

WEST COAST VETERINARIAN

DECEMBER 2017 | Nº 29

THE SUMMER *WILDFIRES* OF 2017

REPAIRING THE
GREAT HORNED OWL

A TASTE OF THE WILD, WITH A GRAIN OF SALT

LASER THERAPY

ACCOMMODATING THE
PREGNANT VETERINARIAN



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HOUSEHOLD ITEMS THAT
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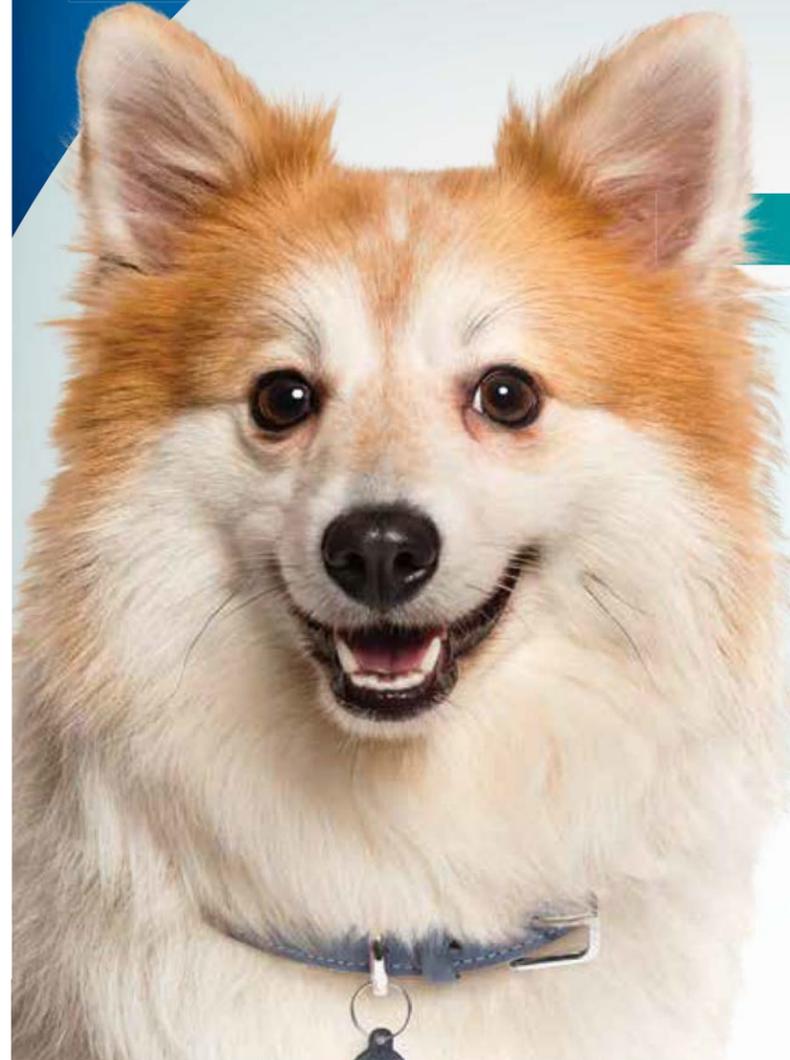
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COREY VAN'T HAAFF
EDITOR

» TO THE EDITOR

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

» ON THE COVER

This llama was evacuated to the Kamloops Exhibition Association barn during the Cache Creek wildfire. Photo by Anfield Photography.

My fear of fire is real. Many years ago, working as a journalist, I had the opportunity to interview a fire department dispatcher working the 2004 wildfires in the Okanagan. He told me the hardest call he had to make was the one to his wife to tell her to leave their family home as it was about to burn to the ground. By the end of his shift, 68 homes, including his own, were gone.

Flash forward a few more years, and I was at home one afternoon when I looked out my front window. The house across the street was on fire, and in the time it took me to dial 9-1-1 and ask for the fire department, the fire moved laterally, and a second house was in flames. I recall exactly how scared I was as I gathered my five dogs and the two young girls who were visiting me, headed out the back door to encounter a small fire on my own back porch, extinguish it, and herd these seven souls into the driveway to await the firemen's instructions. I watched, horrified, as my own roof started to smoulder and was thankful when the firefighters stopped spraying the houses which were now unsalvageable and turned the white foam onto my own wee house, which survived virtually unscathed.

The difference between my own situation and the vast wildfires documented in Dr. Welsman's feature story is that, in my case, firefighters stood ready to help me. In the many, many, many wildfires that burned this past summer, the fires were too large and unruly to be contained before damaging entire neighbourhoods and impacting the entire province. Just like on that day more than a decade ago, the safety of the animals was the first thing on my mind, and I cannot imagine the fear that owners and veterinarians must have felt as they faced this disaster.

What I have no trouble imagining is the professionalism, dedication, courageousness, and heroism of the many veterinarians, vet techs, animal lovers, volunteers, and all their families, who rallied together to keep safe as many animals as possible, and to treat those who were injured during their escape. We are all indebted to these people.

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BC QUOTA STUDENTS AT THE WCVM'S WHITE COAT CEREMONY

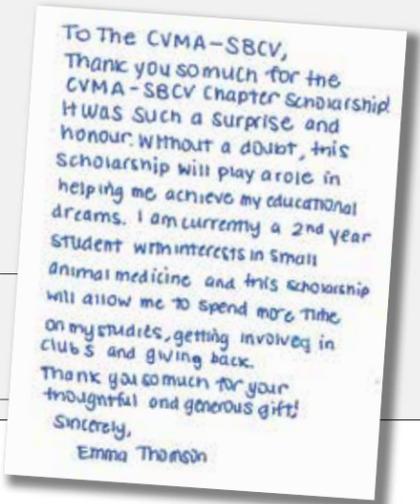
The group photo was taken just after the WCVM White Coat Ceremony on September 22 in Saskatoon, Saskatchewan.



PHOTO BY CHRISTINA WEESE/FOXPAULSTUDIO.NET

CVMA-SBCV CHAPTER 2017 SCHOLARSHIP WINNER

The CVMA-SBCV Chapter's \$2,500 WCVM scholarship winner is BC quota student Emma Thomson. Beginning in 2018, the Chapter will offer two \$2,500 scholarships.





KOHARIK ARMAN, DVM, graduated from the Atlantic Veterinary College in 2007 and entered feline-specific practice in Ottawa. She moved to Vancouver in 2009 and started working at Cats Only Veterinary Clinic, now a VCA Canada clinic renamed Cats Only Animal Hospital, where she is currently employed. Koharik is a member of the Board of Directors of the CVMA-SBCV Chapter and Chair of the Editorial Committee for *West Coast Veterinarian* magazine.



EVAN CRAWFORD, DVM, MSc, DVSc, Dipl. ACVS, grew up on Vancouver Island and after completing his education in Saskatoon, Wisconsin, and Ontario, he has returned to BC where he works at Boundary Bay Veterinary Specialty Hospital. Outside of work, he enjoys hiking and kayaking. Most of the time he is accompanied by his two big black dogs, one each from Wisconsin and Ontario.



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 high-way accidents involving wildlife. He was appointed Member of the Order of Canada in 2005 for his work in animal welfare science.



MELISSA FREI, RVT, has lived in the beautiful Creston Valley for the past 20 years. While working at the Creston Veterinary Hospital, she obtained her certificate as an Equine Sports therapist in 2010 after a two-year program in Vernon at the BC College of Equine Sports Therapy. In 2014, she graduated from Thompson Rivers University Distance Education Program as an Animal Health Technician and received the Merial Large Animal Science Award.



KATHRYN WELSMAN, DVM, graduated from OVC in 2007. She practised emergency medicine in Langley for several years and completed a diploma in veterinary public health. In 2011, she moved to the Kamloops area where she has been practising small animal medicine.

WCV

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EDITORIAL COMMITTEE

Koharik Arman, DVM, Chair
Christiane Armstrong, DVM
Sarah Armstrong, DVM
Rick Stanley, DVM
Kathryn Welsman, DVM

EDITOR

Corey Van't Haaff
Email: wcveditor@gmail.com

ART DIRECTOR

Aileen Fulgueras, B Des

COPY EDITOR

Clélie Rich

PUBLISHER

CVMA-SBCV CHAPTER
Email: cvma-sbcv@cvma-acmv.org
Telephone: 604.406.3713
PO Box 21088 Maple Ridge Square RPO
Maple Ridge BC V2X 1P7
www.canadianveterinarians.net/SBCV

PUBLISHER'S ASSISTANT

Debbie Crowe

AD SALES

Inga Liimatta
Email: ingal@telus.net
Phone: 604.420.0663

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WEST COAST VETERINARIAN



22 THE SUMMER WILDFIRES OF 2017



DECEMBER

- 04 FROM THE EDITOR
- 06 WCV CONTRIBUTORS
- 08 FROM THE CVMA-SBCV CHAPTER PRESIDENT
- 09 COLLEGE OF VETERINARIANS OF BC POSITION STATEMENT ON DUTY TO REPORT ANIMAL ABUSE OR NEGLECT
- 10 FROM THE CVMA PRESIDENT
- 12 FROM THE CHIEF VETERINARY OFFICER FOR THE PROVINCE OF BC
- 14 CVMA-SBCV CHAPTER WCVM STUDENT LIAISON COLUMN VETAVISIONARIES
- 16 ANIMAL WELFARE COLUMN STEPS TO IMPROVE THE MANAGEMENT OF CULL DAIRY COWS
- 18 WILD LIFE COLUMN A TASTE OF THE WILD, WITH A GRAIN OF SALT
- 36 ACCOMMODATING THE PREGNANT VETERINARIAN
- 39 UPDATE ON MEDICAL MARIJUANA AND CANNABIDIOL FROM THE REGISTRAR'S OFFICE OF THE COLLEGE OF VETERINARIANS OF BC
- 40 BUSINESS DIRECTORY
- 42 CONTINUING EDUCATION



20 RVT COLUMN LASER THERAPY

30 SPECIALIST COLUMN ON THE WING: REPAIRING THE GREAT HORNED OWL



SPECIAL TEAR-OUT POSTER FOR MEMBERS ONLY HOUSEHOLD ITEMS THAT CAN POISON YOUR PETS

It's an early October Friday afternoon, and as I write this column, I am lazing about with my fur family and sipping a hot latte on the couch. Fall is here, I have resurrected my collection of sweaters, got my rubber boots and rain gear out, and turned on the heat in the apartment. Definitely a favourite time of year. I have also just come off the bustle of several weeks as a locum at various clinics. This is truly a different way to experience the veterinary profession. It has been great to get out of my comfort zone in the ER, see how others practise, and meet some amazing people. I often laugh that I'd rather see a GDV than a bad atopic case. I am starting to become more familiar with the GP prescriptions of Apoquel, Vanectyl-P, Trifexis, Bravecto, etc. All newish drugs to me, compared to my usual Voluven, dopamine, and fentanyl.

Tomorrow, I am off to Banff for the Western Assembly of Veterinary Associations. This is the annual meeting of western Canada's veterinary associations (BC, Alberta, Saskatchewan, and Manitoba). It's a chance to get in touch with the other VMAs to discuss provincial veterinary topics, share ideas, and discuss common problems and novel solutions. I am looking forward to talking about One Health, animal welfare programs, and community relation strategies.

In early September, I attended the SVMA AGM in Regina. This year, there were big discussions on addressing the new federal taxing of small businesses and how this affects veterinary business owners. As the CVMA-SBCV Chapter has done, the SVMA wrote a letter to the federal government opposing the proposed changes. The Association is continuing to work hard to educate and provide material for their veterinary members on antimicrobial stewardship. They are also producing great tools and materials for the public on their website, including a new topic on antimicrobial resistance. You can watch their *Just Like You* educational videos at <http://www.svma.sk.ca/index.php?p=just-like-you-videos>.

In late September, I attended the WCV's White Coat Ceremony (WCC) in Saskatoon. This is my favourite event of the year as I get to chat one on one with

the BC quota students in a meet and greet the night before the WCC. It is a time for listening to feedback and finding out what our BC students need from the Chapter and the Province. In years past, this interaction has helped to create, among other things, a BC student award of \$2500, and the evaluation of mentorship provincially which spurred the development of the new WCVM mentee program. This year we talked about how the Chapter can help connect BC students with BC clinics for volunteer and work positions. The Chapter is looking into creating a student classified ads space where students and practices looking for students could interact.

The CVMA-SBCV Chapter was recently informed that the Province of Alberta will no longer be financially supporting the WCVM for quota seats. They have decided to focus solely on the University of Calgary's veterinary program. This is a devastating blow to the WCVM, as they have been partners with the ABVMA and Alberta for many years. I am very saddened to hear of this decision and wish to highlight our Chapter's support of WCVM. We will be speaking to Dean Freeman on this as to the impact to the college and the importance of maintaining funding, as well as retaining or expanding BC student seats at the WCVM. I believe this demonstrates the work that the Chapter does on behalf of our members.

By the time this issue is in your hands, I will have seen many of you at our fall conference in November, meeting old friends again and making new ones. In the meantime, back to my latte, my furry family, and this lovely fall. **WCV**



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 as a locum veterinarian.

COLLEGE OF VETERINARIANS OF BC POSITION STATEMENT ON DUTY TO REPORT ANIMAL ABUSE OR NEGLECT

SUBMITTED BY THE REGISTRAR'S OFFICE OF THE COLLEGE OF VETERINARIANS OF BC

In June 2017, the College of Veterinarians of BC (CVBC) issued a brief guideline on veterinarians' duty to report under the Prevention of Cruelty to Animals Act (PCAA). In July 2017, the province's chief veterinary officer published an article challenging the CVBC's position. In response to inquiries, the CVBC takes this opportunity to clarify any perceived confusion over the two publications.

The welfare of animals is a veterinarian's primary concern. If animals are not brought to veterinarians for assessment and treatment, then veterinarians cannot fulfill their part in promoting animal welfare.

