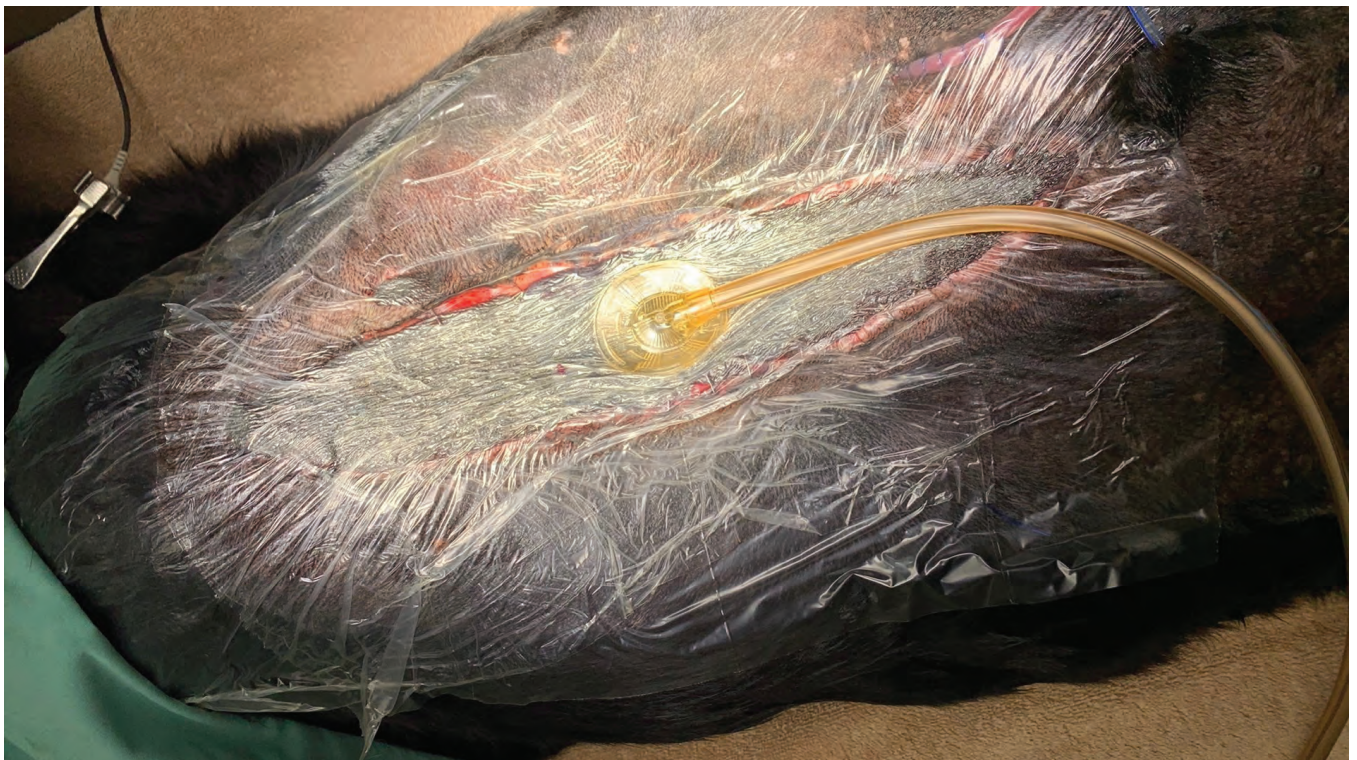
Acellular fish skin grafts have recently been used in veterinary medicine to facilitate wound healing. These products, most commonly obtained from North Atlantic cod, incorporate omega-3 fatty acids, collagen, elastin, laminin, fibrin, proteoglycans, and other components into the wound bed, resulting in enhanced granulation tissue formation and epithelialization.

The standards of wound care will likely continue to change over time, especially as veterinary medicine gains access to newer technology

that is rapidly becoming available. Despite this, even ancient methods of wound management, such as maggots and hirudotherapy, will continue to traverse time as their proven benefits remain unmatched. ✖



Justin Ganjei DVM, DACVS-SA, is a board-certified veterinary surgeon who practices in the Northern Virginia/Maryland/Washington, DC region. Ganjei performs a wide variety of both soft tissue and orthopedic surgery, but he has a special interest in minimally invasive surgery, interventional radiology, and pain management. Ganjei regularly lectures at numerous national and international veterinary conferences and is a consultant for the Veterinary Information Network. He enjoys teaching and is an adjunct assistant professor of small animal surgery and minimally invasive surgery at his alma mater, the Virginia-Maryland College of Veterinary Medicine.



Negative-pressure wound therapy device used to facilitate healing.

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From Dust to Diamonds

The Evolution of Veterinary Aftercare

by Tony McReynolds

Two small wooden boxes sit on top of Cindy Young's refrigerator in Loveland, Colorado, gathering dust. It's a little ironic, considering what's inside.

One contains the cremated remains of Annie, her beloved Australian shepherd, who was euthanized at age 15 five years ago. She was old and in pain, and her veterinarian could do nothing more for her. She had planned—still plans—on scattering Annie's ashes in the Colorado foothills with the family gathered around, but somehow the family never gathered.

The other box contained the cremated remains of Waddy Schnitzel (named in honor of cowboy poet Waddie Mitchell), a dachshund she inherited from a grown daughter. Waddy was euthanized at home by a different veterinarian four years ago after he was hit by a car and critically injured. Young had no particular plans for Waddy's remains but thought about maybe scattering them in the foothills alongside Annie's. "Since we'll be heading up there anyway," she said.

In the case of both dogs, the veterinarians who performed the euthanasia offered to take care of the cremation.

Young, still reeling and with no clue how to handle such things, numbly agreed. In both cases, the hospitals notified her when they got the remains back from the crematorium



"Aftercare is kind of a blanket term for the pet death care industry that would encompass cremation, burial, aquamation, composting."

—KATHLEEN COONEY, DVM, MS, CHPV, CCFP

and told her to come and pick them up. When she got home, she set them on top of her refrigerator until such time as she could get her family together for a trip to the foothills.

She still has Annie's ashes on her refrigerator. And now, she said she'd have considered other methods of dealing with the bodies had anyone sat her down at the time and explained the various aftercare options.

What Is Aftercare?

If euthanasia is the last stage of care during a pet's life, aftercare is the next stage that begins when the pet's life ends.

"Aftercare is kind of a blanket term for the pet death care industry that would encompass cremation, burial, aquamation, composting," said end-of-life care expert Kathleen Cooney, DVM, MS, CHPV, CCFP.

