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

See Inside

For Members-Only

Tear Out Poster: Household Items That Can Poison Your Pets
Formulated to promote a URINARY ENVIRONMENT that reduces the risk of struvite and calcium oxalate crystals. A vital part of a pet’s DAILY HEALTH regimen—helps maintain healthy digestion, healthy weight and shiny coats.

SUPERIOR CLINICAL EFFICACY in reducing plaque and tartar buildup and the occurrence of gingivitis. Formulated to promote a URINARY ENVIRONMENT that reduces the risk of struvite and calcium oxalate crystals. A vital part of a pet’s DAILY HEALTH regimen—helps maintain healthy digestion, healthy weight and shiny coats.

Prescription Diet® t/d®
THE #1 DENTAL PET FOOD RECOMMENDED BY VETERINARIANS.
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, courage, 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.

Email: wcveditor@gmail.com
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 Saskatchewan, 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 highway 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 Meriel 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 practicing small animal medicine.

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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 bottle 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, see life from the ER, see how others practise, and meet some amazing people. I often laugh that I’d rather see suffering than CMAs to our fall conference in November, which was my favourite time of year. I have also just come off the bustle of the Western College of Veterinary Medicine (WCC) in Saskatoon. This is my favourite event of the year as I get to chat one on one with students and veterinary program. This is a devastating blow to the WCC. The future of this decision and wish to highlight our Chapter’s involvement 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 WCC mentor 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 WVCM for quota seats. They have decided to focus solely on the University of Calgary’s veterinary program. This is a devastating blow to the WVCM, as they have been partners with the AVMA and Alberta for many years. I am very saddened to hear of this decision and wish to highlight our Chapter’s support of WVCM. 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 WVCM. 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.

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

It is 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 (PCAAs). 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 PCAAs, the Veterinarians Act, and the CVBC Bylaws, but also by measured analysis or 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. PCAAs reports are not required where clients seek unnecessary cosmetic alterations. They may be informed that they are in the wrong jurisdiction for these 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 communities.

The authority to authorize and initiate prosecutions for animal abuse or cruelty rests solely with the Ministry of the Attorney General. Not all PCAAs 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 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. With-out 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 the 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 live 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.

Troy 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 College in Vermilion, AB, and became the Acting Director of the Animal Health Technology 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, most 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.
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.

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.

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

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**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOSTON FERN</strong></td>
<td>Nephrolepis exalta bostoniensis</td>
</tr>
<tr>
<td>HANGING BASKETS, HUMID AREAS,</td>
<td>FROST SENSITIVE, INDIRECT SUNLIGHT</td>
</tr>
<tr>
<td><strong>AFRICAN VIOLETS</strong></td>
<td>Saintpaulia spp</td>
</tr>
<tr>
<td>SMALL FLOWERPOTS, GROUND COVER,</td>
<td>BRIGHT LIGHT, BUT NOT DIRECT SUNLIGHT</td>
</tr>
<tr>
<td><strong>BAMBOO PALM</strong></td>
<td>Chamaedorea seifrizii (many spp listed)</td>
</tr>
<tr>
<td>Tree, Shady Spaces</td>
<td>(Miniature fishtail dwarf palm, parlour palm, good luck palm)</td>
</tr>
<tr>
<td><strong>CAST IRON PLANT</strong></td>
<td>Aspidistra elatior</td>
</tr>
<tr>
<td>Bush, Low to Moderate Light,</td>
<td>No Direct Sunlight</td>
</tr>
<tr>
<td><strong>GERBERA DAISY</strong></td>
<td>Gerbera jamesonii</td>
</tr>
<tr>
<td>Small Flowerpots, Ground Cover,</td>
<td>Not Too Sunny</td>
</tr>
<tr>
<td><strong>GOLDFISH PLANT</strong></td>
<td>Columnnea gloriosa</td>
</tr>
<tr>
<td>Bush, Bright Indirect Light</td>
<td></td>
</tr>
<tr>
<td><strong>BABY RUBBER PLANT</strong></td>
<td>Peperomia obtusifolia (American rubber plant)</td>
</tr>
<tr>
<td>Indirect Light to Shade</td>
<td></td>
</tr>
<tr>
<td><strong>ARECA PALM</strong></td>
<td>Dypsis lutescens</td>
</tr>
<tr>
<td>Slow-Growing Tree, Transpires</td>
<td>One Litre of Water Every 24 Hours, So An Effective Humidifier</td>
</tr>
<tr>
<td><strong>CHRISTMAS CACTUS</strong></td>
<td>Schlumbergera bridgesii (Easter cactus)</td>
</tr>
<tr>
<td>Great in Hanging Baskets and</td>
<td>Hard to Kill, Bright Indirect Light</td>
</tr>
<tr>
<td><strong>DWARF DATE PALM</strong></td>
<td>Phoenix roebelenii</td>
</tr>
<tr>
<td>Slow-Growing Tree, Partial</td>
<td>Shade to Full Sun</td>
</tr>
</tbody>
</table>