Veterinarians are required to report animal abuse, cruelty, and distress. Certain circumstances give rise to the duty to report. These circumstances are dictated not only by the PCAA, the Veterinarians Act, and the CVBC Bylaws, but also by measured analysis and professional judgement. It is the role of the CVBC to provide guidance, to promote public confidence that veterinarians are qualified to provide medical assistance, and to assess the necessity of reporting.

Some clients may refuse reasonable recommendations for treatment. If the veterinarian believes the refusal may lead to animal distress, the veterinarian should encourage the client to seek a second opinion, take time to absorb the advice, or to explore humane alternatives. PCAA reports are not required where clients seek unnecessary cosmetic alterations. They may be informed that they are in the wrong jurisdiction for those services.

The relationship of trust between a veterinarian and a client is important to the welfare of the animal and the client's other or future animals. When exercising judgement about reasonable grounds to make a report, the veterinarian must assess the information for clarity or ambiguity. Factors to consider include:

- a new or ongoing veterinary-client-patient relationship
- severity of injury

- origin of the animal's condition
- remorse and willingness to agree to treatment

Each scenario requires objectively assessing the available information. Making or threatening a report based on unreliable information can lead to negative outcomes for the injured animal. A PCAA report may be devastating to all involved, the client, the veterinarian, and their respective families and animals.

The authority to authorize and initiate prosecutions for animal abuse or cruelty rests solely with the Ministry of the Attorney General. Not all PCAA reports result in prosecutions. In BC, there is a defence for a PCAA report made in good faith, but there is no immunity from civil litigation. Veterinarians who report risk the possibility of litigation, regulatory complaint investigations, negative publicity, and other adverse results.

Different considerations may apply for veterinarians in public practice, where a vast number of animals and consumers are potentially affected.

Animal welfare is a top priority to the veterinary community. Usually, the most effective method available to veterinarians for preventing or arresting distress is to treat their patients and educate their clients. Without clear evidence of current or imminent animal distress requiring a PCAA report, it is best to proceed with reason and caution. This approach does not preclude a report after the veterinarian has sought advice, or where changes in the situation or information warrant it.

Veterinarians may contact the CVBC or seek independent legal advice.

Legislative Authority

- Veterinarians Act
- Prevention of Cruelty to Animals Act
- Criminal Code of Canada
- Personal Information Protection Act
- CVBC Bylaws

SCHOLARSHIP AVAILABLE FOR THE 8TH EQUITARIAN INITIATIVE WORKSHOP

The Delta Equine Seminar is again sponsoring a veterinary student or recent graduate to attend the 8th Equitarian Initiative Workshop in Costa Rica January 5-11, 2018. The scholarship will be for the amount of \$1,750 USD. Details of the application, trip, and experience are available from davidpaton@shaw.ca. Last year, four veterinarians associated with the Delta Equine Seminar attended, and all agreed that it was a tremendous experience and a real opportunity to learn and participate in equine veterinary medicine in developing countries. Please help spread the word to any of your veterinary contacts and students who might be interested in participating. There were six excellent applicants last year, and they should be encouraged to apply again this year. If anyone has any questions about the scholarship, please contact davidpaton@shaw.ca.

The CVMA has joined the Coalition for Small Business Tax Fairness to oppose federal tax proposals that would dramatically change the way incorporated small businesses are taxed in Canada. Visit the News & Events section of www.canadianveterinarians.net for more information and to find out what you can do.

The CVMA is participating in a sub-committee of the Canadian Animal Health Products Regulatory Advisory Committee to discuss the implementation and impacts of Health Canada's moving all medically important antimicrobials (veterinary drugs) to the Prescription Drug List.

The CVMA welcomes three new members to the CVMA Executive and Committees: Dr. Enid Stiles, Executive Member and Quebec representative on Council; Dr. Leighann Hartnett, Nova Scotia representative on Council; and Ms. Kira Moser, 2017–18 President of the Students of the CVMA. Visit the About CVMA section on www.canadianveterinarians.net to view the full list of CVMA Executive and Council members.

The CVMA has produced the following reports to aid practitioners: The 2016 Diagnostic Report, and The Practice Owner's Economic Survey. For more information, visit the Business Management page of the Practice & Economics section of www.canadianveterinarians.net.

The 2017–2018 CVMA Source Guide print edition is distributed exclusively to CVMA members. Please review your listing to ensure the accuracy of your contact information and preferred address. Please advise us of updates at 1.800.567.2862.

Online shopping and home delivery are rapidly changing the way consumers purchase and receive goods. The MyVetStore, provided through the CVMA, allows veterinarians to embrace this new channel, delivering dietary convenience and compliance. For more information, visit the News & Events section of www.canadianveterinarians.net.

November 3 was One Health Day. The CVMA strongly supports the involvement of veterinarians in One Health as our profession has a unique responsibility for improving the health and welfare of the animals we treat in a manner that also protects and supports human health and a healthy environment. Visit the One Health Commission's website at www.onehealthcommission.org for more information on One Health Day.

During World Antibiotic Awareness Week, November 13 to 19, the CVMA reminded veterinarians that antimicrobial stewardship remains a top priority issue for the Association. The CVMA, along with the Canadian Council of Veterinary Registrars, developed a framework called "Veterinary Oversight of Antimicrobial Use – A Pan-Canadian Framework for Professional Standards for Veterinarians." To see other actions the CVMA has taken to advocate for change and encourage the responsible use of antimicrobials in animals, visit www.canadianveterinarians.net/policy-advocacy/antimicrobial-stewardship-cvma-priority.

The Canadian Veterinary Reserve (CVR) was involved with the Public Health Agency of Canada in the Beyond the Border project, coordinating emergency preparedness and response in the United States and Canada, for both humans and animals. As an outcome of this project, the CVR is now hosting 16 online emergency preparedness modules provided by the US Department of Health and Human Services, free of charge. The CVR held its annual call-up drill in March, which involved CFIA and Emergency Management British Columbia, and it tested the response of reservists and the operational readiness of the CVR. The CVR's recruitment campaign this year added 65 reservists over the past few months, reaching a total of 278; the aim is to reach 300. [WCVV](http://www.wcvv.ca)



Troye McPherson, DVM, was born in Cape Breton, NS, and graduated from the Ontario Agricultural College in 1984 and the Ontario Veterinary College in 1989. She headed to western Canada where she worked in large animal and small animal veterinary medicine, taught agricultural courses at Lakeland College in Vermilion, AB, and became the Acting Director of the Animal Health

Technologist Program at the College for two semesters. She returned to Nova Scotia to continue expanding her knowledge in the profession: in mixed practice, small animal, and emergency medicine; and, as a Federal Veterinarian, meat inspector for a year. She also helped develop a Veterinary Assistant Program at a private business college in Halifax. However, her true calling is as a small animal practitioner. Dr. McPherson is a member of the American Association of Feline Practitioners, is currently the CVMA representative for the Federation of Veterinarians of Europe, and has served on the Council of the Nova Scotia Veterinary Medical Association twice. She lives in Dartmouth with her husband, Patrick, five Border Collies, and four cats.

THANK YOU

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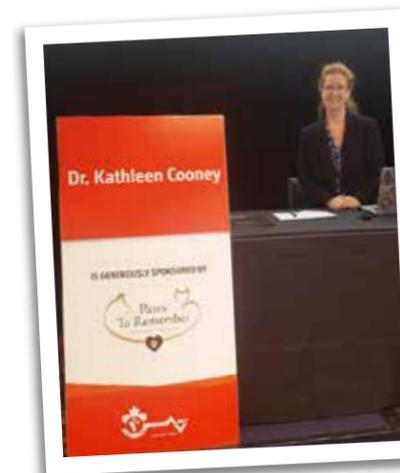
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HOUSEHOLD ITEMS

THAT CAN POISON YOUR PETS

If you suspect your pet has eaten something it should not have, please call your veterinarian or emergency clinic right away. Don't wait for signs of toxicity. If you seek treatment early, your pet might be helped before it gets sick.

ANY OF THE FOLLOWING ITEMS CAN BE FATAL TO YOUR PETS. STORE OUT OF REACH OF YOUR PETS, AND DISCARD RESPONSIBLY.



HUMAN FOODS

Chocolate, grapes, raisins, onions, macadamia nuts, Xylitol (in gums, toothpastes, sweets, some kinds of peanut butter, and syrup medications).



HUMAN MEDICATIONS AND SUPPLEMENTS

Over-the-counter painkillers like Tylenol, Aspirin, Advil, as well as prescription painkillers (opioids or anti-inflammatories), antidepressants, and topical applications like psoriasis creams and hormone creams.



PET MEDICATIONS

Drugs that are prescribed for one pet may be dangerous to another. Tasty, flavoured animal medicines and supplements might be too tempting for your dogs and cats, so keep them locked up and out of reach of animals, and only give to your animals as prescribed. Directions must be read and followed. A drug can be toxic or ineffective if given at the wrong dose.



HOUSEHOLD CLEANERS

Your home may sparkle because of them, but many common cleaners will make your pets sick. Be aware that wrapped laundry pods or dishwasher pods might look delicious to a pooch but will make that dog very sick and in need of emergency veterinary attention.



GARDEN PRODUCTS

Common fertilizers and pest control products, even if labelled natural, might pose a serious risk to your animals if consumed, or even if they get on an animal's skin or coat. Keep insecticides and snail bait locked up, keep pets away from areas where they are used, or even better, seek alternative methods of growing healthy plants.

If you can't reach a veterinarian right away or need additional information, you can call the following fee-based services:

BC DRUG AND POISON INFORMATION CENTRE

1.800.567.8911

ASPCA PET POISON CONTROL (US\$ fee-based)

1.888.426.4435

PET POISON HELPLINE (US\$ fee-based)

1.800.213.6680



CUT FLOWERS AND HOUSEHOLD PLANTS

Lilies and some wild-growing mushrooms like death caps that might be in your homes and yards can cause death in animals if consumed. Be on the lookout for mushrooms growing wild on your walks, and choose safe plants and flowers for inside your home.



AUTOMOTIVE PRODUCTS

Windshield washer fluid, brake fluid, antifreeze, and some detergents can all harm or kill your pets. Keep these fluids locked up and be careful of spills when they are in use.



RODENT PRODUCTS

While you might want to banish rats and mice, what you use may also kill your family pet. Practise good property management with rodents, including traps, sonic or light deterrents, and cleanliness. Rodenticides must be approved for outdoor use and in safe bait stations. Rodents stay only when there is food, so keep garbage securely locked up.



CIGARETTES

Dogs will eat cigarette butts, and these can make your dog sick or worse. Second-hand smoke can also be problematic for animals with asthma.



RECREATIONAL DRUGS

Recreational drugs, especially marijuana in butter-based or oil-based edibles, make animals sick, not high. Keep all drugs including opiates, Ecstasy, and meth away from your beloved pets.



And last, but not least—CHRISTMAS TREE DECORATIONS!

Anything that your pet might find attractive can cause problems. Broken Christmas balls and light bulbs can cut feet. If ingested, tinsel can cause damage to your pet's intestines, and surgery may be required.

Remember, looking at your environment from your pet's point of view might be an eye-opening adventure. Even items like batteries and glow sticks might tempt an animal to eat or chew them. Keep trash tightly sealed, use humane and safe pest and rodent control, and always read warning labels on products you use. Keep your surroundings free from pet poisons and keep your pets safe and alive.



This poster was researched and created by the Animal Welfare Committee of the CVMA-SBCV Chapter and is provided to Chapter members at no charge to assist animal owners to keep their animals safe and secure.

PLANTS FOR A PET-FRIENDLY HOME

BOSTON FERN

Nephrolepis exalta bostoniensis

HANGING BASKETS, HUMID AREAS,
FROST SENSITIVE, INDIRECT SUNLIGHT

AFRICAN VIOLETS

Saintpaulia spp

SMALL FLOWERPOTS, GROUND COVER,
BRIGHT LIGHT, BUT NOT DIRECT SUNLIGHT

BAMBOO PALM

Chamaedorea seifrizzi (many spp listed)
(Miniature fishtail dwarf palm, parlour palm, good luck palm)

TREE, SHADY SPACES

CAST IRON PLANT

Aspidistra elatior

BUSH, LOW TO MODERATE LIGHT, NO DIRECT SUNLIGHT

GERBERA DAISY

Gerbera jamesonii
(Barberton/African/Veldt/Transvaal daisy)

SMALL FLOWERPOTS, GROUND COVER, NOT TOO SUNNY

GOLDFISH PLANT

Columnea gloriosa

BUSH, BRIGHT INDIRECT LIGHT

BABY RUBBER PLANT

Peperomia obtusifolia
(American rubber plant)

INDIRECT LIGHT TO SHADE

ARECA PALM

Dypsis lutescens

SLOW-GROWING TREE, TRANSPIRES ONE LITRE OF WATER
EVERY 24 HOURS, SO AN EFFECTIVE HUMIDIFIER

CHRISTMAS CACTUS

Schlumbergera bridgesii
(Easter cactus)

GREAT IN HANGING BASKETS AND HARD TO KILL,
BRIGHT INDIRECT LIGHT

DWARF DATE PALM

Phoenix roebelenii

SLOW-GROWING TREE, PARTIAL SHADE TO FULL SUN

*For more information,
consult with your veterinarian,
or check the handy lists here:*

CATS www.aspc.org/pet-care/animal-poison-control/cats-plant-list

HORSES www.aspc.org/pet-care/animal-poison-control/horse-plant-list

DOGS www.aspc.org/pet-care/animal-poison-control/dogs-plant-list

The safe plant lists are in these documents, scroll down—they are listed after all the known toxic plants.

CHANGES TO ANTIMICROBIAL USE THAT IMPACT VETERINARIANS

Health Canada is proceeding with regulatory and policy changes that will impact practising veterinarians' roles with respect to prescribing and perhaps reporting how antimicrobial drugs are dispensed. Additionally, product labelling will change for antimicrobials with new information being required, including information related to antimicrobial resistance risks as it becomes available.

