

# WEST COAST VETERINARIAN

MARCH 2019 | Nº 34

WHAT  
*dreams*  
MAY COME  
WORKING WITH THE  
CANADIAN ANIMAL  
ASSISTANCE TEAM

**OPHTHALMIC EXAMINATION  
OF THE SENIOR PATIENT**

**EXAM-ROOM CANNABIS CONVERSATIONS**

**COGNITIVE AGING IN DOGS**

**HIP DYSPLASIA:  
CAUSES AND TREATMENT**

**SPRING  
SUNDAY CE  
SESSIONS**

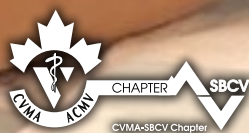
APRIL 28 **SURREY**

MAY 5 **VICTORIA**

MAY 26 **KELOWNA**

JUNE 2 **CRANBROOK**

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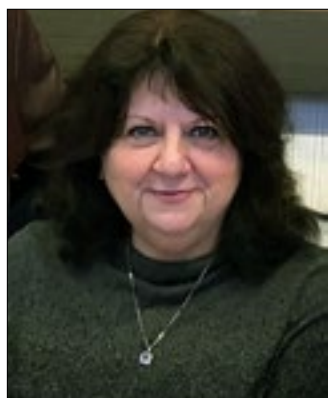


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COREY VAN'T HAAFF  
EDITOR

» TO THE EDITOR

Letters from members are welcome. They may be edited for length and clarity. Email us at [wcveditor@gmail.com](mailto:wcveditor@gmail.com).

» ON THE COVER

A member of the local RCMP came by a CAAT event to lend a hand. Photo courtesy of Chris Robinson.

**S**pring is not my favourite time of year, although it comes a close second. I love the crisp, cool days dappled with rays of sunshine. But mostly, I love the anticipation of change. For me, spring is a time when we are all a bit more comfortable trying new things and we contemplate a spring cleaning not just of our homes, but of our habits and sticky ruts. It is a time when dreams can come true.

So reading Dr. Nicole Jamieson's personal and lovely story on her work in Lax Kw'alaams with the Canadian Animal Assistance Team and how it represented a dream come true for her resonated with me. I'm quite sure it was also a dream come true of sorts for the animals who needed her attention and care, and the guardians of those animals who welcomed her so warmly.

In the spirit of this rebirth, your CVMA-SBCV Chapter is embarking on some things that are new and exciting, yet scary at the same time, either because of their newness or the volume of work involved.

We are working with a consultant to provide support for our belief that BC needs more veterinarians, as we want to take an extra 20 seats at WCVM, BC's regional college, to train new veterinarians, who hopefully will return to BC to work. We are offering our first wet lab in conjunction with the CVMA-SBCV Chapter Fall Conference and Trade Show in November. And we are working on a revised Print Directory of BC Veterinarians, updating entries in June, July, and August for publication in September.

As we welcome spring, I hope you will each take a bit of time to dream, and my wish is for those dreams to come true. [WCV](https://www.wcvet.com)

Email: [wcveditor@gmail.com](mailto:wcveditor@gmail.com)

VETERINARY PUBLIC HEALTH UPDATE—NEW COLUMN NEXT ISSUE

BC veterinarians are at the frontline of the intersection between animal and human health and play a critical role in detecting, controlling, and communicating about veterinary public health challenges and findings. This new column will provide up-to-date information on scientific evidence, programs, policies, and best practices on veterinary public issues that affect BC veterinarians. We look forward to welcoming the co-authors of this column: the public veterinarian at the BC Centre for Disease Control, Dr. Erin Fraser, and the public veterinarian at the Livestock Health Management and Regulatory Unit at the Ministry of Agriculture, Dr. Brian Radke.

We know how hard it can be to find a locum. To make it easier, we are publishing a list of BC locum veterinarians here in *West Coast Veterinarian*. Inclusion in this list is a no-cost enhancement of the paid classified ads for locums available.

Please contact any of the locum veterinarians listed below, or search the classified ads for the most up-to-date list of available locums here: [www.canadianveterinarians.net/sbcv/classified-ads.aspx](http://www.canadianveterinarians.net/sbcv/classified-ads.aspx).

This is one more way we are helping our members.

**DR. JODIE WILSON**  
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**DR. MICHAEL ORSER**  
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[alouette.pets@shaw.ca](mailto:alouette.pets@shaw.ca)

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**SARA DUBOIS, PhD, RPBio**, is Chief Scientific Officer for the BCSPCA, where she directs province-wide welfare science operations, policy, and advocacy projects. She leads teams of experts in farm, wild, and companion animal welfare and policy to provide evidence-based solutions to help improve the lives of all animals in BC. She holds a BSc from the University of Victoria and an MSc and PhD from the University of British Columbia. Dr. Dubois is also a Registered Professional Biologist and the president of the board of the Animals in Science Policy Institute. In her role as adjunct professor in the UBC Animal Welfare Program, she offers an applied biology practicum course for undergraduate and graduate students to get hands-on experience with animals.



**MARNIE FORD, PhD, DVM, Dipl. ACVO**, graduated from the Ontario Veterinary College in 2000 after completing a Bachelors in Zoology at the University of British Columbia and a PhD in Physiology at Monash University in Australia. Her research interests have focused primarily on retinal function and toxicological retinal degeneration. In 2004, she moved back to Vancouver and opened West Coast Veterinary Eye Specialists. In 2013, she left WCVES and opened a mobile practice.



**NICOLE JAMIESON, BSc, DVM**, graduated from the University of Northern British Columbia with a BSc in wildlife biology before going on to obtain her DVM from WCV. She is a member of the Tsimshian Nation Lax Kw'alaams Band. After leaving her hometown of Prince Rupert, BC, in 1998 to attend university, she has returned there as associate veterinarian and acting medical director of Pacific Coast Veterinary Hospital. She is a participant in the School District 52 Aboriginal Role Model Program and the First Nations Education Steering Committee Role Model Program. In her spare time, she enjoys hunting, fishing, and hiking.



**MICHAEL KING, BVSc, MSc, Dipl. ACVS**, graduated from Massey University Veterinary College in 2000. After an internship in his hometown of Auckland, New Zealand, he then completed a residency in small animal surgery at Virginia Tech in the United States, becoming a Diplomate of the ACVS in 2007. After 18 months in London, England, he returned again to Auckland to work in New Zealand's



largest private referral practice. In October 2011, Michael took a position as a surgeon at Canada West Veterinary Specialists, in Vancouver, BC.

**CHRIS ROBINSON, RVT**, is the Executive Director of the Canadian Animal Assistance Team (CAAT) and has been a registered veterinary technician for over 33 years. She has worked in both the large and small animal fields, and for the past 25 years has been one of the RVTs as well as the manager of the Pioneer Pet Hospital in Kitchener, Ontario. Chris started her volunteer career in the Gulf Coast in 2005, helping with the enormous animal disaster relief effort after Hurricane Katrina. In 2009, Chris was appointed executive director of the CAAT. She continues to travel with the team and act as the project coordinator for spay/neuter clinics in remote and underserved communities. Chris has received the Ontario Veterinary Medical Association Award of Merit as well as the Award of Merit of the Ontario Association of Veterinary Technicians for her contribution to the veterinary profession as well as her work in animal welfare.



**ZAZIE TODD, PhD**, has a PhD in Psychology, Certificate in Training and Counseling (with honours) from the Academy for Dog Trainers, and a Certificate in Feline Behaviour (distinction) from International Cat Care. She is the creator of *Companion Animal Psychology*, a science blog about how to have happy cats and dogs, and the owner-operator of Blue Mountain Animal Behaviour. Her book, *Wag: The Science of Making Your Dog Happy* will be published by Greystone Books in February 2020.



**DANIEL WEARY, DPhil**, is a professor and NSERC Industrial Research Chair at UBC. He studied biology at McGill and Oxford, and went on to co-found UBC's Animal Welfare Program where he still works and co-directs this active research group. He was recently awarded UBC's Killam Research Prize.



**KATHRYN WELSMAN, DVM**, graduated from OVC in 2007 and practised emergency medicine in Langley for several years prior to moving to the interior and working as a companion animal practitioner. She spent many years as a board member for the Langley Animal Protection Society and as an investigator for the CVBC, and she volunteers with the RCMP police dogs.

# WCV

MARCH 2019

WEST COAST VETERINARIAN  
ISSUE 34

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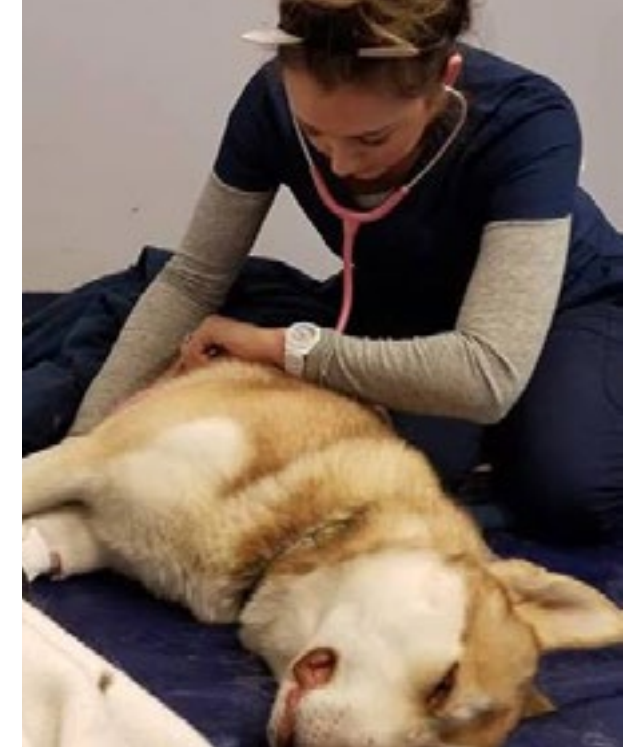
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WORKING WITH THE  
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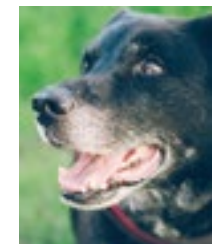
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## THE CHANGING PERSPECTIVE ON PROVIDING AFTER-HOURS EMERGENCY SERVICES IN VETERINARY MEDICINE

BY JUDITH HILGER, DVM

*Judith Hilger graduated from the WCVM in 2003. She practised small animal medicine in Calgary and Kelowna before moving to the Comox Valley in 2012. Currently, she is part owner of a busy small animal practice and is involved both in practising medicine and dealing with management concerns.*

# MY VIEW

Occasionally veterinarians contact us to explore topics that have a wide reach. In this issue, Dr. Judith Hilger talks about on-call sharing.

**L**ast year, changes in our on-call group (made up of a number of private practitioners), which provided shared after-hours emergency services for our clients, brought new perspectives on lifestyle issues to our attention. In the not-so-distant past, virtually all veterinarians felt obliged to provide after-hours, weekend, and holiday emergency services to their clients. This was done either by the individual practice providing the service itself or by sharing with other local veterinary practices. Occasionally, when an emergency facility was close by, practices referred their emergencies there.

Quality of life has become more important to the current practicing population of veterinarians, and solutions are being sought to decrease the load of after-hours emergency service. In rural areas, veterinarians cannot be expected to be the sole practitioner and on call 24/7. The veterinary profession has already a high rate of burnout and a climbing suicide rate. Expecting that rural and sole practitioners will always have to provide after-hours emergency services would also drastically decrease the interest of the next generation of veterinarians in living and working in more remote areas.

So what about non-rural practices situated in a geographical area without an emergency facility nearby? A dilemma and a lot of questions present themselves to those practitioners who want to improve their quality of life without leaving their patients lacking after-hours care. We have to ask ourselves whether it is right to refuse to provide after-hours care to clients and send them to an emergency hospital that may involve a drive of an hour or more, possibly driving in the dark and during marginal road conditions. There will be a lot of questions the veterinary profession should ask itself:

What if the emergency involves a severe toxicity, a critical cardiac patient, or a GDV?

