WEST COAST VETERINARIAN

JUNE 2016 | Nº 23

RVTs IN THE ER

FIFTEEN REMARKABLE YEARS
OF ANIMAL WELFARE

FELINE KERATOCONJUNCTIVITIS

VETERINARY MEDICAL RECORDS
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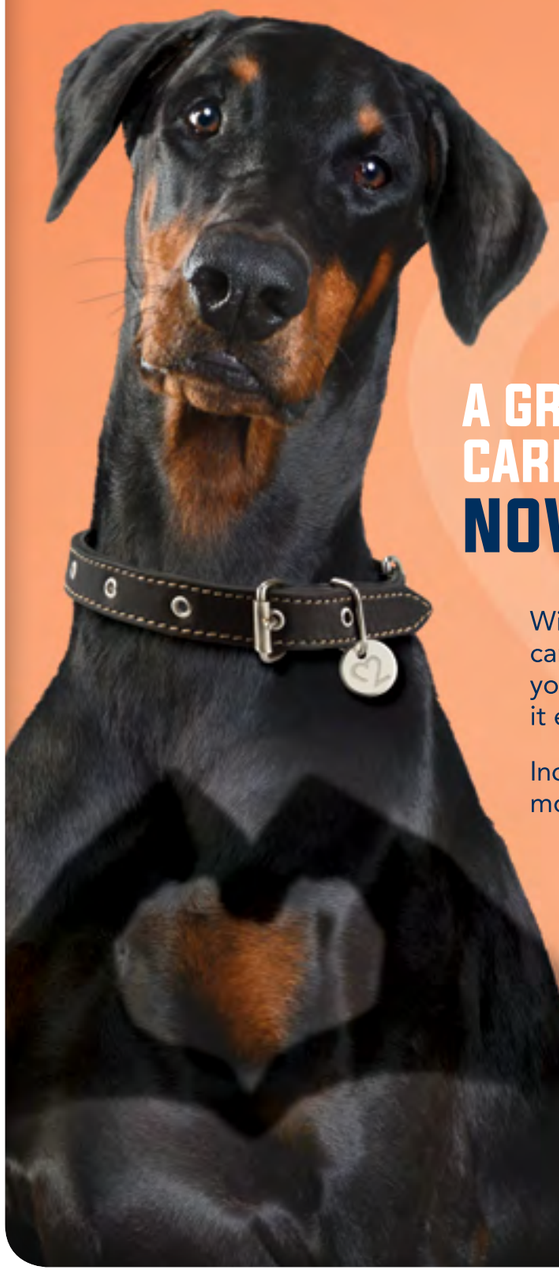

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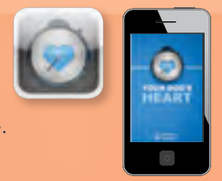

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TO THE EDITOR

Letters from members are welcome. They may be edited for length and clarity. Email us at wcveditor@gmail.com.

ON THE COVER

RAPS resident Birdie was dropped off in a birdcage seven years ago.

Sometimes, I don't need a calendar to know that time is passing. More than by the changes of the seasons, I take note of the passage of time by events. This issue marks Steven Chapman's last student liaison report. When I became editor, Kailee Price was beginning her two-year student liaison position, and now Steven has finished his. I've been with this magazine for four remarkable years. As I missed Kailee, and as I will miss Steven, I'm also excited about the next two years with our new student liaison, Amber Backwell. Each student has brought so much to our Chapter. Student liaisons not only write for our magazine, they attend our Fall Conference and Trade Show, where they meet with the Board and bring a true student perspective to our considerations. Student liaisons also act as a conduit of information between the Chapter and WCVM. Please join me in welcoming Amber.

Our Conference, to be held November 5 and 6, 2016 at the same venue as last year (Pinnacle Hotel Harbourfront) is looking great already. Our four DVM speakers are confirmed: Drs. Peter Gordon, Marie Kerl, Kenneth Martin, and Tammy Owens. The trade show is already sold out, and tickets for the Conference will go on sale over the summer. In addition to our veterinarian program (which RVTs and staff are welcome to attend), we have something new for RVTs this year. We are happy to introduce a special RVT session led by Veterinary Technician Specialist Debbie Martin, all the way from Texas, who will show RVTs here in BC how to create Fear Free techniques to make the unpleasant more pleasant as well as tips and techniques to create the Veterinary Hospital "Spaw."

Finally, in case you missed it in the last issue, the Chapter has moved its office to Maple Ridge. Our new address is PO Box 21088 Maple Ridge Square RPO, Maple Ridge, BC V2X 1P7 and our phone is 604.406.3713. We are always happy to hear from you.

Email: wcveditor@gmail.com

WCV CONTRIBUTORS

KOHARIK ARMAN, DVM, graduated from the Atlantic Veterinary College in 2007 and entered feline-specific practice in Ottawa, ON. She moved to Vancouver, BC, in 2009 and started working at Cats Only Veterinary Clinic where she is currently employed. She also does locum work at Vancouver Feline Hospital and North West Nuclear Medicine for Animals. Koharik is a member of the Board of Directors of the CVMA-SBCV Chapter.

LINDA CREWS, BScH, DVM, graduated from Ontario Veterinary College in 1997. She is involved in reviewing, investigating, and teaching the benefits of medical records to veterinarians—previously with the CVO for nine years, and for the past five years with the CVBC. She is the founder of Advise a Vet Services which helps teach veterinarians the benefits of good quality medical records.

MARNIE FORD, PhD, DVM, DACVO, graduated from OVC in 2000 after completing a Bachelors in Zoology at the University of British Columbia and a PhD in Physiology at Monash University in Australia. Her research interests focus primarily on retinal function and toxicological retinal degeneration. In 2004, she moved back to Vancouver and opened West Coast Veterinary Eye Specialists.

DAVID FRASER, CM, PhD, joined UBC in 1997 as NSERC Industrial Research Chair in Animal Welfare. His work has led to many innovations in animal housing and management, from designing better pig pens to reducing highway accidents involving wildlife. He was appointed Member of the Order of Canada in 2005 for his work in animal welfare science.

SHACARA WASILIEFF, RVT, graduated from Thompson Rivers University in 2008. She has a Labrador retriever and four cats, one of whom is three-legged. Shacara loves living in BC and takes every opportunity to get outside. In addition to hiking with her dog and exploring new running trails, she also enjoys fishing, camping, kayaking, snowboarding, and cooking.

WCV

JUNE 2016

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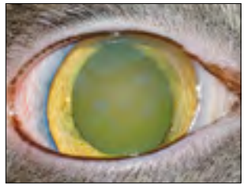
RAPS CAT SANCTUARY

june



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FELINE KERATO-CONJUNCTIVITIS

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RVTs IN THE ER

After a long winter, the Canadian Veterinary Medical Association (CVMA) looks forward to enjoying warmer weather at our Annual Convention in Niagara Falls from July 7 to 10, 2016. A strong scientific program, with 35 speakers from Canada and the United States, has been developed and offers up to 28 hours of continuing education (CE). Topics ranging from anesthesia and pain management to ophthalmology, and from nutrition to infectious diseases will be covered. Ninety-six concurrent sessions are offered over three days in tracks such as companion animal, equine, ruminant, and animal welfare. This program was reviewed and approved by the AAVSB RACE program to offer 118 CE credits to veterinarians (28 available per individual) and 112 CE credits to veterinary technicians (28 available per individual). As Niagara's largest conventions and meeting facility, the Scotiabank Convention Centre offers a generous canvas of uniquely designed spaces. More information can be found at www.canadianveterinarians.net.

"NEW FEDERAL REGULATIONS WILL REQUIRE VETERINARY OVERSIGHT OF THE USE OF ANTIMICROBIALS ADMINISTERED TO FOOD ANIMALS, INCLUDING THOSE ADMINISTERED IN FEED OR WATER"

The CVMA Emerging Leaders Program, sponsored by Virox Animal Health, will be held during the convention. The program helps identify and develop leadership skills within Canadian veterinarians, technicians, and technologists, while building a leadership network within the veterinary profession. Visit the CVMA website for more information.

This year's convention will also feature the first CVMA National Issues Forum, sponsored by Royal Canin, on Friday, July 8. This session, based on the CVMA's draft position statement on the issue of importing dogs into Canada, will allow for discussion/debate on the social, animal, and public health factors that make it a concern for the veterinary profession in Canada. Expert guest panelists will present their perspectives on this often polarizing issue. Be part of the discussion by attending the convention.

CVMA members can test-drive VetFolio® for a 30-day free trial period and receive a 20 per cent discount on an Individual subscription (USD $240 instead of $300) or on a Practice subscription (USD $432 instead of $540). In addition, students of the CVMA are eligible for a free subscription. Be sure to contact the CVMA office to obtain your CVMA member promo code to benefit from the CVMA discounted rate or the free student subscription.

The CVMA has a new web section called the Early Career DVM Resource Hub. Starting your new career as a veterinarian is a very exciting and challenging time of your life. The CVMA created this dedicated web section containing useful information, tools, and resources to help early career DVMs on their path to a successful career. The section includes three categories: financial planning and budgeting, communications, and career development. Some of the tools and resources in these categories include student loan repayment estimators, a phone budgeting app, and a link to instructional communications videos. Visit the Hub under the Practice & Economics tab of our website.

New federal regulations will require veterinary oversight of the use of antimicrobials administered to food animals, including those administered in feed or water. The tentative date to have new regulations in place is the end of 2016. Each month during 2016, the CVMA, in partnership with the Canadian Council of Veterinary Registrars (CCVR), will provide information to Canadian veterinarians to help increase awareness of key issues and new developments as the federal regulations are finalized and implemented. Monthly messages, under the banner of *Veterinary Oversight of Antimicrobial Use in Canada: Regulations are Changing…We Want You Prepared*, will be shared through the provincial and territorial veterinary associations and regulatory bodies and will appear on the CVMA's website under Policy & Advocacy. The CCVR and the CVMA have been working together to develop a pan-Canadian framework of professional standards for veterinarians especially pertaining to veterinary oversight of antimicrobial use. This framework will be presented at a broad stakeholder consultation taking place at the CVMA Summit on July 7, 2016, during the CVMA Convention. Monthly messages leading up to the July consultation will be planned to support and inform the upcoming discussion at the Summit.

I, and the rest of the CVMA staff, value your continued support as a CVMA-SBCV Chapter member throughout the summer so that we may continue to provide a voice for Canadian veterinarians.

The CVMA welcomes your comments and inquiries. Please contact us at admin@cvma-acmv.org or 1.800.567.2862.