"You could even go so far as to pull in freeze-drying, and taxidermy, and some of the other ways to memorialize the body."

Founder and director of education at the Companion Animal Euthanasia Training Academy, past president of the International Association for Animal Hospice and Palliative Care (IAAHPC), and a member of the 2016 AAHA/IAAHPC *End-of-Life Care Guidelines* task force, Cooney has devoted her career to easing the transition from life to afterlife for pets and grieving owners alike.

By necessity, she's become an expert on aftercare as well. "Whatever we're doing with the body in some way or another is aftercare. It's deceased body care of some sort," she added, and that includes both disposal of the body and ways to memorialize the pet, whether the pet dies naturally or by euthanasia.

Who Takes Care of Aftercare?

So when does aftercare cease to be the veterinarian's responsibility?

"That's the million-dollar question," Cooney said. "There's no set answer. And that's the way it's been forever." As long as there's been organized veterinary medicine, said Cooney, the pet owner has relied on the veterinarian for guidance after a pet dies, much as Young did. Typically, veterinarians would talk through the options and collect the service fee. Clients would leave the deceased pet at the hospital, then the hospital would contact a crematory and say "I have a pet for you to come pick up, can you handle the cremation?" The crematory would pick up the pet, perform the cremation, and most commonly return the pet's ashes to the hospital. And then the hospital would call the family and let them know the ashes were ready for pickup.

"The crematory was basically a third party," said Cooney. "The veterinarian was the crematorium's client, not the family. That's the way it was for decades."

Over time, though, many crematoriums saw what they perceived as a growing need in the veterinary aftercare market: As people began treating their pets more like family, they wanted to grieve and remember them when they died the same way they'd grieve a deceased human family member.

Crematoriums also saw that many veterinarians didn't have the time or resources to deal with grieving pet owners who needed more than just someone who could take the body



As people began treating their pets more like family, they wanted to grieve and remember them when they died the same way they'd grieve a deceased human family member.

off their hands. “Vets were busy, and couldn’t always have these deep, emotional conversations that their client families needed,” said Cooney.

So the crematories saw an opportunity to expand their services into more traditional forms of memorialization along the lines of human funeral homes. Some began approaching veterinary practices and saying, “We would like to help your grieving families directly.”

At first, many veterinarians assumed that grieving pet owners didn’t want to be burdened with those kinds of aftercare decisions and nixed the idea. But Cooney said research indicated otherwise. Studies showed that owners actually wanted more information on aftercare options, as well as more aftercare options.

When families work directly with aftercare companies, they appreciate having more options, and importantly, they also get more of what they want. “Crematories are really good with bereavement support,” said Cooney. “Leveraging aftercare reduces demands on the [veterinary] practice and increases resources,” she added. “It’s an absolute win/win for hospitals that find good aftercare companies to partner with. They handle everything. That’s a very new model.”

She said hospitals that have adopted that model discover that they now have all kinds of free time they didn’t have before. “That’s a human medicine model,” Cooney added. “It’s been wonderful.”

Cooney noted that for many veterinarians, it’s a real honor to be able to care for a longtime patient

even after that patient has passed: “It feels like a complete circle, but again, they’ve never done it any other way. When they see the potential for leveraging aftercare companies, there can be a paradigm shift. They think, ‘I love this patient. But . . .’”

One Pet Owner Who Didn’t Call Her Vet

When Karen Meyer’s 11-year-old yellow Lab Ka\$h died of congestive heart failure last June, she passed peacefully at home.

Meyer didn’t call her vet to handle Ka\$h’s aftercare. Because she knew the end was coming, she had time to do her research. She called a veterinary aftercare services company that came highly recommended, and they sent out an employee the next morning to pick up Ka\$h’s body and take it to be cremated. Meyer said the aftercare company more than lived up to their great reviews: they were very respectful and responsive to Meyer’s needs and wishes.

As for memorializing Ka\$h, Meyer and Johnson have made arrangements to have half her ashes buried under a 100-year-old live oak on a friend’s ranch in the Texas hill country. It’s a part of the country that means a lot to the couple.

They’re giving the rest of her ashes to Johnson’s son Grant—Ka\$h was technically his dog—who plans to have them made into a diamond ring (see sidebar).

The Humanization of Pet Aftercare

Coleen Ellis, CT, CPLP, doesn’t know exactly when people started to humanize pet aftercare: “You can’t really pinpoint it.” But she said it



When families work directly with aftercare companies, they appreciate having more options, and importantly, they also get more of what they want.

coincided with the growing trend of people treating pets as part of the family and prioritizing their pet’s healthcare almost as they would a human family member’s.

Ellis is the founder and past cochair of the Pet Loss Professionals Alliance and past president of the International Association of Animal Hospice and Palliative Care, where she currently serves as an advisor. In 2004, she founded Two Hearts Pet Loss Center, the first standalone pet funeral home in the US.

Ellis realized that grieving pet owners wanted an opportunity to say goodbye, and they wanted to know they had options as to how they did it. “Pet owners loved the fact they had options,” she said.

At the time, the idea was revolutionary. Back then, she said,

Memorializing Pets

Did you ever picture a grieving pet owner wearing Fido on their finger?

There have long been offbeat ways of memorializing pets from taxidermy to burial plots, but the hottest trend may be “cremation diamonds,” real gemstones created from the carbon naturally found in the ashes and hair of deceased humans and animals.

At Austin-based Eterneva, the cremation diamond business is booming thanks to its founder’s appearance on ABC’s *Shark Tank*, where entrepreneurs pitch their ideas to angel investors on camera. Eterneva caught the fancy of Dallas billionaire Mark Cuban, best-known for his *Shark Tank* appearances and as the majority owner of the Dallas Mavericks basketball team. With Cuban behind the business, Eterneva rocketed to the front of the cremation diamond industry. Yes, there is an industry. And turning pet cremains into diamonds makes up 40% of the business.

The process starts with the bereaved sending in between two tablespoons and one-half cup of their pet’s ashes or hair, which is then subjected to 2,500 degrees Fahrenheit and 850,000 pounds per square inch of pressure. Over time, this produces a genuine diamond, which is then cut in Antwerp, graded and engraved, and set in personalized jewelry like a ring or pendant. Eterneva’s process starts at \$2,999 for a .1-carat diamond up to \$50,000 for a three-carat gem and takes 10 to 12 months. Financing, the website assures, is available.

That’s too rich for most pet owners’ blood. But there are many other ways to memorialize a pet—and most of them are far less than three grand.