How will those veterinarians who are still providing after-hours services respond? Should they be morally obliged to see other veterinarians' critical emergencies? How much extra strain is put on these veterinarians?

How does it affect the relationships between practitioners continuing to provide after-hours service and those who do not?

How will the public perception of the veterinary profession change once they find out that their veterinarian does not provide emergency services for their pets anymore (especially when this is happening in an area where multiple practices are located)?

There are no easy answers to all of those questions. Generally, veterinarians have enjoyed a high regard among the public. This may be waning when people realize that more and more practitioners do not want to provide after-hours service anymore, despite the non-existence of a local emergency hospital and despite having enough veterinarians present to provide after-hours care without undue hardship for individual practitioners.

The CVBC bylaws lay out guidelines for the veterinary professional regarding availability and after-hours care (see sidebar).

Other legal considerations bearing on this issue, including Charter rights and human rights legislation, may affect the regulator's ability to influence hours of practice.

As a profession that is dealing with a constant demand of trying to balance quality of life for practitioners with adequate care for patients, the situations facing individual practices will differ significantly from one geographical area to another. One solution will certainly not fit all scenarios, but we should keep in mind that pets are considered family to many people now. For our human family members and ourselves, we expect to have access to emergency medical care locally. In situations where enough veterinarians are present and no nearby emergency hospitals are available, we must ask ourselves whether we can morally and ethically refuse after-hours care to our patients. [WCV](#)

**“IN RURAL AREAS, VETERINARIANS CANNOT BE EXPECTED TO BE THE SOLE PRACTITIONER AND ON CALL 24/7.”**

### AVAILABILITY

214. A registrant must provide information to clients which, regardless as to how that information is conveyed, clearly states

- (a) the regular hours that the registrant is available or the facility is open to provide veterinary services to patients, and
- (b) whether the facility provides after hours or emergency care beyond regular hours.

### AFTER HOURS CARE

215(1) If a facility does not regularly or cannot temporarily provide emergency care beyond regular hours, the facility must provide information to clients whose animals may be in need of emergency veterinary services after hours which, regardless as to how that information is conveyed, clearly

- (a) states that the facility is closed and when it will reopen, and
- (b) directs clients whose animals are in need of emergency care after hours to contact other facilities without specifically naming another facility.

(2) If, instead of directing clients generally to other registrants or facilities as required under subsection (1)(b), the facility instead recommends that clients contact another specifically named registrant or facility that will provide the emergency veterinary services during after hours for the facility's clients, that registrant must ensure in advance that

- (a) the named receiving facility is willing and able to provide emergency veterinary services to the referring facility's patients during after hours,
- (b) both parties have reached an emergency care after hours agreement which documents those arrangements, and
- (c) the name, address, phone number and other contact information for the receiving facility is included in the information for clients.

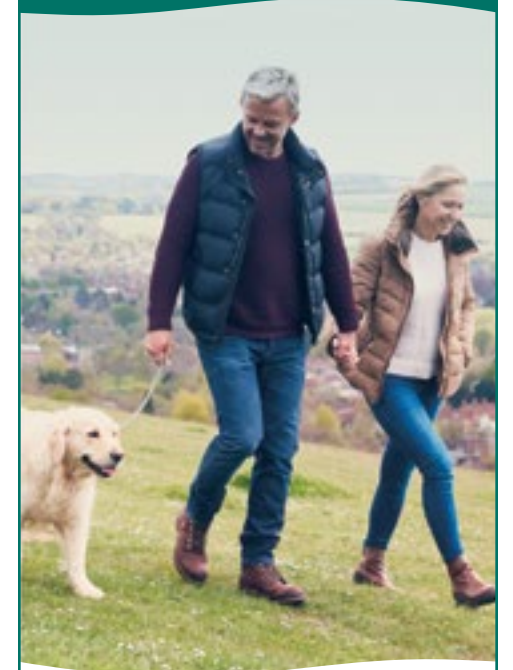
(3) Despite subsections (1) and (2), if it is reasonably likely that a patient the registrant has recently treated or treats regularly will need to receive veterinary services after hours, a registrant must do one or more of the following:

- (a) provide necessary veterinary services in a reasonably prompt fashion to that patient during after hours;
- (b) make appropriate arrangements for the provision of follow-up veterinary services for that patient by another receiving facility who has agreed in advance to cover the referring registrant's practice, and so inform the affected client of that arrangement;
- (c) ensure the client has consented to the fact that no specific arrangements have been made for after-hours care by another facility, and ensure the registrant has provided reasonable guidance to assist that client to obtain care or veterinary advice from other sources.
- (d) if after hours monitoring is not provided, the client must be informed and given the opportunity to transfer the pet to another facility or to take the pet home.

**“WE MUST ASK OURSELVES WHETHER WE CAN MORALLY AND ETHICALLY REFUSE AFTER-HOURS CARE TO OUR PATIENTS.”**

PHOTO PROVIDED BY DR. JUDITH HILGER

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**A**fter three years of serving under the talented Dr. Sarah Armstrong, I am privileged to assume the role she has performed so spectacularly. Sarah is a vibrant young veterinarian with ideas and energy that an old guy like me envies! I hope to be able to keep up with her pace and vitality. Thanks so much for your leadership, Sarah, and I know you will be there for support when I inevitably need it.

I have been involved with the SBCV since its embryonic days and enjoyed watching its growth from nothing but an idea to its current status. The amazing people on our board of directors have guided this growth to the point where we now have an office and two staff members who work diligently on your behalf. This doesn't sound like much, but your SBCV Chapter does a lot: we have the best association magazine in the country, provide excellent CE, work within the CVMA to offer advice and recommendations to British Columbia practitioners, liaise with the CVBC to help our members with regulatory issues, respond to the public on issues related to animals, and respond to government requests for assistance. Can we do even more? Just wait and see!

As we all know, there is a shortage of veterinarians in our province. Despite the growth in our population, there has been no increase in the number of students graduated from our regional college, the Western College of Veterinary Medicine (WCV). We have an opportunity to start addressing this problem: with Alberta dropping out of funding WCV as of September 2020, BC could take on another 20 seats to double the number of BC students. We have had two very successful meetings with the Ministry of Agriculture and the Ministry of Advanced Education, Skills, and Training, and we will be working toward convincing the Treasury Board of the value of this potential increase to the citizens of our province.

The Chapter's Animal Welfare Committee has been very active in the last year and has guided our responses to a variety of questions and issues. This committee has members from all facets of our profession: private practice, academia, government, and animal welfare. They have

been asked to research and advise on the proposed Act governing the breeding and sale of dogs, the BCSPCA proposal to accredit dog trainers, and the CVMA policy statements on animal welfare. Often, they are not given much time, but they still give the board excellent responses. We have also negotiated an ex-officio seat on the CVMA's national animal welfare committee, which improves access to national and international issues and information.

We have an exciting future and tremendous, dedicated people working to keep our profession healthy, happy, and well respected. We hope to continue to improve our services to you, the members. Please let us know how we are doing. You can contact our executive director (and magazine editor) Corey Van't Haaff, me, or any of the board of directors with feedback. Please also consider volunteering; as we grow, more committees will be needed to help share the workload and make positive changes to our profession. **WCV**



*Al Longair, BSc, DVM, graduated from the Western College of Veterinary Medicine in 1977. After graduation, he joined a mixed animal practice in Duncan, focusing on small animal practice from 1981 on. He has been involved with the BCSPCA for over 20 years, serving as the president of his local branch for 12 years and on the provincial management committee for 10 years, with four years as president. In the early 1990s, he served as chair of the CVMA Animal Welfare Committee. He lives on a small acreage with his wife, four horses, and four dogs, and coaches youth soccer in his spare time.*

**A**s your CVMA president, it is my pleasure to provide you with an update on some of the CVMA's recent and ongoing initiatives.

The CVMA released a 30-second video as part of its national membership recruitment and engagement campaign: [www.canadianveterinarians.net/members](http://www.canadianveterinarians.net/members) or the CVMA YouTube channel.

The 2019 WSAVA/CVMA Joint Congress will take place July 16 to 19, 2019, in Toronto with 10 CE tracks per day ([www.wsava2019.com/scientific-program](http://www.wsava2019.com/scientific-program)). CVMA Signature events include the Global Summit, Global Forum, Emerging Leaders Program, AGM, and Awards Ceremony. Early bird savings end April 10, 2019. Register at [www.wsava2019.com/registration](http://www.wsava2019.com/registration).

In October 2018, the Minister of Justice and Attorney General of Canada introduced legislation to update the Criminal Code to strengthen animal protection by broadening the scope of the bestiality and animal fighting offences. In December 2017, the CVMA and 11 stakeholder groups had submitted a letter to the minister calling for the Criminal Code review and update to address these shortcomings.

The CVMA participated in the Federation of Veterinarians of Europe (FVE) and American Veterinary Medical Association (AVMA) Joint Meeting during the Federation of Veterinarians of Europe General Assembly, which took place in November 2018 in Rome, Italy. In 2015, the CVMA signed a collaboration agreement with the FVE and the AVMA to aid in international discussions and negotiations. The CVMA, AVMA, and FVE are three of the leading veterinary professional organizations in the Western world, representing over 330,000 veterinarians in all disciplines.

The 2018 Guidelines for Veterinary Antimicrobial Use online platform was rolled out in December. The existing 2008 CVMA Antimicrobial Prudent Use Guidelines have been expanded to include small ruminants and companion animals. Additional fields include brand trade names and labelled vs. extra-label use. The electronic format, available at [www.canadianveterinarians.net/AMU-UAM](http://www.canadianveterinarians.net/AMU-UAM), allows: frequent updating and addition of new resources; access via a variety of devices; and filtering for quicker information access via a searchable interface. The tool is available through the existing CVMA website. Members can access all content, and non-members have trial access until April 1.

The Emerging Leaders Program workshop will be held at the WSAVA/CVMA joint congress in Toronto on July 16 and 17. Sponsored by Virox Animal Health, this highly interactive workshop helps veterinarians, RVTs, and veterinary leaders and managers identify and develop leadership skills. Sponsorship is open to DVM CVMA members who graduated in 2008 or later. Sponsorship includes travel to and from Toronto, two nights' accommodation at the Intercontinental Hotel, an eight-hour workshop with Dr. Rick DeBowes,

and complimentary 2019 congress registration (value \$1,300). For more information, see the CVMA website ([www.canadianveterinarians.net/science-knowledge/emerging-leaders-program](http://www.canadianveterinarians.net/science-knowledge/emerging-leaders-program)). Email Sarah Cunningham ([scunningham@cvma-acmv.org](mailto:scunningham@cvma-acmv.org)) by March 1 to apply.

The CVMA created the Career and Business Toolkit section of the website to provide easy access to pertinent online resources and information (Financial and Practice Management, Human Resources, and Communications and Marketing). Links to free CE courses, articles, tools, calculators, services, guides, blogs, and advice are available at [www.canadianveterinarians.net/toolkit](http://www.canadianveterinarians.net/toolkit).

The CVMA teamed up with the OVMA and industry partners (IDEXX, Petsecure Pet Health Insurance, Merck Animal Health, and Scotiabank) to report on associate veterinarian compensation and benefits across Canada. This information can be used to compare hours worked, incomes, and benefits across the province and country. Visit the Business Management section of our website, under Practice & Economics.

Health Canada and the CFIA have created a collection of feed prescription writing tools. Visit the Veterinary Oversight of Antimicrobial Use in Animals in Canada section of our website under [www.canadianveterinarians.net/policy-advocacy/veterinary-oversight-of-antimicrobial-use-in-canada](http://www.canadianveterinarians.net/policy-advocacy/veterinary-oversight-of-antimicrobial-use-in-canada) to download these various documents.