Upon graduating from the Faculté de médecine vétérinaire at the University of Montreal in 1983, Nicole Gallant, DVM, returned to Prince Edward Island to practice at the Kensington Veterinary Clinic, a mixed animal practice. She became a partner in the practice in 1990, and what was supposed to be one year of practice turned into more than 30 years. Dr. Gallant became a councillor on the P.E.I. Veterinary Medical Association in 1988, and was its registrar from 1989 to 2002. She became the PEIVMA representative on the CVMA Council in 2007 and joined the CVMA Executive in 2012, becoming President of the CVMA in 2015.

Happy summer to everyone! It's always a relaxing time of year, full of great weather, vacation, family, and friends.

July 7 to 10, the CVMA will be hosting their yearly conference in Niagara-on-the-Lake. I will be attending and hope to see some of you there (don't be shy to come and say hello). This year, some of the exciting discussions I hope to attend are the Summit and the National Issues forum. The CVMA's Summit is one of its flagship programs, and this year's focus will be on the discussion of veterinary oversight of antimicrobials in animals and its impact on the veterinary profession. The Summit will engage with veterinarians and stakeholders to discuss regulatory changes in antimicrobial use and the associated impacts, with the intent of then setting and implementing positive changes for veterinary practice. I hope to bring some useful accessible information back to the CVMA-SBCV Chapter for members to use. New this year, the CVMA will host a National Issues forum with their associated committee, but anyone at the conference is invited to attend. The forum will focus on the importation of dogs into Canada and a panel of guest experts will present their perspectives.

"ONE HEALTH HAS BEEN A HUGE FOCUS IN VETERINARY AND HUMAN MEDICINE ALIKE"

One Health has been a huge focus in veterinary and human medicine alike. The CVMA is spearheading the topic this year. One Health considers health to be an interdisciplinary collaboration between those providing healthcare management for humans, animals, and the environment. Interaction between all sectors should have the effect of overall advancement and improvement for all. The University of Saskatchewan does its part by hosting a yearly One Health Leadership Experience to which it invites U of S students enrolled in any of the following programs: medicine, pharmacy, social work, or veterinary medicine. It is a three-day workshop that involves students with panelists to get a better understanding of how interdisciplinary their fields are. As the BC provincial body, this is a topic we could work on organizing and spearheading. Perhaps we could organize a yearly One Health workshop and invite some of our provincial health associations—dental, human health, pharmacists, social workers. The goals could be to address crossover topics such as prescriptions, antibiotic resistance, superbugs, human animal bond, euthanasia, and quality of life.

Another hot topic is the new human euthanasia bill which is slated to be passed by June 2016. I think it's an interesting topic for both human and veterinary medicine. Euthanasia and palliative care form a spectrum in end-of-life treatment, as I see it, with euthanasia at one end and palliative care at the other end, with some definite grey zone. Human medicine is advancing to more readily accept euthanasia as an end-of-life treatment, and veterinary medicine is advancing to be able to recognize palliative care and even natural death as acceptable end-of-life treatments. Perhaps with both professions seeing the benefits of both ends and accepting that they both can help with pain and suffering, we can all learn something new. In the past few years, I have attended several lectures on how far we are able to take palliative care in companion animals, and it is quite impressive. Animal owners are definitely looking for the same spectrum of care for their beloved pets that they hope to receive themselves. In addition, maybe the human health field can learn from us on euthanasia and its utility in ending pain and suffering.

Wishing our readers, both CVMA-SBCV Chapter members and non-members, a great summer.

Sarah Armstrong, DVM, graduated from OVC in 2007. Following graduation, she worked full time in general practice and worked part time at a local emergency practice in Southern Ontario before moving to Vancouver, BC, where she currently works at the Vancouver Animal Emergency Clinic.

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PASSING THE TORCH

I am writing this article with one month left of my third year at the WCVM. This time of year is bittersweet. As everyone is excitedly planning their summer and looking forward to their fourth and final practical year of studies, we also know that this is the last month we will all be together at the same time (aside from Graduation Day). After three intensive but exceptional years, my classmates and I will be attending our last lecture and writing our last exam together. I'm certain that most of us will not miss sitting in class for seven or so hours every day, followed by long nights full of studying. However, we all went through these stressful times together, and built strong friendships along the way. To fit this theme, I thought my last article for *West Coast Veterinarian* should be a summary of one of the last weeks in the year.

On Monday afternoon, the Wildlife and Exotic Animal Medicine Society, a student-run club, held its annual exotic animal handling and examination lab. This year, students got to practice handling rabbits, guinea pigs, rats, mice, gerbils, turtles, tortoises, snakes, cockatiels, parakeets—and a ferret. Pets are volunteered by their owners (most often veterinary students and professors) to participate. Students always have a great time in the lab and learn important practical skills, as there are no exotics handling labs in the formal WCVM curriculum.

The next day, the Animal Behaviour Club hosted a lunchtime talk on clinical veterinary behaviour and discussed a case on canine aggression. They were fortunate enough to have Dr. Karen Van Haaften, a small animal behaviour resident from UC Davis, visiting the school to give the talk. On Wednesday, the week really started to get busy. Representatives from banks, laboratories, equipment dealerships, and drug and pet food companies visited the school for the annual VIP days. During class breaks and the lunch hour, students could meet the companies and ask questions about the products and services we will soon be using. Later that afternoon, the Equine Club ran an introductory farrier lab. Farriers Laurie Tonita, Norm Kohle, and Todd Bailey graciously took time out of their busy schedules to spend time with students as they happily struggled through learning the art of hoof trimming. Kirstie Oswald said, "I have a newfound respect for the work and skill that goes into maintenance, as well as therapeutic shoeing." The goal of the lab was not only to develop the skills required, but also to teach the students the importance of the veterinary–farrier relationship that is required to provide the highest degree of welfare to our future patients. That same afternoon, the Animal Behaviour Club also organized a live herding dog demonstration and discussion with Jared Epp, the president of the Saskatchewan Stock Dog Association. Students were given an introduction into the genetics, training, and behaviour of stock dogs. It was amazing to see the intensity, intelligence, and instinct the dogs possessed as well as the connection and intuition of the trainer.

Dr. Emilia Gordon from the BC SPCA visited us on Thursday for a pizza lunch talk hosted by the Animal Welfare Club. This excellent guest lecture gave us an introduction into shelter medicine and philosophies in the healthcare and welfare protocols of the SPCA. Later that evening, the third-year class held its last Trivia Night as a fundraiser for our graduation. As always, it was a fun night out with veterinary students, professors, and students from other disciplines. The school week ended on Friday with radiology rounds, a talk on the uses of animals throughout history, a seminar on the transmission of Chronic Wasting Disease, and a lunchtime BBQ fundraiser for the Global Vets Club.

To wind down after such a busy week, students from all years attended a BBQ and bonfire at a professor's house on Friday night. Tim Donihee, a second-year student and the recipient of the WCVM Class of 85 Back Row Boys Bursary, organized the event. Traditionally, the bursary is used to pay for the costs of the event and is awarded to a student with outstanding leadership, participation in school events, and an interest in promoting community at the school. The goal of the night is to allow everyone to relax, and get together before final exams. On Saturday, the Western Canadian Veterinary Students' Association hosted its annual hockey tournament. This is another much anticipated event for students and professors. A local rink was rented for an entire evening, and teams from a mix of all skill levels, from first time skaters to advanced hockey players, participated. Everyone had a great weekend, and we even had some students from the University of Calgary Faculty of Veterinary Medicine join us for our weekend activities.

PHOTO BY ANNEKA / SHUTTERSTOCK.COM

I think it is fair to say that veterinary students are busy people. For time and interest's sake, I did not include the mandatory lectures, labs, studying, and exams that took place over the week. I am amazed at the level of involvement of the students at our school. It is also important that we take a step back from school, appreciate those around us, and enjoy the downtime. Some of the best learning happens in the extra labs put on by student clubs, and the weekend social events truly help build the veterinary school experience. I believe that going through such a rigorous curriculum and still making time for things outside of school makes veterinarians an integral part of the community they become a part of.

Being the student liaison for the CVMA-SBCV Chapter over the last two years has been a great experience. I was lucky enough to write for *West Coast Veterinarian* and attend the Chapter's conference in Vancouver. I met a lot of interesting people and am glad I got this opportunity. After graduation, I hope to return to BC to practice and continue to be a part of the society and the collective voice of BC veterinarians.

"THERE ARE NO EXOTICS HANDLING LABS IN THE FORMAL WCVM CURRICULUM"

With that, I am happy to be passing the torch to an exceptional student at the WCVM, Amber Backwell. We've asked Amber to tell us a little bit about herself, and this is what she had to say: "British Columbia has been my home since 2009 when I moved there from Ontario to pursue a Masters of Public Health. I fell in love with the province, its natural beauty, and—of course—its abundant wildlife. I am an avid hiker, and I love to get outside and explore, so naturally my interests tend towards wildlife medicine and health. I hope also to get the chance to work one day in mixed animal practice and gain experience in that kind of setting. I am currently in my second year of the DVM degree at the WCVM, which has been a busy yet rewarding experience thus far. I am extremely grateful for this opportunity to be the student liaison for the CVMA-SBCV Chapter, and look forward to getting back to BC after I graduate and becoming a part of the province's veterinary profession. But before I return, this summer I will be travelling to Africa with five other veterinary students with the WCVM Global Vets Club to volunteer, so stay tuned for more on my experiences in Africa in our next issue!"

Steven Chapman was born and raised in Fort St. John, BC, and over the summers has returned home to work at the local small animal practice. He likes to spend his spare time playing guitar, carving stone, and being outdoors, particularly camping, hiking, and fishing. He is the CVMA-SBCV Chapter student liaison and is in his third year at WCVM.

FELINE KERATOCONJUNCTIVITIS

BY MARNIE FORD, PhD, DVM, DACVO

KERATO = CORNEA (Gr.)
CONJUNCTIVA = CONJUNCTIVA (L.)
ITIS = INFLAMMATION (Gr.)

Conjunctivitis is the most common ophthalmic problem presenting in cats. Signs include conjunctival hyperemia, chemosis, blepharospasm, and sometimes follicles [PHOTO A, PHOTO B]. Owing to the highly vascular nature of conjunctival tissue, conjunctivitis is often a result of bacterial or viral infection. Such infections include *Chlamydophila felis*, *Mycoplasma felis, M. gatae, and M. arginini*, salmonella, reovirus, *Bordetella bronchiseptica*, feline herpes virus-1 (FHV-1), and calicivirus. Other forms of conjunctivitis include immune-mediated conjunctivitis, such as eosinophilic conjunctivitis (EC), allergic conjunctivitis or hypersensitivity reaction, lipogranulomatous conjunctivitis, and parasitic conjunctivitis.