The Veterinary Drug Directorate will be implementing changes to the Food and Drug Regulations in four key areas:

- Increasing oversight on the personal importations of unapproved veterinary drugs (often referred to as OUI). Only those drugs confirmed to not pose a risk to public health or food safety will be allowed to be imported for use in food-producing animals, including horses, and even then, in limited quantities and not for resale. For example, importation of prescription drugs or medically important antimicrobials for personal use will not be allowed.
- Increasing oversight on importation and quality of active pharmaceutical ingredients for veterinary use by requiring compliance with Good Manufacturing Practices and Establishment Licenses to conduct these activities.
- Manufacturers, compounders, and importers will be required to report, by animal species, the annual sales of medically important antimicrobials for veterinary use, to support the antimicrobial use surveillance program.
- A new alternative, less burdensome pathway for companies to import and sell low-risk veterinary health products (such as vitamins, minerals, and botanicals) as additional health management tools.

Policy changes will also be coming to promote the responsible use of antimicrobials in animals in the following three key areas:

- All over-the-counter medically important antimicrobials are moving to prescription status. This change will require a prescription from a veterinarian before being able to purchase most antimicrobials, bringing them

under the same level of oversight as all medically important antibiotics introduced since 2004.

- All growth promotion claims will be removed from labels of medically important antimicrobials in line with the international best practices or principles on appropriate use and good stewardship. These drugs will be reserved only for treating or preventing diseases.
- Responsible use statements will be included on labels of all in-feed and in-water medically important antimicrobials.

Health Canada intends for these changes to be implemented by late December 2018. The intent of these changes is to:

- restrict access to medically important antimicrobials by requiring a veterinary prescription in all cases of use.
- restrict use of medically important antibiotics to therapeutic purposes for treating and preventing disease.
- highlight responsible use of medically important antimicrobials by including statements related to that on labels.
- allow only high quality medically important antimicrobials to be imported.
- increase control over who can import medically important antimicrobials.
- institute better monitoring of volume of medically important antimicrobials dispensed in Canada by species.
- provide alternate regulatory pathways for accessing health and wellness tools for promoting health of animals.

Health Canada has indicated that, by the end of 2018, it will require a veterinary prescription to purchase any product containing a medically important antimicrobial or their salts or derivatives. Note that ionophore products and coccidiostats will NOT be affected. In addition to antimicrobials already restricted to prescription sales, this will include:

- Apramycin
- Bacitracin
- Erythromycin
- Lincomycin
- Neomycin
- Penicillin G
- Tilmicosin
- Spectinomycin
- Streptomycin/Dihydrostreptomycin
- Sulphonamides
- Tetracycline/Chlortetracycline/Oxy-tetracycline
- Tiamulin
- Tylosin/Tylvalosin
- Virginiamycin

By the end of 2018, veterinary antimicrobials will only be available from veterinary clinics or pharmacies, or mixed in feed from a feed mill. These antimicrobials will no longer be sold at livestock medicines outlets. Producers who previously accessed some of these antimicrobials through over-the-counter licensed outlets will now need to work with a veterinarian in order to access these antimicrobials.

For more information, see the Health Canada website, Antibiotic resistance and animals, <https://www.canada.ca/en/public-health/services/antibiotic-antimicrobial-resistance/animals.html>. **WCV**



PHOTO COURTESY OF JANE PRITCHARD

Jane Pritchard, DVM, MVetSc, graduated from OVC in 1977, and completed a Masters in Anatomic Pathology at WCV in 2000, continuing as an Associate Professor in the Department of Pathology for two years before embarking on a career with the BC Ministry of Agriculture in 2004. With the exception of a two-year international development project in China from 2007–2009, she has remained with the BC Government. In 2013, she was appointed to the role of Director of the Plant and Animal Health Branch, and Chief Veterinary Officer for the Province of British Columbia.

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“COLLECTIVELY, THESE IMAGERIES DEMONSTRATE OUR SHARED INTER-CONNECTEDNESS WITH THE NATURAL WORLD.”



VETAVISIONARIES

BY CHLOE GUSTAVSON

After a busy summer for all, students at the WCVM are back at school. With fourth years out on externships and into rotations, third years gaining practical experience in skills labs and surgery, and second years guiding the Class of 2021 through the first weeks of vet school, it has been an exciting September. Walking around the college, I have heard classmates swapping stories of summer adventures and seen friends savouring the last of the warm weather by enjoying lunch on the front lawn. It feels good to be back.

One of the best parts of being a student at the WCVM is our strong sense of community. From the first week of class, there is no shortage of opportunity to get involved and collaborate with fellow students. The incoming first-year class elects its student council, our student-run clubs recruit new members, and recreational sports teams start planning for the upcoming season. Students make connections with classmates, and faculty advisors reach out, inviting us to discuss what we learned this summer over coffee.

The quintessential display of our cohesive learning environment came with the return of a longstanding WCVM tradition: Vetavision. Put on by the students every two or three years for the majority of the WCVM's history, the weekend open house is certainly a highlight of our fall. This year, students from all four years, together with many members of faculty and staff, gave their time to welcome the Saskatoon community to campus. As described by student Jenna Noordenbos, “Vetavision is a great opportunity for students to give back to the community through educational activities which help strengthen the human-animal bond.”

On entering through our college doors, visitors received a passport to Vetavision, a new interactive element added by the student organizers this year. Stamps were successfully obtained after conversing in the foreign language of pathology, spending time with locals at the milking demonstration, or learning about culture and customs at the animal welfare booth. A completed passport was traded for an entry to win prizes donated by our community sponsors, which encouraged our visitors to enjoy the entirety of Vetavision by spending time at all 29 booths.

Dressed in bright orange T-shirts, volunteers were not only easy to spot, but also colour-coordinated for an important cause. On September 30th, the whole of the WCVM participated in Orange Shirt Day, as part of our college's aligned initiatives with the University of Saskatchewan's

campus-wide commitment to the spirit of reconciliation^{1,2}. The shirts themselves were designed by the WCVM's Indigenous Student Circle to incorporate imagery inspired by the Seven Sacred Teachings, each being represented by an animal. Featured are a turtle, symbolizing truth; a buffalo for respect; and four eagle feathers in a medicine wheel configuration. The eagle is a symbol of love, and the four elements of the wheel (north, south, east, and west) can signify stages of life and seasons of the year. Collectively, these imageries demonstrate our shared interconnectedness with the natural world, providing a unique viewpoint from which we students can further incorporate themes of One Health into our own education³.

In a way, those who came to Vetavision went home having experienced One Health in action by visiting us students and our teaching animals in our veterinary microcosm. Our excitement about this profession was both palpable and infectious over the course of the weekend as school field trips, family weekend outings, local news crews, and pre-vet students all spent a day at vet school. We were thrilled to see such strong interest in learning about the many facets of a veterinary career. It was especially encouraging to have our own friends and families in attendance, as well as faculty and staff bringing their family members through, as a true reminder of the tremendous support that we are surrounded by. We are proud to be veterinary students and to have had the opportunity to share a day in our life. [WCV](#)

KEEP AN EYE OUT FOR THE NEXT VETAVISION EVENT, SCHEDULED TO RUN IN THE FALL OF 2019.



Chloe Gustavson holds a BSc from the University of Victoria and is currently a member of the Class of 2020 at WCVM. She grew up in North Vancouver, where she most enjoys spending time outside with her dog, Leo. She is interested in focusing her career on contributing to One Health.

THIS PAGE LEFT TO RIGHT
Students Alice Liboiron (second-year, at left, holding Adele) and Melissa Jung (first-year, at right, holding Nina) are all smiles at the kiddie corral.

WCVM's student-designed T-shirts for Orange Shirt Day are worn by second-year students Caitlin Shaw (left, holding Suki) and Jenna Noordenbos (centre), and third-year student Peter Watson (right).

Students Emily Zwamborn (third-year, at left) and Mila Bassil (second-year, at right) have their hands full at the poultry booth.

PHOTOS COURTESY OF CHLOE GUSTAVSON

¹ <https://aboriginal.usask.ca/building-reconciliation/reconciliation-at-the-u-of-s.php#GoingForward>
² <https://aboriginal.usask.ca/documents/program/Indigenizing%20the%20WCVM.pdf>
³ <https://words.usask.ca/wcvm/2017/04artists-bring-indigenous-knowledge-to-wcvm/>

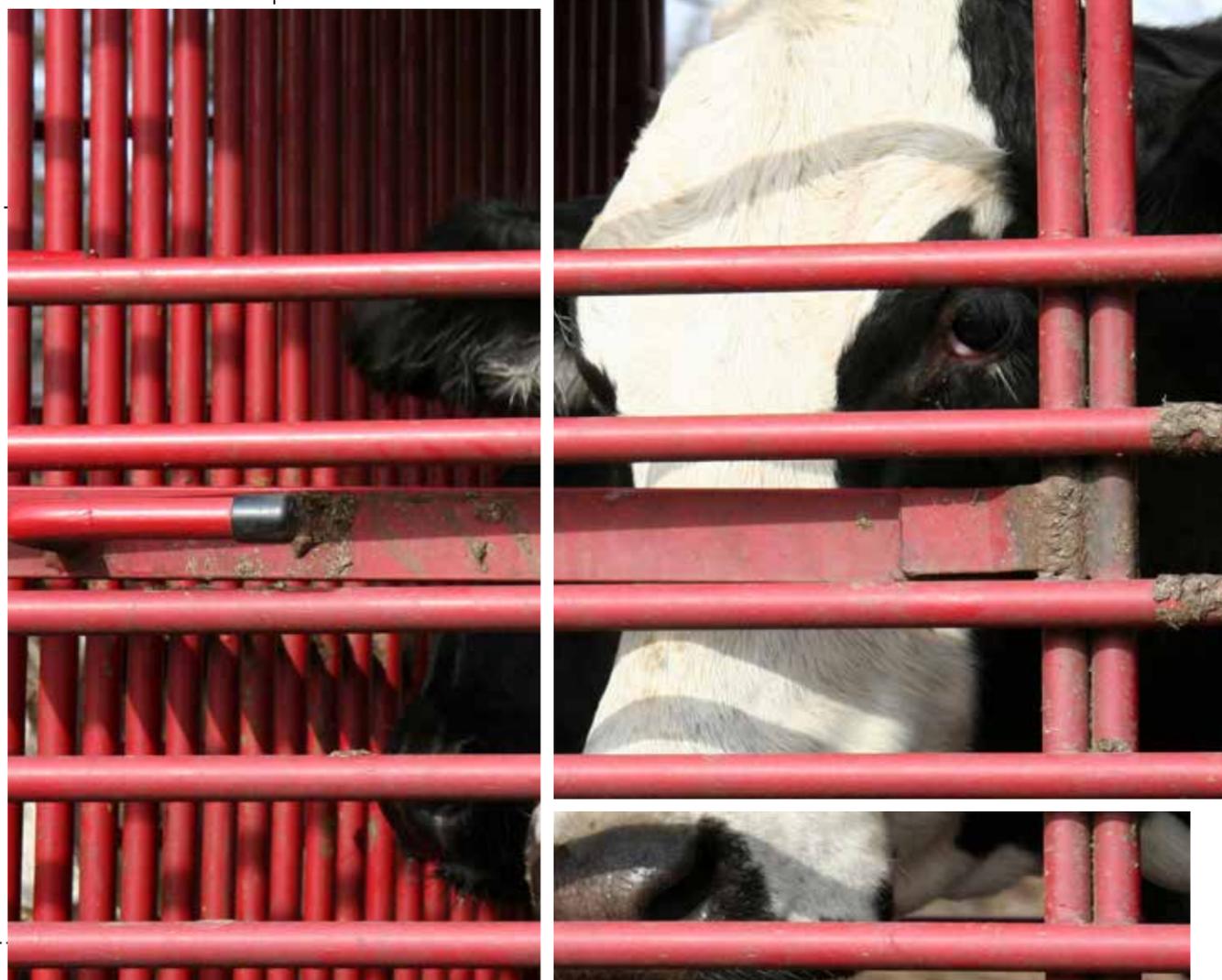


PHOTO BY STEVE DEBENPORT/ISTOCK.COM

STEPS TO IMPROVE THE MANAGEMENT OF CULL DAIRY COWS

BY DAVID FRASER, CM, PhD

“WHEN FARMERS LOAD AN OLDER AND POSSIBLY VULNERABLE COW ONTO A TRUCK, THEY MAY NOT KNOW WHERE SHE WILL END UP OR HOW LONG IT WILL TAKE.”

The management of cull dairy cows is one of the pressing animal welfare issues of the dairy sector. For a few lucky cows, the farmer makes a booking with a local abattoir, and the animal is slaughtered promptly after a short journey. However, with fewer and fewer small slaughter plants in Canada, many cows experience much longer delays—perhaps involving several days and movement across provincial or international borders—before arriving at a plant that will accept them. And when farmers load an older and possibly vulnerable cow onto a truck, they may not know where she will end up or how long it will take.

To scope out the problems and possible solutions, we convened a workshop to bring all of the relevant sectors together: dairy producers, veterinarians, regulators, and people working in trucking, livestock auctions, slaughter, and research. The two-day discussion, held in Ottawa, produced a much better understanding of the issues and how they vary across Canada, and it led to a consensus on the necessary next steps.

First, the workshop called for investigation into the scope and complexity of the issue and the reasons for the delays that sometimes occur. As a dramatic example, during the lengthy moose hunting season in Newfoundland, farmers often cannot secure the services of a local slaughter plant, and the animals may be trucked several hours to the ferry, shipped to Nova Scotia, and possibly trucked as far as Ontario. All participants agreed that we need a more detailed understanding of the range of journeys that occur and the reasons for long travel times. And gratifyingly, studies are now underway in three provinces, including British Columbia, to do just that.