Contact the CVMA or consult the Member Benefits & Services section of the website for more about these and other exclusive member benefits: Clinician's Brief subscription and Plumb's Veterinary Drugs discount; discounted management resources from HRdownloads; preferred rates on payment processing from Moneris; and the CVMA Petcard program. **WCV**



*Terri Chotowetz, DVM, graduated from the Western College of Veterinary Medicine in 1990. She was elected to the SVMA in 2009, served as president from 2011 to 2012, and became the Saskatchewan representative on the CVMA Council in 2013. While on Council, she has served as the liaison for the Animal Welfare Committee and the Canadian Veterinary Reserve, and is the CVMA representative on the Western College of Veterinary Medicine Advisory Council. She lives outside Saskatoon with her husband and family and four very spoiled dogs and a cat.*

## RIGHT NOW THERE ARE DOZENS OF CLASSIFIED ADS FOR JOB POSTINGS AT

[www.canadianveterinarians.net/SBCV/classified-ads.aspx](http://www.canadianveterinarians.net/SBCV/classified-ads.aspx)

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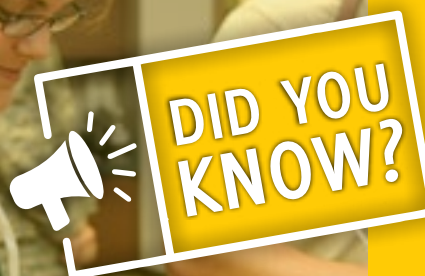
**AN RVT WANTING TO CHANGE JOBS?**

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The CVMA-SBCV Chapter has its very own made-in-BC solution for veterinarians, locums, RVTs and AHTs, office staff, and more. It's free to look and apply, and **revenue from the Chapter's classified ad pages stays in BC to support our work here.**

Simply visit our BC classified ads at [www.canadianveterinarians.net/SBCV/classified-ad-form](http://www.canadianveterinarians.net/SBCV/classified-ad-form).

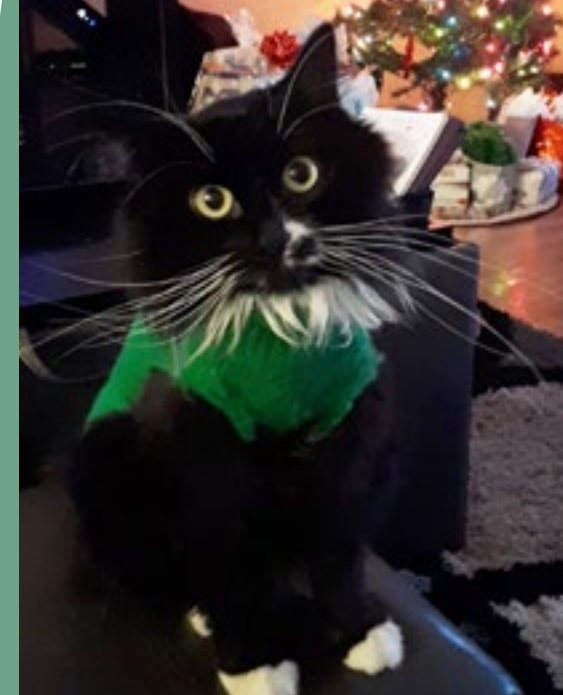
This is just one more way the CVMA-SBCV Chapter helps its BC members.



“A CAREFUL EAR CAN HEAR TINY MEWS COMING FROM A CORRIDOR FRAGRANCED BY A SLIGHT CHLORHEXIDINE SCRUB AROMA.”



**A TEAM EFFORT:** Third-year BC students Jenelle (right) and Amanda (left) with classmate Morgan (centre) after successfully performing a cat spay.



Thanks to CatSnip, Roman found her forever home. Veterinary student Caitlin adopted her after volunteering at the spay clinic.

Third-year veterinary student Alex Focken has been actively involved with the CatSnip program since the start of her veterinary school career, closely paralleling the launch of the program itself. Her dedication has been formally recognized by her classmates, who nominated her for the students' society volunteer award presented this past fall. Alex's enthusiasm continues to inspire her fellow students to sign up for future CatSnip clinics. Her belief in the positive impact of the program's student initiative speaks for itself: "CatSnip provides many students with the opportunity to use their veterinary education for the first time to make a real difference in the community. It allows us to apply our fresh knowledge to real cases, learn valuable hands-on skills, and build meaningful relationships in the community. Personally, there is nothing more rewarding than using those long hours spent learning to help owners and their pets. CatSnip serves as a healthy reminder of what brought me to veterinary school in the first place, and I feel incredibly fortunate to be a part of it."

.... All the people involved in the CatSnip program have been absolutely amazing, even arranging cages for transport and being prepared to work on feral cats that we have managed to trap. These people go above and beyond, and we are eternally grateful for all the help and care they give to us and the animals."

Students from all years at WCVM are a part of the success. Under the guidance of supervising clinicians, the CatSnip clinics are valuable learning experiences that foster confidence. WCVM faculty, staff, students, and local Saskatoon veterinary professionals all participate as volunteers, giving up their Friday evenings and Saturdays to give back. Volunteer veterinarians and technicians from outside the college each bring their own clinical experience, offering students the benefit of mentorship from a slightly new perspective.

First- and second-year students are heavily involved in the Friday night patient intake and workup. These may be some of their first professional encounters with clients when taking a history. It is an important opportunity to develop communication skills while fulfilling the educational efforts of the CatSnip program; students help guide pet owners through aspects of preventative medicine and provide veterinary resources for future reference. Once the patients are admitted, students perform physical exams where they can get hands-on practice with their systematic approach and palpation skills. Then, they proceed to the CatSnip workup: all patients have pre-anesthetic blood work run, are tested for FeLV/FIV, and are vaccinated (unless they are already up to date).

Saturday is surgery day. Supervising surgeons oversee the gowned and gloved teams of third- and fourth-year veterinary students who are the supporting and lead surgeons, respectively. Additional third-year students are paired with anesthetists to practice decision-making and adapting the anesthetic protocol as necessary.

Their skill development begins before induction and continues past extubation, serving as a complete and valuable practical experience. Post-operatively, the first- and second-year students are cage-side during patient recovery with veterinary technician students from Saskatchewan Polytechnic. The technician students are mentored by the efficient team of registered veterinary technicians before, during, and after surgery in surgical preparation, anesthetic monitoring, and pain assessment during recovery.

Faculty leaders of the CatSnip program are proud of the strong student involvement, which extends from hands-on participation to scheduling volunteers and assisting with fundraising. Students from the University of Saskatchewan's Pre-Vet Club have recently been invited as general volunteers, lending an extra set of hands while gaining an introduction to our teaching environment. The hope is that they will continue to participate after gaining admission to the DVM program, helping CatSnip to continue as the upper-year students involved in the inaugural clinics are now in their final years at WCVM. Through partnership with the Saskatoon charity Street Cat Rescue (better known as SCAT), the CatSnip program has even helped find homes for some of their adoptable kittens, who can now be found curled up on the couch of a veterinary student, of course. [WCV](#)

# SPAYING IT FORWARD

BY CHLOE GUSTAVSON, BSc

**F**our Saturday mornings per year, the Western College of Veterinary Medicine (WCVM) is much busier than one might expect. Students in surgical greens and lab coats bustle between the small animal treatment area and the surgery lab. A careful ear can hear tiny meows coming from a corridor fragrancd by a slight chlorhexidine scrub aroma. The day's feline patients were admitted the night before; histories were taken, physical exams performed, and blood work run, all in preparation for WCVM's low-cost spay and neuter clinic, CatSnip.

Since the first clinic over two years ago, CatSnip continues to grow as a weekend event hosted at our college. Running two clinics in each of the fall and spring semesters, nearly 300 cats have been spayed or neutered to date. The program estimates that nearly 1,800 births per year are prevented by the spays CatSnip has performed—more when considering the neutered males as well. The overarching goal is to address cat overpopulation around Saskatoon and on nearby farms by providing veterinary services to clients who might not otherwise have access to them.

One such client shared what the program has meant to their family: "With all the animal neglect and cruelty to animals, we always seem to end up with the 'throw-aways.' When we moved onto our property, there were six feral cats that bred and added to the problem. We had people dropping off cats they did not want, and pretty soon we had over 30 cats. I had no idea how we were going to get the cat population under control. We had started taming a couple and having them spayed or neutered, but this was a very expensive endeavor. Then a miracle happened, and we met the CatSnip program and our world got so much better .... It has

“THEN A MIRACLE HAPPENED, AND WE MET THE CATSNIP PROGRAM AND OUR WORLD GOT SO MUCH BETTER.”

brought our breeding population down considerably, and the cats we have can be taken care of and will not have to suffer because of the cold and not having food

PHOTOS COURTESY OF CHLOE GUSTAVSON



Chloe Gustavson, BSc, obtained her BSc from the University of Victoria prior to coming to WCVM. She calls Vancouver's North Shore home, where she most enjoys spending time near the ocean with her dog, Leo. Upon graduation she plans to return to BC to work in small animal practice.



Sam is an 18-year-old cat who lives at the Okanagan Veterinary Hospital.

# OPHTHALMIC EXAMINATION OF THE SENIOR PATIENT

BY MARNIE FORD, PhD, DVM, Dipl. ACVO

West Coast Veterinarian is pleased to continue with part four of our new column. Each four-part column is written by one veterinary specialist about one topic that has four distinct life phases. The articles will appear over the course of one year, highlighting the topic and what veterinarians should know about the topic and the life stages of animals. This article concludes Dr. Marnie Ford's ophthalmic series. The next issue will present the work of Dr. Geoff Hutchinson writing about lameness.

As veterinary medicine advances, our patients are living longer to present with more age-related problems. It is important to distinguish normal age-related changes from abnormal changes. Ophthalmic examination of the senior patient requires a slow approach that allows for sore joints and weakened muscles by providing frequent position changes and slip-free surfaces. Senior cats may benefit from the security of being gently wrapped in a towel for easier manipulation.

Ophthalmic changes noted in senior patients most commonly affect the anterior segment, lens, and adnexal structures. Lenses are made up of layers of clear fibres arranged somewhat like an onion. Over time, new lens layers compress (sclerose) pre-existing layers. Lenticular sclerosis is sometimes referred to as "senile cataract," a misleading term as a true cataract is an opacity within the lens capsule that obstructs vision. Lenticular sclerosis, a normal part of aging, reduces near vision and focusing, and increases the need for light. Many older dogs find dusk the most challenging time to navigate their environments. At this time of day, they may trip more often or hesitate on stairs. Confirmation of sclerosis versus cataract is made if the fundus can be viewed through all parts of the lens. After dilating the pupil with a short-acting mydriatic such as tropicamide, transillumination of the sclerotic lens will show two concentric circles, the inner, older nucleus being denser (photo 1, open arrowhead) than the outer, younger and less compact cortical fibres (photo 1, arrow). The older dog with sclerosis may also develop

**"OPHTHALMIC EXAMINATION OF THE SENIOR PATIENT REQUIRES A SLOW APPROACH THAT ALLOWS FOR SORE JOINTS AND WEAKENED MUSCLES BY PROVIDING FREQUENT POSITION CHANGES AND SLIP-FREE SURFACES."**

concomitant cataracts. Thorough ophthalmoscopic examination of the fundus is essential when cataracts begin to appear to determine whether or not the animal will be a candidate for cataract surgery. Lenticular sclerosis does not progress to blindness.

Iris atrophy (photo 1, triangles) is progressive thinning of the pupillary margin or iris stroma to result in scalloping of the pupillary margin or a lacy appearance of the iris body.

Iris atrophy also commonly results in weakening of the iris sphincter muscles and results in pupil dilation. Iris atrophy may not be symmetric between the two eyes, and anisocoria is commonly diagnosed. Anisocoria from naturally occurring sphincter muscle atrophy needs to be differentiated from pathological abnormalities such as glaucoma, Horner's syndrome, uveitis, pharmacosis (medically induced changes such as mydriasis secondary to atropine/marijuana/certain plants etc. use), and cranial nerve abnormalities.

While not vision threatening, iris atrophy causes increased light sensitivity and squinting secondary to overwhelming brightness on sunny days.