Unlike the richly vascularized state of conjunctival tissue, corneas with intact epithelium are an inhospitable landscape for most infectious organisms. Secondary or bystander conditions of the intact cornea are most commonly caused by viral (FHV-1) or immune-mediated (eosinophilic keratoconjunctivitis (EK), corneal dystrophy) processes. Unlike the intact corneal epithelium, the corneal stroma is subject to infection by bacteria and fungi, to degeneration, and to sequestrum formation. Unfortunately, FHV-1 and EK have evolved to exploit both conjunctival and intact cornea. It has been theorized that these two conditions are etiologically linked.

FELINE HERPES VIRUS-1 (FHV-1)

Etiology: FHV-1, an alpha herpesvirinae, is a highly adaptable virus common to many species. It has been suggested that 95 per cent of cats are seropositive for FHV-1 via exposure to vaccine or transfer of wild-type virus between cats. The dormant FHV-1 virus reactivates to creep (Gk: *herpein—to creep*) its way along nerves in the conjunctival and corneal tissue resulting in conjunctivitis, keratitis, corneal ulceration, symblepharon formation, chronic epiphora, EK, sequestrum formation, keratoconjunctivitis sicca, and anterior uveitis.

Herpes, referred to as *the glitter of craft supplies* by talented comedian Demetri Martin, is a permanent infection that may be dormant in the cat's body for life, or flare up (recrudesce) at any time. Stress is the biggest factor in triggering recrudescence.

Clinical Signs: Direct damage by a cytolytic virus causes ulceration of mucosal and corneal epithelial cells. Indirect damage occurs via immune effects mediated by inflammatory cells causing stromal keratitis or lymphoplasmacytic conjunctivitis (when chronic). Clinical signs vary between acute, latent, reactivation, and recrudescent phases of infection. In the acute phase, fever, inappetence, and sneezing are followed by serous to mucopurulent nasal discharge, acute hyperemic conjunctivitis, ocular discharge, chemosis + URT signs, acute corneal ulceration (dendritic to geographic epithelial), and chronic corneal ulceration (a dense vascular response and immune-mediated stromal keratitis). Acute infections mainly affect susceptible kittens and juveniles. Secondary bacterial infection may lead to deep corneal ulceration or corneal perforation. Infection in neonatal kittens can result in ophthalmia neonatorum, symblepharon formation [PHOTOS C+D], neurologic signs, or high mortality. Rarely, abortion will occur in pregnant queens infected with herpesvirus. Primary disease in cats is usually self-limiting (10–20 days); however, it is during this phase that viral latency is established in the majority of cats. The latent phase is the same as the acute phase, whereby FHV-1 DNA persists in episomal form in the nuclei of trigeminal ganglia, but is less severe because FHV-1 RNA transcription is very limited and infectious virus is not produced. Lifelong latency occurs in at least 80 per cent of cats (carriers). Most cats are latently infected with FHV-1 and are exposed to it as kittens, though normally protected by passive immunity until 2 months old. At least half of these cats continue to have latent reactivation and spontaneous shedding of virus. **Reactivation** of a latent virus requires establishment and maintenance of the virus and

PHOTO BY CLICK.BESTSELLERS / SHUTTERSTOCK.COM

can take place throughout the life of the host. Spontaneous reactivation is uncommon and often associated with a stress event (moving, lactation, corticosteroid administration). **Recrudescence**, the intermittent and recurrent episode of viral reactivation, can manifest in a wide range of signs that may be systemic and/or ocular, with ocular signs being unilateral or bilateral. Ocular signs include conjunctivitis, with or without keratitis, and can last from a few days to several weeks. Generally, conjunctivitis occurring due to recrudescence is less severe than when caused by primary infection, where inflammatory cell infiltrates result in thickened conjunctiva and redness.

Diagnosis: FHV-1 infection is suspected in any young cat with uni- or bilateral conjunctivitis with corneal involvement. The presence of dendritic ulceration [PHOTO E] is considered pathognomonic for FHV-1 infection, but the incidence of this form of ulceration is much rarer than discussed in the literature, and is typically absent in recrudescent infections. Dendritic corneal ulcerations may initially involve the epithelium only and are therefore fluorescein negative but Rose Bengal positive.

The most common laboratory diagnostic methods to demonstrate presence of FHV-1 (tissue/swabs) are fluorescein antibody detection, virus isolation (VI), and polymerase chain reaction. VI (oronasal/conjunctival swabs) is considered to be the gold standard test, and it is generally accepted that a positive result of all three tests is required for a positive diagnosis of active FHV-1 infection. Three aspects of laboratory diagnosis of FHV-1 frustrate the testing process: (1) confirming that chronic lesions are caused by FHV-1 is often complicated by the lack of viral shedding during the maintenance or latent phases; (2) FHV-1 or viral 1 DNA can be detected in samples from clinically normal cats and a positive may be coincidental, consequential, or causal; and (3) viral neutralizing antibodies can be low/slow to develop and, as such, a low level of neutralizing antibodies does not imply the absence of protection against clinical disease. Serologic test results are predictably positive in most cats because of the widespread exposure to the vaccine or wild-type virus.

Treatment: All antiviral medications are virustatic and not virucidal, because viruses are not truly living organisms and require host cells for replication. The virostatic nature of the medications requires a very high frequency of application for appropriate response. There is a high cost of medication, topical application can be painful, and anti-viral mediations may fail because they cannot distinguish between infected and non-infected cells resulting in host cell toxicity. The ideal anti-viral drug would suppress viral replication without suppressing host cell function, but this drug has yet to be developed. Famcyclovir has been shown to have positive results in the control of conjunctival signs associated with FHV-1 infection. As the viral cycle is self-limiting, treatment for corneal lesions is typically supportive and includes broad-spectrum eye drops or ointments, antivirals (nucleoside analogues) and adjunct therapies (non-nucleoside analogues). Similarity between FHV-1 and other alpha herpesvirinae (specifically human Herpes Simplex Virus -1 (cold sores)) has led to the empirical use of HSV-1 therapies for FHV-1.

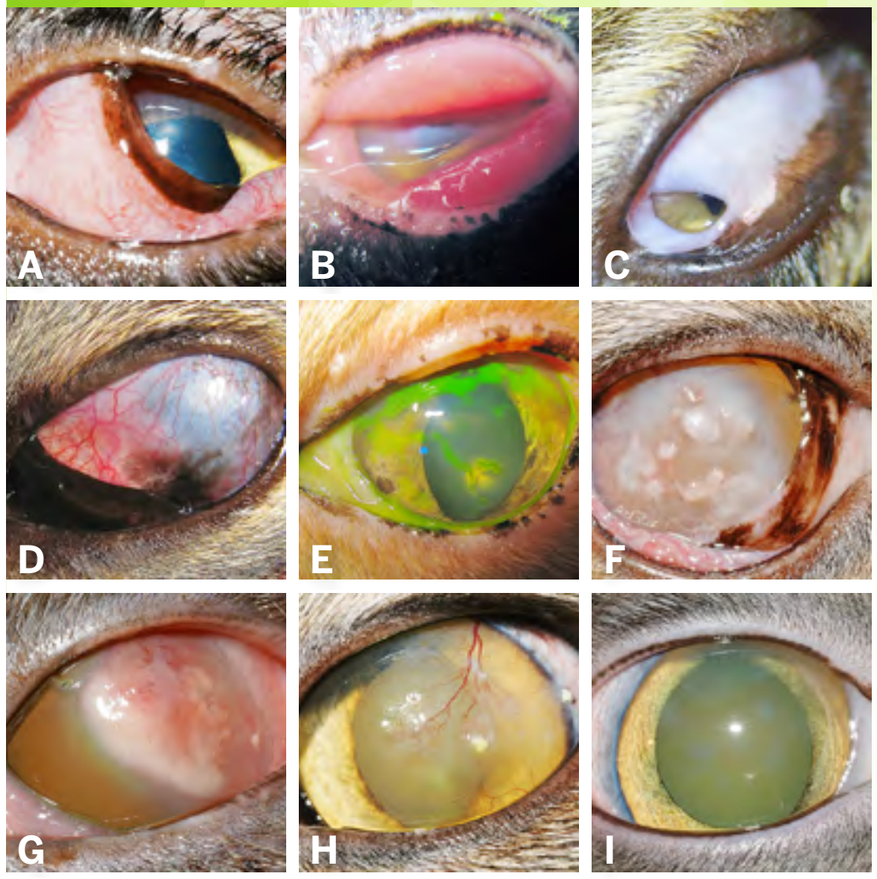

PHOTO A Conjunctivitis. **PHOTO B** Chemosis. **PHOTO C** Adhesions between the third eyelid and the cornea or eyelids (symblepharon) may lead to permanent protrusion of the third eyelid and incomplete opening of the eyelids. **PHOTO D** The corneal epithelium may be replaced by conjunctival-like epithelium that contains blood vessels and is not completely transparent. **PHOTO E** Dendritic corneal ulceration secondary to FHV-1 infection. **PHOTOS F + G** Uncontrolled eosinophilic keratitis (EK). **PHOTOS H + I** Controlled eosinophilic keratoconjunctivitis.

"CORNEAS WITH INTACT EPITHELIUM ARE AN INHOSPITABLE LANDSCAPE FOR MOST INFECTIOUS ORGANISMS"

Unfortunately, these medications have had less than desirable effects in cats.

In an effort to help minimize viral recrudescence, adjunct therapies are prescribed. These include attempts to minimize stress, 5% hypertonic saline, L-Lysine, lactoferrin, interferon, vitamins, antioxidants, serum, and lubrication. Some cats are quite painful and require analgesic therapy, such as oral buprenorphine. Arginine is an essential amino acid in the cat and is required for viral replication. Lysine antagonizes arginine. When treated with lysine, cats have decreased incidence of recrudescence but not decreased severity or shedding of the virus. The duration and intensity of an outbreak is unchanged.

EOSINOPHILIC KERATOCONJUNCTIVITIS (EK)

Etiology: EK is an immune-mediated inflammatory disease of the cornea and/or conjunctiva of young adult mixed breed cats that is characterized by progressive vascularization and cellular infiltration. The cause of EK is believed to be related to underlying FHV-1 infection and/or an autoimmune reaction. This disease is progressive and can grow to involve the entire surface of the eye causing blindness and discomfort. Often, it is initially detected in one eye; however, the disease may progress to involve both eyes.