Second, it was agreed that we need to identify more local options for the slaughter of cull dairy cows. This might involve agreements between producer organizations and slaughter plants so that short transport distances become the norm for all cull cows, especially those at high risk of animal welfare problems. In short, we need to think of slaughtering and farming not as separate industries but as components of a system that must function together to protect the welfare of the animals.

Third, where local slaughter is not an option, farmers and veterinarians need to be well informed about the possible delays and transport distances, and they need decision tools that take account of both the animal's condition and the potential delay to slaughter. For example, a cow that is off feed may be fine to transport locally, but if failure to eat is caused by a displaced abomasum, then slaughter should be prompt. Here, we clearly see the need for the veterinarian to be involved in shipping decisions.

“WE NEED TO THINK OF SLAUGHTERING AND FARMING NOT AS SEPARATE INDUSTRIES BUT AS COMPONENTS OF A SYSTEM THAT MUST FUNCTION TOGETHER TO PROTECT THE WELFARE OF THE ANIMALS.”

Next, we need wider adoption of positive management options that exist in certain provinces. In Ontario, for example, official veterinarians can order that compromised animals at auctions be sent for immediate, local slaughter and not go through the normal marketing process. British Columbia and a few other provinces have provisions for “on-farm emergency slaughter” whereby a veterinarian performs ante-mortem inspection on the farm, and the animal is then killed, bled, and transported to a nearby slaughter plant where post-mortem inspection ensures that the meat is safe. We need a careful assessment of these options so that they can be refined and, if appropriate, made more widely available.

Perhaps most fundamentally, we need to create a culture of pro-active culling so that older cows are removed from the herd before illness, lameness, or other health problems arise and make the journey overly stressful. This might involve ensuring that the herd health program includes clear guidance on early culling decisions. Here again, it will be important for the herd veterinarian to be involved.

Finally, when all else fails, all farms and livestock auctions need the tools and training to carry out effective euthanasia or, alternatively, need ready access to euthanasia services and carcass disposal.

The workshop was remarkable for showing the kind of cooperation over animal welfare that is not uncommon in Canada. The UBC Animal Welfare Program provided the chair; the Loblaw Companies funded the UBC graduate student who coordinated the writing of the report; Dairy Farmers of Canada provided a staff person; various companies and organizations sent experts; and the meeting was sponsored by the National Farmed Animal Health and Welfare Council (NFAHWC) which will now do the arm-twisting to get action on the recommendations.

The full consensus statement of the meeting is posted on the NFAHWC's website: www.ahwcouncil.ca/pdfs/NFAHW%20Council_Cull%20Cow%20Consensus%20Document_2017_2.pdf. [WCV](#)

“FOR SOME PEOPLE, THE DOG ITSELF IS AN AMBASSADOR OF NATURE, THEIR CONNECTION TO IT.”

A TASTE OF THE WILD, WITH A GRAIN OF SALT

BY VERONICA GVENTSADZE, MA, PhD, DVM

During a recent health exam, a client who had just moved from Ontario remarked on how unaccustomed she was to the off-leash culture here in BC. Her sweet and shy little terrier, dutifully walked on a leash everywhere and every time, was receiving a rather rude if enthusiastic welcome from the local canine population. I felt embarrassed, especially since this was not the first time an Ontario transplant who was also an avid dog lover and outdoor enthusiast had pointed out British Columbians' rather lax attitude to leash laws and to picking up after their dogs on park and forest trails. We flock to the Best Place on Earth, from other parts of Canada and from across the world, not least of all for its natural beauty and a gateway to the wilderness—one of the few remaining wilderness areas in the world. We bring our canine friends and want them to be able to enjoy nature with us, to exercise their muscles and their senses. For some people, the dog itself is an ambassador of nature, their connection to it. Unless the dog is a very small breed, owners often

chafe at the expectation to keep their pets leashed on a walk through parkland or forest instead of letting them explore and sniff around at their leisure. This is somewhat understandable on an emotional level: restraining a dog from exercising its nature does feel like a recipe for frustration rather than fulfillment. At the same time, merely putting an untrained dog on a leash is not the answer: a strong dog can lunge free, or exhaust itself and its owner in the attempt. What is not often obvious is that freedom to enjoy a nature walk does not equal lack of training, or lack of control on the owner's part; quite the opposite.

Until very recently in human history, dogs worked hard to earn their keep. They worked as hunters, trackers, shepherds, guards, search and rescue dogs, and porters. Miniature dogs were bred exclusively to be companions, and warmers for hands or feet. Most of today's domestic dogs, whether pets or feral, are quite simply unemployed, and often bored out of their minds. Dogs with jobs used to be

the status quo; now they are remarkable enough to warrant a TV program. We have made their lives seemingly easier, definitely safer, but in the process, we have created an army of *lumpenproletariat* with no outlet for their amazing bred-in skills. Besides being unemployed, many dogs go without a proper education. All too often, pups get separated from their mothers

“BESIDES BEING UNEMPLOYED, MANY DOGS GO WITHOUT A PROPER EDUCATION.”

and siblings to be sold well before they have learned bite inhibition and the subtleties of proper interaction with other dogs. Their new human families may not have the time or the knowledge to give them proper training, and some don't even realize that dogs are not born with knowledge of commands. It's a testament to dogs' stoicism that more of them do not suffer from separation anxiety, a first-world problem rooted in an entirely normal response to being abandoned by the pack for no reason the dog can

“A DOG LET LOOSE IN THE WILD AND RUNNING INTO A BEAR WILL SEEK SAFETY BY RUNNING BACK TO ITS HUMANS, UNINTENTIONALLY BRINGING THE PURSUING BEAR WITH IT.”

understand. Man's best friend may be an honourable title, but how often do we ask ourselves if we are best friends to our dogs? Dogs will learn, whether we purposefully teach them or not; the desire and willingness to learn are in their blood. There is a theory that dogs evolved from wolves displaying neoteny, or retention of juvenile features throughout life. It makes sense, then, that dogs have a childlike desire to please their elders and to learn from them directly and through observation. They watch people very closely and with great interest (often mistaken for blind devotion), and make their own conclusions unless we guide them. Lack of training is a subtle form of neglect. The happiest dogs are not those left to their own devices, but those on whom humans place fair and consistent expectations, and who receive training and opportunities to meet these expectations.

Fascination with the concept of wild nature often leads to romanticized and unrealistic views of where dogs belong in the picture. It's no accident that the words *wild* and *free* often appear together in the pet product industry, nutrition in particular. Pet foods containing the word *wild* and various combinations of *-free* (e.g., grain-free, by-product-free) have become very popular. There is a backlash against what is perceived to be science selling out to corporate interest, and a simultaneous desire to see the wild ancestor in one's beloved pet. While a dog does not eat like a wolf, there is merit to respecting an animal's evolutionary origins in designing optimal nutrition. Dogs are not wolves in behaviour any more than in dietary needs. They do have a capacity for a drastic, fascinating, and often frightening change in behaviour in the company of other dogs. Unless a person can keep the attention of, and exercise recall over, each dog in a group, they will often simply ignore the human and obey their new pack leader, following a newly-formed pack dynamic. But the wildness they show in groups is very different from the wildness of a pack of wolves who, unlike dogs, will go to great lengths to avoid encounters with humans. In her book *Driftwood Valley*, a story of true wilderness living in northern BC in the late 1930s, Theodora Stanwell-Fletcher gives a hauntingly beautiful account of a night walk up a snowshoe trail through the moonlit forest to her cabin. The whole

¹ *Driftwood Valley*, Theodora C. Stanwell-Fletcher, Atlantic Little Brown, 1946.

² <https://www.bankhar.org/mbdp-predator-solutions/>

way she felt that she was being watched and followed but heard and saw nothing, not even moving shadows. The next day a Native trapper told her that he saw fresh tracks of several wolves to each side of the trail. The animals had literally escorted her while remaining invisible¹. Whether they were making sure she didn't harm their habitat, or simply indulging their curiosity, we will never know.

Quite often I read about and hear people expressing a sincere belief that their dogs are part of nature, and that they instinctively know what to do in an encounter with other animals, let alone with other dogs. Such bravado is responsible for the deaths of two beautiful Boxers I knew, city dogs taken on a wilderness trip and unleashed on a grizzly bear. He killed one after the other with a swipe of his paw. Being in the wild did not and could not magically transform these Boxers back into wolves who have no humans to rely on or to care about; their loyalty and protectiveness pitted them against an animal they were never meant to face. Just as often, a dog let loose in the wild and running into a bear will seek safety by running back to its humans, unintentionally bringing the pursuing bear with it. Thus, a wild animal who normally avoids humans may end up in an unplanned confrontation and often pays with its life.

The health and the very behaviour of wild animals is changing through contact with domestic species. The impact of domestic dogs on unique native species in Australia and New Zealand is well documented, and efforts at public education have brought heartening results. In Canada, the species most vulnerable to dogs romping through their habitats are amphibians and shorebirds trying to nest (the latter can be exhausted after a long flight). What we don't often hear about is how dogs can directly help conservation. Detection dogs are increasingly used in wildlife surveys to find species of interest (for example, desert tortoises) and alert handlers to their find without harming the animal. The Mongolian Bankhar Dog Project aims to protect wildlife, livestock, and the environment by using a traditional breed of guardian dogs. Their presence deters snow leopards, Gobi bears, and wolves who might otherwise be killed in retaliation for preying on livestock. Less predation allows the herds to be smaller and to use less grassland, leaving more to wild herbivores who are the predators' natural prey².

These are only two examples of highly-trained and disciplined professionals among dogs, working to enhance the living world around them as well as the lives of humans. Of course, not all pets can or need to attain such skill, but this, and not a daydream of a wild and free blue-eyed wolf, should be the ideal for man's best friend. **WCV**

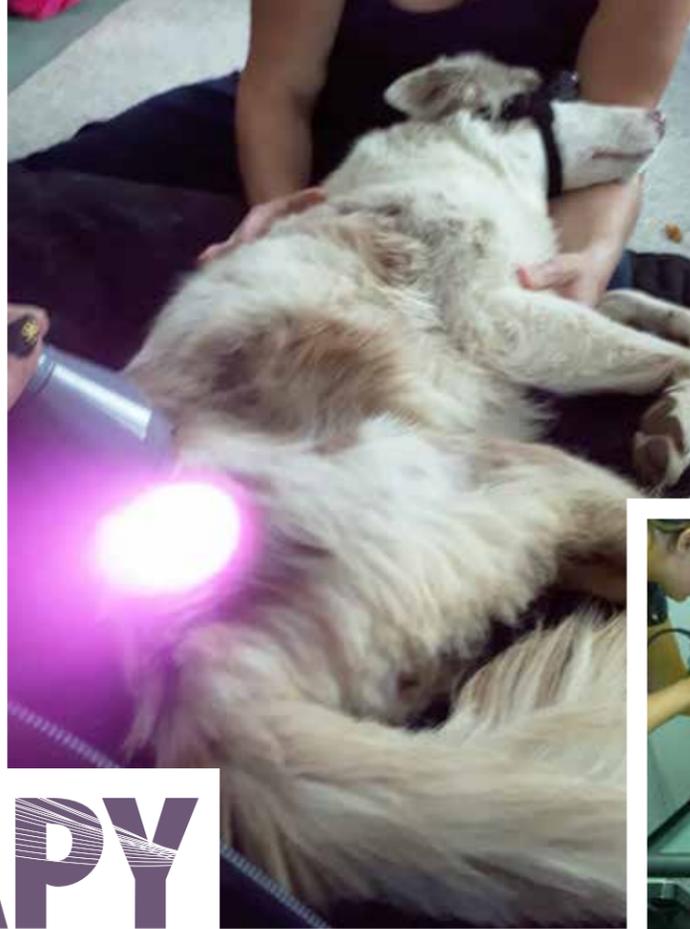


VERONICA GVENTSADZE, MA, PhD, DVM, graduated from Ontario Veterinary College in 2008. She moved to Squamish, BC, where she worked for two years as an associate veterinarian in a small animal practice. She currently travels across BC as a locum and enjoys learning something new from each practice.

“THE EFFECTS OF LASER THERAPY ARE ANALGESIA, INFLAMMATION REDUCTION, AND ACCELERATION OF TISSUE REPAIR AND CELL GROWTH.”

LASER THERAPY

BY MELISSA FREI, RVT



PAGE 7 Ice had to stay in her recovery kennel for over a month. **THIS PAGE LEFT TO RIGHT** Ice's laser therapy to her pelvis is safe to use with her surgical implants; Indy's otitis was treated in two sections (the pinna and the canal) in each ear.



THIS PAGE LEFT TO RIGHT Granny, a geriatric stray, received Cartrophen injections and laser therapy to treat her arthritis; Georgia, a two-year-old American Quarter Horse, on the third day of treatment for a wound to her right dorsal cannon; Patch and his obligatory eye protection.

Ice, a three-year-old Border Collie, was only one year old when she was hit by a car. Our practice owner Dr. McLeod and I flew her to Western Veterinary Specialist & Emergency Centre in Calgary, where she underwent emergency orthopaedic surgery to her pelvis and lumbar spine for dislocation of L1, a compression fracture of L4, and an ilial shaft fracture. The surgeon was able to stabilize Ice's spine and pelvis with a number of plates and screws. Several bone fragments that were impaling her spinal cord were also removed. After extensive rehabilitation, Ice recovered well from her injuries.

After she had resumed her regular activities on the farm, her owner noticed that, after a very active day, she would display mild ataxia of her hind end and lose control of her bladder. Ice was examined and radiographed to ensure her implants were still in correct position. The radiographs confirmed that the implants were in proper position, but due to her highly active nature, she had developed spondylosis, and the doctor diagnosed spinal stenosis as a likely cause for her ataxia.