Meibomian gland adenomas (photo 1, @) or eyelid masses (photo 1, #) are most frequently noted in the older canine patient. These masses are very frequently benign and often pedunculated, and they tend to bleed easily. The masses can spontaneously fall off and regrow, or they can cause eyelid swelling. Removal of these masses by a simple wedge resection is recommended before their growth exceeds 25 per cent of the eyelid margin length, if corneal irritation is noted, or if they bleed

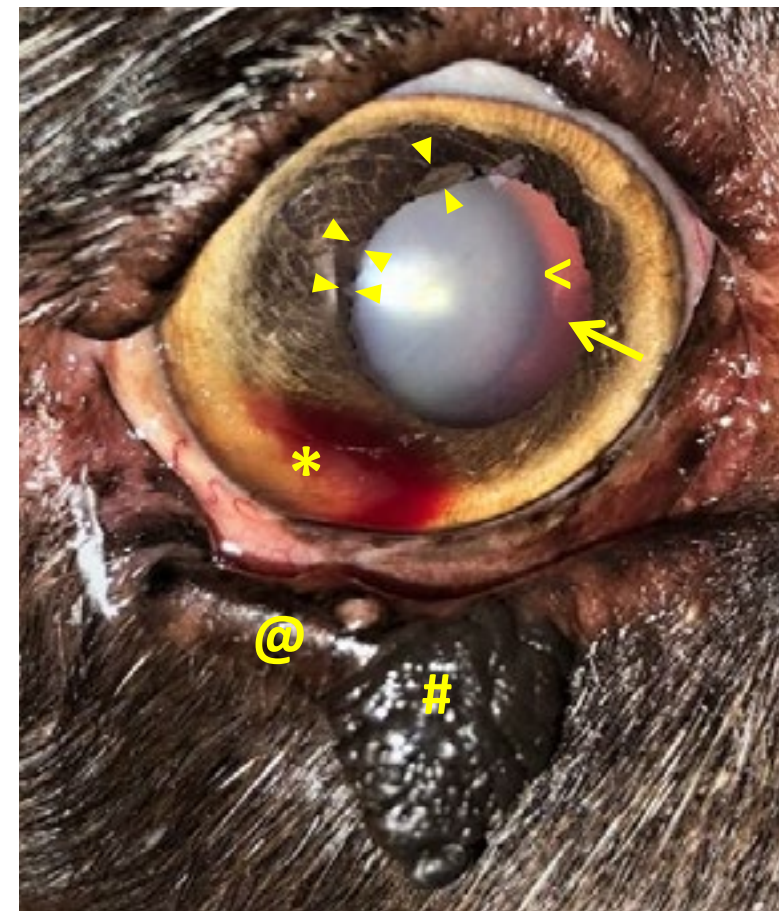


PHOTO 1 Age-related changes to the eye. Iris atrophy (triangles (▲)), lenticular sclerosis of the nucleus (open arrowhead (<)) and less dense cortex (arrow (▼)), stromal hemorrhage (asterisk (\*)), eyelid mass (hash mark (#)), and meibomian gland adenoma (@).



PHOTO 2 Endothelial degeneration. Notice the subtle honeycomb appearance (arrow).



PHOTO 3 Inferior eyelid entropion in an older cat with weight loss.

**"LIKE LOOKING THROUGH FROSTED GLASS, THE PRESENCE OF DENSE CORNEAL EDEMA WILL IMPACT VISION."**

repeatedly. Removal is complicated when growth exceeds 25 per cent of the eyelid margin length.

The cornea is normally dehydrated to maintain clarity via perfect organization of the clear corneal collagen fibres and is under continuous osmotic threat of hydration by the aqueous humour and tear film. Endothelial cells (adjacent to the aqueous humour) function to biochemically pump fluid out of the normally dehydrated corneal stroma. Endothelial cell degeneration can result from normal progressive attrition, trauma, or inflammation. It increases corneal greying to produce a distinct "honeycomb" appearance (photo 2). Lost endothelial cells are not replaced. An inherited variant of endothelial degeneration can also occur in younger dogs. Following endothelial cell loss, neighbouring cells spread out to fill the gap and create additional pumps; however, sufficient cell loss results in corneal edema, bullae formation (bullous keratopathy), and recurrent ulceration that can be difficult to reverse. While cellular degeneration cannot be halted medically, the amount of fluid accumulating within the cornea may be slowed with the consistent application of topical 5 per cent hypertonic saline solution or ointment. With consistent use, partial clearing of the cornea may be noted. Like looking through frosted glass, the presence of dense corneal edema will impact vision. Corneal edema associated with endothelial degeneration must be differentiated from corneal edema caused by glaucoma or uveitis. With age, the clear corneal laminations may dry out—like a stack of old paper. Pre-existing blood vessels present in the cornea can leak, causing a tiny amount of blood to fan out

between the dried laminations of cornea (photo 1, \*). This is called stromal hemorrhage. While sometimes dramatic in appearance, this benign finding may be controlled with use of a topical steroid drop.

Inferior eyelid entropion is frequently identified in older cats with weight loss (photo 3). Loss of retrobulbar fat results in enophthalmia and reduced eyelid support. Surgical correction of inferior eyelid entropion is recommended if the patient is anesthetically safe. If surgical correction of the eyelids is not possible, application of a thick corneal lubricant several times daily is recommended for comfort and protection of the corneas.

Indolent ulcers are superficial, slow-healing ulcers, with redundant epithelial edges that retain fluorescein stain with a blurry edge. They are considered mechanical. The epithelial tissue can be encouraged to stick to the underlying stromal tissue via a keratotomy using dry cotton-tipped applicators, superficial needle scratches, or a diamond burr to encourage a rich vascular infiltrate. A topical broad-spectrum antibiotic and hypertonic saline therapy are recommended.

This edition is the last of the four-part life-stages series of ophthalmology articles. I hope these articles will be helpful in the care of your ophthalmic patients. **WCV**

PHOTOS COURTESY OF DR. MARNIE FORD





# YOU CAN TEACH AN OLD DOG... COGNITIVE AGING AND ENRICHMENT IN DOGS

BY ZAZIE TODD, PhD

“IF THERE ARE BEHAVIOUR PROBLEMS IN AN OLDER DOG, IT IS IMPORTANT TO CHECK FOR SIGNS OF SENSORY IMPAIRMENT.”

**A**s dogs age, they undergo cognitive changes that are similar in many ways to those that take place in humans. It is important to understand the normal cognitive aging process in dogs and what can be done to help.

## NORMAL COGNITIVE AGING

A large survey of senior dogs (eight years and above) published in the *Journal of Veterinary Behaviour: Clinical Applications and Research* found low levels of behaviour problems, abnormal eating, and odd movements (such as pacing) in this age group. But over a six-month period, there was a notable decline in levels of activity and play, an increase in the length of time taken to respond to commands, and an increase in fears and phobias. As well, interest in chewing on toys and eating decreased and drinking water increased. While these behaviour changes may to some extent reflect dental or renal disease (which was not assessed), they may affect quality of life.

As dogs age, they may also have declines in memory and in their ability to learn new things, which means that although they can still learn, it may take them longer. There seems to be wide variability in the extent of cognitive decline in aging dogs. Because dogs have such different expected life spans, large dogs may show signs of aging at a younger age than small dogs, which tend to live longer.

Any new behaviour problem in a senior dog warrants a veterinary investigation in case there is a medical cause. But many owners are not aware of this need and may simply put behavioural issues (including house soiling) down to the dog's age.

## THE PROTECTIVE EFFECTS OF TRAINING, ENRICHMENT, AND DIET

Understanding the factors that affect cognitive aging can lead to

a better quality of life for pet dogs. Several studies have shown that training is associated with a protective effect against cognitive decline in pet dogs, according to a review in *Gerontology*. Enrichment (including social/cognitive enrichment and physical exercise) and an antioxidant-rich diet have also been shown to have benefits in laboratory Beagles.

“DOGS WITH A HISTORY OF LIFELONG TRAINING HAD BETTER LEVELS OF SUSTAINED ATTENTION.”

In one study of pet dogs reported in *Frontiers in Aging Neuroscience*, senior (8–10 years) and geriatric (10+) dogs showed decreased attention compared to dogs in late adulthood (6–8 years). However, dogs with a history of lifelong training had better levels of sustained attention. In a test of their selective attention (switching focus from a human to food on the ground), lifelong training again led to better results. This could be because training gives dogs better cognitive abilities in the first place (i.e., they have further to decline before any changes are noticed) or the training itself could have a protective effect.

## BEHAVIOUR PROBLEMS AND SENSORY DECLINE IN SENIOR DOGS

A survey of the owners of older dogs published in *Behavioural Processes* found that some signs of cognitive decline were already reported when the dog was aged at between 50 per cent and 75 per cent of its expected lifespan. This corresponds to age 7–10 years for a Beagle or 4–6 years for a Great Dane. There was an association between cognitive changes and the owner reporting some kind of sensory impairment in the dog. Problematic behaviours were also linked to sensory impairment. Around 14 per cent of owners said their dog had a hearing impairment and about the same number reported visual impairment, with only 1 per cent reporting olfactory impairment. While this study

relied on owner reports and did not have dogs checked by a veterinarian, it suggests that if there are behaviour problems in an older dog, it is important to check for signs of sensory impairment, which may begin earlier than previously thought. Sensory decline can affect any behaviours that rely on hearing or vision. As well, it may cause affected dogs to get tired more easily, to be less active, or to sometimes be disoriented.

It is also worth noting that in a small study published in *Frontiers in Veterinary Science*, late-onset noise sensitivity in dogs (that has generalized to fear of the environment where the noise occurred, along with avoidance of other dogs) was associated with musculoskeletal pain and went away once the pain was treated.

## THE IMPORTANCE OF REWARD-BASED TRAINING

As dogs age, they are less able to deal with stress. Research shows that training using aversive methods (such as shock and prong collars) is associated with increased fear, anxiety, and stress, according to a review of the literature published in the *Journal of Veterinary Behaviour: Clinical Applications and Research*. This makes it even more important that any training for senior dogs uses reward-based methods (giving rewards for good behaviours and removing the reinforcement for undesirable behaviours).

*West Coast Veterinarian* published guidelines on choosing a dog trainer in September 2018. They include checking that the trainer has a qualification in positive, evidence-based training methods, that they are professional, and that they do not use methods based on fear or pain. The qualifications CTC (Certificate in Training and Counseling from the Academy for Dog Trainers), KPA-CTP (Karen Pryor Academy Certified Training Partner), and VSA-DT (Victoria Stilwell Academy Dog Trainer) are all highly respected and include a commitment to use only positive methods.

Clients may assume that senior dogs cannot be trained, or if they already have a well-behaved dog, they may not think of training as a good way to keep their dog's brain active. If basic obedience is not needed, there are plenty of tricks and training videos on the internet for inspiration.

Since senior dogs may eat less, it is essential to have good dog training treats, such as small pieces of cooked chicken or roast beef. These training treats should be included in the daily calorie count. As well, for dogs on a special diet, it is important to remember that training treats should also fall within that diet (in especially tricky cases, the canned version of whatever kibble they are on can be a good choice). The *Petfoodology* blog ([vetnutrition.tufts.edu/petfoodology/](http://vetnutrition.tufts.edu/petfoodology/)) from the Clinical Nutrition Service at the Cummings Veterinary Medical Center is a good resource.

## ON THE NOSE

Although all kinds of enrichment are available, it is important to consider the most important sense when providing it. For dogs, that's olfaction. Good animal welfare includes opportunities to express natural behaviours, so opportunities to sniff are important for dogs. A recent study published in *Applied Animal Behaviour Science* compared nose work to reward-based training (heelwork). Nose work was found to significantly increase optimism

in dogs. This could be because nose work allows a lot of autonomy but is likely also because of the way it provides opportunities for dogs to use the nose.