Clinical Signs: EK often starts near the lateral or ventromedial limbus, and may affect one or both eyes. Typical clinical findings include vascularization and infiltration of the perilimbal cornea, presence of gritty, white corneal plaque(s) composed of inflammatory cells including eosinophils, thickening and hyperemia of the adjacent conjunctiva and third eyelid, and ocular discharge [PHOTOS F + G]. EK should be suspected in any cat with a relatively pain-free slowly progressive corneal vascularization with white infiltrative plaques in the cornea. There is often little discomfort present.

EC is seen infrequently. Clinical signs include thickening and hyperemia of the conjunctiva and ocular discharge. Depigmentation and ulceration of the eyelid margins and nasal canthus are seen in some cats. The cornea is not affected. Diagnosis and treatment are as for EK.

Diagnosis: The diagnosis of EK can be confirmed by cytologic examination of a corneal and/or conjunctival scrape specimen using a Kimura spatula. A conjunctival snip biopsy may also be useful in obtaining a diagnosis. Eosinophils and mast cells are present. *Note:* The gritty, white elevated plaques often stain positive with fluorescein dye, but topical steroid therapy is not contraindicated in these patients, making it a challenge to determine when to treat or not to treat with a topical steroid. These patients must be examined by an ophthalmologist.

Treatment: Treatment consists of topical corticosteroids such as 1% prednisolone acetate or dexamethasone 0.1%. These medications are used initially 2–4 times a day until all clinical signs disappear [PHOTOS H + I] and then slowly tapered to determine the lowest frequency of application that will maintain a clear cornea. Lifelong treatment is often necessary. In the presence of corneal ulceration, treatment is restricted to oral prednisone and a topical antibiotic. A topical steroid-antibiotic combination solution may be used at a reduced frequency but only under **strict** observation for worsening of the ulcer. Recurrences are common, especially if medications are discontinued too quickly. Systemic megestrol acetate can be used if ulcerative keratitis is present or if the character of the cat prevents treatment with topical eye medications. While the dose recommended for use in cats in the treatment of EK is very low, the potential risks associated with this medication in cats may include profound adrenocortical suppression, adrenal atrophy, an iatrogenic "Addison's" syndrome, transient diabetes mellitus, enlargement or (rarely) cancer of the mammary gland, and liver toxicity. These potential risks must be discussed with owners prior to use.

FHV-1 infection has been shown to be present in a large number of cats with EK. Its exact role in the pathogenesis of the disease is still unknown since the prevalence of FHV-1 in cats is almost ubiquitous. Topical and/or oral use of corticosteroids in treatment of EK may reactivate latent FHV-1 virus resulting in FHV-1 keratitis. In such cases, treatment with antiviral medications needs to be started and topical steroid use discontinued until the FHV-1 keratitis has resolved. It has been suggested (but is debatable) that both antiviral medications and corticosteroids be used in the treatment of EK. To my mind, treatment of EK and FHV-1 recrudescence is analogous to balancing treatments in a patient with heart and renal failure.

TAKEAWAY MESSAGES

- FHV-1 and EK are the only two non-neoplastic, acquired conditions that can infect both intact corneal and conjunctival tissue.
- When present concurrently, treatment of one condition can exacerbate the other condition.
- Neither FHV-1 or eosinophilic keratoconjunctivitis can be cured, but both conditions can be controlled.
- FHV-1 and eosinophilic keratoconjunctivitis may or may not be etiologically linked. WCV

FIFTEEN REMARKABLE YEARS OF ANIMAL WELFARE

BY DAVID FRASER, CM, PhD

ABOVE The OIE Animal Welfare Working Group in June 2015 (David Fraser at front right).

Fifteen years ago, the world of animal welfare entered a new phase. Until that time, animal welfare had mostly been an issue in the economically developed countries, but in 2001 the World Organisation for Animal Health, better known by its old acronym "OIE," expanded its mandate to include the development of global, science-based standards for animal welfare.

For those of us toiling in the obscure field of animal welfare science, this sudden attention came as a complete surprise, and some of us were skeptical about where it would lead. Fortunately for me, Brian Evans, Canada's delegate to the OIE, recruited me to join what became the OIE's Animal Welfare Working Group, and from skeptic, I was plunged into being one of about ten people who had to make this new initiative work.

Our strategy was to keep the first standards close to the traditional business of the OIE, so we began by focusing on animal transport (by land and sea), slaughter, and the killing of animals for disease control. For each topic, we assembled a small international group of experts to draft the standards through a long consultative process. By 2005, we had four draft standards to put before the member nations. It was a completely new direction for many of the delegates, and we had no idea how they—mostly state veterinarians with no previous involvement in animal welfare—would respond. To my considerable amazement, all four standards passed unanimously. These were then followed by standards for stray dog control (a priority because of the link to rabies) and others. The current emphasis is on developing standards for production systems, with beef cattle and broiler chickens as the first to be adopted. Standards have also been adopted for the transport, stunning, and killing of farmed fish.

"STANDARDS, OF COURSE, ARE JUST WORDS, AND AS WITH MOST INTERNATIONAL AGREEMENTS, MEMBER COUNTRIES ARE UNDER NO LEGAL OBLIGATION TO FOLLOW OR ENFORCE THEM, SO DO THEY ACTUALLY MAKE ANY DIFFERENCE?"

Standards, of course, are just words, and as with most international agreements, member countries are under no legal obligation to follow or enforce them, so do they actually make any difference? I think the OIE standards have their effect in three ways.

First, in the many countries that have no animal welfare laws, the state veterinary service has little power to make improvements to animal welfare. The OIE standards at least give state veterinarians some basis to intervene over inappropriate practices, for example, at slaughter facilities, on the grounds that the country has agreed to follow international standards.

Second, the standards can be incorporated into bilateral trade agreements. The first example was the EU–Chile agreement whereby Chile can export animal products to Europe as long as its slaughter facilities met OIE standards.

And third, the standards empower a degree of international pressure. Some years ago, it became clear that pigs were being buried alive in a foot-and-mouth eradication in an Asian country, in clear violation of the OIE standard. The OIE, along with a number of member nations including Canada, pressured the government of the country to intervene on the grounds that they were violating a standard they had agreed to support, and the practice was stopped.

The involvement of the OIE has also given animal welfare a degree of global prominence that it never had before. The different regions of the OIE now have "Regional Animal Welfare Strategies" that include training and coordination activities, and most of the world's countries now have an animal welfare "focal point"—usually a government staff member who is meant to keep abreast of the issues and developments and organize actions at a national level. (One of our UBC animal welfare graduates is the focal point for Slovenia.)

Ramping up world attention to animal welfare is a slow process, but the past 15 years have seen the issue achieve a level of global prominence that I had never expected to witness. For more information on the OIE's engagement, I think the best place to start is: http://www.oie.int/animal-welfare/animal-welfare-key-themes/. WCV

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RAPS CAT SANCTUARY

BY KOHARIK ARMAN, DVM

This year, 2016, has been off to a dramatic start in British Columbia; by February, the BC SPCA had seized 81 dogs and 67 cats in pet raids on commercial breeding and boarding facilities in Surrey and Langley. As a result, BC Premier Christy Clark announced in February that new regulations for dog and cat breeders would be developed under the Prevention of Cruelty to Animals Act (PCAA), and in addition to complying with mandatory licensing, breeders must also recognize the CVMA's Code of Practice for catteries and kennels.

The CVMA's Code of Practice was previously a set of guidelines with no legal authority to set enforceable standards. Now, with the development of new laws to regulate and license breeders and monitor their facility conditions (Order-in-Council dated April 24, 2016), the incorporation of the CVMA's Code into the system will give it more teeth than it had in the past. The Code was intended to provide guidelines for creating legislation and regulations regarding cattery and kennel standards, and in BC, it is now fulfilling that exact purpose.

The Code specifically details standards of housing requirements for dogs and cats as they pertain to physical requirements: location, construction, square footage, indoor and outdoor access, noise and lighting control, ventilation systems, temperature and humidity levels, sanitation practices, and quality of and accessibility to food and water. Additionally, the Code addresses matters of veterinary health care, animal supervision and staff protocols, whelping requirements, human and animal socialization, environmental enrichment, exercise needs, group housing, transportation, animal identification, and recordkeeping practices.

The most basic specifications included in the CVMA Code of Practice are enclosure sizes for cats and dogs housed singly and in groups. The minimum space requirement for an adult cat is 1.5 square metres with a height of 0.75 metres. For group housing situations, the minimum allowable space increases to 1.7 square metres and 1.75 metres in height per cat. For adult dogs, the minimum space requirements are scaled to body weight and range from 1.1 to 2.2 square metres with a minimum height of 1 to 2 metres, depending on the weight category in which the dogs fall.

The CVMA Code of Practice for kennels and catteries has also been incorporated into the Canadian Standards of Care in Animal Shelters, a document that was developed to support the Association of Shelter Veterinarians (ASV) guidelines. The ASV and the Canadian Standards of Care are voluntary guidelines, and there are currently no legally enforceable regulations specific to shelter care in British Columbia. However, the Province of BC has 39 humane societies and SPCA branches, not to mention dozens more charity animal rescue operations. Thousands of cats and dogs sit in rescue catteries and kennels across BC at any given moment, not just in breeding and boarding facilities within the province. And within the population of shelter animals, the number of cats present is more than double that of dogs.

Despite their modest budgets, some rescue organizations manage to house their dogs and cats in conditions that do largely meet the CVMA Code for kennels and catteries and the Canadian Standards of Care in Animal Shelters. One such successful cattery is the famed Richmond Animal Protection Society (RAPS) Cat Sanctuary. The RAPS Cat Sanctuary, or the Richmond Homeless Cats Society as it was previously known, was founded by cat lover Carol Reichert in 1989. She created the Society in response to the large number of feral cats populating Richmond. The Society focused on a TNRM program: trap, spay/neuter, release, and maintain. Maintenance included providing shelter, food, and veterinary care to the feral cats. In 2005, the Society was renamed the Richmond Animal Protection Society, because the scope of care expanded to include dogs and other companion animals, and the Cat Sanctuary became a specialized branch within the larger RAPS organization.

The cats who reside at the Sanctuary come from a mix of both domestic and feral backgrounds. The majority of the inhabitants were originally feral, lost, or abandoned, but others have been surrendered by owners due to behavioural or medical problems—or both. Owners who wish to surrender their cats to the Sanctuary are required to pay $2500 to help cover the costs of care. On occasion, volunteers will adopt well-socialized Sanctuary cats, but the majority of felines who enter the Sanctuary live out the rest of their days there.

Historically, the Cat Sanctuary struggled with providing adequate accommodations for its resident cats, but it has now reached a happy balance of generous space available, appropriate daily maintenance practices, and a smaller number of cats present in the shelter. Currently, there are approximately 450 cats living at the Sanctuary, but at one time there was twice as many.