It was decided to try her on a series of cartrophen injections and laser therapy to help with the inflammation that was likely adding to the chronic remodelling of her spine. We started with cartrophen injections every four weeks. She had already been prescribed oral meloxicam, and we performed laser therapy every second day for four treatments, then twice the following week, and then weekly. After the initial six treatments, Ice's family noticed an improvement in her mobility. The ataxia had resolved, and she was able to jump up onto the chairs and beds that she had been struggling with. Ice continues to amaze us with her ability to heal and adjust to her body's ongoing changes from her terrible accident. The surgeon at Western Veterinary Specialist & Emergency Centre called her the Miracle Dog, and we are happy to see the laser treatments are contributing to keeping the miracle going strong.

WHAT IS LASER THERAPY?

The word *laser* stands for Light Amplification by Stimulated Emission of Radiation. This essentially means that a device that can concentrate light between 180nm–1mm wavelengths and deliver it in a controlled method could be considered a laser. This does not mean, however, that all lasers are created equal. There are four classifications of lasers, classified according to their potential to cause damage to biological tissue. Dr. Ronald J. Riegel's book *Laser Therapy in Companion Animal Practice* gives examples of each class and their risks as follows:

- Class 1: compact disc player; low level of risk.
- Class 2: laser printer and bar code scanners (400–700nm, which is in the visible light spectrum); potential for an optical hazard if viewed for extended periods of time.
- Class 3 (a/b): laser levels/pointers and Low Level Laser Therapy devices; risk of damage to ocular tissue if viewed directly (a=1mW–5mW) and off reflective surfaces (b=5mW–500mW).
- Class 4: Surgical and Therapeutic lasers (greater than 500mW). Surgical lasers are for cutting tissue, whereas therapeutic lasers are for healing tissue. The difference is largely in the concentration of the beam and the power at which it is delivered. Coherency, monochromicity, and collimation are what give the Class 4 therapeutic laser its deep tissue penetrating properties.

HOW LASER THERAPY WORKS

The photons delivered by the laser affect the cells in the tissues through photobiostimulation. They penetrate the cell membrane and stimulate photosensitive chromophores (cytochrome c oxidase) in the mitochondria to produce ATP, and both cellular respiration and metabolism are increased in response. The warming effect of the laser helps with circulation and provides a comforting feeling during application. The effects of laser therapy are analgesia, inflammation reduction, and acceleration of tissue repair and cell growth. Laser therapy also improves angiogenesis, nerve function, and immunoregulation, and it reduces fibrous tissue formation. The laser can be used to stimulate acupuncture and trigger points in place of the traditional needle method.

APPLICATIONS

When we first considered adding laser therapy to the services at our mixed animal practice, I envisioned mostly musculoskeletal and rehabilitation applications. How little I knew... At our pre-purchase demonstration, we realized there was so much more to laser therapy than we had anticipated. I was excited to learn about the case studies on lick granuloma, chronic otitis, and dermatology that had responded where other treatment options had been unsuccessful. My attending DVM was skeptical as he had had his own struggles with treatment of some patients and these types of diseases. There was enough scientific evidence to warrant purchasing a CTX unit from Companion Animal Laser, and we have since found it to be useful in so many ways. After incorporating it as a post-surgical option to aid in incision healing and pain control, we use it daily. We have treated “downer” cows in the dairy farms when we suspect they have a splaying injury, and some have stood up after only a few treatments. A dog that was thought to be deaf was treated with the laser on otitis setting, which helped to dislodge a huge chunk of debris from the ear. Afterwards, the owner noticed a substantial difference in the dog's hearing ability. It is wonderful to have a non-invasive, non-pharmaceutical component to a multimodal pain management plan that works locally and systemically. This is very important to those of our patients that are suffering from chronic kidney disease, liver dysfunction, and pain. I am also looking forward to expanding our current range of applications.

The laser comes equipped with acupuncture settings, allowing veterinarians to treat patients without needles while applying the laser to specific points that coordinate with energy meridians to relieve pain and dysfunction in the body. I am currently doing research on laser application for bovine mastitis, for which the application is potentially a very valuable tool. Non-drug therapy may be important to organic dairies, but should be a good adjunct to all commercial dairy operations.

“WE HAVE TREATED “DOWNER” COWS IN THE DAIRY FARMS WHEN WE SUSPECT THEY HAVE A SPLAYING INJURY, AND SOME HAVE STOOD UP AFTER ONLY A FEW TREATMENTS.”

We use our laser every day, in both acute conditions and chronic. The CTX unit is easy to use, with pre-determined settings. The energy delivered is measured in kilojoules and is determined based on patient weight, body condition, coat length, colour, and skin colour. The unit has both contact and non-contact heads. The contact heads can be used to provide massage while applying laser therapy, and the non-contact heads can be used on wounds and other situations where you wouldn't want to touch the patient with the handpiece. Patients receiving laser therapy seem to really relax and enjoy the soothing heat of the treatment.

Contraindications to using laser therapy include:

- Exposure to the eye: it is very important to have eye protection for everyone involved in a laser therapy treatment and to have reflective surfaces covered to avoid inadvertent scatter photonic energy capable of damaging ocular tissue.
- Testicles: we do not treat testicles with laser therapy as there are studies that show that laser exposure may result in infertility.
- Hemorrhaging.
- Photosensitive medications and injectable medications (especially corticosteroids): we do not treat with laser therapy an area that has had an injection within two to three days.
- Pregnancy and growth plates.
- Heart disease: patients with heart disease should not have laser therapy in their cardiac region.
- Masses: we do not perform laser therapy over any mass removal where the cellular structure is unknown, or if the mass is malignant (melanomas and carcinomas).

Patch, another patient, received a small wound to his right carpus from an unknown source. He would lick the spot while his owner was at work, and it developed into a lick granuloma. The owner decided to try laser therapy because she liked that it was non-invasive. After only two weeks, she noticed that Patch was licking the spot much less frequently. By the end of the week, he had received six treatments, and the edges of the wound were granulating in. It was less than half the size it was when we had started, and Patch was no longer licking the area. Two months later, he began licking the spot again so we began laser therapy again. This time, he didn't appear to respond as quickly, but we stayed with it, and after a month he began healing. We did a total of 24 laser treatments to Patch's lick granuloma in two months, and it healed completely. He hasn't had a relapse in more than a year. **WCV**

PHOTOS COURTESY OF MELISSA FREI



THE SUMMER

WILDFIRES

OF 2017

BY KATHRYN WELSMAN, DVM

July 7, 2017, middle of the day, near Ashcroft, BC. The fire came alive. It devoured everything in its path. It spread farther and faster than anyone could have anticipated. It immediately took out homes in the Cache Creek area. It destroyed one of the few dairy barns in this region. It crept daily toward ranches, wildlife, cottages, and homes, ultimately destroying many properties in the Loon Lake and Pressy Lake areas. People had very little notice to evacuate at first, then were put on endless alerts and even longer evacuations. The fire turned on a whim, and made people run when they thought they had been safe. It shut down major highways that cut off vital arteries in our province. The smoke was so thick you couldn't see the mountains or hills, and sometimes you couldn't see your neighbour's house. It laughed at the fire fighters; it created its own weather system. Officials said they had never seen the likes of it. This is the beast known as the Elephant Hill wildfire, and this is the story of a few veterinarians who were caught in its clutches, and in the clutches of the ring of fire around Williams Lake.

Drs. Quinn Gavaga and Ross Dickinson probably went to work at the Cache Creek Veterinary Clinic on the morning of July 7 not realizing the expression "I had a bad day at the office" would take on a new meaning by the end of the day. Dr. Gavaga owns the clinic and has a ranch nearby. He says he had seen the fire start the day before, from his ranch, but fires are a relatively common phenomenon in this area, and he wasn't overly concerned at the time. Dr. Dickinson recounts that they "had been watching the horizon all morning as the fire made its way towards us. Once the fire hit the forested ridge above the clinic and started down towards us, Quinn gave the orders to get out and get home to take care of family and home." This was before the official evacuation order was given. The highway from Ashcroft to

around that can burn easily, but Dr. Gavaga explained that this farm "didn't have a lot of combustible material ... it's quite a clean place. But the frame was wood, and the flames were so aggressive the barn ignited." He received a message from the dairy owner asking for help, but since the highway was shut down he wasn't able to get to the barn right away. He says, "I got word it had burned down already, and the owner got almost all of the cattle out. The farm crew, and especially the owner, were foolishly brave." Cache Creek isn't a big place, and the staff at the clinic knows their clients very well. That isn't to say that vets in larger centres don't know their clients, but in small towns you know your clients in a different way, like you know your neighbours in a different way, and their losses would be felt keenly by the community.

Over the next several hours, Dr. Gavaga helped evacuate many animals from the surrounding area. He was uniquely positioned to help, given not only his animal expertise, but also his knowledge of which animals lived on which properties and his experience in loading and hauling. He was in the middle of these animal evacuations when another call came from the dairy—they had initially turned the cows out onto a 600-acre hay field under irrigation to protect them from the fire, and now they needed horses to help gather up the cows. So, Dr. Gavaga called home to his wife and asked her to get their horses ready. However, getting home was a convoluted process. "Everything was on lockdown," so he had to go a long way out of his way, cross the Thompson River, and then follow logging roads home. On his way back with the horses, he was allowed back through the normal way due to the urgent nature of the circumstances with the cows.

He and his wife arrived at the dairy to help round up the cattle for transport. "The panic," he explained, "was to get these cows down to the coast so they can get milked. Local neighbours and drivers with cattle trailers started doing round trips from 8 PM to 5 AM and got all of the dairy cows out. It was nothing short of amazing how everyone helped. People were exhausted and smoke-damaged, and no one quit." Having his own ranch and understanding the bond between ranchers and animals and being a horse person himself, he was able to help in ways that go beyond veterinary medicine.

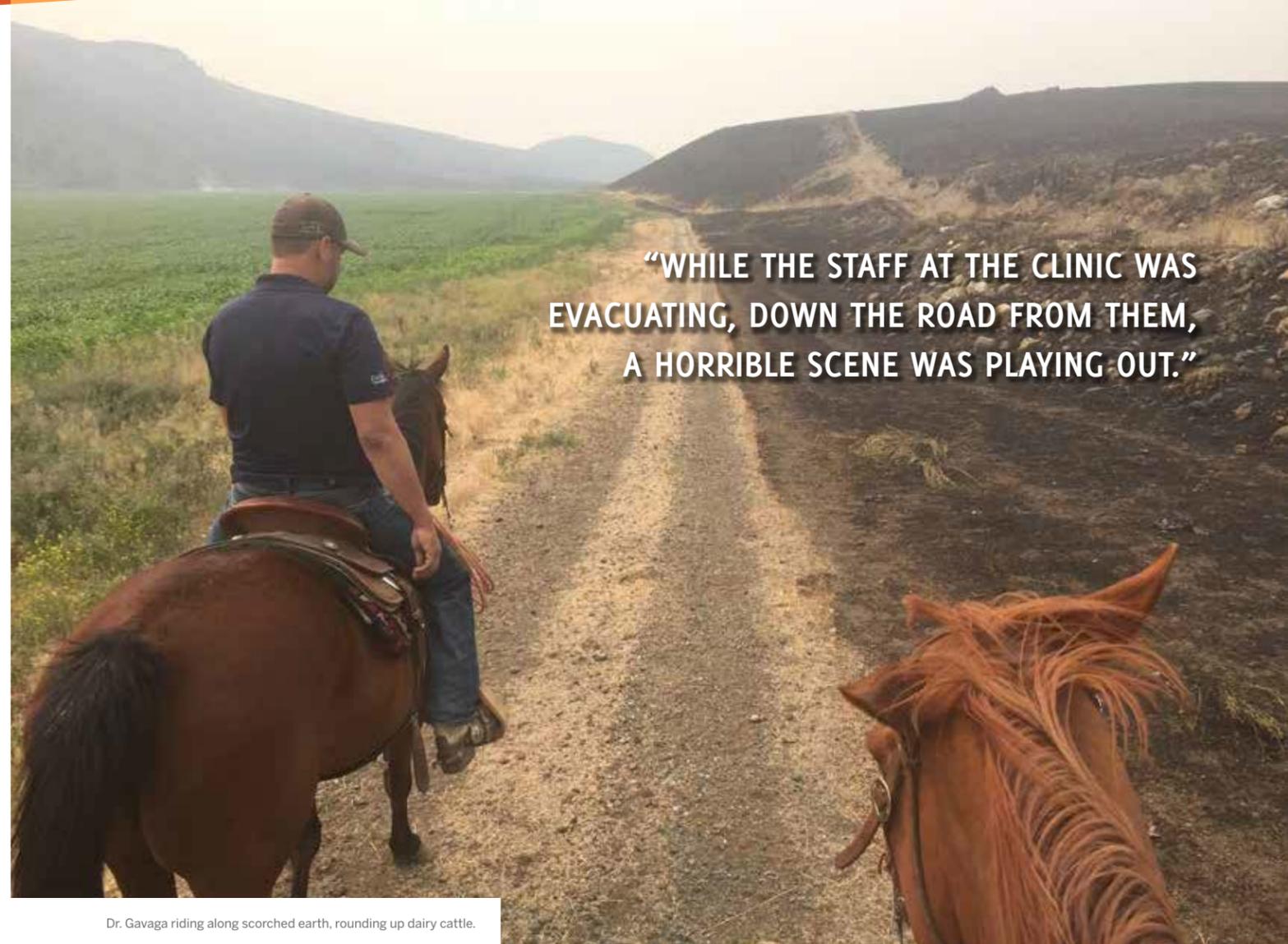
While this was all unfolding, the rest of the citizens from Cache Creek were evacuating into Kamloops along with

"IT WAS NOTHING SHORT OF AMAZING HOW EVERYONE HELPED."

Cache Creek had been closed, and because of that, many people had cancelled appointments for that day, so there was only the clinic cat to evacuate and not a clinic full of animals.

