

WEST COAST VETERINARIAN

DECEMBER 2014 | Nº 17



**BREED
CONUNDRUMS
ANTIMICROBIAL
STEWARDSHIP
A NEW WORLD
ORDER
NEEDS
ASSESSMENTS FOR
RABIES PROGRAM
CHANGES
FROM THE MINISTER
OF AGRICULTURE
EQUINE WEST
NILE VIRUS
THE EMERGING
LEADERS PROGRAM
TWO VIEWS**

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* Verhaert, Wetter (2004), Kyllar, Witter (2005)

from the editor



COREY VAN'T HAAFF
EDITOR

»» TO THE EDITOR

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

Winter, for me, is a time to reflect. As the end of the year approaches, I try to take some quiet time to take stock of things accomplished and projects still to be tackled. It's one of the best times of the year, in my view.

One of my proudest accomplishments is *West Coast Veterinarian* magazine. This issue represents the completion of three years of WCV from the editorial team of Clélie as copy editor, Paula as art director, Inga as sales person, and me as editor. I very much enjoy working with these three professionals, and I think your magazine benefits as a result of their combined skill and commitment to this publication.

Winter is also a time when we look at the coming year from a content perspective. We've tried a few new columns (for example, *On Balance* and *In Practice*). Some lasted longer than others, and can be re-introduced at any time with just one thing—content from you. This magazine is your opportunity to learn—and to teach. Your editorial team, guided by the wisdom and direction of the Magazine Committee members Drs. Stanley, Armstrong, and Welsman, would appreciate hearing your ideas. What topics do you want covered in our feature stories? What specialties would you like to hear from? What columns would you like included or discontinued?

Before the year ends, please take a moment to reflect on the magazine in your hands, and let us know what you would like to read in the next four issues. Thank you. Happy Holidays.

letter to the editor

Dear Editor,

Thank you for the story *Nutraceuticals* in the latest *West Coast Veterinarian* ["Know Your Behavioural Nutraceuticals" by Dr. Rebecca Ledger in the Fall 2014 issue of WCV]. I approached the article with some trepidation but was relieved to find a reasonably well-balanced viewpoint on this particular topic. I am of the opinion that veterinarians and veterinary academia are way too tolerant of this and many other examples of pseudo-science in our profession. I am not suggesting that we completely forgo the experimentation with so-called alternative approaches to medicine, and we should not, in my opinion, abandon the art of practicing our profession. However, I believe we should be considerably more demanding of the suppliers and advocates of these products when they hide behind semantics and loopholes in the law in order to promote them. We should also be aggressively sceptical of their evidence

“WE SHOULD BE CONSIDERABLY MORE DEMANDING”

and highly but fairly critical of the research that is offered in support of often dubious conclusions. Your discussion of the Claude Beata article is a good example of a research study conducted in a fashion that any junior scientist should have recognised as so problematic as to render any outcomes meaningless, not least by the inclusion of “some other type of training or education-based intervention” in the protocol! That this study was used as evidence of a positive outcome for the product is bad enough, but that a so-called peer-reviewed journal published it is unforgivable.

Dr. Dave Kirby



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AMANDA AHOKAS, DVM, graduated in 2006 from Western College of Veterinary Medicine. She is currently working as a small animal veterinarian at the Fairfield Pet Clinic in Victoria, BC. She has been married for five years and has a two-year-old daughter.



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 is currently employed at Cats Only Veterinary Clinic. 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.



JULIE ARMSTRONG, DVM, Dip. ACVIM, graduated from WCV in 1996. She completed her Masters and residency in small animal internal medicine and became board certified in 2000. Currently, she is pursuing clinical pathology along with providing internal medicine consultations via True North Veterinary Diagnostics and Rayne Clinical Nutrition.



ANN BRITTON, DVM, is an OVC '81 grad. She did her pathology residency/MSc at OVC and moved to BC in 1987, where she completed a PhD at UBC. In 1999, she became a diagnostic pathologist at the Animal Health Centre where she has the freedom to pursue a special interest in horses ... and skunks!



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, stone carving, and being outdoors, particularly camping, hiking, and fishing. Steven is WCV magazine's Student Corner columnist and is a student at WCV.



NORM LETNICK was appointed Minister of Agriculture on April 11, 2014. He is also a member of the Treasury Board and Legislative Review Committee, vice-chair of the Cabinet Committee on Strong Economy, and is significantly involved in Francophone affairs-related matters and Intergovernmental Affairs. He has represented the Kelowna-Lake Country riding since 2000 and remains active in his home community of Kelowna where he lives with his wife and three children. He holds a Bachelor of Commerce degree with a Rhodes Scholarship Nomination from the University of Calgary and a Master of Business Administration degree from Edinburgh's Heriot-Watt University, and he achieved candidacy status for a PhD in Health Economics from the University of British Columbia.



KRISTIN McEVOY is manager of Communications and Public Relations at the Canadian Veterinary Medical Association, where she combines her personal interest in animal health with her professional training as a communicator. Before joining the staff team at CVMA over seven years ago, she spent the first part of her career working as a communicator in the federal government.



REBECCA SHALANSKY, BHSc, received her Bachelor of Health Sciences degree in 2013 from McMaster University and is now a second-year medical student at the University of British Columbia. Throughout her undergraduate studies, she had a strong interest in both veterinary and human medicine, and now she is pursuing her interests in public health, infectious disease (specifically zoonoses), and women's health.



BRIAN RADKE, DVM, PhD, is a Public Health Veterinarian at the Ministry of Agriculture's Animal Health Centre in Abbotsford. Following graduation from the WCV in 1989, Brian practiced in south-western Ontario and then Chilliwack. He went to graduate school in the US and then returned to Canada where he has worked for Alberta Agriculture and the BC Centre for Disease Control.

WCV

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FOOD FOR THOUGHT

CANADIAN
COMMERCIAL &
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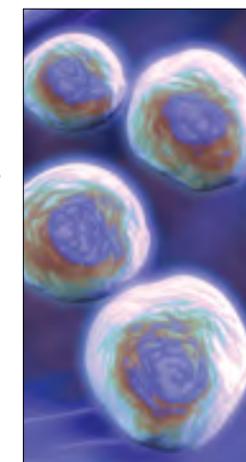
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december

cvma president's report

BY JEAN GAUVIN, DVM

It was wonderful to see many of you during the CVMA-SBCV Fall Conference in November. This time of year is always a time of reflection for me, as well as CVMA, as we review the accomplishments of the year. This is also the time of year when your membership in the CVMA-SBCV Chapter is to be renewed. As you reflect upon your decision to remain a member, I want to remind you that your membership not only contributes to strengthening our collective voice on the national and international scenes, but also ensures the CVMA's ability to defend our profession and advance the interests of all veterinarians. Your support as a CVMA-SBCV Chapter member is important so that we may continue to be the influential organization that Canadian veterinarians need as our profession faces many challenges of the changing times.

At the national level, here's an overview of what the Canadian Veterinary Medical Association has been working on for you lately:

CVMA has recently developed a position statement on Active Pharmaceutical Ingredients (APIs) for veterinary use. The key element of this position is that CVMA does not support the direct administration of APIs to animals as it carries inherent risks to animal health and food safety as well as trade risks for food animal products. The API position recognizes that the legitimate compounding of veterinary products pursuant to a veterinary prescription with appropriate veterinary oversight is an important part of the practice of veterinary medicine.

CVMA and the Canadian Association of Animal Health Technologists and Technicians (CAAHTT) have teamed up to strengthen the ties between veterinarians, registered veterinary technicians/technologists, and registered animal health technicians/technologists. Overall, CVMA and CAAHTT will be focused on enhancing communication, advocacy, and continuing education opportunities for all members of the veterinary team.

CVMA's new online profile management system allows you 24/7 access to review and update your information in the national veterinary database. Use this new web-based tool to change your contact information and employment information, reset your password, and manage your email subscriptions. To review your personal profile, log into your account at www.canadianveterinarians.net.

A private member's Bill C-592 to amend the Criminal Code animal cruelty section was tabled in April 2014 by Member of Parliament Isabelle Morin. Although CVMA is pleased to see that MP Morin's bill addresses many of the weaknesses in the current animal cruelty legislation, CVMA is unable to support the bill in its entirety. Bill C-592 provides an exemption for animal cruelty offences for specific activities (e.g., pest control, rodeo, hunting and fishing, livestock raising/slaughter). CVMA has offered to work with MP Morin to develop an amendment to the animal cruelty section of the Criminal Code that addresses the weaknesses in the current legislation.

CVMA and the provincial veterinary regulatory bodies recently finalized the Terms of Reference for the Canadian Council of Veterinary Registrars (CCVR), which provides a forum for more formal collaboration among the veterinary regulatory bodies and with CVMA. The CCVR will provide a single voice on national and international issues where veterinarians and the regulatory bodies can best serve the public. CVMA holds a non-voting position and is responsible for the CCVR's secretariat services.

CVMA recently released a pet nutrition assessment video to help veterinarians conduct pet nutrition assessments and discuss nutritional guidelines with clients. Ottawa veterinarians Dr. Susan Little and Dr. Bernard Pukay created the video to demonstrate the proper steps to conduct a nutrition assessment in feline and canine patients. Visit CVMA's YouTube channel to view the video. Support for the

video was provided by Hill's Pet Nutrition Canada Inc., P&G Pet Care, and Nestlé Purina.

CVMA is pleased to support Cat Healthy (cathealthy.ca), an initiative created by Canada's veterinary feline specialists to help more cats receive the preventive healthcare they need to live longer, healthier lives. Cat Healthy's website showcases a number of preventive healthcare protocols designed to provide practical recommendations to raise the standard of care for cats all across Canada.