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

HORSES [www.aspca.org/pet-care/animal-poison-control/horse-plant-list](www.aspca.org/pet-care/animal-poison-control/horse-plant-list)
DOGS [www.aspca.org/pet-care/animal-poison-control/dogs-plant-list](www.aspca.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 practicing 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, 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.


Jane Pritchard, DVM, MVetSc, graduated from OVC in 1977, and completed a Masters in Anatomic Pathology at WCVM 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.

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

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Adele Jung (third-year, at left), Melissa Suki (second-year, at right) and Jenna Noordenbos (centre), and third-year Bassil (second-year, at right) have their hands full at the WCVM’s student-designed T-shirts for Orange Shirt Day.

Students Emily Zwamborn (third-year, at left) and Mila Liboiron (second-year, at left, holding Nina) are all smiles at the kiddie corral.

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. 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 imagers 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 education.

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 staff bringing our 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.

Collectively, these imageries demonstrate our shared interconnectedness with the natural world.
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.

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 Farm Animal Health and Welfare Council (NFAHWC) which will now do the arm-twisting to get action on the recommendations.

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

“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.”

D uring a recent health exam, a client who had just moved from Ontario remarked on how unac-
customed she was to the off-leash culture here in BC. Her sweet and shy little ter-
rier, dutifully walked on a leash every-
where and every time, was receiving a rather rude if enthusiastic welcome from the local canine population. I felt embar-
rassed, especially since this was the first time an Ontario transplant was having their dog taken on a wilderness trip and unleashed on a grizzly bear. He killed one after another with a swipe of his paw. Being in the wild did not suit his bravado is responsible for the deaths of two beautiful Boxers I knew, city dogs trained to run back to its humans, unintentionally bringing the pursuing bear with it. Thus, a wild animal that 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 roaming through their habitats are amphibiolls 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 bring back their natural prey2. Small predators’ natural prey are preyed upon by using a traditional breed of guardian dogs. Their presence deters predators’ natural prey2. Small predators’ natural prey are preyed upon by using a traditional breed of guardian dogs. Their presence deters other dogs, and many go without a proper education. All too often, pups get separated from their mothers way she felt that she was being watched and followed but heard and saw nothing, not even moving shadows. The day she saw fresh tracks of several wolves to each side of the trail. The ani-
mals had literally escorted her while remaining invisible. There was no sign that their dogs are part of nature, and that they instinctively know what to do in an encounter with other animals, let alone with an unknown predator. 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 suit his 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 suit his

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

BY MELISSA FREI, RVT

I
ce, a three-year-old Border Collie, was only one year old when she was hit by a car. Our practice owner Dr. McLean 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 were impaling her spinal cord and were 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, the following week, and then weekly. After the initial six treatments, Ice’s ataxia had resolved, and she was able to jump up onto the chairs and beds that she had been using. Ice continues to amaze us with her ability to heal and adjust to her body’s ongoing changes from her terrible accident.

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–50mW).
- 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. Coherence, monochromivity, and collimation are what give the Class 4 therapeutic lasers its deep tissue penetrating properties.

HOW LASER THERAPY WORKS
The photons delivered by the laser affect the cells in the tissues through photochemical effects. 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 immunomodulation, and it reduces fibrous tissue formation. The laser can be used on surgical incisions, acupuncture and trigger points in places 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 once seen a patient with a feline cutaneous abscess that did not respond to laser therapy. 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.