For \$30 plus shipping, you can have your pet’s paw print, rather than its ashes, memorialized on jewelry, Christmas ornaments, garden stones, clay sculpture, and keychains. Etsy is also a good resource for custom pillows, paintings, memory quilts, and even socks printed with pictures or portraits of the pet. There are pet portraits on canvas too.

It costs \$500 to \$700 to have a taxidermist preserve a dog or cat, a process that involves cleaning out the preserved body and then stuffing it with cotton. More common as an in-home keepsake is an urn of ashes. And more common

still is conventional burial or ash scattering on private land—often in the owner’s backyard, sometimes commemorated with the planting of a tree, shrub, or perennial flowers. Some owners choose to mark the grave with a headstone, the pet’s name carved into a tree, or a garden bench where they can sit and feel close to their loved one.

DIY pet owners are drawn to scrapbooking and memory boxes, simple and affordable ways to memorializing a pet by compiling photos, toys, and other keepsakes in an album or archival-quality storage box decorated with the pet’s name and portrait. Children especially may feel comforted by being able to sift through a physical collection of memories.

It can be hard to be around other animals after losing a pet, but some owners find meaning and purpose by volunteering at a local shelter. When that feels too tender, a donation in the pet’s honor to a shelter or other charity that help animals in need can be a good choice.

Behind all of these options for memorializing a pet is the strong wish to honor and remember a member of the family whose life is inevitably far shorter than that of most owners. Grieving the loss of a pet who was considered a close friend and beloved companion can take time. Perhaps owners can be forgiven for a money-is-no-object approach.

In 1947, charged with creating a De Beer’s Consolidated Mines advertising slogan to convince the American public that diamonds were both valuable and rare, copywriter Frances Gerety wrote, “A Diamond Is Forever.” Now, thanks to technology, Fido can be too.



most people had their pets cremated, usually at the suggestion of their veterinarian. So prospective clients were often surprised that she didn't offer that service herself.

The reason was simple: "I didn't have a crematory," Ellis said. "I had a pet funeral home." And she had a pet funeral home because that was what she knew—she'd worked in the human death industry, so she modeled her pet funeral home on human funeral homes. "The pet was laid out in a casket, on a bier," Ellis said. "So, the pet would lie in state. We'd put flowers in the room." Ellis said she'd slip the pet's favorite treats or toys into the casket to be buried with them. People would get up and speak. Share a reading. Or even ask Ellis to say a few words on the fly.

"We created a safe place to say goodbye," she said. Clients were overwhelmed and grateful for the opportunity. "We sent their pet out in a beautiful way, with a beautiful farewell replete with dignity, respect, and ritual. All the things that said, 'We love you.'"

Ellis said she marketed to that trend—and found a ready clientele.

"When they came to me, they'd say, 'We've been doing this on our own, saying goodbye in our home, humanizing their death.'" Ellis recalled. "But you formalized the process. Gave us a facility. Gave us a little visitation room—all the things we do for human beings."

It turned out grieving pet owners were hungry for that, and Ellis didn't see anything else like it in the veterinary aftercare space.

She may have had the first pet funeral home in the country at the time, but it wasn't long before she had company: "People saw an opening," she said. "They said, 'Here's another way we can service pet parents.'"

Epilogue

The box containing Annie the Australian cattle dog's ashes still sits atop Cindy Young's refrigerator in Loveland, Colorado, but Waddy Schnitzel's have finally made it to their final resting place.

Young dusted off the box and took it with her on a trail hike near her home where she used to walk Waddy and where openings to prairie dog burrows dot the fields like a monochrome Twister mat. "Waddy used to love chasing prairie dogs," she recalls. "I'd let her off leash and when she'd see one pop out of its hole, she'd go tearing off after it and dive into the burrow after it, yipping like crazy."

The breed was built for hunting prey underground—their elongated bodies and short, stubby legs are ideal for subterranean stalking—but to her knowledge, Waddy never caught one.

So what did Young do with Waddy's remains?

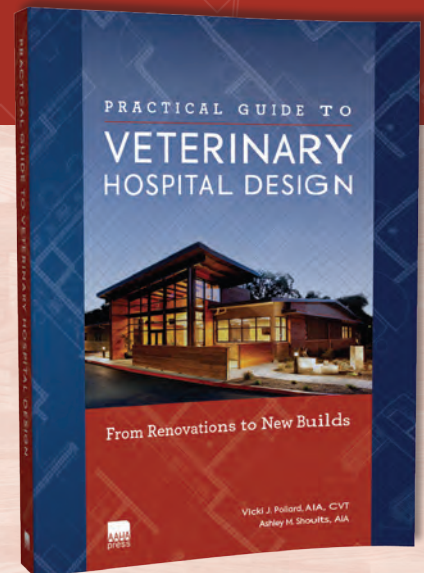
"I poured them down a prairie dog hole," she says. She considered it an ideal way to honor Waddy's memory. "That's where she was happiest." ✨



Tony McReynolds is AAHA's NEWStat editor.

"This excellent resource covers nearly every aspect of the process—from brainstorming to completion."

—DEANNE BONNER, RVT, CVPM



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Healing with Shock Wave Therapy in Dogs & Cats - Safe, Effective, Economical & Convenient

By Dr. Paris Revoir, DVM

What is Shock Wave Therapy?

When people first hear the term shock wave, they often think of an electrical shock, but a shock wave is simply a physics term for a supersonic high-energy sound wave. This non-invasive modality has been used for over 25 years in humans and is approved by the FDA for treating plantar fasciitis, tendonitis (tennis elbow, in particular), and diabetic foot ulcers.

For over 15 years PulseVet® Shock Wave therapy has been the standard of care in equine medicine for treating a variety of musculoskeletal indications. In 2021 with the launch of PulseVet's new handpiece, the X-Trode™, the PulseVet system now provides sedation-free treatment for small animal patients such as cats and dogs.

PulseVet Shock wave therapy is backed by more than 20 years of published research and is proven to speed healing, resolve lameness and relieve chronic pain in equine and canine patients.

How Do Shock Waves Work?

Shock wave therapy aids healing by stimulating the body's regeneration process. The waves work on a cellular level by releasing inflammatory cytokines, angiogenic growth factors, and osteogenic proteins that accelerate healing. Energy is released as a shockwave at tissue interfaces where the density of the tissue changes (such as at a tendon to bone interface). Neovascularization occurs, leading to increased blood supply and tissue regeneration in tendons, joints, and bone.