Nominations for our 2015 CVMA Awards opened on November 1. Each year, through its awards program, the CVMA honours selected individuals and groups in recognition of their contributions to veterinary medicine and to the health and welfare of animals. All CVMA members are invited to nominate deserving candidates. Nominations are being accepted until January 31, 2015. You can visit the CVMA Awards section of our website for more information.

We welcome your comments and inquiries at the CVMA office. Please contact us by email admin@cvma-acmv.org or by telephone 1-800-567-2862. Your feedback is extremely valuable to us.



Jean Gauvin, DVM, graduated from the Faculty of Veterinary Medicine at the University of Montreal in 1980. He taught in universities and colleges for several years before devoting himself exclusively to private practice. He has more than 20 years of experience in the field of electronic (radio, television) and written media. In 2000, he was the recipient of the CVMA's Small Animal Practitioner of the Year. Fluent in both official languages, he is frequently called upon to give lectures across Canada. Dr. Gauvin and his wife Lyne have two sons, Charles and Alexandre. They live with a Wire-haired Teckel named Maya; Gaston, an orange tabby cat; and Caroline, the turtle.

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BY MARCO VEENIS, DVM

This weekend I went to the Adams River to watch the sockeye run. Every fourth year is a dominant year when the fish return in great numbers, reproduce, and die, completing the cycle. This reminded me of our society; I have been your President for a little over three years now, and my term will have ended by the time you read this. It is time to take stock of what we have achieved, look into the future to determine what still needs to be done, and pass the torch.

Three and a half years ago, we started as a small group of colleagues, under the leadership of Dr. Dianne McKelvey, with a dream of building a new membership services group that could advocate on behalf of the veterinarians of BC. We joined the CVMA to ensure we had a strong voice both provincially and nationally, and that we could deliver that voice in a cost-effective way. We started *West Coast Veterinarian* magazine which, to this day, reaches all veterinarians in BC. The magazine tries to highlight the achievements and diversity in our profession and has received only positive feedback.

We have an active CE committee with Dr. Basterfield at its head, providing our profession and, starting this year, AHTs as well, with many hours of quality and affordable local CE.

The media has started to recognize us as the voice of the profession, and we have appeared on radio and TV which put the spotlight on our work.

Looking forward, there is still more work to be done. One looming issue is the debate over antimicrobial resistance and the associated issue of keeping our right to prescribe and dispense medication. Our society strongly believes that veterinarians are in the best position to act in the best interest of the general public, producers, and pet owners when it comes to delivering the care and medication they need.

The demographics in our profession have changed dramatically over the past 15 years. The vast majority of new graduates are women, and they will be dominating our workplace within a few years. The younger generation is demanding a better work/life balance and, perhaps as a consequence, is less interested in practice ownership. This has led to the rise of corporate entities owning chains of clinics, with a primary focus on the large urban areas while rural communities are struggling to maintain veterinary services.

We believe there is a need for mentoring our new graduates and helping them navigate the transition from academia to life in the trenches of veterinary medicine. We believe that, with proper support in place, young graduates can be stimulated to take on leadership roles in their communities.

These are just a few of the challenges ahead of us, but I have faith that, just like the salmon in the Adams River, a new generation of veterinarians will be able to overcome the obstacles placed in front of them and return to their communities in record numbers.



Marco Veenis, DVM, graduated with distinction from Utrecht University in the Netherlands and practiced in Holland for nine years before moving to Canada in 1998. For the past 10 years he has raised his family and run a successful small animal clinic in Kelowna. Marco enjoys the daily challenges that practice presents him with and is proud to be a member of BC's veterinary community. As an immigrant and newly minted Canadian, he is grateful for the opportunities Canada has offered him and likes to give back to his community by volunteering his time for organizations like the CVMA-SBCV Chapter.



THE MENTORED HUNT

BY STEVEN CHAPMAN

Lying on the cold damp ground at 6:30 am watching the sunrise through the mesh of a duck blind was not exactly what I had in mind when envisioning the veterinary program at the WCVM. I was not doing research, nor was I learning how to give subcutaneous fluids to wildlife; instead I had a 12-gauge shotgun in my hands.

This was all part of the fourth annual mentored hunt put on by the Western Canadian Veterinary Students' Association and organized this year by Zach Johnson, a third-year student, to introduce responsible waterfowl hunting and wildlife management to students who had never experienced it before. The mentored hunt was originally started in 2011 by Zac Waddington, currently a fourth-year student from BC. Zac was first introduced to waterfowl hunting through a mentored hunt program in Manitoba years ago, and has since come to love hunting and appreciate its many positive attributes. Wanting to share this appreciation with his classmates, he decided to organize the school's first ever mentored hunt. Waddington said, "With the help of many very passionate and experienced hunters, we were able to introduce a number of classmates and professors to waterfowl hunting. Since 2011, the mentored hunt has taken place every fall, and many former mentees are now coming out as mentors for the new veterinary students and staff."

Prior to the start of the weekend, students had to read up on hunter safety and gun safety through material provided by the Saskatoon Wildlife Federation (SWF). The SWF is a non-profit organization dedicated to supporting wildlife conservation and habitat preservation as well as responsible hunting, fishing, and trapping. Saturday morning began with students reviewing gun handling and safety with SWF instructors, followed by written and hands-on tests. A passing grade allowed students to receive their Hunter Safety Certificate (provincially

required in order to obtain a hunting license) and their Federal Possession and Acquisition License. After the test, everyone headed out to the Saskatoon Gun Club. After more familiarization with gun safety and handling, everyone took turns shooting clay pigeons at a variety of different trajectories under the watch of a mentor. Johnson describes the experience as "a great opportunity to put into practice what we had learned that morning in regards to firearm safety, and it provided us with some shooting practice before our hunt." The two organizations played a very generous role that weekend as the Gun Club let us use its range for free, and the SWF covered the costs of the ammunition and the clays.

Early Sunday morning, licenses in hand, everyone gathered at the Gun Club and regrouped into hunting parties for the day. Each group had three or four inexperienced students and an equal number of hunting mentors who were members of either the Gun Club or SWF, or experienced students. Mentors kindly supplied the blinds, guns, and decoys needed for the hunt. Once at the designated hunting areas, students helped to set up the decoys and blinds.

After everything was in position, just before sunrise, the mentors started calling in the waterfowl. I've been told that Saskatchewan is an exceptional place for bird hunting. This could not be more true. Thousands of geese and ducks took to the air on their southern migration, creating a spectacular view. As groups of two or three birds flew overhead, I would get a rush waiting for them to come within range. Using our skills from the day before, our group harvested two ducks and six snow geese. After around five hours in the blinds, we packed up and headed back to the Gun Club to be instructed on how to dress and cook the birds we bagged that day.

Some might think that a group of veterinarians out hunting is ironic. But hunting is not only about the actual act of killing, and stocking the freezer. It encompasses learning about and observing wildlife and becoming immersed in the outdoors, and it also has the benefit of providing essential population statistics to provincial researchers and organizations to further improve wildlife management.

Through the mentored hunt, students were able to learn about responsible, ethical hunting and gun safety while enjoying a weekend with friends away from the books. Waddington hopes that this WCVM tradition will have enough momentum to carry on for years. Over the past four years, the event has grown in popularity and is sure to become a much anticipated learning opportunity for students in the future. **WCV**



BREED CONUNDRUMS

BY JULIE ARMSTRONG, DVM, Dip. ACVIM

Specific breeds may have a disease process that can mimic another disease, have a concurrent disease that directly impacts standard therapy, or possibly a multitude of disease predispositions. This is a breed conundrum, and six breeds with such conundrums are profiled below.

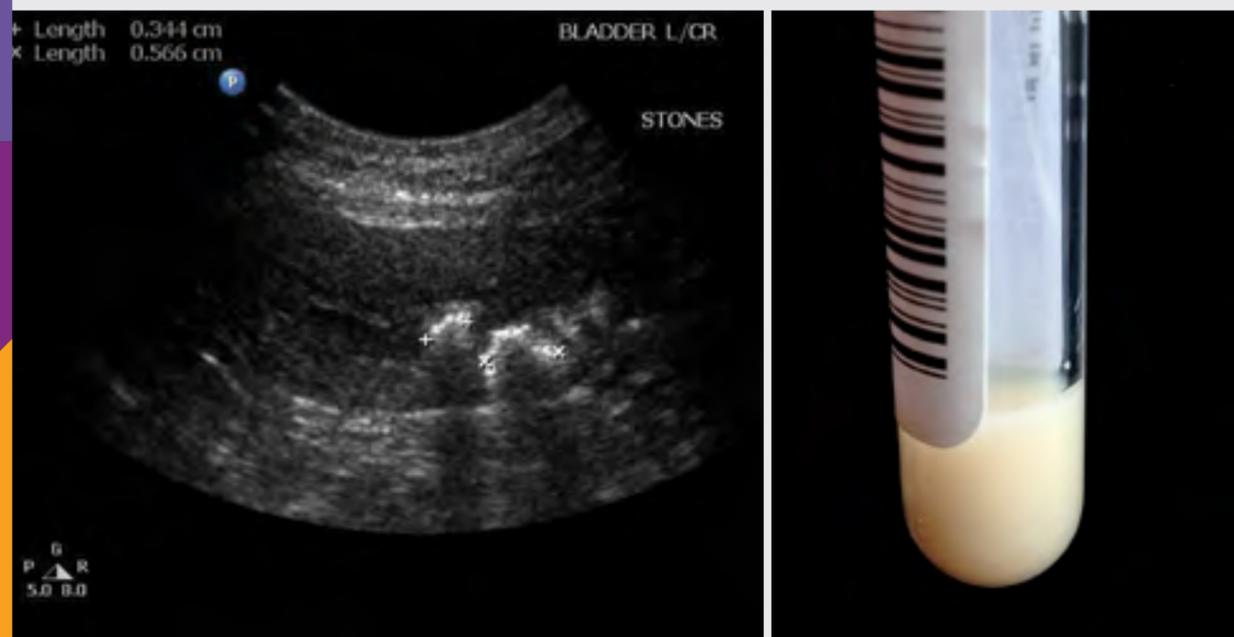
SCOTTISH TERRIERS

Although Scottish Terriers are not a very common breed, they have some very common underlying disease predispositions.