While the staff at the clinic was evacuating, down the road from them, a horrible scene was playing out. There were high winds, and the fire moved about four kilometres in under three hours and had reached the local dairy barn. Many farms have lots of debris (hay, shavings, etc.) hanging

"WHILE THE STAFF AT THE CLINIC WAS EVACUATING, DOWN THE ROAD FROM THEM, A HORRIBLE SCENE WAS PLAYING OUT."



Dr. Gavaga riding along scorched earth, rounding up dairy cattle.

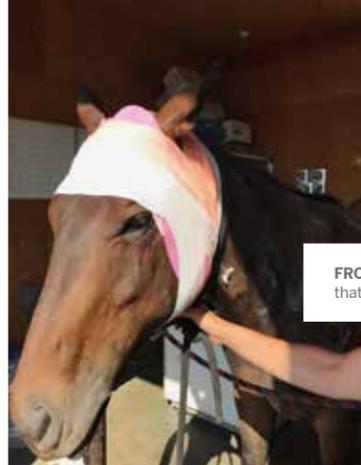
PHOTOS COURTESY OF QUINN GAVAGA / PAGE 7; PHOTO COURTESY OF JEFFREY JACKSON, RCMP

their pets and farm animals. Another veterinarian, Dr. Jennifer Jackson of the Kamloops Large Animal Veterinary Clinic (KLAVC), was probably experiencing a sense of déjà vu and reliving the infamous fire season of 2003 when areas north of Kamloops burned. She coordinated the evacuation of farm animals and horses in the 2003 fires, so she had a good sense of what the next few hours and days were going to look like. She immediately got on the phone to the Thompson Nicola Regional District (TNRD) emergency operation centre and started to plan what the animal piece of the evacuation would look like. While she was on the phone with the TNRD, she had the map of the city out in front of her, and she and the TNRD official were scouring the city for suitable places to house the animals, but ultimately such places were very limited. There is no provincial funding for companion animals or horses during such events; only livestock owners receive assistance through the government, which of course means that donations and volunteers would be in high demand.

She was subsequently informed that a group called the Canadian Disaster Animal Response Team (CDART) would be coming in to help run the animal evacuation. Dr. Jackson said she was initially relieved that someone else would be at the helm this time

as she recalled how time-consuming and tiring it had been in 2003. Life had changed, and she now has young kids and 20 of her own horses to look after, but at the same time, she knew she needed to stay involved. She activated a Facebook group of friends who had been a part of the 2003 fire, and they set to work contacting people, connecting folks, helping coordinate, talking with stakeholders, and using her local knowledge. She fielded lots of phone calls throughout the evacuation, often spending hours on the phone or social media each day, as people in the community know her, and used her as a resource.

The evacuation centre for farm animals ultimately ended up being on Kamloops Indian Band land, at the Kamloops Exhibition Association (KXA) grounds. Dr. Jackson explained that the KXA barn became the central area to drop off animals and have them registered, from where they were fostered out to homes around the city. The initial push to have the animals at the KXA was instigated by another grassroots organization with a local woman spearheading it. This barn became a temporary home to horses, cows, llamas, goats, sheep, chickens, and pigs. In addition to their behind-the-scenes work, Dr. Jackson and the other four KLAVC vets were highly visible, working with the



FROM LEFT TO RIGHT The recovery of the horse that injured its own head during the evacuation.



PAGE 22 AND THIS PAGE One of the dairy cows that was burned but has since recovered.

evacuated farm animals as they checked on them daily at the KXA. In addition to the animals at the KXA, many animals were evacuated to local horse farms in the region as well as to the rodeo grounds in Barriere, north of Kamloops. The five vets were called upon to attend these locations on a regular basis.

The actual number of animals temporarily housed in the Kamloops region is unclear, but the number of animals that could potentially have needed care by a large animal vet sky-rocketed for weeks on end, commanding a lot of attention. Dr. Jackson says there were the obvious respiratory cases triggered by the smoke, many of whom had underlying chronic conditions such as heaves. There were stress- and circumstance-induced diseases, like colic and laminitis, and some unfortunately ended in euthanasia. There were many transport injuries and lacerations. The vets worried constantly about an infectious disease outbreak since they were mixing so many animals with unknown vaccine status; and likely many of the horses had never left their properties prior to this evacuation and were

very naïve. She said that luckily the worst they saw was some mild nasal discharge that easily could have been irritant-triggered from the poor air quality that plagued Kamloops for much of the summer.

As Kamloops was becoming evacuee central, Cache Creek was still under evacuation order. Dr. Gavaga said that, in the immediate crisis, they treated several cows for foot burns and stress; however, the majority of problems cropped up over the following weeks, including burned lamina, respiratory issues, and stress-related abortions. He recounted that, for the horses, "The majority of the injuries were transport and relocation issues as some horses are not used to transport and put into environments that were foreign." One horse in particular did some serious damage to himself

“DR. JACKSON SAYS THERE WERE THE OBVIOUS RESPIRATORY CASES TRIGGERED BY THE SMOKE, MANY OF WHOM HAD UNDERLYING CHRONIC CONDITIONS SUCH AS HEAVES.”

by sticking his head between a post and a building, then pulling back in a very tight space. This horse had been evacuated to Kamloops, so Dr. Gavaga went to Kamloops, sutured him back up, and brought him back to his own ranch where he provided care for the following two weeks while the owners were still evacuated. That certainly gives a new meaning to bringing

work home from the office.

The story might end here, one would think, but as the chaos continued in Kamloops, Williams Lake was literally being surrounded by a ring of fire. I remember hearing about it on the news and thinking they would be cut off as many of the highways and the airport seemed threatened. Dr. Ross Hawkes of the Williams Lake Veterinary Clinic says, "We only had to look outside the hospital to see the smoke from the Fox Mountain fire behind us." Several staff members had to leave work as their homes were either directly in the path of the fire, or their route home might be cut off shortly. He says that with so many roads closed, it became difficult for staff members to come to work while the city was on alert the following week, so he became the sole veterinarian able to keep the clinic operating for routine work as well as all the emergencies. "Within 24 hours of the fires starting, animals started to be dropped off at the hospital for boarding while their owners were dealing with being evacuated from their houses. Very rapidly, we ended up with a facility that was filled to the brim with cats." As time went on, it became clear that the city was at serious risk of being ordered to evacuate. At that point, he tried to contact the owners of all their boarding animals, but most had scattered and were unable to come back into the city to get their pets. Dr. Hawkes said, "It became readily apparent that the hospital was going to be responsible for the transportation of numerous animals should an evacuation take place." When the evacuation order came down, Dr. Hawkes decided to

“FOR THE MOST PART THOUGH, CATTLE ARE VERY SMART, AND THEY AVOIDED THE WORST OF THE BLAZES.”

stay, given the amount of animals in his care. It took the city nearly six hours to evacuate. He and his wife slept at the clinic in case they too needed to leave at a moment's notice.

Dr. Hawkes was identified by the Cariboo Regional District as an essential service and was allowed to move freely to deal with emergencies at his clinic, manage the boarding animals, and start to provide care to animals left behind. He said, "It had come to my attention that there were numerous people from the city who had been camping at Horsefly and were unable to return due to the evacuation. I was able to coordinate with a colleague and set up an impromptu clinic to address the needs of animals trapped there." He received support from Royal Canin and Hills who provided free pet food for those who needed it. The SPCA, RCMP, and Fire Department were constantly finding stray animals, many of whom were injured and lacking food and water. Their clinic became the city pound as the actual pound wasn't functioning because all of its staff had been forced out of their homes. He said, "For every dog the RCMP brought in to us, they provided a volunteer police officer to be a dog walker every evening to relieve the burden of the many animals they were bringing in." He also said that cattle were the worst off in their area. Many animals were trapped between the primary fire and backburns. "For the most part though, cattle are very smart, and they avoided the worst of the blazes."

As Williams Lake was evacuating, Cache Creek was preparing for its return. During the period of evacuation, Dr. Dickinson was called upon on relatively few occasions for true fire-related emergencies, which he thought was surprising. He did respond to general emergencies, but he noted that getting to their clinic, which was under evacuation order, was a convoluted process. "I had to check in at the firehall on my way to the clinic, and then check out to let them know the clinic was empty as I left. Occasionally we had an RCMP escort to the clinic on the way in." Dr. Gavaga said that when they couldn't access the clinic, they just worked via mobile. However, one thing that caught



Williams Lake Veterinary Hospital with a plume of smoke looming overhead.



JENNIFER JACKSON, DVM
Kamloops Large Animal
Veterinary Clinic



ROSS DICKINSON, DVM
Cache Creek Veterinary Clinic

him by surprise was all the prescriptions that were running out and needed to be filled for his patients. He needed to access the clinic to be able to send prescriptions to the clinics in Kamloops. The procedure to get in and out of the clinic wasn't as simple as flashing a nice smile, so after a while he said the RCMP was probably getting a bit frustrated with him for constantly requesting access. He only learned near the end of the evacuation that there was a permitting/pass system whereby he could have been put on a list of essential services as Dr. Hawkes at been in Williams Lake. That would have cut down on red tape and allowed him to provide more streamlined care to his patients. Dr. Gavaga notes that an interesting phenomenon they've seen since the fires is that the number of rattlesnake bites has gone up. He suspects the rattlesnakes were escaping the fire-burned areas into the more populated areas. He treated one dog twice, ten days apart, for two different bites. He explained that the success of treatment really depends on time from bite to treatment, and he has a good protocol that hasn't failed him yet.

Back in Kamloops, the Animal Health Technology (AHT) program at Thompson Rivers University (TRU) had decided to open its doors to dog and cat evacuees. Robina Manfield, the chair of the AHT program, was instrumental in organizing this effort. During the summer months when the AHT program isn't running, the building houses no animals, so they were in a unique position to provide appropriate housing run by trained people. Erica Gray, an RVT on faculty at TRU,

described how "Everyone volunteered their time—we had previous grads and students (of the AHT program), faculty, retired faculty, and staff that came in to volunteer." They admitted animals at all hours of the day and night as people made their way to Kamloops, not only from Cache Creek but also from 100 Mile House and then Williams Lake as those cities were evacuated. She said, "Each dog received a minimum of two 20-minute walks per day plus bathroom breaks, and the little puppies got to play in our play area. We brought in several fans to keep our kennel areas cool and comfortable for the dogs and did the best we could to minimize the smoke." She said that most of the owners came to visit on a daily basis which helped keep the animals' stress to a minimum. She recounted that one little patient needed eye medication, and since he was so well behaved she was able, with permission from the owner, to video the process so

“MANY OF THE ILLNESSES SEEN WERE ASSOCIATED WITH STRESS-INDUCED DIARRHEA, A FEW CUTS AND SCRAPES, BUT ALSO SOME RESPIRATORY-RELATED PROBLEMS.”

she could use it to teach her students in the upcoming year—definitely a unique teaching moment. In addition to TRU, many of the small animal clinics in Kamloops took in pets and housed them at their clinics, sometimes for several weeks at a time. Most of the clinics also saw many of the animals that were being housed by two local shelters. Many of the illnesses seen were associated with stress-induced diarrhea, a few cuts and scrapes, but also some respiratory-related problems. I'm not ignorant or naïve enough to think there weren't cats and dogs that died in the blazes, but it truly seemed remarkable that those animals that did make it out were relatively unscathed.

An issue that Drs. Gavaga and Jackson both noted were that well-meaning individuals inadvertently caused problems. In one case, a Good Samaritan bravely went onto his neighbour's burning property to rescue a horse

while the owners were out of town. Unfortunately, the horse was fed dried beet pulp and ended up being euthanized due to necrotizing esophagitis. Other issues arose from too many horses being loaded onto a trailer, again by individuals doing their best to move animals out of harm's way, but creating a situation where horses were kicked or crushed. Both vets also indicated that many people stepped up to help, but that one company in particular, Zoetis, provided free of charge all of the large animal drugs needed for evacuated animals. Dr. Gavaga said it was a huge relief to have long-acting drugs at their disposal so that less handling of the animals ultimately reduced their stress. He said, "The provincial large animal rep (Gord Colliar) for Zoetis called me the day of the fires and said any injured animals associated with the fire that they supply products for were free of charge. That was an amazing reaction by a company in a time of need." Dr. Jackson elaborated on that, saying that Gord himself was evacuated, and he felt like he needed to do something, so he was able to provide this help. Further help came from Solvet, an Alberta company that now makes long-acting oral meloxicam for cattle. They provided it for free, and Dr. Gavaga said some of the burned heifers, like the one in the photos on pages 22 and 27, were on this drug, which no doubt helped immensely. Dr. Hawkes said the SPCA team in Williams Lake "provided a herculean effort to see 230 primary calls in three days to check on and feed animals reportedly left in haste." He said, for the first responders on the ground, many snap decisions were made to allow people in to help the animals. "Horse owners of the area had networks of people through Facebook hauling animals for people without trailers within hours of the first fires. It was purely spontaneous in the face of a threat, and no organization with

volunteers and training could have acted so quickly or with such efficiency."

The Elephant Hill fire and its ugly stepsisters around Williams Lake raged and raged. No one could have imagined how long the evacuation orders and alerts would go on. Even though people could return during the evacuation alerts, most people didn't feel like they could move their large animals back home until the all clear was given, as moving them was often a logistical nightmare. Fitting 20 horses into a four-horse trailer doesn't work, so that means five trips. So even though the people could go home, the animals often stayed evacuated for longer periods of time, which meant more stress for them as well as for those caring for them.