The RAPS Cat Sanctuary is situated on six acres of farmland, and the Sanctuary itself occupies approximately one acre of land. It provides both indoor and enclosed outdoor living spaces for its residents, and is divided in a manner that facilitates the separation of cats who are unable to cohabitate peacefully with some of the other felines. Additionally, there are special living quarters for FeLV positive and FIV positive cats, as well as isolation areas in which cats who have contracted fleas or upper respiratory infections can reside until they are well again.

There are large pens in the back area that can be used to house well established feral cat colonies. Janet Reid, manager of the Cat Sanctuary, describes how 12 to 15 feral cats that were trapped by a cement plant

"A HAPPY BALANCE OF GENEROUS SPACE AVAILABLE, APPROPRIATE DAILY MAINTENANCE PRACTICES, AND A SMALLER NUMBER OF CATS PRESENT"

PAGE 20 Stacked crates are some of many bed options for RAPS residents. **PAGE 21** A cautious feral cat on the roof of his outdoor house. **PAGES 22–23** (from left) A cat enjoying the sun in the RAPS garden; feral cat houses; a feral cat colony in their outdoor fenced pen. **PAGES 24–25** (from left) Freshly washed towels in the laundry room make a luxurious bed for this cat; an FIV-positive cat in his separate living quarters; some of the cats are sociable but unadoptable—this cat needs special care; a cat relaxing on one of the many indoor perches.

PHOTOS OF RAPS BY PAULA GRASDAL

“THE SANCTUARY ALSO PROVIDES HUMAN SOCIALIZATION FOR ITS RESIDENTS”

continue to live with one another in their established social structure in one of these enclosures. And because these cats are accustomed to outdoor living, outdoor hut shelters with straw bedding are provided for the cats who only want to live outside. Currently there are four cats at the Sanctuary who never live indoors.

When new cats are introduced into established colonies, Janet institutes a one-month transition period. Newcomers are examined by veterinarians, tested for FeLV and FIV infections, administered flea treatments, dewormers, and vaccines, and are then spayed or neutered. The majority of felines at the Cat Sanctuary receive their veterinary care at No. 2 Rd. Animal Hospital, but on occasion Terra Nova Village Veterinarian also provides services to the Cat Sanctuary. After the newcomers’ veterinary care has been completed, they are moved to the Sanctuary in transfer cages, and are then released into large, six-foot-tall walk-in cages where they are housed for four weeks, giving them the time needed to acclimatize to their new home before they join the general population.

In terms of day-to-day operations, Janet Reid’s descriptions suggest that the Sanctuary is indeed meeting the CVMA Code requirements specific to hygiene, structural specifications, and food and water provisions. Although there is a number of paid staff members, there are approximately 100 volunteers who keep the Sanctuary functional. Sanitation is performed on a daily basis. In the morning, the volunteers and staff do the cleaning: litter scooping, changing the bedding, cleaning laundry, administering food and water, washing dishes, and sweeping and washing the floors. At night, the litter boxes are scooped for a second time, availability of fresh water and dry food is checked, and wet food meals are given. The fulltime staff are responsible for administering veterinary medications that have been prescribed for various health issues such as ear, eye, and skin infections, and other maladies. They also administer subcutaneous fluids, B vitamins, glucosamine, and other remedies to their geriatric cat population. Janet points out that at any given time the list of feline residents who require daily medical treatments fills two pages.

In addition to providing feline interaction and companionship through its group housing structure, the Sanctuary also provides human socialization for its residents, as stipulated by the Code. There is a Kitty Comforter program that runs for three hours every morning. The Kitty Comforters are a group of volunteers who spend time with sick cats who need extra attention and the more feral cats who otherwise do not socialize as much with other volunteers and visitors.

With regard to veterinary care, once cats have been assimilated into the Sanctuary, Janet says that they receive yearly Advantage flea treatments and are dewormed with Profender, but they do not receive ongoing vaccinations or wellness checks after their initial admission treatments. Individuals who are noted to be showing symptoms of disease are transported to the local veterinary clinic and are treated in accordance with recommendations. Lab work and X-rays can be done, but diagnostics past this baseline data are beyond the Sanctuary’s budget. Local veterinary clinics provide discounted services to the Cat Sanctuary and occasionally make donations and buy tickets to fundraisers, but the cost of veterinary care for the Sanctuary’s feline residents is still substantial, particularly for the senior and FeLV and FIV positive cats. Given their aging population at the Sanctuary, Janet reports that they say goodbye to up to 200 cats per year: a process which can be very emotionally taxing for both staff and volunteers.

Aside from the emotional costs associated with running the Sanctuary, the monetary costs of running such a large operation are met through fundraising events, private and industry donations, and 100 per cent of the revenue made by the RAPS Thrift Store. The Cat Sanctuary is currently working toward a budget that will accommodate an on-site veterinarian and veterinary technician, allowing for more thorough and timely care, and improved welfare for the Sanctuary cats. When asked about the BC government’s promise to improve upon commercial kennel and cattery conditions, Janet Reid said that she believes that the resultant changes will be positive, but only if there are adequate resources in place to facilitate the proactive enforcement of any new regulations.

Like the Sanctuary and other shelter organizations, the BC SPCA is a key stakeholder in these new animal welfare developments in the province, and is in fact the main collaborator in this project with the government of BC. And although the recent media announcements specify that Premier Christy Clark has committed solely to controlling commercial breeder operations, the BC SPCA is hoping to create regulations that also pertain to animal boarding businesses, day care operations, pet stores, and shelter facilities. Geoff Urton, BC SPCA Senior Manager of Stakeholder Relations, says that it is early on in the consultation process with the government, but that they have proposed the New Brunswick SPCA regulatory model to the BC government. The NBSPCA model addresses inspection, regulation, and licensing issues as regards all of the aforementioned animal operations, and by and large the changes in New Brunswick have been successful at improving province-wide animal welfare. The NBSCPA efforts have even seen cooperation from Kijiji, which has been pulling down advertisements for the sale of puppies and kittens that do not provide license numbers.

Unfortunately, the one area that has been difficult to enforce has specifically been the regulation of cat facilities due to a lack of resources. But of course, because of the large number of cats in shelters and catteries in the province of BC and Canada-wide, improving the living conditions of these cats and moving toward group housing shelter models is essential. Janet Reid feels that the group housing and spacious accommodations at the Cat Sanctuary help to keep their resident cats happy and healthy. With the exception of an upper respiratory tract virus moving through the shelter two years ago, they have not had to contend with significant disease outbreaks. Geoff Urton describes similar successes in the BC SPCA branches that have already transitioned to group housing for shelter cats. He advises that disease rates have gone down notably, and flow through, or adoption, rates have gone up.

Undoubtedly, veterinarians in BC will welcome the new legislation in the PCAA that is anticipated to come into effect in 2017. Nationwide, our province already holds first place as having the strictest animal cruelty penalties in place, and it will be a positive change to see companion animal breeding regulations and standards implemented that will again serve to improve the welfare of our cats and dogs in BC; and perhaps the province will even be so bold as to move forward with regulations that share the broad scope of the NBSCPA model and will impact an even greater number of animals. WCV

VETERINARY MEDICAL RECORDS

WHO DO THEY BENEFIT?

BY LINDA CREWS, BScH, DVM

Sixty years ago it was believed that the experts in any given professional field knew best, and they were given complete autonomy to work as they saw fit. Then, as popular opinion evolved, came a mounting pressure to standardize, measure, and produce exacting outcomes. The pressure arose from the media, growing access to computers, and a new generation of people expecting instant gratification and prosperity. While this demand for the highest quality service created accountability in the professions, it also removed some of the altruism. This obligation to provide the highest quality care, combined with the excessive scrutiny that most professions are under, has escalated the burnout rate of medical professionals. So where is the silver lining?

Since assessment is unlikely to go away, we as medical professionals need to use these tools of standardization and measurement to support our love of the veterinary field, to find ways to purpose the required medical records to sustain and protect our careers, and to motivate ourselves and our staff to ultimately advance the profession.

Measuring the success of medical records requires a trip down memory lane—to the best teacher you ever had. A teacher is a connoisseur of information, a learned person who helps others grasp new concepts. Often teachers become your favourites because they are able to transfer information to you in such a manner that you become aware of their degree of skill and knowledge, empathy, collaborative goals, high expectations, respect for their students, love of their jobs, professionalism, and their commitment to continuing education.

In my previous article, I mentioned five factors that make veterinarians unique, and I submit that veterinarians spend an enormous part of the day acting as educators. We instruct owners on what is required to be a successful guardian; staff on how to monitor and interpret a patient's clinical signs; the public on the cost of medical and preventative care; staff and clients on how variables (species, severity of disease, modification of environment, level of care, and access to diagnostics) affect disease and treatment outcomes; and we instruct each other on what has occurred, what is required, and what might be needed in some 30+ health care disciplines for any given patient, each and every day.

As many of us realize, it is very difficult to act as a successful Jack or Jill of all trades. How many professional hats can you wear in a ten-hour day? This is where your medical records can support you and your career. If you don't prefer certain aspects of the teaching mentioned above, set up your medical records so that the records can do it for you.

ERRORS AND OMISSIONS—DID YOU FIND ANY?

In the fictitious medical record in my article in the previous issue of *West Coast Veterinarian*, there are at least 45 potential errors or omissions which are seen in the veterinary world equally in both handwritten and computerized records.

The first 20 discrepancies are found in the client and patient information section. Remember, approximately 75 per cent of all complaints are a direct result of miscommunication and misunderstanding, so most of these issues can be avoided by receiving and conveying the correct details. At many clinics, this section is completed by the pet owner. Often pet owners are not aware of the critical importance of this information and its accuracy, and they complete the paperwork with little attention to detail.

So, what does that matter? Who has time for that? Think of all the times when a client was unhappy, or you couldn't proceed in a timely fashion, you looked less than professional, or an error occurred that you had to sacrifice revenue for, because you or your staff:

- Got the client's name wrong—you used the surname instead of the first name, or the ex-spouse's last name, or the deceased partner's name. Or the name has changed due to an unhappy divorce, or you can't pronounce the name because the handwriting is so poor.
- Tried to call—the cell number is disconnected, the cell number was for the wrong spouse, the emergency number is no longer active or no one answers it, the work number is listed but no one knows which business they are calling or which owner the number belongs to. When did this number stop being useful and what number should I be using now? Why is the information scribbled out, what is the area code?
- Went to the file to clarify something—the information recorded is illegible.
- Discussed a case with the client and you were unaware—that the pet was altered/fixed, or was allergic to chicken, or previously had an adverse anesthetic event, or that the owners go to two different clinics depending on the season and where their vacation place is. Or the pet is already on daily Nsaids, or that a specialist has it on meds that are contra-indicated with the meds you are prescribing, but the owner didn't know that you didn't know.
- Approached and handled the animal—in a manner that may or may not have been necessary based on the pet's temperament, their pain level, their past experience, your past experience, your staff's level of training, or the staff's risk of trauma, or awareness of the client's sensitivities to noise.