You have submitted a wellness panel on MacDuff, a happy, healthy eight-year-old M/C Scottish Terrier, and what do you see in return? An elevated ALP, and a fairly substantial elevation at that. You review the case and note that there was no obvious clinical suspicion of hyperadrenocorticism (HAC) in the history, nor on physical examination. Urinalysis is not supportive of subclinical polyuria/polydipsia. You review that there has been no exogenous steroid administration (including topical), nor the zebra possibility of the owner using some kind of topical steroid/hormone cream. Similarly, you ask specifically if MacDuff is on any vitamins, supplements, herbal remedies, or homemade diets. When the answer is no, where then do you go and what do you consider?

Scottish Terriers are not only predisposed to transitional cell carcinoma, among several other diseases, but also to a progressive vacuolar hepatopathy (VH), which is believed to be caused by abnormal steroidogenesis. Most commonly, increased progesterone and androstenedione are noted. A recent study demonstrated that the majority of cases studied (60%) do not present with classic signs of HAC and, in those dogs suspected of HAC, the ACTH stimulation/LDDST are not always supportive. Classic treatment for Cushing's is not recommended. Importantly, this study noted that some dogs will have an elevation in ALP for years with no signs, and approximately 25% will develop progressive liver dysfunction due to degenerative VH. In this particular retrospective, 34% developed hepatocellular carcinoma (HCC). Routine monitoring of abdominal US is advised to watch for enlarging nodules which could be HCC, as well as for evidence of portal hypertension which can be associated with progressive disease. In addition, a sudden jump in the ALP is worthwhile paying attention to.

“A SUDDEN JUMP IN THE ALP IS WORTHWHILE PAYING ATTENTION TO”



FROM LEFT: Ultrasound showing cystic calculi; Lipemia sample

MALTESE

Maltese are popular and, like many other popular small breed dogs, they are predisposed to porto-systemic shunts and, much more frequently, microvascular dysplasia (MVD)/portal vein hypoplasia. There is a unique subset of cases with both MVD and a concurrent inflammatory Zone 3 hepatopathy, which appears to be associated with underlying inflammatory bowel disease and can progress to cirrhosis from venoocclusive disease. Index of suspicion would increase with an ALT three times over normal or a case presenting with diarrhea/abdominal distention. In general, most pure MVD cases may remain asymptomatic and live a normal life without requiring specific dietary management. In cases with Zone 3 hepatopathy, specific dietary and medical management will be indicated. This will include a custom or commercial hypoallergenic diet, along with specific medical management, keeping in mind, for example, that dogs with MVD will not handle conventional metronidazole doses, and prednisone will have unwanted mineralocorticoid effects. A small proportion of Maltese dogs also had copper associated hepatotoxicity (as did the Scottish Terriers). This is relevant, as accurate diagnosis and individual tailored therapy cannot be achieved without a liver biopsy.

IRISH TERRIERS, MASTIFFS, ENGLISH BULLDOGS

These breeds are all predisposed to Type III cystine urolithiasis, which has a high rate of recurrence despite medical management. Management requires maintaining an alkaline pH, a USG below 1.020, along with protein-restricted diets. Hill's u/d is restricted in sulfur-containing amino acids, and Royal Canin's Urinary UC Low Purine is also formulated for metabolic stones. Medical management includes the use of the drug D-penicillamine or 2-MPG (Tiopronin/Thiola). The latter is expensive and difficult to obtain and may be associated with side effects. What else should you remember about cystine urolithiasis management? Two words: reproductive status. Type III cystinuria is androgen dependent and in these three breeds is seen in mature intact males. Most notably, post neuter in these breeds, cystinuria is markedly reduced to normal levels, with the potential of a cure. Cystinuria has been noted in several breeds, with additional types Ia (Newfoundlands and Labradors) and IIa and IIb. A urinary screening test for Types I and II is available from the University of Pennsylvania, and a DNA marker test for Mastiffs at risk is available.

MINIATURE SCHNAUZERS

Tying together liver enzyme elevations, urolithiasis, and the introduction of hyperlipidemia brings us to Miniature Schnauzers. Let's start off with an interesting note from the ACVIM forum this year exemplifying the risk. The author presenting research on genetic determinants of Calcium Oxalate (CaOx) urolithiasis in dogs noted verbally that 40% of control Schnauzers had to be removed from the study due to stones. Perhaps you have also noted this in your practice. Schnauzers are also predisposed to hyperlipidemia with advancing age. I consider checking fasted triglycerides to be part of the yearly wellness testing for Schnauzers. Hyperlipidemia is a noted risk factor in association with the development of biliary mucoceles, and this needs to be added to the potential list of DDx list for elevated liver enzymes. Hyperlipidemia can also contribute to the development of a vacuolar hepatopathy and predispose to pancreatitis.

Let's take an eight-year-old F/S Schnauzer with a list of problems that includes hyperlipidemia, mildly elevated liver enzymes, and bladder stones. We won't include pancreatitis/diabetes on the list just yet. Obviously we need to know what types of stones are present. A female Schnauzer could have an infection-based struvite stone or a CaOx stone. Looking at the radiographs may help. If there are many highly radiodense small stones, you would likely put your money on CaOx. Looking at the urinalysis may or may not provide the answer. Stones are not always associated with crystalluria, and crystalluria is not always predictive of the underlying stone. If there is an obvious infection, you may put your money on struvite. If there is infection present, the stone will undergo dissolution with long-term antibiotics, but dissolution will halt in the presence of a CaOx nidus. The nidus is the key as CaOx stones cannot be dissolved and hence need to be removed. Small stones (smaller than 3 mm) can be removed via voiding hydropulsion or cystoscopic basket removal, while larger stones can be removed via intracorporeal laser lithotripsy, percutaneous cystolithotomy, or routine cystotomy. Preventing infection will be key to preventing future struvite stones, and diet will play a role in prevention of CaOx stones.

To be complete, let's assume you have ruled out HAC, systemic hypercalcemia, and exogenous Vitamin D excess. Let's assume the mildly elevated liver enzymes are secondary to concurrent hyperlipidemia (bile acids normal liver + biopsy = vacuolar hepatopathy). What is the mainstay of management in this case? Low fat diet and, as my mentor would say, "Water, water down the pipe." Recommended fat levels for patients with hyperlipidemia are ideally less than 10% fat on a Dry Matter Basis. CaOx prevention-based diets do not fit in this category. Veterinary Exclusive diets available that are less than 10% DM include Royal Canin Gastro Low Fat, Hill's i/d Low Fat GI Restore or r/d Canine Weight Loss Low Calorie, Iams Weight Loss/Mobility Plus, Purina OM Overweight Management Canine Formula, and Rayne K9 Low Fat/Novel Protein-KSP.

You are aiming for a USG below 1.020. This requires a lifestyle change for both pet and owner. Your veterinary patients need frequent access to urinate, and they will need to urinate more often if you truly have achieved a USG below 1.020. Canned food is generally preferred over dry because of the inherently greater water content, although a slurry is likely still required. Kibble will need to be soaked or floating, as long as the patient still consumes the water while eating the kibble. Smaller, more frequent meals can allow for greater acceptance, more water consumed, and more consistently dilute urine throughout the day. Patients should not go for extended periods without urinating. For some cases, consider suggesting a spot in the house such as pee pads or indoor fake grass. Patients should be let out as late before bed as possible to urinate. Frequent checks are needed to monitor USG/sediment on fresh urine samples, and screening radiographs/ultrasound should be considered to catch recurrent stones when they are small. What if there is pancreatitis? Again, low fat is key. What if there is concurrent diabetes? The short answer is that feeding a canine diabetic revolves around feeding any concurrent underlying conditions with more specific dietary goals, feeding a consistent diet and at consistent times. With each case, individually tailored therapy will allow for success. [WCV](#)

THE EMERGING LEADERS PROGRAM

BY KOHARIK ARMAN, DVM

I entered the Emerging Leaders Program at the 2014 CVMA Convention this summer in St. John's Newfoundland, filled with excitement but unsure of what I would take away from it. Undeniably, the ELP surpassed my expectations, and I left the day of interactive lectures and activities led by Dr. Rick DeBowes feeling energized and motivated to improve upon myself as a person and leader.

Traditionally, when I think about leadership, my thoughts veer towards the various leadership roles we have as veterinarians in our communities, locally and globally. We are stewards of public safety as it pertains to zoonosis, food safety, and sustainability, and the responsible use of antimicrobials. We contribute to government policies, we protect and promote the human-animal bond, we educate the public about animal welfare issues, and we have leadership responsibilities to one another within our own profession.

The ELP, however, while inspirational in a broad sense as referenced above, really emphasized our duty to provide effective leadership on a smaller scale within our everyday lives and for those with whom we have the most contact: support staff, clientele, and family. It brought the focus back down to the self, and how modest changes in our daily lives can enable us to become more capable leaders in our habitual interactions and routines. This focus is essential to professional and personal fulfillment, to successful patient care outcomes, and to clinic financial health.

The program impressed two significant lessons upon me: first, how greatly we impact those around us each day, and, second, how adrift we are in our lives if we do not actively think about who we wish to be and where we wish to go.

Our facilitator, Dr. Rick DeBowes, emphasized the degree of influence we have on those around us both with what we say, and, even more importantly, with what we don't say. We discussed concepts such as mood contagion, active listening, and how to suspend judgments in order to work towards positive interpersonal interactions and avoid negative self-fulfilling prophecies. For example, it's easy to be judgmental of our

clients in daily practice. We are all guilty of doing this at times, even when it's only in our heads, but the reality is that it carries over into how our client interactions play out. We can effect significant change, and even successful outcomes, by keeping open minds and positive attitudes.