Shock wave therapy is completed on an outpatient basis with minimal recovery time. Sedation is not required, and treatment takes less than five minutes. Many pets begin to see relief in one to three treatments. Results may be observed immediately; however, it takes time for the full biological response to occur.

Is There a Difference Between Shock Wave Therapy and Laser Therapy?

- Shock wave therapy uses **sound** energy, whereas laser uses **light** energy.
- Shock wave creates a **higher-energy output and penetrates deeper in the tissue** than a laser can. Lasers are mostly used for superficial indications that require a few millimeters in depth.
- One to three treatments provide long-term healing with shock wave therapy, whereas lasers require 10 to 15 treatments for any given injury.
- There is no risk of burns with sound energy like there may be with laser therapy and no protective glasses are required.

Clinical Indications

Backed by more than 15 years of clinical research, PulseVet shock wave therapy is proven to reduce lameness, speed healing, and relieve pain in dogs and cats with:

- Osteoarthritis
- Tendon/ligament injuries
- Wounds
- Lick granulomas
- Bone fractures
- Back pain
- Lumbosacral disease
- Shoulder instability

Clinically Proven – Published Cases: Backed by Top Veterinarians

Bone Healing Accelerated Post-TPLO Surgery

"Dogs treated with PulseVet® shock wave therapy following TPLO surgery healed two weeks faster than dogs that were not treated"

Drs. Felix Duerr and Nina Kieves – Colorado State University College of Veterinary Medicine

Weight Bearing Post-TPLO Surgery

"Significant increase in the PVF (peak vertical force) and VI (vertical impulse) in the PulseVet® device treated group at 8 weeks compared to a decrease in the sham group"

K. Barnes et al. Colorado State University Vet Surg 2019

Bone Healing

"Significantly improved bone healing by the PulseVet® device at 8 weeks post-TPLO"

Dr. N. Kieves, et al. Colorado State University, VCOT 2015 (Journal of Veterinary and Comparative Orthopaedics and Traumatology)

64% Positive Response in Dogs with Shoulder-Related Lameness

"For shoulder instability, PulseVet® shock wave therapy is the treatment of choice at Tufts University."

Drs. WM Becker, M Kowaleski, et al. - Cummings School of Veterinary Medicine Tufts University

Hard-to-Treat Elbow Osteoarthritis

"Our studies show that about 70 to 80 percent of our dogs have a positive, measurable response to PulseVet® shock wave therapy"

Drs. Marti Drum and Darryl Millis, - orthopedic surgical specialists University of Tennessee

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"75% of patients experienced improvement following a single PulseVet® treatment. Median effect was 13+ months primarily after one treatment"

YJ Kim, L Jenkins and EB Leeds. Surgical Group for Animals, Torrance, CA

Information For Clients:

What Can I Expect from an Average Shock Wave Treatment?

An average treatment typically takes less than 5 minutes. The veterinary team may shave a small area on your dog or cat, so the sound waves are not interrupted. Conductive gel will be applied to the treatment area and the applicator head is moved gently over the affected area. Results may be seen immediately, but it is important that your dog or cat not take part in any strenuous or high-impact activity for a few days after treatment so its body may effectively heal. Depending on the case, additional treatments may be needed after 2 to 3 weeks. The typical maximum number of treatments is three.

What is the Cost of Shock Wave Therapy?

Shock wave therapy is an affordable alternative to surgery or long-term use of NSAIDs, is covered by pet insurance, and requires significantly less treatments and time commitments than other modalities. Results are typically seen within one to two treatments and can last for up to 12 months. Cost will vary depending on the specific condition, the number of treatments needed and the size of your pet.

Where is Shock Wave Therapy Available?

The [PulseVet.com](https://www.pulsevet.com) site contains a **Find a Vet** feature. Click the tab to view a list of veterinarians who offer therapy with the PulseVet® shock wave device.



To learn more about PulseVet system, call or click
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Using Antimicrobials Responsibly in Dermatology

How Communication and Client Education Can Help Prevent Drug Resistance

by Kristen Seymour

Veterinarians are all too familiar with the importance of using antimicrobials responsibly. After all, they're the ones tasked with determining the best course of treatment for an itchy dog with a recurring skin infection that's become resistant to various antibiotics.

But it's one thing to understand why the judicious use of antimicrobials matters; it's another to convince a client that bathing her unruly Newfoundland with a topical is a better treatment for his skin infection than easier options, like a round of pills or a one-time shot.

And that's without even going into diagnosing and treating the actual cause of his itchy skin.

However, addressing and controlling the underlying disease process is the most important aspect of the management and prevention of staph infections, said Daniel O. Morris, DVM, MPH, DACVD, professor of dermatology at the University of Pennsylvania School of Veterinary Medicine. "Pyoderma is rarely a primary disease process; 99.9% [of cases] are driven by an underlying disease that disrupts the skin's natural barrier function," he said. "For most dogs with recurrent pyoderma and/or otitis externa, the causative factor is an allergic skin disease."



"Pyoderma is rarely a primary disease process; 99.9% [of cases] are driven by an underlying disease that disrupts the skin's natural barrier function. For most dogs with recurrent pyoderma and/or otitis externa, the causative factor is an allergic skin disease."

—DANIEL O. MORRIS, DVM, MPH, DACVD, PROFESSOR OF DERMATOLOGY AT THE UNIVERSITY OF PENNSYLVANIA SCHOOL OF VETERINARY MEDICINE

Challenges of Treatment

Preventive measures—like moisturizing dogs with excessively dry skin to restore the skin’s barrier function or providing antiseptic prophylaxis regularly—can help in some instances, noted Morris. However, while veterinarians used to resort to the use of maintenance antibiotic therapy prior to the mid-2000s, the advent of multidrug resistance in *Staph. pseudintermedius* and *Staph. schleiferi* has put a stop to that technique. “Those days are long gone,” he said.

Today, in dermatology, knowing whether or not there’s an infection that would benefit from antibiotics isn’t so much the question. The bigger challenge is twofold: first, treating whatever is causing that infection, and second, choosing and administering the safest treatment that provides the greatest benefit—with the least possible risk of creating drug resistance.

Addressing the Real Cause

“One of the big things we have in dermatology is the inciting cause, and the problem you run into is that we have cases where people won’t—or haven’t been asked to—address the inciting cause,” said J. Scott Weese, DVM, DVSc, DACVIM, FCAHS, a professor at the Ontario Veterinary College’s Centre for Public Health and Zoonoses and one of the coordinators of the educational website Worms & Germs. For instance, if a dog has a food allergy, you can treat the active pyoderma, but if you don’t address the food allergy causing it, that pyoderma will just come back, he said. “We all know the ‘frequent flyer’ dogs that have had multiple rounds of pyoderma, and now, not surprisingly, they’ve got

an MRSP infection because they’ve been exposed to all these antibiotics, but we still haven’t treated the underlying disease.”