All of these tiny omissions add up to negative impressions and poor publicity, and can lead to complaint. These can be avoided by having in place a medical records system and staff training that allow both veterinarian and staff to easily and successfully obtain up-to-date and relevant details on the front page of the medical record. Some suggestions might include:

- Create a written form specific enough to capture the data that you need every day, or use your IT personnel to generate the spaces and blanks in online forms.
- Invite clients to arrive 15 minutes before appointments to complete the required paperwork, so as not to disrupt the veterinarian's schedule, or invite them to do it online and email it to you beforehand.
- Have a spot on each form to record the date it was written, and who filled it out.
- Invite your front office staff to review the information verbally with the client when the client hands it to them, and to complete any questions the client skipped or did not understand.
- Have initials of the staff member who received the form, and/or who transcribed it to the file.
- Have a policies and procedures manual that teaches front office staff to ask owners at their annual exam to fill out an updated version of the form, as addresses, cell phones, emails, adverse events, and patient attitudes change from year to year—this will make your job easier!
- Have a small but detailed explanation on the form, or verbally from the staff, or as a poster on the wall about how important all contact information, past history of adverse events, current supplements and medications, diets, and other veterinary records are to the on-going and successful treatment of their beloved pet. And maybe have the explanation translated into a few different languages.
- Teach staff how recording what they hear, see, or know about a pet, and the owner, can support the work the clinic does, and then show them where to record the information, date it, and initial it.

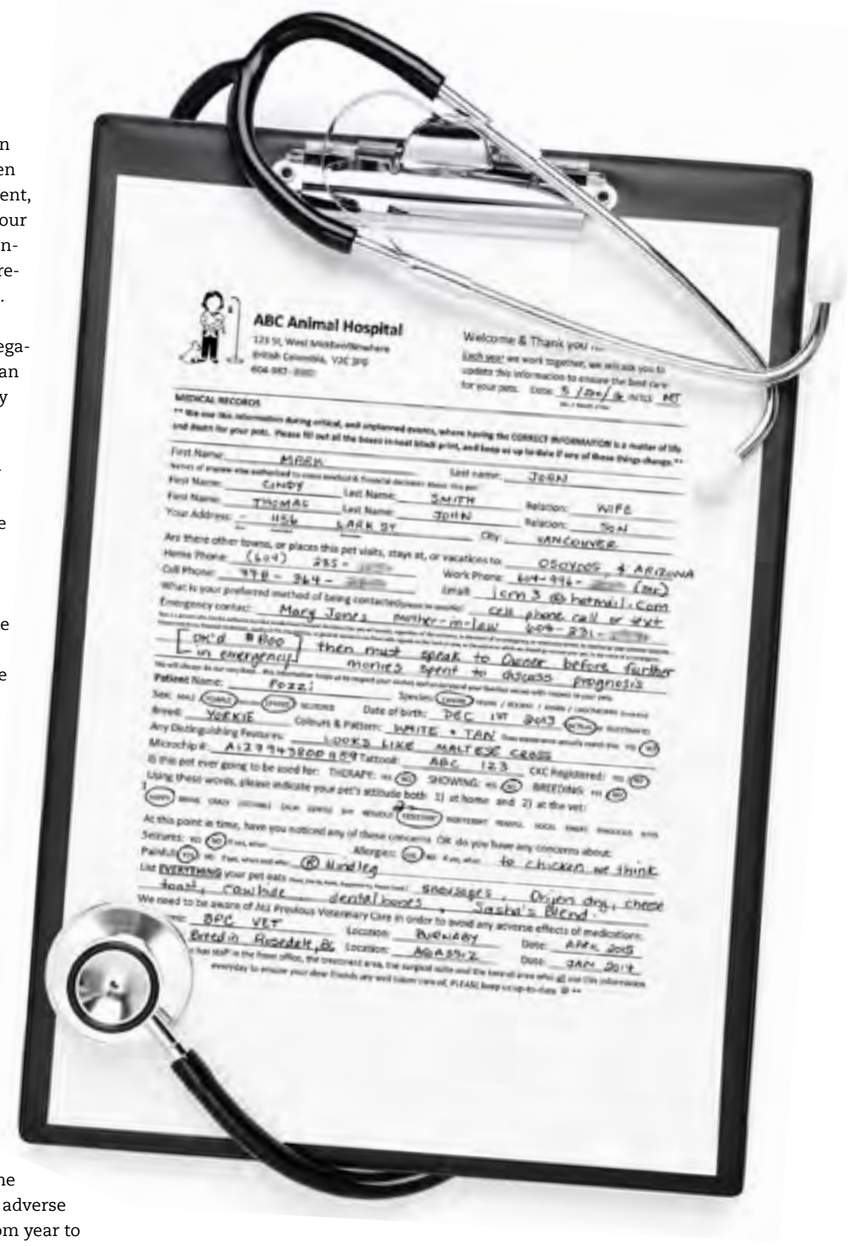


PHOTO BY RANGIZZZ / SHUTTERSTOCK.COM

These changes can seem daunting, but as with any continuing education, when armed with examples and simple methods of application, veterinarians can try one new thing at a time and see how much easier it makes life. Everyone has a vested interest in such a system. Staff feel more confident and empowered to do their jobs, which supports you and reduces turnover; owners feel more comfortable and trustworthy of the clinic, which builds business and positive reviews; the veterinarian looks more professional and feels supported by staff and owners, which enhances altruism; and the profession becomes a leader in the medical community, which removes us from the critical spotlight.

The point of knowing all this is to ensure that when you provide quality veterinary services, you get credit for it. Capture the good work that you do—benefit your career! WCV

RVTs IN THE ER

BY SHACARA WASILIEFF, RVT

Life as a technician working in an ER is very different from regular practice. I've done both. I've worked in a regular practice for three years before going to tech school, the summers during tech school, and then for a year afterwards. In December 2009, I decided to join a 24-hour animal ER that is partnered with a specialty referral clinic. Under one roof, we have 24-hour ER and critical care services, specialties such as surgery, internal medicine, radiology, neurology, and oncology (which I did for three years), all with board-certified veterinarians. This gives our technicians the unique experience of caring for the patients from all of these specialties when they require hospitalization overnight or longer. Because we are affiliated with a specialty clinic, our patients have access to a CT scanner, cystoscope, and bronchoscope. We also regularly use very modern equipment such as ultrasound, digital radiography, electrocautery, and endoscopes.

Twenty-four hours before coming in to see us, Rufus, a seven-year-old male neutered Rottweiler cross, had ingested something and began vomiting shortly after. Using our endoscope, we retrieved a rubber pig, which is visible on radiographs of Rufus's stomach (see red arrows showing the pig's outline). Our endoscope allows us to retrieve many items without surgery, reducing hospital stays, surgical complications, and pain and discomfort from the healing process. These procedures are rewarding and fun to do, although retrieving anything endoscopically can be frustrating and time consuming as well. Rufus had his successful procedure and went home the same night.

We are assigned our patients for our shifts and will usually keep them for the duration of our week if they are there for consecutive nights. It can be very rewarding to have an intimate hand in the care and recovery of these patients, but it can also be very sad when you make a connection with the patients and their owner(s), and then the animals don't make it. You either thrive in an ER setting or just don't. When I describe my day job (or really night job) to laypeople, I always get a variation on the same response: "Oh! I don't know how you do that! I'd never be able to see sick/injured/dying/animals every day! I'd be so sad all the time." And so my response is always the same, "I like to think that we are helping animals and their owners get through a very tough time. I feel better knowing that we can help alleviate whatever pain or suffering they experienced before getting to our clinic, even if it is permanent, like it is with humane euthanasia." You just have to learn to not take all the sadness home with you and dwell on it, or you would emotionally burn out quickly. I focus on the positive aspects of my job rather than the negative.

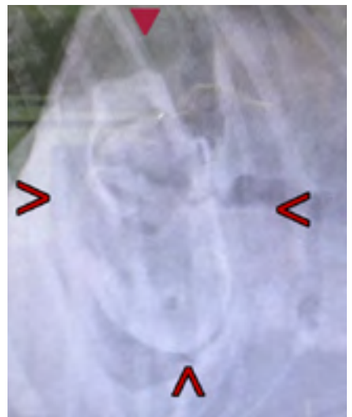
"WE RETRIEVED A RUBBER PIG, WHICH IS VISIBLE ON RADIOGRAPHS OF RUFUS'S STOMACH"

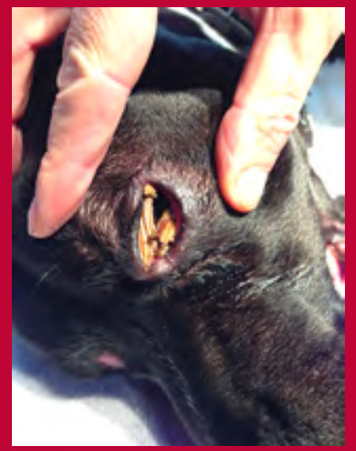
Gus, a six-month old male neutered Rottweiler, was referred to us for antifreeze ingestion. He had reportedly been normal that evening but woke up his owners in the middle of the night acting drunk. He was taken to the regular veterinarian that morning and was found to be positive for large amounts of ethylene glycol in his system. Retrospectively, the owners remembered seeing him around a bucket containing antifreeze. Ethylene glycol toxicity has a very poor prognosis especially if treatment is delayed for even a few hours after ingestion as it causes irreversible and fatal kidney failure. When Gus arrived, the options were discussed and a poor prognosis given, but his owners wanted to give him a chance. He was my patient from the start. I originally placed a cephalic vein IV catheter, but had to replace this with a 19 g jugular catheter that was sutured tightly in place as he was still a puppy and wouldn't stay still. I also placed an indwelling Foley urinary catheter as he would be too intoxicated to walk. I pulled blood for a baseline CBC and chemistry and started him on a 20% anhydrous ethyl alcohol solution IV. This solution inhibits ethylene glycol from converting into toxic metabolites, but it also renders the patient completely drunk. They even have the sweet alcohol odour on their breath. Gus had his kidney values monitored very closely every day and, much to everyone's surprise, his kidney values decreased, and he drastically improved. Gus was discharged seven days later, acting like a normal puppy again but still with slightly elevated kidney values. Even more surprising is that on his last visit to us, six months later, his kidney values were normal. Gus apparently drinks and urinates a little more than normal but otherwise is a happy, healthy dog.