My second take-home lesson from ELP was to actively think about who I want to be, develop a set of core values, and weigh my actions and decisions against those core values. Without this type of guidance to centre us, we are like fish floundering around in a current without purposeful swimming direction, and we allow our personal fears to hold us back.

Random events can push us around and shape us into people who are not necessarily congruent with who we want to be, and who we have the potential to be. It's important that we be able to re-centre ourselves when demanding situations arise, and having this ability also helps us achieve take-home lesson number one.

Overall, the ELP has taught me important leadership lessons at an integral stage in my life, and has inspired me

to effect change in my life where I desire it. My leadership efforts are always a work-in-progress but, since the ELP, I find myself trying harder to bring a kind and generous spirit to work, and maintain an optimistic outlook and open state of mind, even when faced with difficult situations. Eventually these lessons and small successes will translate into more effective leadership on a larger scale as well, but for now I am re-centering and focusing my efforts on small personal changes and effective daily leadership. I cannot recommend the ELP strongly enough for veterinarians at all stages in their careers.

"I FIND MYSELF TRYING HARDER TO BRING A KIND AND GENEROUS SPIRIT TO WORK"

BY AMANDA AHOKAS, DVM

I signed up for the Emerging Leaders Program hoping to be inspired, and I was not disappointed. My thanks to the CVMA and CVMA-SBCV Chapter for this amazing opportunity to attend such a great conference and seminar. Dr. Rick DeBowes is a charismatic and entertaining speaker, encouraging us to shift our paradigms and our mindsets.

I felt the foundation of this seminar was the significance of a mission statement and set of written core values that can guide individuals, families, and businesses when making decisions. They need to be reviewed daily, and can be used thus to guide us to keep true to ourselves, our families, and our team. The key with a family or team is that they must form these ideas together, not have them forced upon them by a higher authority. This means, for example, to hire based on whether a person's core values are in line with your business, or, on the flip side, let a staff member go if his or her values are not.

This brings us to mindset. Right after lunch, Dr. DeBowes had us all up and dancing to Sheryl Crowe's "A Change Would Do You Good." He led us through some choreography, then after we had all sat down again, he said something like, "Look at you all just smiling. Doesn't that just feel good?" He told us that some businesses are actually dancing as a team at the start of every day. The purpose is to start everyone with a positive mindset or intention for the day. My first thought was that if I came back and said that to our clinic, they would laugh. My second thought was—you know he's right. I am currently a full-time mom and part-time veterinarian. Prior to the seminar, I had already been starting off several days a week dancing with my daughter at her request. We smile and laugh and dance, and you know what? I can't even tell you how many times, I've thought, "Wow, I am so happy right now!" Dancing may not be for everyone, but the point is start each day with a positive intention. I have to say that the amazing CVMA pub-crawl on George Street did have 240 smiling, dancing vets—maybe he really is onto something!

Dr. DeBowes pointed out the influence of paradigms or patterns that people fall into and how they can form a barrier to success. He quoted Henry Ford: "Whether you think you can or you can't ... either way you are right." It is so easy in the veterinary profession to become bitter and jaded, and it's contagious. We see and hear what we expect to see and hear, and it is important not to let preconceived perceptions determine an outcome. We have all had that client we know will decline everything. We make the recommendation, and of course they decline. They then see another doctor in the practice for a recheck, are offered the same recommendation and they accept—could it be due to the different mindsets of the two doctors? Entirely possible. I have been both the first and second doctor in this situation. Suspend judgment and meet clients where they stand. This applies to staff and colleagues, too. We need to really look at our profession and how we treat each other. Preconceived notions about colleagues, often in another practice, are not helping the profession. We need to be kind to each other. Making compassion and kindness a part of our core values is one way to try and change this.

Dr. DeBowes stressed to always begin with the end in mind. A mission statement and core values can be the foundation for shifting our paradigms and changing our mindsets. Start each day with positive intention, challenge your thoughts, and see where it leads. After all, "A change would do you good." **WCV**

"START EVERYONE WITH A POSITIVE MINDSET OR INTENTION FOR THE DAY"

FROM THE MINISTER OF AGRICULTURE

BY NORM LETNICK
BC MINISTER OF AGRICULTURE



It is my pleasure to share some thoughts with a group of professionals I admire, both as the BC Minister of Agriculture and as a former dog owner.

Countless British Columbians have strong memories of a veterinarian, along with connected feelings of gratitude for treating or helping a loved pet recover. As someone who cares deeply about animals, I imagine one of the most fulfilling parts of being a veterinarian is to relieve an animal's disease, suffering, or disability while minimizing pain or fear. Similarly, I imagine the most difficult part is to witness an animal suffering, and even more so in those heartbreaking cases when that suffering is caused by human neglect or abuse.

The BC Government believes that each and every animal in British Columbia has the right to be treated with due care, attention, and respect, and we emphasized that expectation, by updating the provincial Prevention of Cruelty to Animals Act in 2011 to have the toughest penalties in Canada.

Those penalties, including fines of up to \$75,000 and up to 24 months' imprisonment for a person who is convicted of causing distress to an animal, send a clear message. The BC Government does not tolerate any mistreatment of animals. Charges under BC's Prevention of Cruelty to Animals Act can be laid against anyone who causes suffering or distress to an animal in British Columbia, including pet owners and those working in the agriculture sector.

The BC Government encourages the public to report any events which may be in contravention of those laws and regulations so they can be fully investigated. Of course many of you will already be aware that under BC law, veterinarians are required to report any contraventions to the Act that they encounter. By keeping as many eyes as possible on the lookout for cases of neglect, British Columbians can feel assured that as a society we are doing our utmost to have our laws enforced, and expectations met, and that each and every animal in our communities is treated with the appropriate level of care, attention, and respect.

Veterinarians with agricultural clients have a unique role on the front lines of animal health monitoring and awareness as well, and the BC Government greatly appreciates the critical work you do to keep our farms and communities safe from potential diseases and outbreaks.

The BC Government is committed to creating and supporting a secure environment on our farms, that supports both animal and human health. That's why in May of this year, we passed the Animal Health Act, and updated the entire spectrum of our ability to monitor and respond to animal diseases.

The new legislation gives the province much greater ability to limit the spread of current and emerging diseases and better respond to outbreaks by increasing the number of reportable and notifiable diseases from a few handfuls to about 100, allowing government to respond to a wider array of animal diseases like Chronic Wasting Disease and Rabies, as well as syndromes, infestations, and environmental toxins such as lead or dioxins.

These updates also mean the province can now take critical disease management actions on a significantly larger number of diseases more quickly—within the first 24 to 48 hours of a serious animal disease being confirmed. The legislation increases disease control measures from the quarantine of an individual farm, to include things such as restricting the movement of affected animals, animal products (such as milk or eggs) or animal by-products such as wool or hides, all of which can transmit disease.

In addition, the legislation requires producers to take preventive measures to reduce the risk of introducing and spreading disease, ensure employees are trained to prevent and respond to disease, maintain records of animal origin, and report any incidents of disease or unusual illness. The new legislation also increases the maximum penalty under the Act from \$2,000 to \$75,000 and creates an administrative penalty system for less serious contraventions.

As the Animal Health Act and its related regulations are brought into force, veterinarians will receive more detailed information on any changes the new legislation will have on their veterinary roles and requirements. BC's legislation reflects the realities of increasing global travel and trade, and establishes the laws and regulations on how governments, farmers, veterinarians, and others can work together to keep our food supply and communities safe.

In May of this year, the BC Government partnered with the Government of Canada and the BC Pork Producers to prepare for another animal health issue that was garnering headlines and causing significant concern in farming communities in the USA and eastern Canada. Under the federal-provincially funded Growing Forward 2 framework, over \$600,000 was invested to help monitor and prevent Porcine Epidemic Diarrhea (PED) from arriving in BC, and is a great example of how governments and farmers are working together to support animal health.

The funding led to the implementation of biosecurity controls at BC's two pork processing facilities and the development of response and containment plans at each pork farm in the province. Those developments built on the Ministry of Agriculture's Animal Health Centre's initial response to the diagnosis of PED in the United States in 2013, which included the development of PED testing capabilities with a 24-hour turnaround time on diagnostic samples. To date, our efforts have been successful—no cases of PED have been found in BC, and the Ministry of Agriculture continues to offer producers PED testing at no charge.

“THE BC GOVERNMENT BELIEVES THAT EACH AND EVERY ANIMAL IN BRITISH COLUMBIA HAS THE RIGHT TO BE TREATED WITH DUE CARE, ATTENTION, AND RESPECT”

Testing for PED is just one service conducted at the Ministry of Agriculture's Animal Health Centre. The Fraser Valley-based centre handles approximately 5,000 case submissions per year and is one of only three laboratories in Canada accredited by the American Association of Veterinary Laboratory Diagnosticians as a veterinary diagnostic laboratory.

The facility diagnoses, monitors, and assists in controlling and preventing animal diseases in BC, including bovine spongiform encephalopathy, avian influenza, and West Nile virus. The Centre provides a wide range of high quality, fee-for-service diagnostic testing to the livestock and veterinary industries, including pathology, bacteriology, serology, molecular diagnostics, and virology in animals, poultry and fish. I know many of you, and your veterinary colleagues work with ministry experts at the Animal Health Centre, and I encourage you to keep those relationships going.

Veterinarians play a critical role in the lives of British Columbians—and I have seen first-hand that it's by no means an easy one. It requires a person with specific knowledge and expertise, and the characteristics of compassion and caring that we admire in our fellow human beings. On behalf of all British Columbians, I thank you for the effort and results your work has on improving all of our lives, whether that be in the form of a healthy family pet, or the confidence in food production and general animal health in our communities. [WCV](#)



FOOD FOR THOUGHT

CANADIAN COMMERCIAL AND VETERINARY
PET FOOD INDUSTRY TRENDS

BY KOHARIK ARMAN, DVM

Every day, veterinary clients walk through clinic doors looking for advice regarding their pets' diets. Nutritional status is the fifth vital assessment of the 5VA system developed by the American Association of Hospitals of America (AAHA), and now, more than ever, clients are invested in providing the best possible nutrition for their pets.