Bonnie Hartney of Ocean Park Dog Training in Surrey is a Certified Nose Work Instructor. She says, “Nose work is ideal for senior dogs because it encourages safe movement, promotes cognitive problem-solving, and engages natural hunting ability. The dog's joyful enthusiasm overrides any physical limitations, and everybody smiles.” Another way of providing enrichment for senior dogs is to take them on a “sniffari”—a smell walk in which they are able to follow their nose and spend as long as they wish on every smell. This is even suitable for dogs that are not able to walk very far, as we all know dogs like to spend a long time sniffing!

In summary, the good news is that there is increasing interest in the normal aging process in dogs, in part because there may be parallels with human health but also as a useful topic in its own right. Continuing research means we will learn more about how to help dogs stay physically and behaviourally healthy as they age and how to maintain good quality of life for senior dogs. As well, scientists are working on improved scales to differentiate between normal cognitive aging and canine cognitive dysfunction.

In the meantime, these are the takeaways from what we know so far:

- Older dogs may take longer than young dogs to learn new things—but they can still learn
- Because older dogs find it harder to cope with stress, it is especially important to avoid aversive training methods
- Sensory decline can sometimes start relatively early, and may be associated with behaviour problems
- Lifelong training seems to have a protective effect against cognitive decline
- Enrichment and an antioxidant-rich diet also seem to be beneficial
- Reward-based training is good cognitive enrichment for older dogs, and this is especially important for dogs who are no longer so active
- Nose work, sniffaris (smell walks), and other activities involving smell are also great enrichment for senior dogs **WCV**

“NOSE WORK WAS FOUND TO SIGNIFICANTLY INCREASE OPTIMISM IN DOGS.”

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“THE DILEMMA OUR PROFESSION FACES IS THAT WHILE WE WANT TO ASSIST IN THE INVESTIGATION OF CRIMES AGAINST ANIMALS, WE NEED ADDITIONAL TRAINING TO PLAY A MORE MEANINGFUL ROLE.”



Dr. Holly Tillotson and Jimmy Bean, who never left her care following a successful cruelty case investigation.

## PORT ALBERNI VETERINARIAN DR. HOLLY TILLOTSON WINS THE DR. CAROL MORGAN MEMORIAL AWARD

BY SARA DUBOIS, DVM

**F**ifteen years ago, learning about veterinary forensics was a challenge, as little research was available. Now this discipline, which applies the most advanced investigatory techniques in solving crimes against animals, is well established and provides a significant benefit to animal cruelty investigations across Canada. Dr. Holly Tillotson (Pacific Rim Veterinary Hospital, Port Alberni) was introduced early on to veterinary forensics and kept up her studies through her involvement in cases of cruelty or neglect as well as searches and seizures. She is a passionate advocate of this work and was recently recognized for her efforts with the 2018 Dr. Carol Morgan Memorial Award by the Animal Welfare Foundation of Canada.

The annual award to support veterinarian continuing education in areas of ethics and animal welfare was established in honour of Dr. Carol Morgan, a tireless advocate for animal welfare and ethical veterinary practice, who died at the age of 51 from cancer in 2015. Unknown to the award selection committee, Dr. Tillotson and Dr. Morgan both sat on

the BCVMA Animal Welfare Committee for many years together. After award selection, Dr. Tillotson responded, “I am so honoured to be chosen for this award.” She shared, “I had the privilege to work with [Carol] on several issues; the Whistler dog issue is the one that stands out in my mind. I learned a lot from Carol about compassion, our responsibility as a profession, and how we can all make a difference if only we try.”

Dr. Tillotson explained that she worked with the local BCSPCA on a few forensic cases, and it was this work, and some she had done previously in other investigations in the Fraser Valley that started her interest in veterinary forensics so many years ago. She will use the Carol Morgan Memorial Award to further her studies by attending the International Veterinary Forensic Sciences Association’s annual conference in May 2019. “Presently there are few veterinarians with any training in forensics, especially in Canada. The dilemma our profession faces is that while we want to assist in the investigation of crimes against animals, we need additional training to play a more meaningful role.” She adds: “I would also like to increase awareness among local policing agencies of the skills that forensics veterinarians have and how we can assist them with investigating not only crimes against animals but also in crimes involving animals.” [WCV](#)

PHOTO COURTESY OF DR. HOLLY TILLOTSON

### APPLY FOR NEXT YEAR’S AWARD

Download an application form on the Animal Welfare Foundation website ([awfc.ca/grants](http://awfc.ca/grants)) to apply for continuing education and training-related costs for veterinarians working to increase the application of ethics or animal welfare within the profession broadly. The award is open to all practising veterinarians in Canada in good standing with their provincial veterinarian associations. The application deadline is October 15.

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## MAY COME

BY NICOLE JAMIESON, DVM

*Have you ever had  
a dream come true?*

I live in Prince Rupert and work as a veterinarian at Pacific Coast Veterinary Hospital. I am a member of the Tsimshian Nation and the Lax Kw'alaams Band, matrilineal side. I am also of Cape Breton descent on my father's side. I am very lucky to be truly Canadian with history from coast to coast of this great country. Even though it has nearly been 10 years since we graduated from WCVM in Saskatoon, many of my classmates remember that it was always a dream of mine to be able to help provide veterinary services to remote locations.

In October 2018, thanks to this amazing organization, the Canadian Animal Assistance Team (CAAT), and with the combined hard work of the community members, Band members, and all of the CAAT volunteers, I was able to participate in my first volunteer group for a spay and neuter program. My dream came true.

I became involved through a happy coincidence. The president of the CAAT is a co-worker through P3 Veterinary Partners, the parent company of Pacific Coast Veterinary Hospital. Around the same time that I was able to work with her, Kristen Idiens, a local teacher in Lax Kw'alaams, asked what she could do to help the animals in Lax K. I told her about the CAAT, and Kristen took care of the rest with some minor help from me to coordinate the Band Council and the CAAT, and to help ensure paperwork was completed by the deadlines. From then on, the Band Council, the Community Health Director Sharon Helin, and volunteers including Suzy Denis, stepped in to finalize the organization and make the CAAT welcome.



The CAAT had an excellent team in Lax Kw'alaams. Through teamwork and a common goal they were able to serve the community and their pets.



**“TO EXPERIENCE FIRST-HAND THE AMOUNT OF ORGANIZATION NEEDED TO TRANSPORT WHAT WAS ESSENTIALLY A MOBILE HOSPITAL WAS MIND BOGGLING.”**

Registered veterinary technician Jenn closely monitors patients when they come out of anesthesia.

Lax Kw’alaams is located 40 kilometres north of Prince Rupert, not far south of the US-Canada border, near the famous Khutzeymateen Grizzly Bear Sanctuary. Access is via boat, float plane, or ferry from Prince Rupert with a recently paved 17-kilometre road from Tuck Inlet to Lax Kw’alaams to complete the journey.

Participating in my first CAAT volunteer trip was an experience and a half. In a few short days, the team of volunteers was able to complete 94 spays/neuters for dogs, cats, and stray cat populations within the community. To experience first-hand the amount of organization needed to transport what was essentially a mobile hospital was mind boggling. Fortunately, one of my previous co-workers and technicians, Jessi Bell, along with one of my best friends, Prince George veterinarian Dr. Janelle Merritt, were both able to join this as their first CAAT trip.

It was amazing. The people of Lax Kw’alaams were wonderful. Many took time off from their jobs to volunteer and assist. The owners of the pets were very sweet and open to conversations about medical care, wanting to learn. The children who came were fantastic, curious, and very polite. It was wonderful to see the whole community involved; seeing the school groups doing tours of the clinic; learning and being open to experiences; seeing the community coming together to experience what is involved in veterinary care; seeing people laughing and learning; it was all priceless.

The volume and type of work was not much different from what I do with my own veterinary team on a regular basis, other than dealing with many more staff and volunteers and a higher volume of surgeries. As part of the CAAT, we provided service to cats, dogs, and some feral cats, performing spaying and neutering, vaccination, and treatment for intestinal and external parasites.

My team and I have regular surgery days when we do dozens of surgeries in one day. On the CAAT trip, I did



Two sibling kitties recover from their surgeries.

not see much limit to the facilities other than the lighting being less efficient so that we were doing surgery with headlamps. However, I practice in the North, and even in general practice, I have had to do multiple surgeries in one day before the CAAT trip.

The CAAT has an awesome system and very efficient protocols in place for anesthetics, prep stations, supplies, team organization—everything. The team brings along oxygen and gas anesthetic equipment, and uses gas or injectable anesthesia, depending on the individual patient’s needs. Each patient has an IV catheter and is intubated for safety. The days were long: 8 AM to 6 or 7 PM, with team meetings to follow.

Emotionally things were challenging. Just days before the trip I had to say goodbye to my own dog, Rusty, and I feel that this story should be dedicated to him. My mother was fantastic, and also volunteered. So despite us both saying goodbye to our own best friend, and having to leave my other dog at home, working with the CAAT was everything I dreamed of and more. The team was awesome in their support; the volunteers were open, caring, dedicated, giving people. I was able to make friends and laugh during an emotionally challenging time and to get the job done. That is the life of a veterinarian, though: being able to control your own emotions so that you can do the job.

**“IT WAS WONDERFUL TO SEE THE WHOLE COMMUNITY INVOLVED; SEEING THE SCHOOL GROUPS DOING TOURS OF THE CLINIC; LEARNING AND BEING OPEN TO EXPERIENCES; SEEING THE COMMUNITY COMING TOGETHER TO EXPERIENCE WHAT IS INVOLVED IN VETERINARY CARE; SEEING PEOPLE LAUGHING AND LEARNING.”**