For 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 dead 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 photon energy capable of damaging ocular tissue.
- Tinted lenses: we do not treat tincted lenses 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.
- Mastectomy: we do not use laser therapy on 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. We suspected the cat might be bothered by some sort of irritation, and it developed into a lick granuloma. The owner decided to try laser 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 two weeks 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.
THE SUMMER WILDFIRES OF 2017

BY KATHRYN WELSMAN, DVM
“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 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 them out was a convoluted process. “Everything was on lock and load for the first two hours, then we stopped and thought about it,” he says. “We went and got the horses, and then we loaded 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 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 knew 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

“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 and rural roads 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 like of it. This is the beast known as the Elephant Hill wildfire, and this is the story of a few veterinarians who lived through this evacuation order was given. The highway from Ashcroft to Williams Lake and Pressy Lake areas. People had very little notice 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 “It 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 Cache Creek was 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

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 and rural roads 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 like of it. This is the beast known as the Elephant Hill wildfire, and this is the story of a few veterinarians who
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 was stocked for weeks on end, commanding a lot of attention. Dr. Jackson says there were the obvious respiratory cases trig- gered by the smoke, many of whom had underlying chronic conditions such as heaves. There were stress- and cir- cumstance-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 vac- cine status; and likely many of the horses had never left their properties prior to this evacuation and were very naive. 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 evacuation 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 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 operat- ing 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 homes. 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 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, “I would pet the dog the RCMP escort to the clinic on the way in, 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 evacua- tion, 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 freshet 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...
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 pheno-
omenon they’ve seen since the fires is that the number of rattlesnake bites has gone up. He suspects the rattle-

nakes 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 treating one dog twice, ten days apart, is 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 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 naive 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 was that well-mean-

ing individuals inadvertently caused problems. In one case, a Good Samari-
tan 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 beef 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 cases ended up to help, but that one company that responded 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 Collier) 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 God himself was evacuated, and he felt like he needed to do something, so he was able to provide this help. Further help came from Smith, an Alberta company that now loves acting and minimizing unnecessary stress. They provided it for free, and Dr. Gavaga said some of the burned hulks, like the one in the photo on pages 22 and 27, were on this drug, which no doubt helped immensely.

Dr. Hawkes said the SCPA 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 haul-


ing animals for people without trailers within hours of the first fires. It made long-acting drugs at their disposal so that less handling of the animals doesn’t work, so that means free 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 running tourism, or logging. It killed livestock 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—tied in a goat, two mints, a mule, and a dog. A truly small token, in comparison to the stories recounted here.

The Elephant Hill fire and its ugly stepbrothers around Williams Lake ragged 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 free 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. In all, it was a huge relief to have long-acting drugs at their disposal so that less handling of the animals didn’t mean a five-trip nightmare. Fitting 20 horses into a four-horse trailer doesn’t work, so that means free 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.

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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.
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.
“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!

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!
I also wonder how I will adjust to the lack of structure and intellectual stimulation that lies ahead in the coming year.

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 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.

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 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 ‘hooking’ 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 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 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 those 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.

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.

I have certainly developed a whole new level of empathy for patients with gastrointestinal disorders who experience nausea and vomiting.

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b

ACCOMMODATING THE PREGNANT VETERINARIAN

BY KOHARIK ARMAN, DVM

PHOTOS COURTESY OF KOHARIK ARMAN

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

VISIT WCV.COM pages 27, 28, 29 for more information.

SOMETHING 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.”

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• 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 this wound 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 room 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, or 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 combated 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 hair clipper, was simply unbearable until the day one of my wonderful technician 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. **B**

**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 cannabis (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 (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/dhp-msp/bpfb/ dpsga/edtv-dmv-eng.php. Further 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.

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 administrators does not permit access to medical marijuana for animals.

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**CONGRATULATIONS**

James Edward Berning, born November 2, 2017 to parents Kobarik Arman and Nolan Berning.
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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=208&view=item

28–MAR 4 Association of American Veterinary Medical Colleges Annual Conference
Washington, DC | aavmc.z2systems.com/rp/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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Phone line is available 24/7 to all British Columbia veterinarians:

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