“MORE THAN 70% OF THESE SALES WILL TAKE PLACE IN PET FOOD STORES AND GROCERY STORES, NOT IN VETERINARY CLINICS”

Since the tragic melamine-contaminated pet food recall in 2007, trends in cat and dog nutrition in North America have shifted dramatically. Agriculture and Agri-Foods Canada published a report on Consumer Trends in Pet Food in Canada in 2012 revealing that the humanization of pets in Canada is on the rise, along with a growing preference among pet owners for natural health products and perceived high quality nutrition. The report also shows that the pet food recall of 2007 spurred the growth of small-scale pet food producers of ‘natural,’ ‘homemade,’ and ‘organic’ foods, and resulted in a markedly increased premiumization of cat and dog foods, despite the 2007–2008 recession and global economic downturn. Currently, Canadian pet food sales are projected to reach over \$1.8 billion by 2016, and, if past years’ statistics in Market Indicator Reports hold true, more than 70% of these sales will take place in pet food stores and grocery stores, not in veterinary clinics. The 2010 National Urban Animal Report revealed that 28% of pet owners turn to pet store personnel for pet care and nutritional information, rather than to their veterinarians and, while over 70% of veterinarians proactively discuss nutrition with their clients (Ipsos Reid, 2011), according to the 2009 AAHA Compliance Study (follow-up), more than 90% of pet owners want a nutritional recommendation from their veterinarian but only 15% perceive being given one.

So how can veterinarians better provide the much-desired nutritional advice that clients are seeking? When trying to understand what pet owners are looking for, a good place to start is to review the latest commercial pet food trends in Canada and the United States. Additionally, it is of equal interest and importance to examine what parallel changes have occurred within the veterinary pet food industry, and how that helps or hinders us in keeping up with clients’ demands.

Dr. Michelle Evason of Rayne Clinical Nutrition says the one small silver lining in the tragic pet food recall of 2007 was that it raised awareness about the need for quality assurance controls in the pet food industry. Indeed, in 2007, the Canadian Government implemented regulations banning the addition of any specified risk materials to foods for any animal, domestic or livestock. In the United States, an FDA-sponsored meeting gave rise to the Pet Event Tracking Network, or PETNet: an organization meant to facilitate the timely sharing of information about food-borne illnesses in pets and pet product defects. Canadian and American governments have, to some degree, enhanced regulations surrounding pet foods and livestock feed, and pet owners themselves are becoming more cognizant of what ingredients go into their pets’ foods, and where these ingredients are sourced.

“THERE IS VALUE IN LOOKING AT WHOLE FOOD NUTRITION, PARTICULARLY BECAUSE OWNERS ARE DEMANDING IT, BUT REITERATES THAT THE MOST IMPORTANT ASPECT OF PET FOOD IS TO BE COMPLETE AND BALANCED”

While industry trends reflect emotional marketing tactics that do not always translate into changes in the actual products marketed, they do provide insight into what pet owners are looking for in their cats’ and dogs’ diets. The 2014 Nestlé Purina Investor Seminar described the top two human food trends that are reflected in the pet industry: one, an increasing desire for real food, and two, the use of food as a way to attain and maintain good health. People are increasingly aware of how nutrition impacts their own health, and current human health food trends encourage whole food nutrition rather than the use of synthetic vitamins, refined vitamins, refined grains, and other processed foods. Thus, it should come as no surprise that Market Analysis Reports in Canada show the top industry trends in commercial pet foods in both Canada and the United States are, in order of importance to consumers, health and naturalness, functionality, premiumization, and fortification.

Product naturalness refers to foods advertised as free of artificial preservatives and colour additives, foods labelled as organic, minimally processed, gently cooked, and diets advertised as free of allergens or low in allergenic content. The number one product claim for new pet foods launched in Canada between 2006 and 2011 was the declaration of no additives or preservatives.

Functionality pertains to specific health assertions such as cleaning teeth or improving joint mobility. Premiumization can include the aforementioned marketing claims of naturalness and functionality, but also relates to other means of branding items as being of higher quality: breed-specific diets, life-stage diets, and expensive packaging such as individual servings in pouches, tins, and trays. Fortification is the addition of nutrients and minerals to foods. It is also worth mentioning that Canadian pet owners also show growing concern for eco-friendly business practices when making pet food brand selections.

Small-scale ‘natural’ pet food producers are starting to create real competition in the commercial pet

food industry for larger pet food companies, and the multinational conglomerates are seeking ways to regain ground on this front. In 2011, PetSmart launched its Simply Nourish line of food that advertises no artificial preservatives, no colouring, and no corn, wheat, or soy. In February 2013, Hill’s Pet Nutrition launched the Hill’s Ideal Balance line of cat and dog food with grain-free options and no corn, wheat, or soy in its ingredients lists. Nestlé Purina has developed lines within a variety of its existing premium food brands, such as ProPlan, that provide grain-free, limited-ingredient, and super-food fortified diets. In July 2014, Purina launched Purina Beyond, a new line of pet food that contains no corn, wheat, soy, or poultry by-product meal, and no added artificial colours, preservatives, or flavours.

Now, where do these pet food trends and pet owner desires leave us in the veterinary food industry? With the exception of one newcomer, Rayne Clinical Nutrition Canada, the veterinary food industry is currently choosing to stay the course with traditional food formulations that are not congruent with current commercial pet food trends towards whole food nutrition.

Despite the addition of Hill’s Ideal Balance pet food in the commercial marketplace, Hill’s Science Diet veterinary exclusive foods are still formulated with the emphasis on nutrients first. However, Hill’s veterinary diets are also being developed using cutting-edge research in the field of nutrigenomics (the study of diet-genome interactions), to increase the functionality of its therapeutic foods. Purina Veterinary Diets are developed with the focus on nutrients as well and, despite the addition of the commercial food line Beyond, the company’s nutritional philosophy is one of nutrients first and ingredients second, with grains playing an important role in the composition of nutritive pet foods

Royal Canin has always focused on nutritional precision, and Dr. Bob Clement of Royal Canin Canada (RCC) advises that the company will continue to focus on science, research, and observation, and that at

TRENDS IN PET FOOD INDUSTRY & VETERINARY FOOD INDUSTRY SPECIFIC SOLUTIONS

TRENDS IN WHAT CANADIAN PET OWNERS DESIRE IN PET DIETS

- **NATURALNESS** no preservatives, no colour additives, low allergenicity, organic
- **FUNCTIONALITY** e.g., cleans teeth, improves joint mobility
- **PREMIUMIZATION** branding techniques to denote increased value, e.g., individual pouches, tins, trays, special breed or life-stages diets, claims of naturalness, functionality, and fortification
- **FORTIFICATION** vitamins and minerals
- **SOUND CORPORATE ENVIRONMENTAL PRACTICES**

VETERINARY DIETS & HOW THEY ARE MEETING CONSUMER DEMANDS

ROYAL CANIN CANADA

- Focus on nutritional precision, scientific evidence and observation, not ingredients; this approach may be more sustainable from a global standpoint
- ISO 14001 certification
- 66% + ingredients sourced within Canada

HILL’S PET NUTRITION

- Focus on nutrigenomics, evidence-based clinical nutrition, and diet palatability
- Hill’s commercial diets, Ideal Balance, and Ideal Balance Grain Free formulated to meet consumer demands

RAYNE CLINICAL NUTRITION

- Whole food nutrition with a focus on high quality ingredients while still providing complete, balanced, and therapeutic formulations
- Ingredients sourced locally where possible
- Cooked frozen diets in addition to traditional dry diets and wet foods
- Custom formulated diets

Clients are now more bonded than ever with their pets, and are looking for high-quality pet food and clear nutritional guidelines from their veterinarians about how to feed their pets.

Tools available to veterinarians and support staff to educate themselves and their clients about pet food nutrition include:

WSAVA Global Nutrition Committee Toolkit:
www.wsava.org/nutrition-toolkit

AAHA and Hill's Vet "Nutrition: the 5th Vital Assessment" quick reference guide:
www.hillsvet.com/HillsVetUS/v1/portal/en/us/content/research/nutrition/5va_quick_reference_guide.pdf

Hill's Veterinary Nutritional Advocate (VNA) online modules:
www.vna.hillsvet.ca/en-ca/vna/veterinary-nutritional-advocate.html

Hill's Veterinary Consultation Service (VCS):
1-800-548-VETS (8387)
Royal Canin Veterinary Diets Online Modules

The American College of Veterinary Nutrition:
www.acvn.org/about-us/faq/

the moment, Royal Canin (RC) has no plans to head in the direction of whole food nutrition, nor does RC believe grain products to be culprits with respect to diet-related health issues. It is clear that a major focus of RC which echoes current consumer trends is the environmental commitment of the company. RCC is International Organization for Standardization (ISO) 14001 certified for Environmental Management Systems, sources 66+% of its ingredients within Canada, and was also the recipient of the Better Planet Award in 2013 from the Guelph Chamber of Commerce.

When discussing the formulation of Rayne Clinical Nutrition cat and dog foods, Dr. Evason advises that Rayne was "a response to veterinarians needing a way to feel great about the type of diets that pet owners were asking for/demanding from them ... and their not being able to provide. Veterinarians were being asked questions about nutrition and were feeling uncomfortable with the nutritional options available to counsel devoted pet owners on." Rayne diets are formulated with a focus on whole food nutrition, or nutrient quality, while still maintaining complete and balanced diet recipes. Dr. Evason reports that

"THIS LEAVES VETERINARY PRACTITIONERS SOMEWHERE IN THE MIDDLE OF QUICKLY CHANGING PET FOOD TRENDS"

reception of the company's food has been, "Oh, thank goodness! We've been waiting and hoping that something like this would come along."