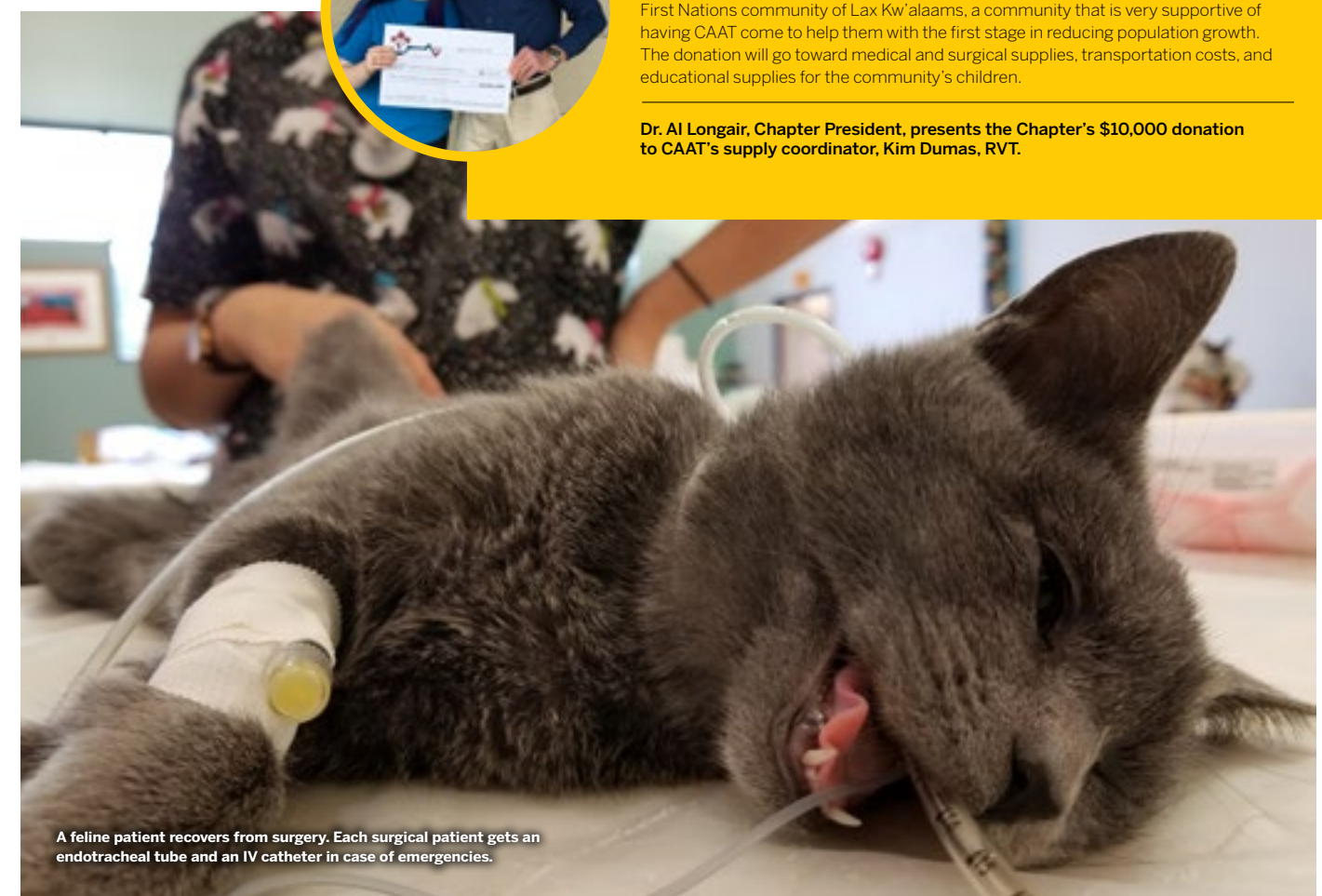
PHOTOS COURTESY OF CHRIS ROBINSON



**CVMA-SBCV CHAPTER'S \$10,000 DONATION TO THE CAAT GOES TO FIRST NATIONS VETERINARY CARE**

CAAT projects require ongoing funding and work all year. The CVMA-SBCV Chapter will fund a 2019 project to Lax Kw’alaams, BC. This will be the second trip to the First Nations community of Lax Kw’alaams, a community that is very supportive of having CAAT come to help them with the first stage in reducing population growth. The donation will go toward medical and surgical supplies, transportation costs, and educational supplies for the community’s children.

Dr. Al Longair, Chapter President, presents the Chapter’s \$10,000 donation to CAAT’s supply coordinator, Kim Dumas, RVT.



A feline patient recovers from surgery. Each surgical patient gets an endotracheal tube and an IV catheter in case of emergencies.

**THE WORK OF THE CANADIAN ANIMAL ASSISTANCE TEAM**  
BY CHRIS ROBINSON, RVT

**T**he Canadian Animal Assistance Team is a registered Canadian charity based in Vancouver, BC, whose volunteer veterinary teams provide spaying, neutering, and vaccination to communities with large populations of companion animals in need and a lack of access (either geographically or financially) to those services. We average six to eight projects per year in varying locations, most of them quite remote.

We partner with communities who want to work with us toward a long-term sustainable population management plan. The CAAT is the first step but only part of the solution. Our team will continue to go to the community annually for two to five years until a sustainable lower level of population growth is reached, which can then be controlled locally. There are many other local components needed in an animal population control program: local bylaws, licensing, rehoming initiatives, mobile veterinary support, etc. Each community is unique, and each community will have a different plan that is sustainable for them.

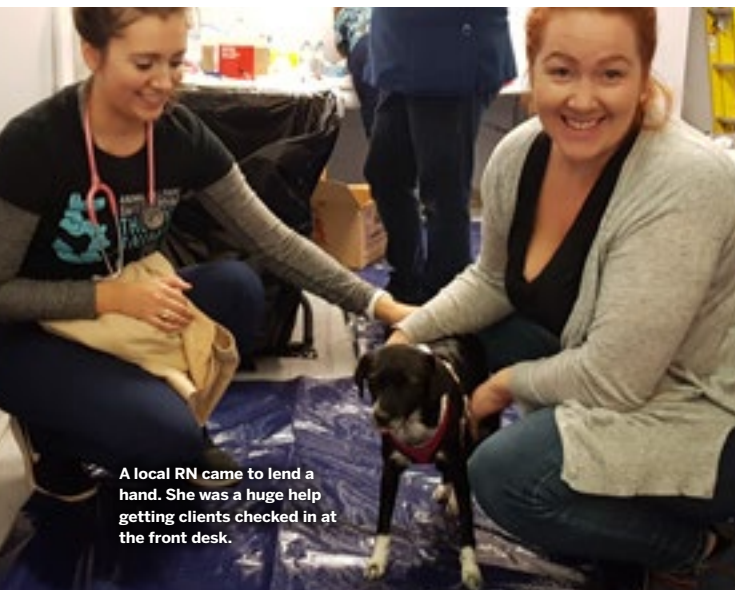
For each project, a team is chosen, with the size of the team determined by the number of surgeries we expect to do during our spay and neuter

event. The teams consist of veterinarians, veterinary technicians, and assistants—all volunteers. Without these volunteer CAAT members, our projects would not happen. They all give their time and skills to help the animals have better lives and to help the people understand how to help their animals as well.

Planning for a project takes months of organization between the project coordinator and the local community liaison that has volunteered to help with local

**“THE CAAT IS THE FIRST STEP BUT ONLY PART OF THE SOLUTION.”**

needs. The local coordinator helps with putting up posters, sending out flyers, making radio announcements, and using social media to spread the word so that everyone in the community knows when the veterinary team will be coming, where we will be located, and the spay/neuter and vaccination/deworming services that will be available. They also make sure the team has somewhere to stay. Sometimes this is a hotel near the



A local RN came to lend a hand. She was a huge help getting clients checked in at the front desk.

**“NO MATTER WHERE WE GO, THERE ARE ALWAYS LINEUPS OF PET OWNERS THERE TO RECEIVE CARE FOR THEIR PETS.”**



Community clients often stayed with their pets to help them wake up from anesthetic.

community, a gymnasium, a house, etc.; it varies depending on the place and what is available.

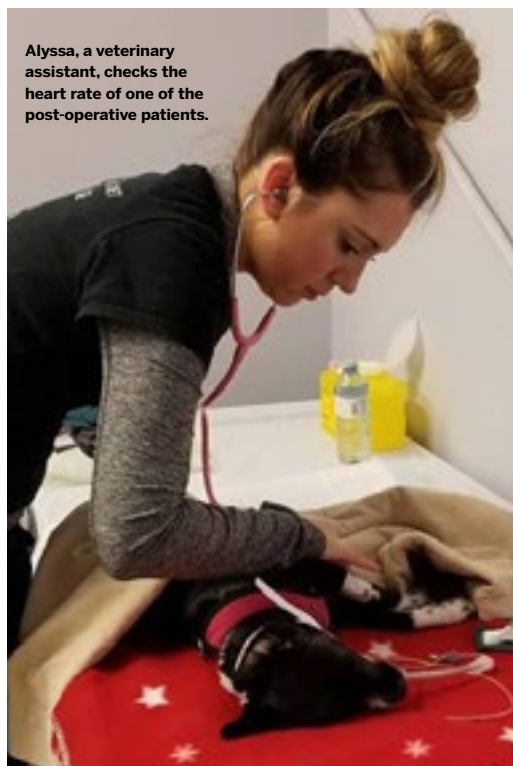
When we arrive at the community, the local community coordinator meets the team, and we most often go straight to the facility we will be working in. Once again, where we will be working varies depending on what is available. Our hospital may be in an arena, a gymnasium, a town hall, an RCMP garage, etc. No matter what facility we are given, we have become very adept at creating a temporary MASH-style hospital from the medical supply bins we bring with us, and within an hour we are ready to go.

The first day, the community members start to line up at the registration desk, and throughout the day we steadily provide the spaying or neutering, vaccination, and deworming services to each pet. No matter where we go, there are always lineups of pet owners there to receive care for their pets. Many people want them spayed or neutered because they don't want more litters to have to care for—or to not be able to care for. They want their pets vaccinated because they understand the importance of protecting them from distemper and parvovirus and them and themselves from rabies. In many of the communities, these are very real threats that people have seen first-hand. We also give each pet owner the option to watch the surgery and stay with the pet in recovery, and many people do. They sit with their pets in recovery, snuggled up in a blanket, with the technicians monitoring their pets. It is a great opportunity to share stories, knowledge, and caring.

We also encourage class trips while we are in a community. Many teachers are thrilled at the opportunity for their students to observe veterinarians at work, to watch a surgery, or to listen to a heartbeat through a stethoscope. It is a great learning experience, not only for basic animal care discussions but also to see our team in action and watch how they interact with the animals. The children are full of questions, and we leave behind follow-up educational materials for the teachers to use to help with lessons on empathy and compassion for animals and for people.

As a team member, you often meet your teammates for the first time as you arrive, and you quickly start to work together and get to know one another as the project progresses. The days can be long, the work hard, and the circumstances challenging. However, everyone is there for the same reason—to help the animals—and everyone works toward that mission with great positivity and support for one another. Time and time again, our volunteer team members say that they get more than they give in these projects and cannot wait to go on another one.

If you are interested in learning more about the CAAT, please go to [www.caat-canada.org](http://www.caat-canada.org). Please become a member and join us in our mission. Being part of the team is an experience you will never forget. [WCV](#)



Alyssa, a veterinary assistant, checks the heart rate of one of the post-operative patients.

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Additional mental health and wellness resources are listed at:  
[www.canadianveterinarians.net/documents/mental-health-support-resources](http://www.canadianveterinarians.net/documents/mental-health-support-resources)

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# HIP DYSPLASIA CAUSES AND TREATMENT

BY MICHAEL KING, BVSc, MSc, Dipl. ACVS

Often thought of as a disease of Labradors and German Shepherds, the highest prevalence of hip dysplasia is actually in Bulldogs, where up to 75 per cent of individuals have some degree of coxofemoral joint incongruence. Hip dysplasia remains the most common orthopedic condition seen in our canine patients, identified in up to 20 per cent of dogs depending on the population studied.

## PATHOGENESIS

The underlying cause of hip dysplasia is hip laxity. Genetically predisposed individuals begin life with seemingly normal hips that begin to exhibit increasing joint laxity and dysplasia as they grow.

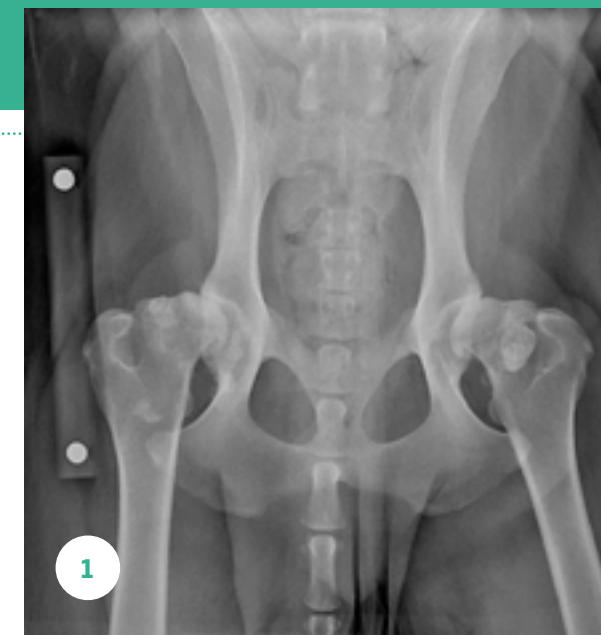
Stability of the coxofemoral joint is dictated by a combination of the ligament of the head of the femur, the dorsal acetabular rim, the joint capsule, and the synovial fluid itself. It is unclear whether laxity occurs due to abnormal development of the acetabulum and femoral head, insufficient strength of the joint capsule, or lack of strength of the ligament of the head of the femur. Increased synovial fluid volume has been associated with hip dysplasia, and that has been proposed as a potential cause of increased laxity, as a lower amount of fluid creates a vacuum effect within the joint that helps maintain joint congruity. Since increased synovial fluid is also a sequela of synovitis, it is not known if increased synovial fluid is a contributor to hip laxity or a consequence of it.