It took nearly three months to contain the beast. It ruined many people's livelihoods, whether ranching, tourism, or logging. It killed livestock and wildlife and destroyed pasture land. It displaced people. It forced us inside for most of the summer. It was the summer that never ended, when all we wanted was to see the first snow fall. We pleaded with the weather gods to give us rain and keep the lightning away. We all helped out in whatever small way we could—I took in a goat, two minis, a mule, and a dog. A truly small token, in comparison to the stories recounted here. [WCV](#)

THE CANADIAN DISASTER ANIMAL RESPONSE TEAM

The Canadian Disaster Animal Response Team (CDART), a completely volunteer non-profit group, was asked to participate in the fire evacuation response to assist with the animal component. Some of their responsibilities were to help animals that couldn't be evacuated for various reasons, help remove animals that were left behind and that owners wanted to have removed, set up and run temporary shelters, try to provide emotional support to animal owners, to provide supplies to displaced animal owners, and provide transport out and back from the evacuation areas as well as work with the government. They also helped get permits for people to be able to go behind the fire lines to access animals.

CDART was initially deployed to 100 Mile House where they helped evacuate animals to the Interlake areas, then down to Kamloops. They were also asked to deploy into Kamloops and set up a small animal shelter and help out alongside what volunteers were already doing at the KXA with the large animals. CDART only deploys when asked to by Emergency Management BC and operates under the regulations set out by the local emergency operation centre or government organization. During the same time period, they were also helping in the Kootenays as well as in northern Manitoba.

CDART has a history of deployment during the 2003 fire season, during the many Okanagan fires, the Lillooet fires, floods in the Nicola region, as well as smaller apartment fire situations in the Lower Mainland. They were also present in Fort McMurray during the fires there in 2016. They have been involved in many emergency management planning meetings to provide input on the animal piece of any emergency situation, so they were hoping to bring some relevant experience to this fire season.

Cheryl Rogers, one of the founders of CDART and its national coordinator, said most of the volunteers have small animal backgrounds in sheltering, rescue, or dog training,

and that all the volunteers receive training by the organization on how to respond. Many supplies like hay and feed were donated, but the biggest single expense was gas for trucks hauling hay and animals. (The CVMA-SBCV Chapter provided a donation of \$10,000 to CDART, the majority of which went to pay for transport of people and animals.)

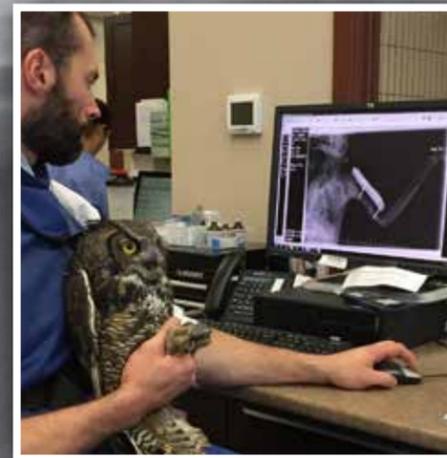
Some people criticized CDART for not being more visible, especially in Kamloops, since they were in theory supposed to be in charge. Cheryl explained that the organization is still learning how to use social media to its advantage, but also a wrong number had been provided, which slowed down communications. She also said that since they were deployed by the government they had to abide by a stricter set of guidelines than other non-governmental sanctioned groups, which sometimes hindered their ability to get aid out as quickly as those who might not have been following the same rule book. CDART is constantly learning and has many learnable lessons from this very extended deployment. Cheryl said her volunteers were stretched thin as the weeks went on, but also donor involvement and engagement dwindled in a similar fashion, which made their job even more difficult. Ultimately though, she still concludes that, from the various fires, hundreds of animals were assisted by CDART alone, on top of all the other countless groups who stepped up, which meant it was still a successful deployment.

CDART is looking forward to working with many of the stakeholders involved in the evacuation process and finding better ways to manage the animals for future disasters. The lessons learned by the veterinarians directly in the path of the fire will no doubt be invaluable.

“MOST OF THE VOLUNTEERS HAVE SMALL ANIMAL BACKGROUNDS IN SHELTERING, RESCUE, OR DOG TRAINING, AND THAT ALL THE VOLUNTEERS RECEIVE TRAINING BY THE ORGANIZATION ON HOW TO RESPOND.”

ON THE WING: REPAIRING THE GREAT HORNED OWL

BY EVAN CRAWFORD, DVM, MSc, DVSc, Dipl. ACVS



PAGE 7 Getting ready to have the implants removed; THIS PAGE Checking everything is okay after taking out the IM pin.

BACKGROUND PHOTO The Great Horned Owl is two-week post-operative radiograph.

“SOME MAY ASK WHY WE SHOULD BOTHER TREATING A WILD ANIMAL, INSTEAD OF JUST LETTING NATURE TAKE ITS COURSE.”

Like most veterinarians, I spent many hours embroiled in an assortment of volunteer work prior to acceptance into vet school. In particular, I enjoyed discovering the medicine and rehabilitation of birds of prey through the Orphaned Wildlife Rehabilitation Centre (OWL) in Delta. So, when they contacted me in mid-September about a great horned owl who had sustained a fractured wing through an unfortunate run-in with a car, I was pleased to have an opportunity to help out again—only a mere ten years after my last days of volunteer work there!

The accident had occurred in Sparwood, where the owl was picked up by a kind volunteer and assessed locally by the Tanglefoot Veterinary Hospital in Fernie. They determined the owl had a humeral fracture that looked repairable. After Tanglefoot contacted OWL, the bird was kindly transported, free of charge, to the Lower Mainland by Pacific Coastal Airlines, then to the Boundary Bay Veterinary Specialty Hospital by volunteers with OWL.

Some may ask why we should bother treating a wild animal, instead of just letting nature take its course. I think there are multiple reasons, and everyone who helped probably has their own motivations. I enjoy both the challenge of an unusual situation, and the opportunity to practise skills that may be applicable in other scenarios. I think there is also an argument to be made that since this bird was hit by a car, and it may have been drawn to the road by rodents feeding on the refuse some people leave there, we owe it to the animal to try and repair the damage we have done. Others may simply feel that any animal in pain or distress should be helped in whatever best way we can.



Still enhanced with surgical steel, but already working well.

At first glance, the owl appeared to have taken a pretty good beating. There was a Grade 3 open long oblique fracture of the mid-distal diaphysis. Fortunately, we did not find any other injuries, and aside from a few lice, the bird seemed to have been in good health prior to his accident.

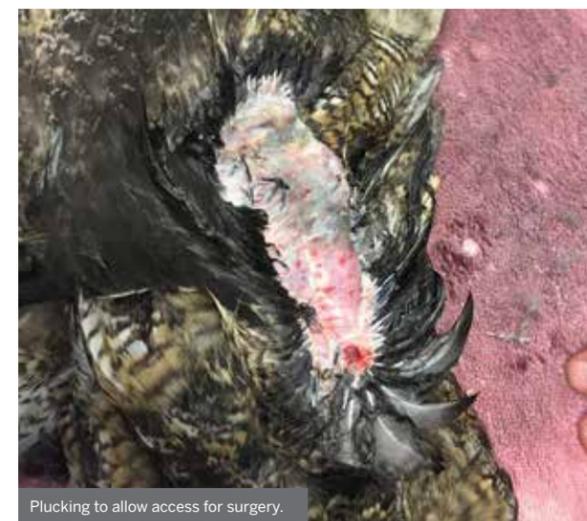
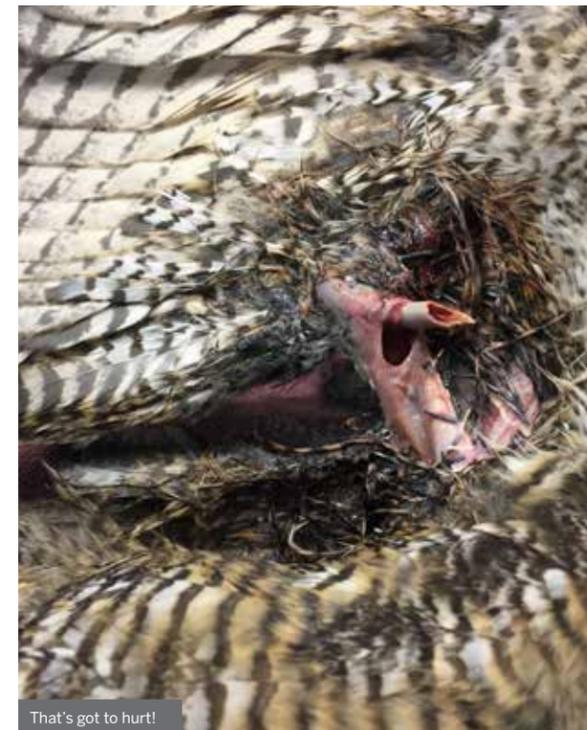
A few adventurous staff members were eager to help with the task at hand. As with many exotics, birds have their own special requirements and peculiarities with their care. One of the most startling differences is their high metabolic rate. For a crew used to dealing with canine and feline patients, some of the drug doses seemed a little bit out of hand. Regardless, they managed to obtain IV access, and the owl was anesthetized, intubated, and fully monitored for his surgery.

There are several other important considerations with bird anesthesia. In addition to requiring high doses of many medications, the increased metabolic rate means that anesthesia can be a bit of a roller coaster, with the plane of anesthesia changing very rapidly. Birds also carry minimal fat reserve for insulation, so temperature management is vital. Warm water blankets and forced heated air warmers are helpful. It is also important to remember that birds have complete tracheal rings, so uncuffed endotracheal tubes need to be used, otherwise tracheal necrosis can occur. Analgesia is, of course, an important consideration with any trauma or surgery. Fortunately, recent research shows that full mu opioids are effective in raptors, and NSAIDs are another useful tool.

Surgery also provides unique challenges. In addition to their small size, bird bones are delicate, and with wildlife there is little room for a sub-optimal repair if the animal is to be suitable for future release to the wild. Some bones in birds, such as the humerus, are also pneumatized. In many surgical situations, and in the treatment of open wounds, lavage is an important component of treatment to help clean wounds and prevent infection. With a pneumatized bone, lavage can result in a severe pneumonia, or even death of the patient since the bone communicates with the respiratory system.

With regards to options for repair of the fracture, as in our more common patients, external coaptation for humeral fractures is often very difficult. In a significantly non-compliant wildlife patient, this is an especially difficult option. There is little extra space under the skin and muscle of birds for implants, and release of a bird with implants is also not recommended, so internal fixation is not a good choice. External fixation generally provides an excellent option for these fractures. It provides good stability for the fracture, and the humerus has good access corridors for placement of implants. External fixation also allows for progressive dynamization during healing, and can be removed without an additional surgery. Lastly, external fixation uses relatively simple and thus cost-effective implants.

For this owl, after being anesthetized, we carefully plucked feathers to allow access to the fracture while avoiding removal of the primary flight feathers. Plucking the primary feathers would result in a significant delay before release, waiting for the feathers to grow back. Due to the open nature of the fracture, minimal additional approach was needed to visualize and reduce the fracture. I was cautious to salvage the nerves necessary for control of the distal wing, as well as to avoid injury of the patagium membrane that is vital for flight (this can become non-functional after injury due to scar tissue formation). With this owl, I formed a Type I external fixator with tie-in of the intramedullary pin into the connecting bar, using an over-the-counter putty repair product (SteelStik epoxy putty) to bond all of the implants.



“AS WITH MANY EXOTICS, BIRDS HAVE THEIR OWN SPECIAL REQUIREMENTS AND PECULIARITIES WITH THEIR CARE. ONE OF THE MOST STARTLING DIFFERENCES IS THEIR HIGH METABOLIC RATE.”



PHOTOS COURTESY OF EVAN CRAWFORD

“THE OWL WOKE UP SLOWLY FROM AN UNEVENTFUL ANESTHESIA, AND HE SPENT THE NIGHT AT THE CLINIC BEFORE RETURNING TO THE REHABILITATION CENTRE.”



The open wound over the fracture was also cleaned carefully, and the wound partially closed. In addition to the concerns for use of excessive lavage, it is also worth noting that avian heterophils (the equivalent of mammalian neutrophils) lack the lysozyme enzyme that liquefies pus. This means that drains are generally useless in birds since the inflammatory cells and debris produced will not flow out of the drain. After closure and careful cleaning, the owl was placed on a short course of antibiotics, and regular open wound management was undertaken by the skilled staff at OWL.

Fortunately, everything went well with the anesthesia and surgery; post-operative radiographs confirmed a good repair, the owl woke up slowly from an uneventful anesthesia, and he spent the night at the clinic before returning to OWL. The wing was bandaged for a short period of time to provide some adjunctive support to the repair, and for management of his wounds. The bandage was changed daily, and range of motion done on the wing to help prevent

contracture. Due to their metabolism, avians heal rapidly. Within two weeks, the pin tracts were showing no signs of concern, and the open wound over the fracture was also almost completely healed. Radiographs showed the implants and fracture were stable, and bony callus was already forming. The owl was already using the wing well, and was back to being an aggressive and talkative bird!

Hopefully, in another two weeks, the fracture will be almost, if not completely, healed. The implants will be removed, and he will be closely monitored to make sure the pin sites heal over. He will then spend some more time with OWL to make sure he can fly and hunt, then with any luck make the trip back to Sparwood to be released back into the wild by the kind Samaritan who started him along this journey. [WCV](#)

UPDATE

The owl has been back for several rechecks since the surgery. There was a minor delay in healing compared to the expected standard, likely because it took some extra time for the open wound to heal over and fully revascularize the bone. Nonetheless, the intramedullary pin was removed about a month after the surgery, followed two weeks later by the remaining external connecting bar and fixator pins—leaving a good solid bone behind!

The only downside to leaving the IM pin in place a little longer is that it does reduce the wing's range of motion. Now with all of the implants out, there is some rehabilitation required to get that range back. The owl is already growing feathers quickly and should progressively graduate to larger flight cages over the next few months as his muscles and joints return to normal. With any luck, he'll be all set to fly back into nature on a warm spring day early next year!