Dr. Bob Clement of RCC and Dr. Adronie Verbrugghe, OVC's Royal Canin Endowed Chair in Canine and Feline Clinical Nutrition, both express that one of their main concerns is whether this pet food model is sustainable. Dr. Verbrugghe does believe there is value in looking at whole food nutrition, particularly because owners are demanding it, but reiterates that "the most important aspect of pet food is to be complete and balanced, otherwise toxicities and nutritional deficiencies arise." She confirms that using whole food ingredients to achieve nutritional profiles similar to those that have previously been created using classical ingredients is another way to achieve the same complete and balanced endpoint. However, she does not see an increased benefit to pets and believes that it may cause an imbalance between the pet food world versus the human food world on a global scale. Dr. Clement adds that historically the pet food industry has not interfered with the human plate, and that RC focuses on selecting nutrient sources that do not compete with human nutrition requirements.

Pet food manufacturers have traditionally made substantial use of meat industry waste, or animal by-products. This has been an important aspect of profitability and environmental management of by-product waste for livestock producers. Is the use of real animal meat sustainable within the pet food industry if it competes with human meat sources? Only time will tell. It seems worth noting, however, that grain-derived protein sources used in many traditional pet foods are also important sources of nutritional protein in the developing world. The availability of food cereals plays a substantive part in maintaining the balance of the world food supply. In conjunction with this, it must be kept in mind that meat production and consumption necessitates very high consumption rates of food cereals too.

This leaves veterinary practitioners somewhere in the middle of quickly changing pet food trends, with a myriad of overwhelming new commercial food and new veterinary pet food options. If the trend towards whole food nutrition in the pet care industry continues, chances are that we may start to see more of a shift occurring in the veterinary pet food market too. WCV



DR. JULIUS SAKALAUŠKAS

Born in 1915 in Kedainiai, Lithuania, Dr. Sakalauskas passed away on June 2, 2014 in White Rock, BC. Dr. Sakalauskas initially worked as a Foot and Mouth Disease research scientist in Lithuania, Germany, and Argentina. In 1950, he immigrated to British Columbia where he established a large animal ambulatory practice in Cloverdale. Prior to retirement in 1985, he worked as a field veterinarian for the BC Ministry of Agriculture and Food. He was an active member of the CVMA and BCVMA, and, in 1990, he received the BCVMA Life Membership Award. He served for a term as Secretary Treasurer of the Fraser Valley Veterinary Medical Association and was always an active and enthusiastic participant in that association. Dr. Sakalauskas will be remembered as an active tennis player and as a pioneer modern-day large animal practitioner in the Fraser Valley. WCV



BC SPCA COMMUNITY ANIMAL SPAY/NEUTER GRANT

The BC SPCA Community Animal Spay/Neuter Grant is a grant competition that will help communities across British Columbia address pet overpopulation. Up to \$87,500 will be distributed among successful applicants in 2015. The grants are available to registered animal charities and non-profits, municipalities, veterinarians, First Nations governments and tribal councils, and BC SPCA branches. The deadline to apply is **December 31, 2014**. To learn more and apply, please visit spca.bc.ca/spayneutergrant.



NEEDS ASSESSMENT OF BC VETERINARIANS FOR RABIES PROGRAM CHANGES

BY REBECCA SHALANSKY, BHSC

PHOTO BY TODD CARNAHAN

ABOVE Townsend's Big-eared Bat; Community Bat Programs of BC, www.bcbats.ca

All mammals are at risk of developing rabies if they are bitten or scratched by a rabid animal. In BC, the prevalence of rabies is low: bats are the only species that carry the virus, and approximately 0.5% of bats are infected.

Rabies policy has recently undergone major changes throughout Canada. As of April 1, 2014, the Canadian Food Inspection Agency (CFIA) is no longer responsible for collecting and submitting samples from suspect rabid animals to the CFIA rabies laboratory, nor for investigating and observing suspect rabid animals. In BC, private veterinarians are now responsible for these procedures for domestic animals. The BC Centre for Disease Control (BCCDC) Public Health Veterinarian is the primary contact for domestic animal rabies support.

The BCCDC conducted a needs assessment with BC veterinarians in the summer of 2014 to facilitate the rabies program changes. The purpose of the assessment was first to determine the knowledge needs of veterinarians with regard to rabies, second to determine the most effective guideline information delivery method to veterinarians, and third to build partnerships between veterinarians and the BCCDC.

Veterinarians were invited to participate in the survey through general membership emails from the College of Veterinarians of BC (CVBC) and the CVMA-SBCV Chapter. Surveys were conducted either over the phone or online. Descriptive analysis was performed on the quantitative data. Qualitative analysis was used for the remainder of the survey.

Twenty-four BC veterinarians participated in the survey (2% of the target population). All geographical regions of the province were represented, other than the North. Of the participants, 71% were small animal practitioners.

Of veterinarians participating in the survey, 91% reported having prior knowledge of the rabies program changes. The majority (58%) said they had found out through notifications from the CVBC.

Four main concerns arose regarding the rabies program changes. First, veterinarians were unclear of their new role: "I would like to have a precise idea of just how much responsibility we are expected to shoulder." Second, they were unsure of who was now their primary contact: "... It used to be we would simply call CFIA up or Abbotsford and then they would send someone out and then they would tell

"FOUR MAIN CONCERNS AROSE REGARDING THE RABIES PROGRAM CHANGES"

us what to do ... now I don't know who we would contact." Third, they were concerned about the legal implications of working more extensively with rabies: "If that cat that brought the bat in went after somebody's kids, am I liable because I didn't do something more?" Finally, they wanted to know who was shouldering the cost of the rabies procedures: "If we are doing a public health service, are we on the hook for it individually?"

When veterinarians were asked more specifically of their knowledge needs for rabies, there was a range of responses between topics (table at right). Veterinarians were most unclear on packaging and shipment procedures for samples submitted for rabies testing. First, they were unfamiliar with the procedure: "Absolutely. I've never had to do it, I've always called the district vet and he's come and done it." Second, they were concerned about shipping logistics: "They are dangerous goods. Some carriers wouldn't take samples if they knew what they were."

Reporting procedures were the second greatest knowledge gap. Veterinarians were unsure who to report to: "There's various names being put forward that we can call to answer questions, but everybody seems to be passing the buck." They were also unsure when to report rabies cases: "When should we involve the local human health authority?"

The majority (88%) of veterinarians reported that quick references, such as tables, flowcharts, and cheat sheets were their preferred information source. Most veterinarians (71%) would prefer to access the information online.

This survey provided insight into the opinion of veterinarians in BC about the updated rabies program. Although the prevalence of rabies in BC is low, it is a fatal disease. If an animal or a person is potentially exposed to rabies, precautions must be taken immediately to prevent infection and transmission. It is thus crucial to have clear guidelines for all health practitioners, including veterinarians. Veterinarians have expressed a need for additional information regarding the new rabies management procedures, especially with the less clinical aspects, such as packaging, shipping, and reporting.

Guided by the results of this survey, the BCCDC is in the process of developing easy-to-follow rabies assessment and management guidelines for BC veterinarians.

VETERINARIANS' RABIES KNOWLEDGE NEEDS BC, 2014 (N=24)

TOPICS	PARTICIPANTS REQUIRING INFORMATION (%)	
Packaging/shipment of animal samples for rabies testing	100%	
Diseases reporting procedure for rabies or other zoonotic disease	96%	
Epizootology of rabies or other zoonotic diseases in BC	83%	
Assessment of rabies exposure risk in an animal	79%	
Euthanasia of bats and other animals and sample collection for rabies testing	79%	
Occupational health risk for rabies or other zoonotic diseases	75%	
Risk of transmission from animals to humans for rabies or other zoonotic diseases	71%	
Diseases management in animals for rabies or other zoonotic diseases	71%	
Clinical presentation of rabies or other zoonotic diseases	50%	

RESOURCES

For up-to-date information on veterinary rabies management procedures in BC, visit the Rabies section of the Disease & Disease Management folder on the CVBC website (www.cvbc.ca) or contact the BCCDC Public Health Veterinarian, Dr. Jennifer Koeman: 604-707-2400.

For public rabies information, visit the BCCDC rabies webpage: www.bccdc.ca/rabies.

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- UBC Faculty of Medicine
- CVBC: John Brocklebank
- CVMA-SBCV Chapter: Corey Van't Haaff
- Veterinary Participants [WCV](#)

SURVEILLANCE & DIAGNOSIS OF WEST NILE VIRUS IN BC HORSES

BY BRIAN RADKE, DVM, & ANN BRITTON, DVM

Dr. John Twidale, organizer of the Annual BC Equine Seminar, kindly reorganized the agenda and invited Ministry of Agriculture staff from the Animal Health Centre (AHC) in Abbotsford to present an update on the status of West Nile Virus (WNV) in BC. We are pleased to provide a summary of the presentations and the ensuing discussion.

For surveillance purposes, the province uses the following case definition to confirm an equine case of WNV:

Compatible clinical signs¹ plus one or more of the following:

- isolation of WNV from tissues;
- an associated four-fold or greater change in IgG ELISA testing or sero neutralization (SN) test antibody titre to WNV in appropriately timed, paired sera;
- detection of IgM antibody to WNV by ELISA testing in serum or cerebrospinal fluid;
- a positive polymerase chain reaction (PCR) to WNV genomic sequences in tissues and appropriate histological changes;
- a positive immuno-histochemistry for WNV antigen in tissue and appropriate histological changes.

This surveillance case definition is substantially similar to that used by the CFIA and the USDA (except the USDA does not accept SN or IgG results from vaccinated horses). In addition, equine texts, such as *Equine Infectious Diseases* (2014), edited by Sellon and Long, recommend similar diagnostic testing to confirm a clinical equine case of WNV infection.