Traditionally, we have thought that hip dysplasia results in subluxation when weight bearing occurs. Hip laxity allows lateral translation of

the femoral head within the joint, resulting in abnormal wear of the joint cartilage. However, some authors have proposed an alternative theory where subluxation occurs during the non-weight-bearing “swing” phase of the gait. In this case, any subluxation of a congruent hip with a low level of synovial fluid during the swing phase would result in a stretch response within the joint capsule, leading to a contraction of the surrounding musculature to maintain hip congruity. In a dysplastic joint with increased joint fluid, this stretch response would be less pronounced, causing continued subluxation through the swing phase and incorrect positioning of the femoral head within the joint upon weight bearing. Sudden reduction of the hip as the limb is placed then occurs, contributing to joint damage.

Whatever the underlying cause, continued hip laxity leads to abnormal wearing of the articular cartilage, an excessively shallow acetabulum, and a flattened femoral head. The body’s initial response to the persistent subluxation is fibrosis of the joint capsule. Over time, the insertion of the joint capsule becomes thickened, cartilaginous, and eventually ossified. This results in the characteristic radiographic appearance of osteophytosis along the femoral neck and acetabulum, representing osteoarthritis.

“A STUDY ASSESSING PUPPIES ALLOWED TO WALK ON STAIRS CONSISTENTLY DURING THEIR FIRST THREE MONTHS OF LIFE SHOWED AN INCREASED INCIDENCE OF HIP DYSPLASIA.”



## PREDISPOSITION

Hip dysplasia is an inherited condition, although the phenotypic expression of hip laxity is influenced by environmental factors. It has a heritability score of between 0.1 and 0.5, depending on the study and breed, indicating that though it is a genetic condition, typically less than 50 per cent of the expression of hip laxity in an individual is directly attributable to the genes.

Multiple different genetic loci contributing to expression of hip dysplasia have been identified in dogs, confirming it to be a complex polygenic disease. This makes selection of breeding stock based on single genetic markers ineffective, and also explains why breeding dogs with “good” hips can still result in progeny with hip dysplasia.

Several environmental factors have been identified that can determine whether hip dysplasia is expressed in a predisposed puppy and to what degree. Limiting food consumption during early growth has been shown to have some protective effect against the development of hip dysplasia. Dogs that received 75 per cent of an ad lib diet from two months of age had 67 per cent less prevalence of hip dysplasia as young adults compared with those fed without restriction. This effect continues into later life, with decreased prevalence and severity of osteoarthritis.

The effect of exercise on hip dysplasia prevalence is less clear. Increased pelvic muscle mass has been associated with decreased hip laxity, and there is some evidence that early off-leash activity may promote this. However, a study assessing puppies allowed to walk on stairs consistently during their first three months of life showed an increased incidence of hip dysplasia, so the exact effect of early exercise remains uncertain.

Dogs neutered early (prior to 5.5 months of age) had a significantly higher incidence of hip dysplasia compared with those dogs neutered after that time (6.7 per cent compared with 4.7 per cent). Additionally, those dogs who were neutered early who did develop

hip dysplasia showed more significant arthritis and worse clinical signs. Owners and breeders often think calcium supplementation is beneficial for growing dogs, but this is incorrect. Unfortunately, puppies cannot properly deal with excessive dietary calcium, and such administration decreases osteoclastic activity, which in turn interrupts normal ossification of the developing skeleton. This can lead to many orthopedic conditions, including expression of hip dysplasia in those dogs that are genetically predisposed to it.

## DIAGNOSIS

There tend to be two main populations of dogs presenting with clinical effects of hip dysplasia. In young dogs (generally between 4 and 12 months old), the primary signs are attributable to hip laxity. Owners often describe a swaying or short-stepping gait, exercise intolerance, and reluctance to jump or walk up stairs. On examination, pain on manipulation of the hips (especially extension) is the most common finding. A positive Ortolani sign can often also be elicited in young patients, representing a sudden reduction of a subluxated hip as the limb is manually abducted. Owners may also describe an audible “clunk” when their dog is exercising, in cases of particularly pronounced laxity.

Over 12 months of age, there is often an apparent improvement of lameness or other clinical signs. This occurs due to fibrosis of the joint capsule resulting in less pronounced laxity. However, this is in some ways a false improvement, as continued incongruity of the hip causes ongoing cartilage damage. The result is progressive degenerative joint disease, leading to affected dogs presenting as more mature patients with lameness now secondary to osteoarthritic changes.

Diagnosis of hip dysplasia is most commonly done via a standard hip-extended, ventrodorsal radiograph of the pelvis. This is straightforward when the condition is advanced enough for significant osteoarthritis to be present. A misshapen femoral head, shallow acetabulum, and osteophytes within the femoral neck and along the acetabular rim are characteristic for degeneration secondary to hip dysplasia (photo 1).

In young patients, the primary radiographic finding is hip laxity represented by decreased femoral head coverage by the dorsal acetabular rim (photo 2). In normal hips, more than 50 per cent of the area of the femoral head should be covered by the superimposed dorsal acetabular rim. Less than that in a correctly positioned radiograph suggests excessive joint laxity.

Additionally, a subtle area of enthesophytes curving along the femoral neck (Morgan Line) can be seen in early hip dysplasia, representing osteophytes at the insertion of the joint capsule.

Although the hip-extended ventrodorsal radiograph is the mainstay of diagnosis, it can underestimate hip dysplasia, especially in young patients. Bringing the hip into the extended position twists the joint capsule, resulting in the femoral head being pulled into the acetabulum so that it appears more congruent than when it is bearing weight.

### MEDICAL TREATMENT

The majority of dogs with hip dysplasia are treated medically, at least initially. As this treatment does not change the actual congruency of the hip, the goal is to relieve discomfort and maximize quality of life and athletic function. Results can be very positive, with one study showing no significant difference in weight bearing between those dogs treated with medical management and those who underwent a triple pelvic osteotomy or a femoral head ostectomy.

Medical treatment consists of five primary areas:

- As-needed administration of analgesics
- Exercise management
- Physical therapy
- Weight control
- Administration of disease-modifying agents

Non-steroidal anti-inflammatories are the most effective component of medical therapy, providing rapid relief of discomfort either on a consistent daily regimen, or less frequently on an as-needed basis (often coordinated with exercise). This can also be combined with oral opioids, gabapentin, or adjuncts such as amantadine. Though useful as part of a multimodal analgesic regimen, these are far less effective as single agents than NSAIDs.

Exercise management does not necessarily mean preventing all vigorous behaviour. Though any stress on a dysplastic or arthritic hip creates inflammation and contributes to further cartilage damage, some activity remains essential for maintaining joint health. Frequent low-impact or moderate exercise is recommended, and any periods of more strenuous exercise should be followed by a period of more strict rest. A structured physical therapy regimen can help maintain muscle mass and provide the kind of controlled exercise that maximizes joint health.

Similarly, avoiding excessive body weight long-term minimizes unnecessary stress on the hip joints. Admittedly, this can be challenging in a number of the breeds frequently affected by hip dysplasia such as Labradors, who are prone to putting on weight, especially when exercise is limited.

Disease modifiers, such as glucosamine, chondroitin, hyaluronan, and omega-3 fatty acids are thought to contribute to improved joint health, though evidence of efficacy is limited.

Pentosan polysulfate injections have been shown to have a significant beneficial effect in various joint maladies and are often recommended as part of a medical treatment plan for osteoarthritis.

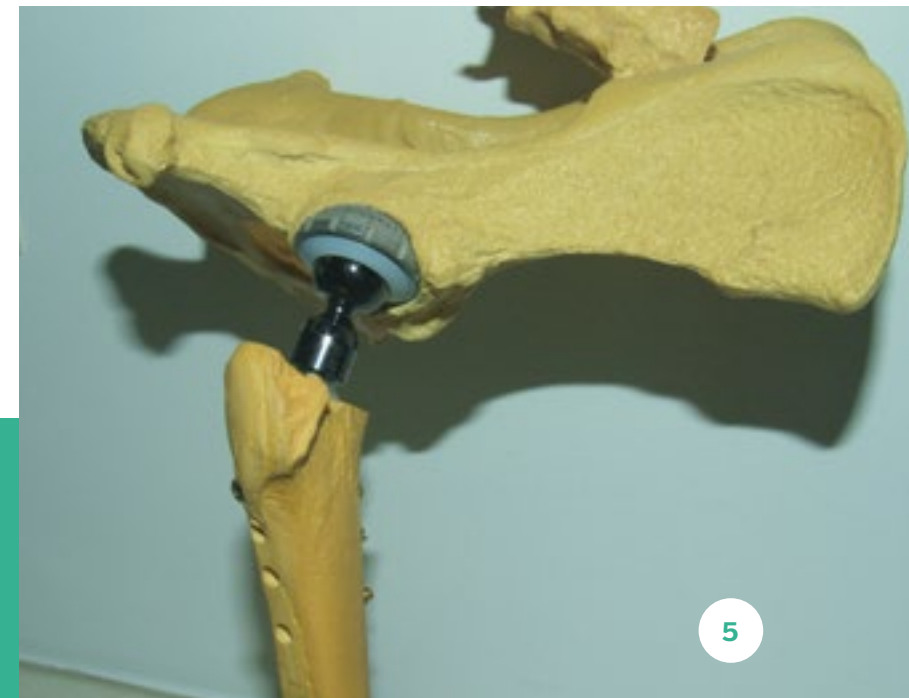
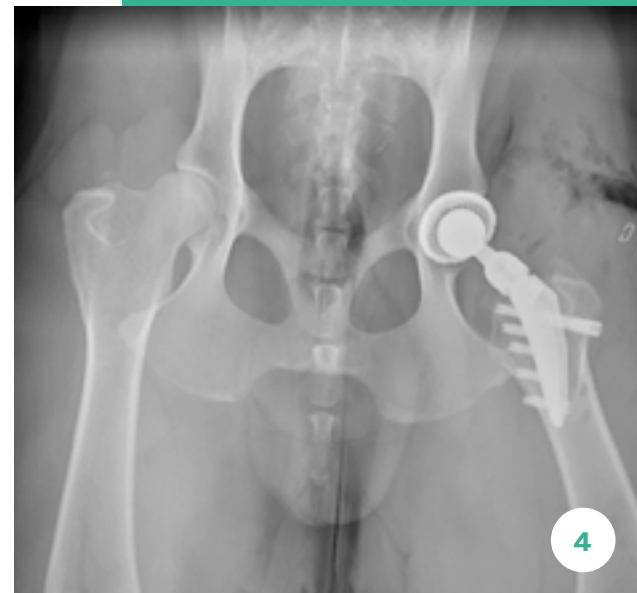
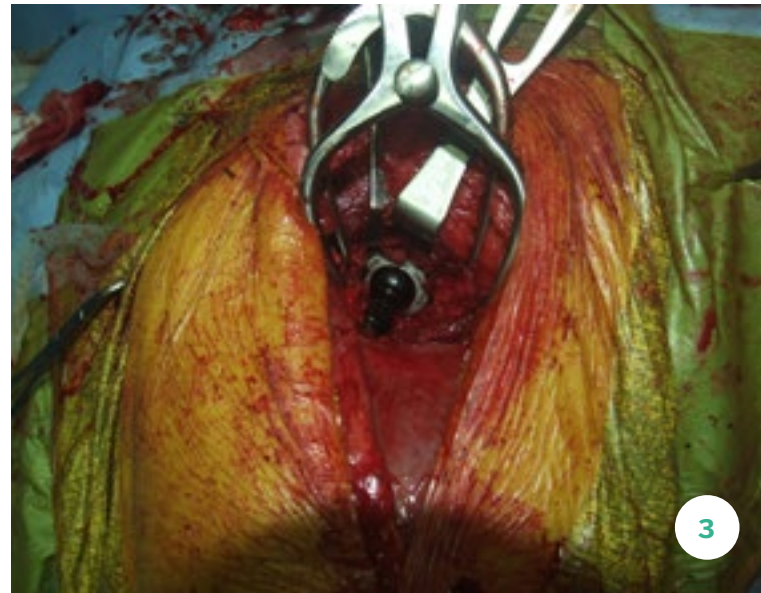
### SURGICAL TREATMENT

In juvenile patients, surgery can be performed to resolve the underlying hip laxity and hopefully allow the hip joint to go on to develop normally. This is the principle behind juvenile pubic symphysiodesis, triple pelvic osteotomy, and double pelvic osteotomy. In all cases, the goal is to rotate the acetabulum ventrally in the hope of improving femoral head coverage and thus preventing subluxation. As these procedures require a lot of growth potential to remain at the time of surgery, affected patients must be young—ideally less than six months of age—and have only mild or moderate hip dysplasia without any arthritic changes. This limits the usefulness of these techniques, as diagnosis typically occurs when the dog is older than six months and early degeneration is often already present.