Our clients are from every walk of life. We deal with everyone, from the nicest, most understanding people, to the distraught clients who resort to threatening us, to the very high maintenance owners who can be very demanding. We also deal with clients whose first language is not English, which makes a difficult situation just that much more difficult in an emergency setting, or whose religious beliefs don't necessarily jive with our modern medicine recommendations.

Money issues are also a huge constraint on how medical treatment is guided. All too often, it results in euthanasia right from the start, or worse—later in treatment when more time, testing, and treatments are needed with no guarantee of a favourable outcome. This, aside from the outright abuse cases, are always the saddest, most frustrating part of my job. This is why I am a huge pet insurance advocate. I constantly recommend pet insurance to clients and anyone else who has a pet. Especially for certain breeds like English bull dogs or any other brachycephalic breed.

At our clinic, our technicians are given a great deal of responsibility. We are the patients' primary hands-on nursing providers, so our veterinarians often include us in some aspects of decision making for treatments. We have a good understanding of how the patient has or has not progressed with the current treatments. We are allowed to utilize all the skills taught in school, but now we gain many more. We are often caring for post-operative specialty cases which means sometimes using specialized instruments such as the Pleur-evacs, which are active chest drainage systems that remove air and or/fluids from the chest cavity. We use our skills for placing naso-gastric or naso-esophogeal catheters, jugular catheters, long-line sampling catheters, and nasal catheters for oxygen delivery. We perform epidurals and skin blocks. Because we are open 24 hours and sometimes need answers ASAP, we frequently perform in-house urine analysis, blood smear evaluations, fecal smear evaluations, cytologies, and body cavity effusion evaluations. We very frequently use our math skills—you know, the math you learned in school that you thought you'd never use. On a daily basis, I make dilutions and calculate CRIs. We frequently give blood and blood product transfusions, and we are also a blood bank that sells blood products such as PRBCs (packed red blood cells), fresh frozen plasma, and whole blood for cats and dogs. In our ICU, where I work every day, I usually have at least one patient that requires intensive or





“THE VETERINARIAN PULLED THE STICK OUT OF BART’S EYE, ONE PIECE AT A TIME, FOR A TOTAL OF NINE PIECES”

PAGES 28–29 (from left) Rufus after his endoscopic procedure; X-ray of Rufus’s stomach; the rubber pig was successfully retrieved. **LEFT** Bart, before and after. Remarkably there was no damage to his eye after the sticks were removed.

specialized care such as chest tubes, tracheotomy sites, degloving wounds, thoracic traumas with unstable pleuroeffusion, and pneumothorax and/or tension pneumothorax.

The most common emergency cases in our ER are BDLD (big dog fights with a little dog), hit by car traumas, FLUTD/blocked cats, end-stage heart failure, thromboembolic events (saddle thrombus cats top that one) GDV, dystocia/C-sections, foreign body ingestions, and pericardial effusions +/- hemoabdomen (usually guessed by everyone working before they are carried in the door when the “10yr old collapsed golden retriever with pale gums” gets written on our incoming board). Then we have the toxicities: rat bait, slug bait, antifreeze, lilies, xylitol, dark chocolate, human medication ingestions, and my personal favourite: THC. This is my favourite not because I like to see animals stoned, although in the less severe cases it is amusing, but only because I know they will be okay. It’s also my favourite because sometimes it’s like pulling teeth to get to the bottom of the ingestion. Weirdly enough, we keep hearing the same top four reasons they may have eaten pot: 1) our neighbours are potheads, and they must’ve thrown it over the fence into our yard; 2) we were just at the park, and I saw him eating something on the ground; 3) it must’ve been: my brother/sister/son/daughter/husband/wife/friend and even grandma; and 4) it’s ours—are you going to call the cops? We have urine drug tests which, if positive, are very helpful, but dogs can be clinically positive for drugs with an inconclusive test due to the different way they metabolize the drugs. The clinical signs are a drunken gait, sleepy but easily startled, and dribbling urine. Informing us of known ingestion can help guide us through.

The less urgent cases are vomiting, diarrhea, torn nail, etc. As we are an after-hours hospital, we also see injured wildlife. If wildlife are not euthanized because of catastrophic injury or sickness, they are transferred to the appropriate rescue society. In my six and a half years here, I’ve placed IV catheters in coyotes, raccoons, a deer, and a bird. I’ve also cared for beavers, bats, many squirrels, owls, rabbits, opossums, and all types of birds, including eagles. As an emergency clinic, we see exotics such as pet lizards, ferrets, and hedgehogs, but we do not specialize in their care. We also do not do routine surgeries or vaccinations.

Bart, a five-year-old male neutered American Staffordshire terrier cross, was playing in the backyard and came back to his owner with pieces of stick wedged into his left eye socket. Upon presentation to our emergency clinic, Bart was immediately brought to the treatment area and given pain medication and assessed under anesthetic. The veterinarian pulled the stick out of Bart’s eye, one piece at a time, for a total of nine pieces. The eye was then further examined and found to have only a small corneal abrasion, with no puncture, and a small tear in the sclera, but not a bad tear. He went home on an oral anti-inflammatory (Metacam), oral antibiotics (Clavaseptin), and ophthalmic antibiotic (Ciloxan). He was expected to make a full recovery to the eye.

My job as an RVT working in a busy animal ER is very rewarding and is the perfect fit for me. The hours can be very long; the emotional and physical stress level can be very heavy. I may not eat or drink for hours on end, and I may not have had a chance to empty my bladder for an unreal amount of time, but my work is important to the animal and their human parents. Every shift is spent doing something I love and have a great passion for, and every shift I learn something new and feel like I made a positive difference. And that’s what is most important to me. WCV

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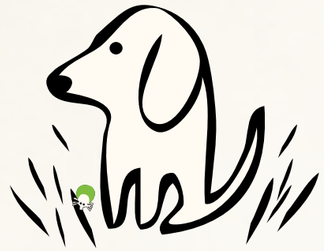

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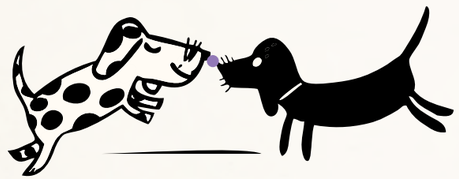

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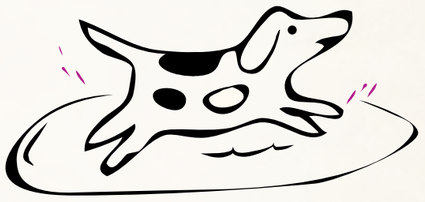

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MERCK Animal Health

DR. JOHN TWIDALE

BY DAVID PATON, DVM

When I learned that John Twidale had passed away on April 22, 2016, a multitude of thoughts passed through my head. John was one of those unique individuals whose legacy to the veterinary profession and the horse world cannot be summed up in a couple of phrases. He was a no-nonsense character with a great sense of humour; he stuck by his principles, was not afraid to voice a contrary opinion, and was a dedicated, professional, and tireless worker for the profession.

John was first a council member and then president of the former BCVMA, chair of our Equine Committee for over 20 years, and the BC veterinary representative on the WCVM Equine Health Research Fund (Townsend Equine Health Research Fund) for many years. He was also our media spokesman on all matters equine.

Without a doubt, John's greatest legacy will be his nearly single-handed continued organizing and leadership of the Delta Equine Meeting. This is truly one of the premier equine CE meetings in North America. When the reins of the event were turned over to John nearly 25 years ago, his skills as an organizer and his charm, humour, and warmth became obvious to all, and the event continued to flourish under his leadership. All of us in the equine fraternity have fond memories of the near-military precision with which he ran the meetings, and yet we will most remember how welcome he made our guest speakers and new attendees feel at the meetings. Who will ever forget how, at the end of the meeting, he would encapsulate, in a way that had us all laughing, the essence of the new things that we had learned from our speakers. He and his wife Gordana would make a point of hosting our guest speakers with a tour around Victoria, Vancouver, or Whistler, and they helped make the invitation to speak at our meeting a must-do for speakers who were willing to come from around the world.

I must add that John often brought up—and I am not sure if he ever forgave me—the one year when I talked him into taking our two Texas speakers on an overnight ride into the mountains west of Clinton. John got stuck on a rough-to-ride Arab, and we nearly froze sleeping on saddle pads under the stars. However, the Scotch saved the day, and it was an experience that is still shared by our speakers and a story that will last forever. John was dedicated to the Delta Equine Meeting. At the last meeting he was able to attend, unbeknownst to any of us, he was ill and undergoing chemotherapy at the same time as he was running the meeting.

John was also a class guy. He dressed smartly and in later years arrived at his calls in his Jaguar. He put on clean coveralls and headed into the stable to approach his patients and their owners with an amazing aplomb. He prided himself on giving a no-nonsense opinion on a case and looking out for the long-term interest of the horse. He told it as he saw it and wasn't afraid to ruffle a few feathers if it was in the horse's best interest to be put down.

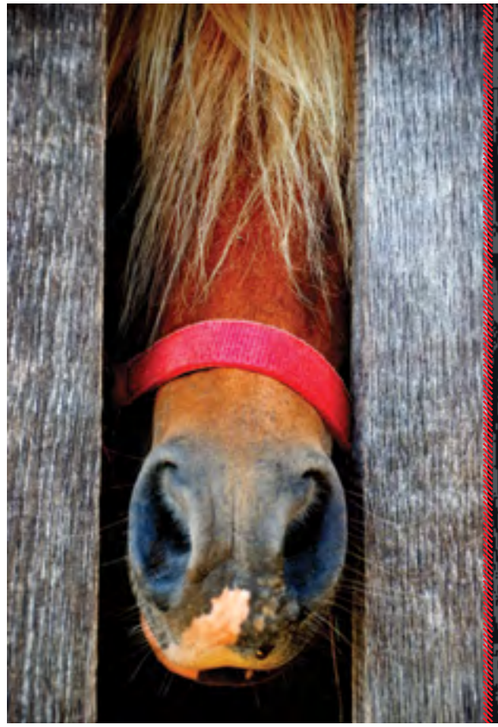
Golf became a passion of John's, and he will be missed as the master steak BBQ chef at an annual two-day golf getaway attended each June by a group of friends and colleagues. John took great pride in selecting, marinating, and cooking the steaks. He also enjoyed finishing the evening with a wee dram of Glenmorangie single malt Scotch.