“WNV WAS FIRST DETECTED IN BC IN 2009, WITH HUMANS, MOSQUITOES, AND HORSES BEING IDENTIFIED AS INFECTED”

IgM testing is not perfect, but is preferred in clinical cases for a few reasons: 1) the diagnosis can be confirmed with a single serum sample; 2) the test result is not affected by WNV vaccination; 3) IgM antibodies do not persist.

In contrast, the presence of SN or IgG antibodies could be due to vaccination or natural infection. Therefore, testing of acute and convalescent serum samples is required with a four-fold or greater increase in test results to differentiate an acute natural infection from vaccination or a previous natural exposure. The persistence of SN and IgG antibodies further contributes to the difficulty in interpreting these test results.

WNV was first detected in BC in 2009, with humans, mosquitoes, and horses being identified as infected. WNV was confirmed in 2010, 2011, and 2013 with confirmed equine cases in 2011 and 2013. WNV

has only been detected in the south and central Okanagan, with the exception of a 2009 equine case from the Fraser Valley. All WNV cases have occurred in August and September. More surveillance results are available at the BC Centre for Disease Control (BCCDC) WNV website (www.bccdc.ca/dis-cond/a-z/_w/WestNileVirus/default.htm) or the AHC's WNV website (www.agf.gov.bc.ca/ahc/westnilevirus.htm).

These surveillance results are consistent with WNV risk mapping done by the BCCDC. The Thompson-Okanagan is identified as the higher risk area for WNV infection. WNV risk is determined by two factors: the presence of *Culex* spp. mosquitoes (the other types of mosquitoes in BC do not transmit WNV), and high temperatures which increase mosquito populations, increase viral amplification, and increase mosquito blood-feeding activity. Province-wide surveys indicate there are relatively few *Culex* mosquitoes in the northern half of the province.

Some equine serological WNV results are difficult to reconcile with our current understanding of WNV risk in the province. One example is the finding of SN antibodies in horses reported as unvaccinated and having always resided in areas considered low risk for WNV. To better

understand the findings, the AHC will conduct free WNV and EHV1 PCR testing of neurological tissue from horses with a positive serological test result (SN, IgG, or IgM) for WNV. One of this summer's suspect WNV cases had an EHV1 titre, so this pathogen should be considered in the differential list for BC equines with neurological disease.

Recommendations regarding field collection, handling, and transportation of suspect WNV-infected brain from horses were presented. WNV is a human pathogen which can cause severe disease. Occupational disease has occurred in people handling infected tissues via percutaneous inoculation associated with knives and needles and following aerosolization with exposure of mucous membranes. The Public Health Agency of Canada has designated diagnostic WNV specimens as risk level 3. Personal protective equipment required for collection and handling of risk level 3 specimens was discussed, as were the Transportation of Dangerous Goods guidelines for shipping these samples.

The handling and shipping restrictions imposed by the risk level were reviewed. Most attention was levelled at the recommendation to avoid field removal of the brain and submit the whole head or the brainstem to the lab for diagnostic workup. Shipping the whole head leads to physical limitations which make it virtually impossible to achieve. Field removal of the brainstem was demonstrated to be a simple method to acquire a small sample which is easy to transport. However, having only the brainstem to work with limits diagnostic potential of the specimen, especially when other diseases such as rabies are suspected.

Discussion following the presentation included the need for

improved communication among practitioners and with the AHC. WNV and other diseases are expected to be made notifiable or reportable to the province. This change in reporting will require considerable discussion with the veterinary profession including methods of communication and information sharing.

Practitioners asked why the AHC in Abbotsford no longer offers IgM testing. The testing was discontinued because of insufficient demand, resulting in the discarding of expired test kits at significant cost. The AHC is willing to again stock the test if there is sufficient demand from BC practitioners. A seminar participant suggested Prairie Diagnostic Services (PDS) in Saskatoon offers convenient and timely IgM testing.

It was apparent from the discussion that confusion exists about the submission of samples for rabies testing. The AHC and BCCDC will provide guidance to BC's veterinarians. [WCV](#)

- 1 Clinical signs must include ataxia (including stumbling, staggering, wobbly gait, or incoordination) or at least two of the following: circling, hind limb weakness, inability to stand, multiple limb paralysis, muscle fasciculation, proprioceptive deficits, blindness, lip droop/paralysis, teeth grinding, fever, acute death.

In July and August 2014, rumours were active in the BC equestrian community that West Nile virus (WNV) had been diagnosed in BC horses. Discussion with the veterinarian involved indicated that two horses in the Cache Creek area, one vaccinated, one never vaccinated, showed signs of ataxia, and had positive serum neutralisation (SN) titres on blood samples sent to Cornell. However, convalescent blood tests did not show a four-fold rise, as required by the BC Centre for Disease Control (BCCDC) to make a positive diagnosis. Following this, there were two other horses, one in Okanagan Falls and one in Prince George, that showed similar ataxic signs and positive SN tests. Both of these horses were euthanized within a week of showing symptoms, and no necropsy follow-up was done, so neither could be declared positive.

Dr. Brian Radke, Public Health Veterinarian with the BC Ministry of Agriculture at Abbotsford Health Centre (AHC), followed up on all these cases, and made an excellent presentation at the CVMA-SBCV Chapter's Equine Seminar on November 4th on how veterinarians should test for WNV before making a differential diagnosis. His main point was that SN results are open to question, and IgM Elisa test is more accurate in the acute stage of WNV. **If enough veterinarians are interested to send blood samples to AHC from suspect cases next year, AHC will run the IgM tests in-house, avoiding the delays of shipping to Cornell. AHC will also test necropsy specimens of brain tissue by PCR and/or immunohistochemistry for WNV and EHV1.**

Dr. Ann Britton, pathologist at AHC, then gave a graphic presentation on how to carry out a necropsy in field situations where a zoonotic disease such as WNV or rabies is suspected.

Dr. Jennifer Koeman, Public Health Veterinarian with the BCCDC, also gave a short presentation on rabies diagnosis, which has been downloaded to the veterinarian in practice from CFIA.

We thank all these veterinarians for taking their time and effort to educate our equine group on how to handle notifiable diseases in BC horses. In future, suspect cases of WNV should be reported to Dr. Radke at AHC, and suspect cases of rabies (in any species) should be reported to Dr. Jennifer Koeman at BCCDC. Both of these veterinarians are ready and willing to assist you with advice on testing and diagnosis.

By John Twidale, DVM, Chair, Equine Committee, CVMA-SBCV Chapter



The incoming class of 2018 was welcomed by the Western College of Veterinary Medicine (WCV) to the veterinary profession on September 19 during the White Coat Ceremony in Saskatoon. All 78 of the veterinary college's first-year students received personalized white lab coats and stethoscopes from representatives of national and provincial veterinary medical associations during the evening ceremony, and BC students also received a CVMA-SBCV Chapter name tag. The Class of 2018 joins more than 235 veterinary students who are already enrolled in the four-year Doctor of Veterinary Medicine program at WCV. The new students, who will graduate in 2018, come from communities across Western Canada and the northern territories. [WCV](#)

BC-BASED STUDENTS IN THE WCV CLASS OF 2018

- » Amber-Lynn Backwell, Vancouver
- » Alex Boo, Richmond
- » Rachel Courtice, Victoria
- » Kelsey Cunningham, Campbell River
- » Richelle-Ann Eger, Roberts Creek
- » Cathy El-Hinn, Vancouver
- » Kimberly Fillmore, Westbridge
- » Ira Froimovitch, Vancouver
- » Zihui (Hebe) Lin, Richmond
- » Alexandra Malkowski, Port Coq.
- » Daniel McClair, Prince George
- » Joscelyn McKenzie, Langley
- » Shannon Palmer, Port Alberni
- » Jessica Paravicini, Qualicum Beach
- » Jennifer Pelchat, Quesnel
- » Leah Prier, Nanoose Bay
- » Lauren Redies, White Rock
- » Taryn Roberts, Vancouver
- » Robin Stevens, Nanaimo
- » Kayla Stinn, Lake Country
- » Ashton Wickramaratne, Surrey
- » Elaine Wu, Surrey

ANTIMICROBIAL STEWARDSHIP

A NEW WORLD ORDER

BY KRISTIN McEVOY

The first antibiotic, penicillin, was discovered in 1928 when bacteriologist Dr. Alexander Fleming accidentally developed a mold compound and noticed that it could inhibit certain types of bacteria. Over a decade later, Dr. Howard Florey and Dr. Ernst Chain furthered Dr. Fleming's discovery by isolating the antibacterial element from the mold. In the 1940s, penicillin was being mass-produced for use in human medicine. It had the power to kill or inhibit the growth of different disease-causing microorganisms, and, as a result, medical care changed dramatically. Suddenly bacterial infections could be cured. An infection resulting from a simple laceration or burn no longer resulted in a fatality.

Further antibiotics were discovered over the next few decades, and their use in human medicine was soon followed by therapeutic use in animals. During the 1950s, scientists in the United States discovered that antibiotics administered at low (subtherapeutic) doses could increase the growth rate of livestock and poultry. Adding antimicrobial products to animal feed or water in low doses would also prevent or reduce the incidence of disease.

But the golden age of antibiotics was short-lived. In his 1945 Nobel Prize speech, Dr. Fleming had predicted there would be misuse of penicillin and warned that under-dosing would lead to the development of resistant bacteria. Evidence of resistance reportedly emerged as early as the 1950s. At first, the issue of infections caused by resistant bacteria was often overlooked. If one antibiotic didn't treat the infection, another one was usually available.