While treating the underlying cause the first time is ideal, Weese understands why owners may be reluctant to do it, especially with a suspected food allergy. “Veterinary diets are expensive. Food trials are a bit of a pain,” he said.

But that’s when client education becomes so critical—and the more personal and real you can make it, the better.

“You explain to them, okay, you have a two-year-old dog. You’ll need to see me three times a year for antibiotics for this. And in a year or two, the antibiotics will be a lot more expensive because the infection is going to be a different bug,” Weese said. “Then we’ll get to the point where it’s an injectable antibiotic; that’s more expensive, and you’ll either be doing an injection or paying me a lot to do it. And, really, your dog is going to be really unhappy for a significant portion of its life.”

This type of conversation puts the inconvenience of a food trial and cost



“We all know the ‘frequent flyer’ dogs that have multiple rounds of pyoderma, and now, not surprisingly, they’ve got an MRSP infection because they’ve been exposed to all these antibiotics, but we still haven’t treated the underlying disease.”

—J. SCOTT WEESE, DVM, DVSC, DACVIM, FCAHS, PROFESSOR AT THE ONTARIO VETERINARY COLLEGE’S CENTRE FOR PUBLIC HEALTH AND ZOOSES

of a prescription diet in perspective. It might take a little extra time to relay that information, but Weese insists it's well worth the effort. "The medicine is easy," he said. "The human brain is the biggest barrier to stewardship."

Understanding your client's biggest motivator helps, too. "Sometimes that motivator is cost," Weese said, in which case explaining that they'll spend more money in two weeks if they don't take action now may do the trick. But other times, it's truly all about the animal's health, which is when Weese will explain, "Look, your animal is uncomfortable. We want to make sure this infection doesn't come back—that's why we need to go on a food trial now."

Administering the Appropriate Treatment

Client education is also a key element when it comes to treating the infection itself.

"Everyone wants a pill or shot to cure everything, of course. Clients want the easy way out, and veterinarians often don't have the time, or perhaps the knowledge, to have these lengthy discussions," Morris said. "But clients have to be told that, at some point, we will likely run out of safe oral antibiotic options for their pet. Doing the hard work now will hopefully save them some heartache later," he said.

Morris spends a lot of time educating his clients about the dangers of drug resistance and the need for culture and susceptibility testing. He uses that discussion as a springboard to encourage them to treat minor or local infections with topical antiseptics rather than systemic drugs. "Save systemic drugs for deep infections



"Everyone wants a pill or shot to cure everything, of course. Clients want the easy way out, and veterinarians often don't have the time, or perhaps the knowledge, to have these lengthy discussions."

—DANIEL O. MORRIS, DVM, MPH, DACVD, PROFESSOR OF DERMATOLOGY AT THE UNIVERSITY OF PENNSYLVANIA SCHOOL OF VETERINARY MEDICINE

or superficial infections that are too widespread for a client to reach effectively with topicals," he said. "Also, don't play 'musical antibiotics!' If your first attempt at empirical therapy fails, perform a culture/susceptibility to guide drug selection. Multidrug resistance makes it impossible to predict what might work."

The fact that he still sees so many veterinarians using beta-lactams and fluoroquinolones as their go-to drugs concerns Morris. "In the age of extreme drug resistance, we should be relying more on topical therapy and also using culture and susceptibility testing for systemic drug selection," he said. "We need to rely less on empirical selection of systemic drugs—especially the beta-lactams and fluoroquinolones—for treatment of pyoderma." Use

of other drug classes, such as clindamycin or trimethoprim-sulfa, may help prevent the acquisition of broadly drug-resistant strains, he added.

Communication and Support

Still, it's important to remember that a conversation goes two ways. Making an effort to understand your client's situation and concerns can make a huge difference in choosing the best treatment for their pet.

"We sometimes make decisions for owners without knowing the whole story," Weese noted. For example, if you have a really large, energetic dog and an elderly client, you might assume that your first choice of treatment—bathing the dog with a topical—is out of the question. "But

maybe they've got a neighbor or a kid next door who can come over and take care of it," he said.

Weese suggests understanding—but being flexible with—your hierarchy of treatment options, prioritizing the best choice for the given scenario.

"Sometimes, it's about how we present it," he said. "For dermat, our optimal therapy is topical. Ask them, 'Can you do that?'" he said. If the client can't, take a moment to discuss why and whether there's another option, like a mousse or a spot treatment. "If we have to use oral therapy, can we use a lower-tier drug? Maybe we can't because it's resistant, or maybe they can only give the pill once a day. Then we're bringing in the bigger guns. Can they do that?"

And still, the answer might be no. Weese gives the example of an 85-year-old type-2 diabetic with a bichon frise who's a biter. "She's not going to be able to bathe it, and she's not going to be able to give it a pill, so yeah, give it a shot," he said. "You know it's overkill, but it's the best thing for that owner and pet as opposed to no treatment or the owner being bitten."

In some cases, a demonstration may be in order. "We could probably do a better job of showing people how to administer," Weese said. "If they give their dog a pill all the time, fine! But if not, or if they tried but it didn't go well, okay, let me show you," he said. Providing them with a moment of support on the front end can prevent them from having to come back for help—or worse, having them not be able to pill their pet but being too embarrassed to call, then come back

three months later with a real mess of an infection.

The Importance of Treatment Compliance

The client education aspect regarding antimicrobials in dermatology doesn't end with the writing of a prescription; it's also vital that the client understands the importance of giving their pet all the pills prescribed, said Weese.

"I tell them, yes, their dog is going to look better after three or four days. That's what I expect to see. But that doesn't mean he's fixed," Weese said. "If you don't give the medication until we say stop, this infection might come back. Then I'm going to want to do a culture to see if it's resistant. That's going to cost more money, and the other drug I give you in the interim is going to cost you more. So, instead, let's just treat the extra few days."

Shortening Duration Use

At the same time, he realizes that the duration of use of antibiotics, especially in veterinary dermatology, may go a bit overboard. "Antibiotics tend to be used for a long time, and the longer you use them, the greater the risk of resistance," Weese noted. And while other areas of veterinary medicine have used data from analogs in people to reduce that duration, there's no data to support that in dermatology—yet, anyway.