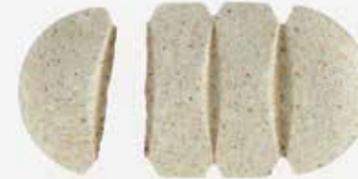


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THIS PAGE AND PAGE 37
With a few carefully chosen workplace alterations and accommodations, continuing to work until late in the third trimester is a feasible option.

ACCOMMODATING THE PREGNANT VETERINARIAN

BY KOHARIK ARMAN, DVM

“I ALSO WONDER HOW I WILL ADJUST TO THE LACK OF STRUCTURE AND INTELLECTUAL STIMULATION THAT LIES AHEAD IN THE COMING YEAR.”

As I sit here in my 36th week of pregnancy, with only one more work week ahead of me before I go on maternity leave, I already feel saddened by the thought that I won't be seeing my patients and clients for quite some time to come. It's a strange feeling knowing that I won't be participating in surgery rechecks on procedures I have either recently performed or will perform in the upcoming week. I have received many thoughtful baby gifts and cards from some wonderful clients, and it makes my year-long absence from the clinic bittersweet. On the one hand, I am more than ready to be finished with work because I find my current physical status very limiting. I am huge, tired, sore, and forgetful, and simply sitting on my couch actively gestating is about all that I feel like doing at this late stage. But on the other hand, I have been in full-time veterinary practice for ten years now; I will miss my coworkers, patients, and clients, and I also wonder how I will adjust to the lack of structure and intellectual stimulation that lies ahead in the coming year.



“SOME VETERINARIANS WILL CHOOSE TO CONTINUE PERFORMING PROCEDURES REQUIRING ANESTHESIA BUT WILL WEAR A RESPIRATOR WHILE DOING SO TO PROTECT THEIR PREGNANCY FROM ANY POSSIBLE ADVERSE EFFECTS.”

One thing of which I am certain is that being pregnant and a full-time working veterinarian during these past nine months has been an adventure and a learning experience: both for myself from a personal standpoint, and from the perspective of the clinic team. I hope that some of the information I have gathered during my personal journey can be of benefit to others.

There are numerous decisions that pregnant veterinarians need to make at the start, and throughout the course, of their pregnancies. While female veterinarians in Canada make up 55 per cent of the national veterinary population, with the veterinary student population comprising approximately 80 per cent women, it stands to reason that more and more working veterinarians will experience pregnancy while on the job, and clinics will increasingly need to accommodate the changes that pregnant veterinarians may require.

Every woman is different with regard to how she approaches her pregnancy and the workplace, and I found it quite helpful to peruse opinions and recommendations on the Veterinary Information Network when making my own decisions.

The first choice I had to make was when to tell my manager and team about my pregnancy. I waited until

miscarriages. Some veterinarians will choose to continue performing procedures requiring anesthesia but will wear a respirator while doing so to protect their pregnancy from any possible adverse effects. Others will use anesthetic monitoring badges to ensure low exposure. Personally, I decided to continue performing surgeries and have not worn a respirator or anesthetic monitoring badge. I felt that the risk was fairly low, and that as long as we adhered to our regular anesthetic practice standards, I was comfortable continuing to do procedures. With an active scavenging system, IV inductions only (no masking or 'boxing' down patients), frequent leak checks, and cuffed intubations, the amount of WAG exposure in a clinic should be quite low. Quite frankly, I was far more stressed by the potential ill effects of the poor air quality experienced in the Lower Mainland this summer than by the thought of WAG exposure!

The next decision I made was in regard to my work schedule while pregnant: did I want to continue full-time work or cut back to part-time, and how long did I wish to continue working before taking maternity leave. I decided to continue work full-time, and my goal was to work through to week 39 of my pregnancy. Despite knowing I would likely feel fatigued during the pregnancy, continuing full-time work was part of my family financial planning for the year ahead during which I won't have an income.

It's important to remember though, for both pregnant veterinarians and management, that pregnancy can be unpredictable at times, so working plans cannot always be executed as intended. Some women experience conditions, such as placenta previa, that can require bed rest from early

“I HAVE CERTAINLY DEVELOPED A WHOLE NEW LEVEL OF EMPATHY FOR PATIENTS WITH GASTROINTESTINAL DISORDERS WHO EXPERIENCE NAUSEA AND VOMITING.”

points in their pregnancies, and others might suffer from debilitating hyperemesis gravidarum, a severe form of Nausea and Vomiting of Pregnancy (NVP). I found myself sometime shortly after my seven-week ultrasound before I updated my manager. Realistically, the sooner a clinic manager or owner is aware of a veterinarian's pregnancy, the sooner they can begin to look for a locum who will be a good fit with the clinic to cover the maternity leave. It wasn't long thereafter that we told the team about my pregnancy. We debated waiting until the end of my first trimester before alerting support staff, but ultimately decided that earlier was better, mainly for safety reasons.

in the unlucky 5% of women who endure NVP throughout their entire pregnancy, but fortunately have been able to keep it fairly well controlled with the help of anti-nausea medication. My wonderful support staff members were very caring and helpful during my uncontrolled episodes at work, and there was only one day during which I had to cancel appointments and go home. Over these nine months, I have certainly developed a whole new level of empathy for patients with gastrointestinal disorders who experience nausea and vomiting. It has a significant impact on quality of life, so be generous with those anti-nausea medications! In the end, it's impossible to predict what kind of pregnancy one will experience, so it's good to be prepared for just about anything.

And in regard to safety in the workplace, the second decision that I faced was whether or not I wanted to continue doing procedures that might expose me to waste anesthetic gases (WAGs). Many veterinarians elect not to perform surgeries while pregnant due to the risk of exposure to WAGs. The main documented risk appears to be a slight increase in spontaneous

Most of these decisions I made while I was in my first trimester, but as my pregnancy progressed, there were some workplace alterations and accommodations that I discovered I needed in order to work effectively as a pregnant veterinarian. Below is a list of what I consider to be the top ten considerations for clinics that are adjusting to working with a pregnant veterinarian.

PHOTOS COURTESY OF KOHARIK ARMAN

“BEING ABLE TO SIT FOR FIVE MINUTES WHILE COMPLETING PATIENT FILES BETWEEN APPOINTMENTS CAN MAKE A BIG DIFFERENCE TO A PREGNANT VETERINARIAN’S ABILITY TO GET THROUGH THE WORKDAY.”

- Do not book pregnant veterinarians appointments with aggressive patients. No one wants to go for a tetanus vaccine and a round of antibiotics at the best of times, but pregnant women commonly wish to avoid taking medications that can potentially cause fetal harm. Additionally, since the antibiotic of choice for bite wounds in pregnant women is amoxicillin-clavulanic acid, this can bring the symptoms of a woman experiencing NVP to a whole new level of misery! (Yes, this is the voice of experience talking here.)
- Do not expose pregnant veterinarians to radiation. Ensure that there are skilled technicians and assistants present to perform radiography on any patients that require imaging, or use hands-free radiographic techniques with sedation. If dental X-rays are performed within a common treatment area, ensure that pregnant veterinarians are not in the vicinity when they are being done. Scatter radiation puts those in the treatment area at risk, and there is no acceptable level of exposure for a pregnant woman.
- Provide adequate staffing so that there are always assistants or technicians available to help pick up patients from the floor and place them on exam tables. Pregnant women have a difficult time bending over, squatting up and down, and it's unsafe for them to pick up heavy objects such as dogs and cats. If a clinic has lift tables, that's a huge added bonus!
- Adjust pregnant veterinarians' schedules and appointment types accordingly if they decide that they do not wish to continue doing procedures such as dentistry or surgery that may expose them to WAGs.
- Provide an ample supply of fitted disposable gloves and hand sanitizer so that a pregnant veterinarian can protect herself from zoonotic diseases. In particular, gloves should be used when handling patients with dermatological issues or diarrhea, raw-fed animals, stray animals, and other high-risk patients.
- Keep stools and chairs handy in exam rooms and treatment areas so that pregnant veterinarians can sit and rest as needed. Pregnancy can cause sore backs, swollen feet, and a general decline in energy levels. Being able to sit for five minutes while completing patient files between appointments can make a big difference to a pregnant veterinarian's ability to get through the workday.
- It tends to go without saying, but no pregnant veterinarian should handle cat feces, chemotherapeutic agents, other teratogenic drugs such as methimazole, and hazardous substances such as formaldehyde.
- Send a timely notification to clients that Dr. Pregnant will be going on maternity leave so that those who wish to make appointments with her prior to her departure can do so, rather than being blindsided by her unavailability if they try to book with her while she is on leave.
- Allow scheduling flexibility as needed. While most pregnant veterinarians will strive to book their personal doctor appointments outside of working hours, given the busy schedules of obstetricians and imaging centres, it isn't always possible to do so, and they may need to step out during the day to attend such appointments.
- Maintain a comfortably cool ambient temperature in the clinic. Your pregnant veterinarian will thank you.

Now being well into my third trimester, I have discovered that many of the clichéd warnings I was given about pregnancy have come true. Despite a reasonable 21.5 C temperature maintained in the clinic, I frequently find myself experiencing hot flashes, or just generally overheating. There are a couple of ways I have combatted this issue at work. I have a small fan on

my desk so that I can catch a nice gentle breeze when I'm sitting at the computer, and I use a much larger fan to help me keep my cool during dental procedures. Sitting under that hot light, feeling the heat exuding from the warming pad and the Bair Hugger, was simply unbearable until the day one of my wonderful techni-

“THE MINUTE I LEAVE THE SURGERY ROOM AND DE-GOWN, I SIT DIRECTLY IN FRONT OF MY LARGE FAN UNTIL I’VE REACHED A REASONABLE TEMPERATURE AGAIN.”

cians brought the fan over for me, half in jest; I haven't done a single dental procedure without it since! Sadly, there's no way to get around the overheating issue in surgery (nor the awkwardness of having a bump in the way of your access to the patient on the table), but the minute I leave the surgery room and de-gown, I sit directly in front of my large fan until I've reached a reasonable temperature again.

Other difficulties that I have encountered in my late third trimester are coping with exhaustion and physical discomfort. As mentioned previously, I was hoping to power right through to week 39 doing full-time work. However, coming back to the unpredictability of pregnancy, I will be finishing up at week 37 instead: two weeks earlier than I had planned. The main reason for my early departure is that I have developed a substantial iron deficiency anemia, and as a result my energy levels have plummeted. So instead, I have one last working week ahead of me, and then I can go for my iron infusions and sleep to my heart's content (for the next three weeks at any rate).

I do consider myself lucky to have been able to work through the great majority of my pregnancy, and I hope that others find themselves healthy enough to do the same if that is their choice, and to enjoy the benefits of a supportive work environment while going through the experience. **WCV**



CONGRATULATIONS

James Edward Berning, born November 2, 2017 to parents Koharik Arman and Nolan Berning.

UPDATE ON MEDICAL MARIJUANA AND CANNABIDIOL FROM THE REGISTRAR’S OFFICE OF THE COLLEGE OF VETERINARIANS OF BC

Veterinarians have contacted the College of Veterinarians of British Columbia (CVBC) to inquire whether they may prescribe medical marijuana and cannabidiol (CBD) to an animal. The question usually arises in one of two ways: an animal owner inquiring of a veterinarian, or a medical marijuana dispensary seeking authorization from a veterinarian.

- Veterinarians may advise their clients that:
1. There is no current legal pathway for veterinarians in BC to prescribe medical marijuana to animals as the federal government legislation *Access to Cannabis for Medical Purposes Regulations* does not apply to veterinarians or to animals. The Regulations pertain to human health care and access for human patients only.
 2. There are currently no cannabidiol (CBD) products approved by Health Canada and therefore no legal pathway to obtain these products. The National Compliance Section, Office of Controlled Substances, Healthy Environments and Consumer Safety Branch of Health Canada has advised that cannabis

¹ In 2014, the CVBC's College Matters Newsletter had provided registrants with communication from Health Canada that The Emergency Drug Release Program that the Veterinary Drugs Directorate administers does not permit access to medical marijuana for animals.

(marijuana) and cannabidiol (CBD) are Schedule II drugs under the *Controlled Drugs and Substances Act*, and that there are currently no approved CBD products for animals, meaning there is no legal pathway to obtain these products for animals in Canada. It is not enough that CBD oil or related products may be offered through a licensed supplier in Canada—the supplier must also be supplying a CBD product that is approved by Health Canada.¹

Health Canada can be contacted for additional information on cannabis or CBD products, or on the approval process for products for animals. For more information, contact the Veterinary Drugs Directorate at Health Canada at <http://www.hc-sc.gc.ca/contact/dhp-mps/hpfb-dgpsa/vdd-dmv-eng.php>.

Similar information is provided to veterinarians in Ontario by the College of Veterinarians of Ontario (CVO) in the CVO e-update entitled Update on Medical Marijuana available at www.cvo.org/About-CVO/News/Inquiries-concerning-prescribing-medical-marijuana.aspx.

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18-20 Western Canadian Association of Bovine Practitioners (WCABP) 27th Annual Conference
Calgary, AB | www.wcabp.com

25-27 Annual OVMA Conference and Trade Show
Toronto, ON | www.ovma.org/veterinarians/continuing-education/ovma-conference-trade-show

FEBRUARY

17 Intra-medullary Pins in Calgary
Calgary, AB | www.focusandflourish.com/intra-medullary-pins/veterinary-workshops-intra-medullary-pins-calgary

25-27 Congress on Controversies in Bovine Health, Industry & Economics (BovineC)
Tel Aviv, Israel | www.worldvet.org/events.php?item=192&view=item

28-MAR 4 Association of American Veterinary Medical Colleges Annual Conference
Washington, DC | aavmc.z2systems.com/np/clients/aavmc/event.jsp?event=78

MARCH

10-17 45th Annual Meeting of the Veterinary Orthopedic Society
Snowmass, CO | www.worldvet.org/events.php?item=179&view=item

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www.canadianveterinarians.net/documents/mental-health-support-resources



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