Fast forward to today. Decades of use, misuse, improper dosing, ineffective legislation, and other related issues have led to an increase in bacterial resistance—the ability of microorganisms to withstand the effect of an antimicrobial agent. Many antimicrobials are now ineffective, and very few new antimicrobials are being developed and introduced on the market. In May 2014, the World Health Organization (WHO) declared antimicrobial resistance a major global threat to public health. Citing resistance data from 114 countries, WHO warned that without urgent coordinated action, the world is headed for a post-antibiotic era where common infections could again be fatal.

The epidemiology associated with antimicrobial resistance is complex. Hospitals, farms, aquaculture, industrial and household antibacterial chemicals, and decades of improper use of antimicrobials have all contributed to resistance.

"Resistance anywhere is potentially resistance everywhere," said Dr. John Prescott, a veterinary bacteriologist at the Ontario Veterinary College and a member of the Ad-Hoc Committee for Antimicrobial Stewardship in Canadian Agriculture and Veterinary Medicine. The committee, which was formed in 2011 to provide a forum for antimicrobial stewardship dialogue, includes representatives from veterinary academia and associations, the animal health diagnosis industry, human medicine, and environmental science. During the CVMA's Summit of Veterinary Leaders in July 2014, Dr. Prescott presented a report from the committee that provided an assessment of how Canada is doing when it comes to stewardship of antimicrobials. The report assigned Canada an overall ranking of C-.

Canada does not have a national regulatory system in place to monitor the use of antimicrobial products. The Canadian Integrated Program

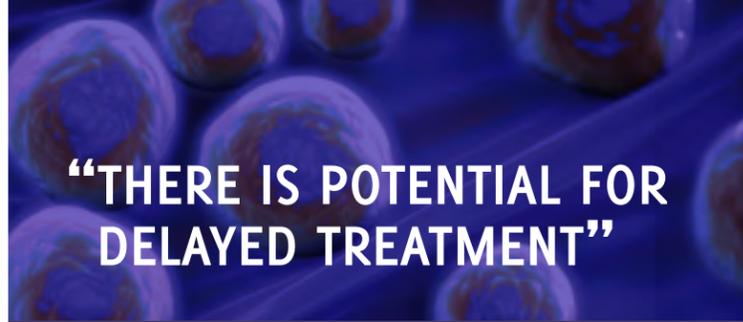
"DECADES OF USE, MISUSE, IMPROPER DOSING, INEFFECTIVE LEGISLATION, AND OTHER RELATED ISSUES HAVE LED TO AN INCREASE IN BACTERIAL RESISTANCE"

for Antimicrobial Resistance Surveillance (CIPARS), operated by the Public Health Agency of Canada, was established in 2003 to monitor trends in antimicrobial use and resistance. However, CIPARS cannot monitor or control the use of antimicrobials, since federal authorities regulate the sale of antimicrobials and provincial authorities regulate their use.

In April 2014, Health Canada announced its intention to work toward the removal of growth-promotion claims for medically important antimicrobial drugs and develop options to strengthen the veterinary oversight of antimicrobial use in food animals. It's a step in the right direction, but two major issues have still not been addressed by Health Canada. One of those issues involves Active Pharmaceutical Ingredients (APIs), which are not intended to be administered directly to animals. These pharmaceutically active substances are not subject to Health Canada's market authorization requirements. This gap in legislation allows animal owners to purchase APIs and administer them to their animals at their own discretion with no veterinary oversight. The second issue is that Health Canada's Food and Drugs Act contains an own-use-importation loophole, which allows animal owners to import antibiotics for their own use. Through these regulatory loopholes, unknown quantities of unapproved antimicrobials are brought into Canada and used in animals, including those raised for human consumption.

Extra-label drug use (ELDU) of antimicrobials can be an important strategy for veterinarians when treating diseases when an approved product is not available or suitable. Veterinarians can be faced with circumstances where there is a lack of label claims for some species or disease conditions. There can also be instances when the ELDU of an antimicrobial may be the most prudent use. Some antimicrobials—Veterinary Drug Directorate (VDD) Category I antimicrobials—used by veterinarians are also used in human medicine and are essential for the treatment of serious life-threatening infections in humans. ELDU of VDD Category I antimicrobials should not be prescribed by veterinarians unless their use has been carefully considered and justified, to avoid the development of resistance. There is no regulatory oversight that prevents animal owners from using drugs in an extra-label manner. Owners who use drugs extra-label without veterinary oversight are doing so with risks to animal health, public health, and food safety.

Veterinarians must strike a balance between maximizing animal health and welfare while preserving the effectiveness of antibiotic products and protecting public health. The continued use of antibiotics in



“THERE IS POTENTIAL FOR DELAYED TREATMENT”

veterinary medicine is dependent on the ability of veterinarians to use antibiotics responsibly.

Educational efforts have been undertaken to ensure that veterinarians can implement good stewardship practices. Dr. Nigel Gumley, an Ottawa companion animal practitioner, Chair of CVMA's Working Group on Prudent Use Guidelines for Companion Animals, and CVMA's representative on the American Veterinary Medical Association's Task Force on Antimicrobial Resistance, recently led the development of CVMA's Antimicrobial SmartVet, a smartphone application that assists veterinarians with working through the process of selecting appropriate antimicrobial therapy for specific bacterial diseases of dogs and cats. CVMA's Antimicrobial Prudent use Guidelines for Beef Cattle, Dairy Cattle, Poultry and Swine are currently available in print to guide large animal practitioners in making responsible decisions about antimicrobial therapy. But for the companion animal project, the working group wanted to provide a more convenient method of accessing the information.

“We know that 51% of prescriptions for companion animals are antimicrobials,” said Dr. Gumley. “With the SmartVet app, we're giving companion animal practitioners access to a mobile tool that is easy to use and enables a veterinarian to quickly make a prudent decision using the appropriate antimicrobial.”

Concerns have been raised regarding the issue of veterinarians prescribing and dispensing antimicrobials and the need for the profession to consider separating or 'decoupling' these activities. The right of veterinarians to both prescribe and dispense is perceived by some as a conflict of interest that may contribute to antimicrobial resistance, as veterinary businesses rely on drug sales as a source of income. For large animal veterinarians who are often on the road, decoupling could be detrimental not only to their businesses but also to the health of their patients, as medications would no longer be immediately available for animals on farms. With the loss of convenience to the producer, there is potential for delayed treatment, which could have a negative impact on animal welfare. There may actually be some benefits to decoupling for companion animal practices that would no longer need to incur the cost of maintaining a supply of medications, but a risk lies in leaving the dispensing to others who may not be knowledgeable about animal health. Ultimately, would decoupling have any impact on reducing antimicrobial resistance? That issue is still up for debate.

What has finally become well-recognized and is gaining acceptance is that reducing antimicrobial resistance will require involvement from all sectors. “A coordinated national and provincial framework is needed to counter resistance,” said Dr. Prescott. “This must involve chief veterinary officers and chief medical officers working together, closing regulatory loopholes and implementing a comprehensive national surveillance system that will accurately track the use of antibiotic products.”

He believes Canada is in a 'golden moment' to improve antibiotic stewardship. “Let's fix the problems. Bacteria can change, but so can we.” [WCV](#)

INDUSTRY NEWS

A new Douglas College study will investigate the veterinary care and health of cats that have been treated for hyperthyroidism. Jennifer Wakeling, a Veterinary Technology instructor at Douglas College, has received a \$67,000 federal grant for the three-year clinical research project. The funding was awarded by the Natural Sciences and Engineering Research Council of Canada through its College and Community Innovation Program. The study is also supported by IDEXX Laboratories Inc., which will provide free laboratory testing up to a maximum value of \$45,000, and by North West Nuclear Medicine for Animals, a Vancouver veterinary facility dedicated to treating hyperthyroid cats.

Animal Care Clinic & Hospital has expanded its veterinary services and relocated to join the Vancouver Animal Wellness Hospital team. This partnership accomplishes two important goals: to provide hospital clients and patients with additional veterinary services provided by a larger health care team all located just minutes away from Animal Care; and to begin building the new Vancouver Animal Emergency and Referral Centre.

Merial announced that Health Canada has approved NexGard for the treatment and control of flea and tick infestations in dogs. The soft, beef-flavoured chewable tablet begins killing fleas in just 30 minutes and is also approved to kill three species of ticks: American Dog Ticks, Lone Star Ticks, and the Blacklegged Tick.

IDEXX Laboratories announced the availability of the IDEXX VetConnect PLUS mobile app for Android devices. The app was introduced to iPhone users earlier this year.

IDEXX Laboratories has entered into an agreement with Royal Philips, under which the company will use the Philips Digital Pathology Solution VET in IDEXX Reference Laboratories to digitize veterinary histopathology images. Creating a virtual digital pathology network will reduce turnaround time and provide even better service to practicing veterinarians around the world. [WCV](#)

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Beginning on Oct 1st, 2014, in collaboration with Vancouver Animal Wellness Hospital, the **Animal Care Clinic & Hospital** will be relocating to 105 E Broadway. For more information, please visit www.vawh.ca.

Once completed mid-January 2015, this transition allows for the re-design of 2303 Alberta Street, the future new home of **Vancouver Animal Emergency and Referral Centre**. We are excited to begin construction on the new location that will provide over 10000 sq ft to our emergency and referral centre - a significant change over the current, 3800 sq ft hospital on West 4th.

Updates on the construction of the facility and expansion of referral services will be posted on our website www.animaler.com

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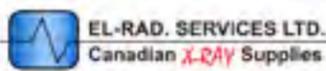


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- A single easy-to-administer palatable chew provides efficacy that **LASTS** for 12 weeks.



Reset the clock on flea and tick protection, with a cutting-edge solution that's sure to earn you a standing ovation. Bravo, **BRAVECTO®**!

BRAVECTO® Safe. Fast. Lasts.

* In a European laboratory study, BRAVECTO® killed fleas and Ixodes ricinus ticks and reduced the numbers of live fleas and I. ricinus ticks by > 96% within 12 hours for 12 weeks.

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