And even when we have that data, he said, it may still be difficult for some practitioners to change their mindset. "We default to a defensive approach a lot in veterinary medicine," he said. "We like to do something. We accept the consequences of us doing something more than we accept

the consequences of us not doing something."

Weese and his colleagues have launched a free, open-access app to provide antibiotic prescribing support based on prescribing guidelines for small animal veterinarians using the Firstline platform, which he hopes will help with that issue. "It's a work in progress, but we're trying to make it easy," he said. Veterinarians can simply pull up the app, select the species and type of infection, and view the recommended treatments. If their client, boss, or anyone else is concerned about a change in treatment, the app is a simple way to show that their choice is a proven method of treatment.

Judicious use of antimicrobials begins before a prescription is even written. Addressing the underlying disease and using preventive measures, when applicable, are the best first lines of defense in dermatology cases. And when it comes to bringing in antibiotics, using the lowest-tier drug for the shortest approved duration is a great next step. But, at the end of the day, without the client education aspect, treating these itchy dogs and cats will be an uphill battle. "It's basic communication," Weese emphasized. "It's about making sure that medicine is right for the patient—and for the owner—and that the owner understands why. The why is really important." ✖



Kristen Seymour is a freelance writer based in Sarasota, Florida. She's a frequent contributor to many pet-focused publications including *HealthyPet Magazine*, *USA Today's Pet Guide*, *Vetstreet.com*, *DailyPaws.com*, *Happy Paws*, and more.



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Talking to Clients About Science

Interview with Deborah Thomson, DVM, on *Central Line: The AAHA Podcast*

Note: This is a partial transcript of a recent episode of Central Line: The AAHA Podcast. Catch a new episode of Central Line every Tuesday on all major podcast platforms, YouTube, and at aaha.org/podcast. This episode was made possible with generous support from CareCredit.

What does working on Capitol Hill have in common with a puppy vaccine appointment? During a conversation with host Katie Berlin, DVM, for *Central Line: The AAHA Podcast*, Deborah Thomson, DVM, chair of the World Veterinary Association's One Health Education Subgroup, founder of One Health Lessons, and author of *The Art of*

Science Communication, shares what she's learned through her work as a teacher, clinical veterinarian, and science policy advisor about having productive conversations about science—with *all* kinds of people.

Deborah Thomson: Before going to vet school, I was teaching. My youngest student was five or six, and my oldest student was 65. Then I went to vet school and heard about One Health, and that just blew my mind, honestly. I did an internship and went into clinical medicine full-time, but after my 10- to 12-hour workdays, I created lessons for children and adults about One Health.

Then I got to be the AVMA's Congressional Policy Fellow, so I moved from the West Coast to Washington, DC, and that's where I am right now. And from working in policy on Capitol Hill, I learned a lot about communication with people with . . . substantial influence, let's say that.

Communicating in the classroom, with the general public in the appointment rooms, and then with politicians—it's an art. And from that experience, I wrote a book called *The Art of Science Communication*.

At my interview at vet school, I said I wanted to be a vet because I wanted to take care of animals, but also the

people relying on those animals—be it for emotional support, food, whatever. I saw that whole picture. I still see that every single day in the hospital when I'm working. It's not just the old client who just lost her husband or his partner, and who's keeping the memory alive through their dog. It's also thinking about what flea and tick preventative do we need if there's a toddler running around the house because their hands go everywhere.

Katie Berlin: I always say our real patient is the bond between the patient and their people, whether they're a milk producer or a family pet, and the communication is absolutely the backbone of the relationship that we have with that family.

So today, what I really wanted to talk to you about is talking to clients about science. I think we have all been in that exam room where we're faced with this client who doesn't want to hear what we have to say about why whatever they read on the internet is probably not in the best interest of their pet's health or their family's health. Why do clients come in and argue with us about science? What can we do?

DT: There are two different ways to respond. You could tear out your hair, that's option one. Or you could take an internal deep breath and listen to them, knowing they mean well and they're doing the best with what they've got. We all typically do the best with what we have.

The goal is to say, "I understand that there's a lot of information out there. I get it. I see it too. What I'm providing to you is information that I have from sources that I really do trust. And I

know this from veterinary school. I know this from experience. And here are the websites that I really like. You're welcome to bookmark them." And then see what their response is.

The first thing is to introduce them to what you value as a clinician, as a science professional, as a scientist. And then open up a conversation. And stay even-keeled. People pick up on that.

KB: Especially because it's so emotional for so many of them. Assuming good intent is so important. We want them to assume that about us. Often, it's just an emotional topic.

DT: Sometimes clients say to me, "Oh, I'm such a bad owner." I'm like, "You're not allowed to say that. You're in the vet hospital with me. You are a good owner because you got here."

KB: Do you think it's possible to change someone's mind who seems like they're absolutely dedicated to believing this pseudoscience that they read online?

DT: I think reading the room is definitely the first step in how to change somebody's mind.

KB: Often it's not the veterinarian who's getting faced with this question first. It might be the front desk when somebody calls for a recommendation or when they are asking them if they want to take a bag of dog food home, or it might be the veterinary technician who's taking a history. And they're getting sort of barraged with things like, "Oh, I don't think a Lyme vaccine is safe for my dog. I read it online." So the entire team has to know how to communicate with clients about this stuff.

Do you think it's possible for vet teams to get ahead of this by either talking to clients a certain way from the beginning or having specific training about it so that they can head this off at the pass?

DT: If you see that there are concerns from the owner about a vaccine, it's important to mention that all vaccines, all medications, anything you put in your body has possible side effects. That's just the way it goes. You know, just say it matter of factly: "That's just the way it goes. So let's review possible side effects of vaccines. Chances are, we're not going to have to deal with it, but it's always good to review and have a conversation about this before we get started."

KB: We are supposed to talk about vaccine reactions with everybody, and I don't think we always do that. When we do, it's often because the client has asked, "Will I notice anything after this?"

I know there was a study recently that vaccine hesitancy was increasing before COVID. So even before COVID, the vaccine hesitancy in people seemed to be spreading into the veterinary world, so now, I can only imagine after the last two years what people are thinking when they come in and we're recommending all these vaccines—even though they're not new, and they're so safe.

DT: What they pick up on are those outliers—and I think it will hurt us if we ignore those because then they're like, "Wait a second, I heard this from my friend. You're telling me my friend's lying?" But if we can just nip it in the bud and say, "I say this to everybody, so just hear me out. Signs

of vaccine reactions are rare, but, . . .” and then do your thing. Then put it in your SOAP.

KB: I wanted to switch tracks a little bit here. You are a science policy advisor, and I just want to know what that was like!