I want to finish with a personal story about John that has a message that I think is important for all of us. In 1980, I started my own practice in Aldergrove, and it was a neighbouring practice to John's, who was well known as one of the premier equine practitioners of the day. The new manager at a very large stable called me and asked if I would be interested in doing all of the fall wormings and vaccinations. This was a huge, prestigious stable, and I was in awe of the opportunity. However, John had been the farm veterinarian and friend of the previous manager. Well, I sucked up my courage and phoned to let him know that the stable had asked me to take over their veterinary work. John exclaimed that he couldn't get mad at me and that I had done the right thing in phoning, but I had just scooped his biggest client. When I hung up the phone, I wondered how our relationship would evolve after that little episode. Well, true to his wonderful character, John had me over to his house two weeks later for dinner and welcomed me to the neighbourhood. We remained great friends and colleagues right up until the end.

John will be missed by us all. I thank him for all that he has done for our profession and for a life well lived.

CVMA 2016
HUMANE AWARD WINNER
DR. SHAWN LLEWELLYN

The CVMA has announced its 2016 award winners. Please join us in congratulating Dr. Shawn Llewellyn on winning the CVMA Humane Award for 2016. Dr. Llewellyn is a partner in Scottsdale Veterinary Hospital. He is also the Director of Veterinary Services and Board President of Paws for Hope Animal Foundation. Paws for Hope works with homeless and low income pet guardians, and Dr. Llewellyn heads up the Animal Health Clinics that are run in Vancouver's Downtown Eastside.



ANNUAL DELTA EQUINE SEMINAR

OCTOBER 24 – 25, 2016

Organized by the Equine Committee of the CVMA-SBCV Chapter, the 45th Annual Equine Seminar at the Town and Country Inn, Delta, BC, will feature Practical Approach to Lameness Diagnosis & Treatment with Dr. Tracy Turner and A Potpourri of Current and Practical Medical Topics with Dr. Joe Bertone. Registration brochures will be mailed in August.

For more information, contact Dr. David Paton at 604.856.3351 or Dr. Marian Dobson at 604.888.2323 or email deltaequineseminar@gmail.com.

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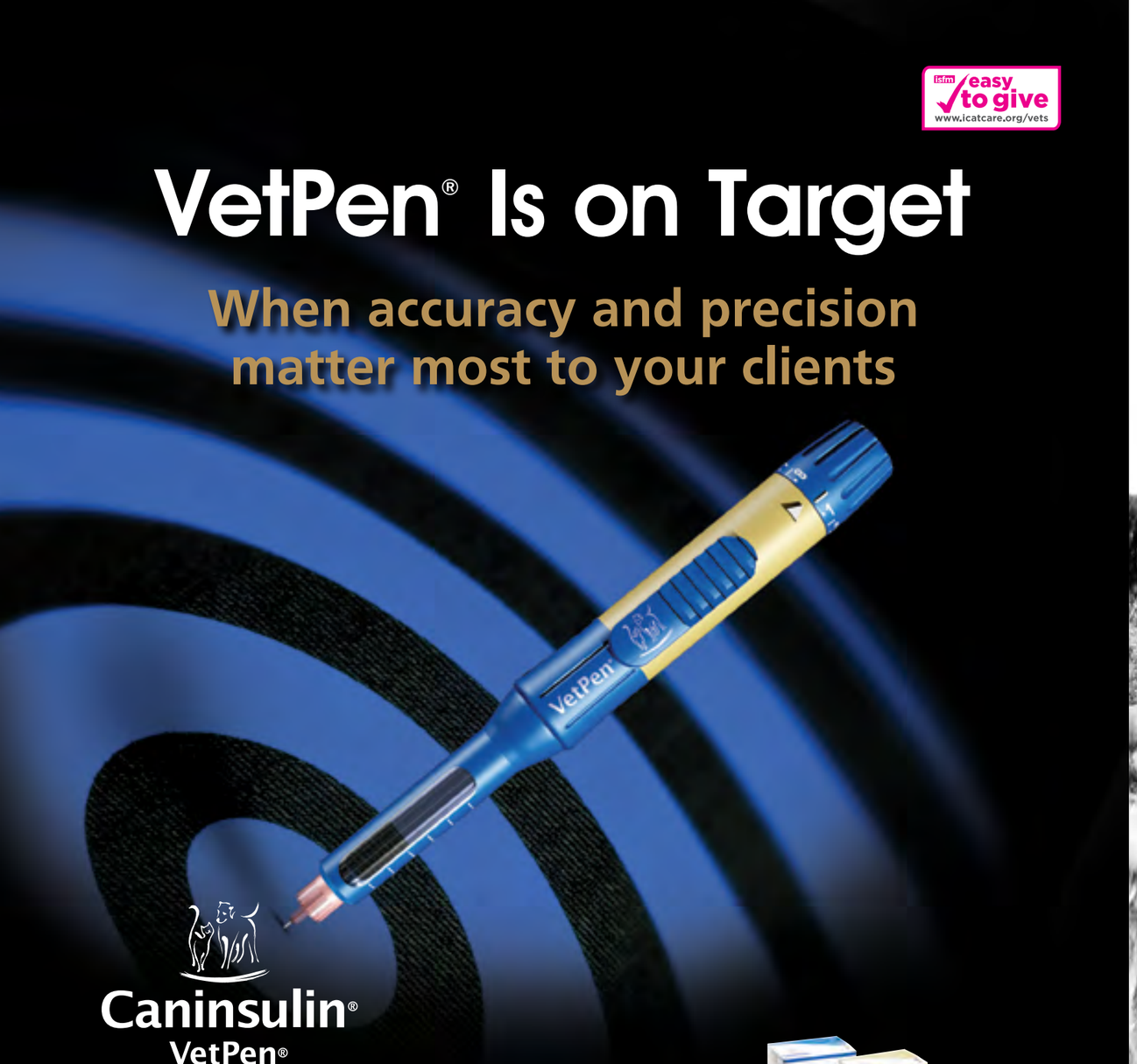

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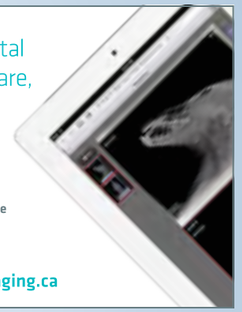

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To place a classified ad in West Coast Veterinarian please contact Inga Liimatta at ingal@telus.net. Deadline for ad booking is July 28, 2016 for the Fall issue.

VETERINARY CONTINUING EDUCATION JUNE–NOVEMBER 2016

JUNE

24–26 **Current thoughts on managing common GI problems in practice**
Vancouver, BC
www.ivseminars.com/seminars/registration/current_thoughts_on_managing_common_gi_problems_in_practice-_vancouver

27–30 **Equine Medicine**
U of C, Calgary, AB
www.mvma.ca/ce/continuing-education-events/equine-medicine-june-27-30-university-calgary

JULY

7–10 **2016 CVMA Convention**
Niagra Falls, ON
www.canadianveterinarians.net/scienceknowledge/annual-convention

AUGUST

26–29 **CVC Kansas City**
Kansas City, MO
www.thecvc.com/dates-and-locations/cvc-kansas-city/

26–29 **Veterinary Economics Hospital Design Conference**
Kansas City, MO
www.thecvc.com/dates-and-locations/cvc-kansas-city/hospital-design-conference/

SEPTEMBER

8–11 **SVMA Conference**
Regina, SK
www.svma.sk.ca/index.php?p=2016-svma-conference-saskatoon

14 **Ophthalmology**
Edmonton AB • WVSC & C.A.R.E. Centre
www.cavm.ab.ca/ce_calendar.html?&print=true

25 **Chronic Vomiting**
U of A, Edmonton, AB
Boehringer Ingelheim & Idexx
www.edmontonvetinfo.com/events.aspx

23–25 **Saskatchewan SPCA Animal Welfare Conference**
Saskatoon, SK
www.sspca.ca/education-resources/

27–30 **41st World Small Animal Veterinary Association Congress**
Cartagena, Colombia
www.wsava2016.com

OCTOBER

24–25 **The 45th Annual Delta Equine Seminar will feature: Practical Approach to Lameness Diagnosis & Treatment with Dr. Tracy Turner; and A Potpourri of Current and Practical Medical Topics with Dr. Joe Bertone.**
Town and Country Inn, Delta, BC
www.deltaequineseminar.com
For more information, contact Dr. David Paton at 604.856.3351 or Dr. Marian Dobson at 604.888.2323 or email deltaequineseminar@gmail.com. Registration brochures will be mailed in August.

NOVEMBER

5–6 **The CVMA-SBCV Chapter Fall Conference & Trade Show**
- **Behaviour with Dr. Kenneth Martin**
- **Critical & Emergency Care with Dr. Marie Kerl**
- **Neurology with Dr. Peter Gordon**
- **Nutrition with Dr. Tammy Owens**
- **For RVTs, Fear Free Techniques with Debbie Martin, Veterinary Technician Specialist**

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INDUSTRY NEWS

» CattleDog Publishing, **Dr. Sophia Yin**'s publishing company, continues to preserve Dr. Yin's legacy of Low Stress Handling training, under the leadership of Dr. Sally J. Foote. For more information, visit www.cattledogpublishing.com or www.drsophiayin.com.

» Cats and dogs are getting an upgrade on ferry sailings. **BC Ferries** has worked with the CVMA-SBCV Chapter to upgrade car-deck pet-friendly areas. For more information, visit www.vancouversun.com/touch/story.html?id=11759846.

» **IDEXX** has created a new position on its team for a Professional Services Veterinarian. The PSV consults with Practice Owner Veterinarians on medical protocols to promote growth and utilization of IDEXX products, services and medical testing. Please contact Dr. Jonas Goring (jonas-goring@idexx.com) for more information or to apply.

» **Zoetis** has announced a partnership with OVC to support the veterinary profession through a new research study into the mental well-being of veterinarians. For more information, visit www.zoetis.ca or the Zoetis Commitment to Veterinarians page on Facebook.

» **The African Small Companion Animal Network** (AFSCAN) has announced the recipients of its first AFSCAN Research and Studentship Awards. For more information, visit www.zoetis.ca.

» **WSAVA** urges veterinarians to confirm that Ketamine is an essential medicine. A number of countries have been campaigning to have the drug internationally scheduled. For more information, visit www.wsava.org/educational/global-pain-council.

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[1] Canine Parasiticide Brand Image Study with Veterinarians 2015. ImpactVet.

[2] NexGard Canadian product label.

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