DT: I serve as a technical advisor to a senator right now, so I serve to help advance legislation and bills especially focused on One Health. My portfolio on Capitol Hill was really One Health.

I applied for the AVMA’s Congressional Policy Fellowship and moved cross-country to go to Washington, DC. AVMA pays for the year but doesn’t tell you what to work on. The people at AAAS, which is the American Association for the Advancement of Science, are the ones who train you how to work in policy on the Hill, along with about 200 other people who are often not in veterinary medicine. They could be particle physicists or chemists or evolutionary biologists.

Then you have interviews with lots of different offices on the Hill that have desk space for you, and you share what you would like to work on in the policy space, and they tell you what they need from you, and you see if it’s a match. So, you arrive in Washington, DC, without knowing where you’re going to be working. You know it’s going to be somewhere in the Senate or in the House of Representatives, but you don’t know where or exactly what you’ll be working on, which is exciting.

KB: When it comes to exam room communication, there is a little bit of



politics involved. You have to make sure that you’re reading the room, like you said, and communicating in a way that is not inflammatory or reactive. That times a billion is what it must be like working on Capitol Hill! Did you learn lessons from that position and from the communication that you had to do there that you can carry over into practice?

DT: Reading the room is number one. I have a lot of interns with me for One Health Lessons, and I tell them that the very first step to strong communication with another person is to actively listen. Don’t be the first one in the room to talk. Listen, see how they say things, see what they avoid saying, think through why they could be avoiding saying certain things. Is it because of fear? Is it because of ulterior motives?

On the Hill, voters coming in could be scientists, physicians, veterinarians, engineers. . . . They would come in and pitch their idea for a bill that could hopefully become a law, and they gave us the information that they have at their disposal on one piece

of paper, like a client handout. Often, they missed the mark. I saw that there was good intention, but they said it in a way that was confusing for the folks that speak policy. After the meeting was done, my colleagues would come at me and say, “Deb, can you just translate that for us?” And that happened so many times that that’s what my book came down to.

KB: Those skills are essential for just living today, because as veterinary professionals, we forget that the people who are leaving comments on the internet don’t necessarily have the background we have. I think we go into that exam room armed for battle because we feel like the people leaving these comments are also in the exam room facing us, and we go in with that internet warrior attitude. Do you feel like that’s true?

DT: Let me just discuss disinformation and misinformation. Misinformation is that unintentional “Oopsie, I got something wrong.” Disinformation is purposefully feeding falsity to the general public—a form of manipulation. Misinformation can be

managed because the intentions are good. Disinformation comes from not a good source.

KB: This reminds us that not all incorrect information is coming from the same place or the same intent. Maybe their aunt told them something about her dog that she heard from her cousin's vet, and then it's probably not going to be quite accurate. And it's different if they've been going to a website about dog food and they've been fed information that is absolutely not true.

A lot of times we feel like we're beating our heads against the wall battling this constant influx of both misinformation and disinformation. Do you have any tips for how we can use the internet to our advantage to help with these science communications?

DT: Let's say [they need to know about] congestive heart failure. Something complicated that stresses the owners out legitimately. I like veterinarypartner.com. I like AAHA. I like anything associated with a veterinary school. I print out at least the first page of the website, and I tell people, "Bookmark this page." Use technology to your advantage.

Then at least they're not sitting alone in the room, freaking out. At least they have some answers, which takes care of a bit of stress, even though congestive heart failure is a serious matter.

KB: I'm just thinking about that from a position as somebody who's been a patient in a lot of doctors' offices recently. Until you're the patient, or the owner of the patient, and you're sitting in that room alone and you

don't have answers. . . . It is one of the scariest experiences imaginable.

Nobody said, "Here, I know we're not finding answers. Here's a website I really like, if you want to read about some of the differentials that we're talking about." I wanted scientific papers, but I would have taken a website. Give them sources of good information before they ask, because a lot of people won't even ask.

I have one more question for you. When it comes to the entire veterinary team working together to talk to clients about science in a way that's effective and empathetic, what would you say is one step that any team could take tomorrow to start doing that?

DT: I think a good guiding principle is to stay humble and admit when you don't know the answer. "We don't know what causes this yet, but we at least know how to manage it." Just have a clear conversation about what can be done, what can't be done, and set the expectations very early on. Be clear and respect the other person. ❄

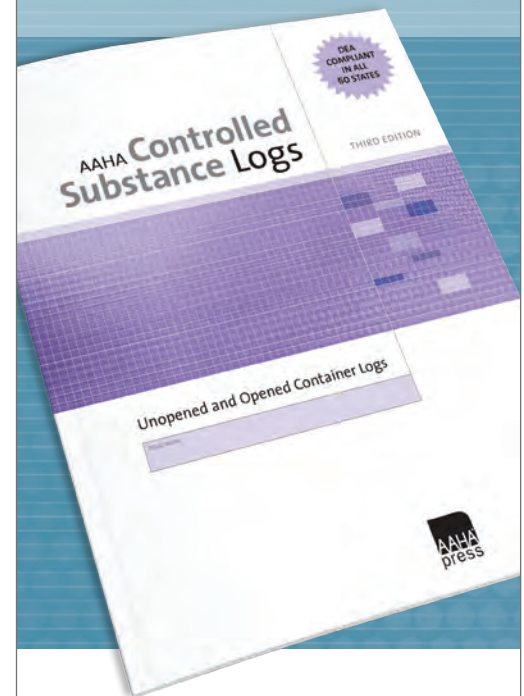
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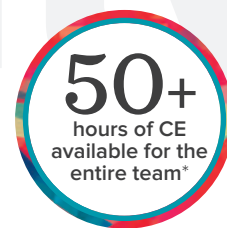
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Jess Pettitt is a former educator, Peace Corps Volunteer, and stand-up comic as well as a Certified Speaking Professional. She has taken typical diversity talks to the next level, using humor to inspire and motivate participants to enact change.



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Country Artist Jimmy Wayne uses his songs to highlight his mission to raise awareness for kids in foster care. His Number One, “Do You Believe Me Now” earned BMI’s prestigious Million-Air Award for receiving one million radio spins in the United States.

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A Credentialed Veterinary Technician

by Tasha McNerney, CVT, CVPP, VTS (Anesthesia)



Kristen Tomassetti and Matt Fink, both CVTs, perform diagnostic radiology on a patient.

Credentialed technicians are highly trained professionals who have completed a rigorous education and testing process.

Step into any veterinary clinic post-COVID, and you will notice a theme: long wait times, overextended staff, and more patients and appointments than ever before. While we aren't dealing with the annoyance of curbside as much, we are still trying to wrestle with the sheer increase in patients needing to be seen. In larger cities such as Philadelphia and Boston, the number of patients needing to be seen has increased beyond the demand of staff.

In fact, in Boston, the MSPCA reported a 40% increase in emergency visits at the Angell Animal Medical Center and predicted 10,000 new cases this year. While some in the industry advocate that the answer to this problem is simply increasing the class size of graduating veterinarians, this is a long way off from helping in the immediate term.

We do know there is one thing that can not only improve the workflow and efficiency in the clinic but also elevate patient care (and as a bonus add to the revenue at the clinic): Employing a credentialed veterinary technician (CVT).

Different from certified veterinary assistants or on-the-job-trained assistants, credentialed technicians are highly trained professionals who have completed a rigorous education and testing process. They are subject to continuing education requirements, and during schooling, they learn everything from physiology

and pharmacology to anesthesia and surgery.

Most programs also require an externship where veterinary technicians can learn hands-on technical skills like placing catheters, running diagnostic tests, and monitoring anesthesia. In the broadest terms, CVTs may not diagnose or prescribe medication or perform surgery. However, in most states, they can take on almost any task outside of those core veterinarian responsibilities. This means CVTs can run blood work, perform radiographs, place

intravenous (IV) catheters and start IV fluid and drug therapies, perform dental prophylaxis, recover patients from anesthesia and sedation, write up notes and discharge instructions, and communicate with pet owners after a procedure.

Expediting Patient Care

As an example of utilizing technicians to the highest degree, practices can differentiate technician tasks and doctor tasks to expedite patient care and improve quality of care. For example, after the diagnosis of urethral obstruction, credentialed veterinary technicians can administer

sedation, place IV catheters, perform a sacrococcygeal block, and gather supplies to ultimately have everything ready so the veterinarian can continue seeing clients until the patient is ready to have a urinary catheter placed. In some instances, veterinary technician specialist (VTS) trained technicians even have the skills necessary to place urinary catheters.

In fact, at some hospitals, credentialed technicians are helping streamline the demand by running their own appointments. At Banfield hospitals, appointments can be scheduled with credentialed veterinary technicians at nearly one-third of its locations. Having credentialed technicians provide services such as vaccinations, heartworm tests, and nutritional counseling—all under a veterinarian's direction—improves efficiency, patient care, and client satisfaction.

Another set of bonuses for fully utilizing your credentialed veterinary technicians is twofold. Greater engagement and job satisfaction leads to longer employee retention, which lowers overall clinic operating costs. In addition, we know from an AVMA study that the number of CVTs per veterinarian in a practice has significant impact on gross practice revenue. In fact, the study showed that the average veterinary practice generated \$161,493 more gross revenue for each unit increase in the number of CVTs per veterinarian. On the other hand, the number of noncredentialed veterinary technicians per veterinarian was not significantly associated with gross practice revenue.

When asking yourself how you can best utilize the credentialed



Jenn, a CVT, examines a cytology slide at Rau Animal Hospital in Glenside, Pennsylvania.

When asking yourself how you can best utilize the credentialed veterinary techs in your practice, the best course of action may be to ask them!



Becky Huskins, a CVT working in the surgery department, assists with a specialty surgery at Mt. Laurel Animal Hospital in Mt. Laurel, NJ.

veterinary techs in your practice, the best course of action may be to ask them! Do they want training in a certain area? For instance, if your clinic wants to start scheduling technician-led dental cleaning days, identify team members who are interested in dentistry and send them to continuing education focusing on dental cleaning and radiology. A technician-led dentistry day where one technician cleans, charts, and radiographs teeth while another technician monitors anesthesia can be very profitable for the clinic, as it allows the veterinarian to concurrently oversee multiple appointments.

And speaking of appointments, are there simple tasks that can be made into technician appointments? Do technicians have an interest and want to take on appointments? Sit down and plan with them instead of for them.

A final thought is that it might be time to change or modify the way your practice labels support staff. An important signal of respect is to be mindful of the labels we use when talking to and about our teammates. Credentialed veterinary technicians are highly trained and educated members of our team, and most have passed either a mandated or voluntary national exam. If we refer to noncredentialed staff as veterinary technicians as well, we're inadvertently minimizing the time, effort, and money our CVTs have invested in their education. ✨

Tasha McNerney BS, CVT, CVPP, VTS (Anesthesia), is a certified veterinary technician from Glenside,



Pennsylvania. She is also a certified veterinary pain practitioner and works closely with the IVAPM to educate the public about animal pain awareness. McNerney has authored numerous articles on anesthesia and analgesia topics for veterinary professionals and pet owners.

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Why Is Coral So Awesome?

Coral joined our practice as a receptionist and has quickly moved up the ranks. Her official title is Inventory Manager but the work she puts in goes above and beyond the scope of inventory.

How Does Coral Go Above and Beyond?

You will often find Coral somewhere around the hospital helping in one form or another. It could be answering phones, holding a pet for a blood draw, unclogging a sink, or fixing a printer or computer. She is our jack-of-all-trades; there is no request she will not attempt to resolve. If she cannot fix the issue she will do whatever it takes to find the person who can. She has coordinated with vendors for celebrations and arranged for new credit card terminals to help with curbside COVID-19 protocols. She is often the one who staff seek out when they need help with a disgruntled client or have a question about how to handle certain situations. There truly is not a thing she won't do for her Heritage family.

In Her Own Words

Why do you love your job: There are far too many reasons, but I would say the main one is being able to assist our clients with their fur babies. Often, clients don't know what questions to ask or don't understand all the information we give them during an appointment. It is my job to help them navigate all that information. I also LOVE the family we create at the practice. This includes clients and coworkers. I love helping people in general, no matter the reason. In this industry there is always an opportunity to help in one way or another.

Favorite celebrity: Jason Momoa, mainly because of his efforts to keep our water clean and keep plastic out of landfills.

Pets at home: Two perfect yet feisty Chihuahuas.

What brought you to the profession: Truthfully, I needed a job with more regular hours than what I had. I started at Missouri Veterinary Teaching Hospital, and they were able to give me the schedule I needed. My love for the field just fell into place.

Hobbies outside of work: I love to crotchet, hike, and spend time on the beach. My favorite of all time is spending time with my 7-month-old grandson.

Each month *Trends* spotlights an AAHA member, with generous support from CareCredit*. If you want to nominate someone, visit aaha.org/publications/trends-magazine/employee-of-the-month and enter them for a chance to win \$500!

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