In older dogs, there are two surgical options: total hip replacement (THR) or femoral head ostectomy (FHO). These are usually performed only when medical management proves inadequate, or when a young dog has severe enough laxity that persistent discomfort and lameness is expected.

THR is an extremely effective procedure that restores normal limb function by creating a prosthetic joint (photos 3 and 4). A variety of systems are available, with the two most commonly employed being the Biomedtrix BFX, and the Kyon Zurich Hip (photo 5). Both are cementless systems, with the titanium implants integrating with the bone to prevent aseptic loosening. The prognosis is excellent, with a full return to athletic activity expected and no need for ongoing medication. The overall complication rate for THR is 10–20 per cent, with the most serious complications being luxation in the early post-operative period (requiring re-operation) and implant infection (requiring explantation and creation of an FHO).

FHO is a salvage procedure, with removal of the dysplastic femoral head (photo 6). The formation of fibrous tissue in its place creates an “elastic” joint, where surrounding muscles support the limb, and no arthritis remains. This procedure is very effective in resolving discomfort. However, although the reliance on muscular support results in comfortable weight bearing, the dog will have decreased stamina and diminished force when jumping. For this reason, it works best in small dogs, but can be performed in medium to large breeds with good efficacy and quality of life. **WCV**



“THR IS AN EXTREMELY EFFECTIVE PROCEDURE THAT RESTORES NORMAL LIMB FUNCTION BY CREATING A PROSTHETIC JOINT.”



# EXAM-ROOM CANNABIS CONVERSATIONS—OR THE LACK THEREOF

HOW THE LEGALIZATION OF CANNABIS APPLIES TO PATIENTS, AND HOW TO BEST DISCUSS CANNABIS WITH CLIENTS

BY KATHRYN WELSMAN, DVM



One of my favourite emergencies is the dog who is walking as if drunk, acting funny, startling easily, and just dribbled some urine. Usually a slam dunk diagnosis! Before cannabis legalization, I especially enjoyed the awkward examining room conversations that went a little bit like this:

Me: “Any possibility of pot ingestion?”

Client: “Ummm ... no ... not really. Maybe the neighbour has some ...” (They always blamed the neighbour.)

Me: “OK, well, I think your dog has gotten into pot and will likely be fine with some simple treatment, but if there is no way your dog had access to it, then we will need to do a more in-depth investigation, and that will likely cost you a lot more money than if it was just pot.”

Client: “Well, now that you mention it, my boyfriend smokes pot regularly.”

Since legalization, I don’t find that clients are necessarily more open about exposure to cannabis, but it certainly makes for an easier conversation since nothing criminal is being alluded to. In Colorado, where cannabis has been legal for several years, the Colorado Veterinary Medical Association has the following advice for pet owners on its website: “Veterinarians do not yet have a rapid test to detect marijuana, so if your pet accidentally ingests marijuana, it is imperative that you tell your veterinarian. Animals presenting for marijuana toxicity have similar symptoms to animals with meningitis and brain tumours—you don’t want to put your pet or your pocketbook through a work up for one of these serious conditions if the cause of the problems is known.”

However, in the past few years, one of my least favourite topics in the exam room is when a client asks my opinion on cannabis use for their elderly arthritic

“SINCE LEGALIZATION, I DON’T FIND THAT CLIENTS ARE NECESSARILY MORE OPEN ABOUT EXPOSURE TO CANNABIS, BUT IT CERTAINLY MAKES FOR AN EASIER CONVERSATION.”

“IT’S A BIT MORTIFYING TO KNOW MY OWN ASSOCIATION IS ENCOURAGING CLIENTS TO ASK ME QUESTIONS I DON’T HAVE THE ANSWERS TO.”

dog for example. I stick to my lines and tell them that dogs are more sensitive to the THC component of cannabis than humans, and that legally veterinarians can’t prescribe or recommend any cannabis products. Mostly I’m telling them “user beware”—you’re on your own as I can’t help you. I always feel I’ve lost control of the conversation, or even the patient in general because I don’t have a better answer.

And to be completely honest, until now, I had done zero research into treatment with cannabis, mostly because of how I had been conditioned to avoid it as a law-abiding citizen but also because of the many, many toxicities I’ve seen over the years in my regular and emergency practice. To make matters worse, when I was on the CVMA’s website the other day I saw this statement issued to pet owners, lifted verbatim: “It is important to note that although veterinarians are currently not legally allowed to prescribe any cannabis products to pets however, pet owners who choose to use cannabis products for their pets, are encouraged to discuss their use with their veterinarian. *Although veterinarians cannot prescribe cannabis, they can provide pet owners with information on the emerging published studies as they become available, help to avoid potential drug interactions, and provide guidance on how to recognize and reduce the risk of adverse effects and toxicity.*” Gulp. It’s a bit mortifying to know my own association is encouraging clients to ask me questions I don’t have the answers to. Clearly, I need to set aside some pre-existing notions and buckle down and learn more about cannabis.

PHOTO BY REMEDLEN/PIXABAY.COM

## GUIDANCE ON CANNABIS: A BRIEF EXCHANGE OF QUESTIONS AND ANSWERS WITH THE CVBC PRODUCED SOME ADDITIONAL INFORMATION

Any restrictions to the veterinary use of cannabis and its derivatives are the direct result of federal legislation that applies to all Canadians. The BC Veterinarians Act and the CVBC’s bylaws, regulations, and standards are all subordinate to that legislation. In respect of the federal laws regarding cannabis, the CVBC has not sought to develop and institute its own standards or policies on this topic.

However, the CVBC does have published guidelines for the responsible use of alternative therapies (see pages 41–42 of Schedule D—Accreditation Standards), which would apply to the administration and prescription of Health Canada–approved cannabis products for patients *once they are available*. “Complementary or alternative medicine” is defined as “a group of treatments or therapeutic options that lie outside the mainstream of conventional medicine.” Additionally, all registrants are expected to ensure that they have taken the necessary steps to acquire sufficient knowledge and training to safely provide the alternative treatment to their patients.

Upon the legalization of cannabis in 2018, the public is now able to purchase fresh or dried marijuana plants (not edibles) for personal use. But all phytocannabinoids (natural or synthetic) are now included on the Prescription Drug List. This means that any products (other than the plant itself) that contain any phytocannabinoids (including CBD) are only available by prescription and *must* be registered with and approved by Health Canada (as indicated by DIN number) before they can be prescribed by a registered professional. Hemp seed–derived products (which have negligible THC and CBD) can be registered as Natural Health Products and Veterinary Health Products and sold without a prescription, because it is felt that the risk to the consumer is extremely low. These are the only real options currently available to pet owners for their pets through legal means.

A regulated health professional in Canada cannot legally prescribe a product that is not Health Canada approved and that thus cannot be legally obtained by the client. By extension, a regulated professional shouldn’t be recommending/advising/directing a client/patient to use a product that the client cannot legally access in Canada. The reasons for this aren’t just because “there aren’t any Health Canada–approved products,” but rather because of the implications inherent in this status. If a product isn’t Health Canada approved, then there is no assurance that there are adequate quality control measures in place. The consumer can have no confidence that what is purported to be in the product is actually in the product and that it is present at the advertised levels (not higher nor lower), that there are no toxic/dangerous ingredients or contaminants, that there is product consistency from batch to batch, etc.

In practice, if a client raises the issue of cannabis use with an animal, it is okay to discuss the issue with clients, as a veterinarian’s responsibility is to educate clients in the best interests of the patient’s health and safety. This education should include not just what we know or suspect about the potential benefits of cannabis, but also should highlight everything that we *don’t* know: that a lot of what is guiding treatment decisions regarding effects, efficacy, dosages and dose frequencies, etc. are (for now) anecdotal reports and limited peer-reviewed scientific studies. The reality is that without Health Canada–approved products to access and more scientific studies to guide treatment decisions, clients are assuming unknown risk for their animals. It would be advisable, then, to educate them on the risks and signs of THC toxicity, what to do should they suspect toxicity, and provide only general guidance and cautions (guiding them to reliable resources, etc.).

In reality, despite the recent change in the legal use of cannabis, the options available to practitioners (including veterinarians) haven’t substantially changed—yet. However, the fact that cannabis is now legal will enable prolific research that will lead to more information about the benefits, effects, pharmacodynamics and pharmacokinetics, interactions with other medications and conditions, and the risks to patients, and will also lead to Health Canada–approved products coming to market. Once there are Health Canada–approved products on the market and available research to help guide a veterinarian’s recommendations, it will be the veterinarian’s responsibility to act with sound professional judgment (and in keeping with the Guidelines for the Responsible Use of Alternative Therapies) and proper informed consent of the client.

**“THE MORE KNOWLEDGE YOU HAVE, THE MORE YOU CAN HAVE AN INFORMED CONVERSATION WITH THE OWNERS.”**



There are thankfully many veterinarians who are much more knowledgeable about cannabis and can provide some good resources for the uneducated, such as me. One veterinarian, Dr. Katherine Kramer, DVM, DABVP, the medical director at Vancouver Animal Wellness, says cannabis has been a large part of her practice in the last eight years. She has lectured at several cannabis conferences as well as several veterinary webinars and conferences. She's been an advisor to Canna Companion and Creating Brighter Days and was the founding chair of the Veterinary Advisory Board for True Leaf Medicine International. She's also a member of the Canadian Association of Veterinary Cannabinoid Medicine and has been invited to co-author a chapter for the first veterinary cannabinoid medicine textbook. Please tell me some of you also hadn't heard of any of these things so that I don't feel like an ignorant veterinarian alone.

When I asked Dr. Kramer what her advice would be for veterinarians to learn more, she said, "It is a fascinating topic to study and an important one, since most pet owners will be asking questions. Over the past few years, I have talked to many vets across North America looking for some guidance on the subject. Fortunately, most of the larger veterinary conferences this past year have included lectures on cannabis (CVMA, CanWest). The upcoming VMX in Orlando has six lectures dedicated to cannabis." She highlighted some great online resources including Veterinary Cannabis Education and Consulting ([veterinarycannabis.org](http://veterinarycannabis.org)).

Weirdly, I did recognize this last recommendation, as one of the technicians in our practice had just asked for a letter of reference so that she could participate in some online cannabis training with this company. At first, I was a bit taken aback—seeing as veterinarians can't prescribe nor recommend it, taking continuing education on it didn't make much sense to me. However, the more knowledge you have, the more you can have an informed conversation with the owners, which is what this technician was hoping for. I had to give her credit for having a much more open mind than I did.

Having an open mind is what allowed Dr. Kramer to delve more deeply into cannabis use in pets. She said, "It started with a patient about eight years ago, an 18-year-old cat with chronic pancreatitis, chronic kidney disease, severe osteoarthritis, hyperthyroidism, and hypertrophic cardiomyopathy. The cat was taking buprenorphine daily for pain, but it wasn't really helping, and the cat was nauseous and inappetent. As we started to talk about euthanasia, the owner, who works with the BC Compassion Club, said he wanted to try CBD [cannabidiol] first. I knew nothing about it, but we had nothing to lose. It was an experiment that, fortunately, was very successful. Within a few days the cat started to eat again and lived another two years after that. Since then I have seen cannabis make a huge difference in the quality of life for a great number of patients."

Clearly, I need to let go of the notion that cannabis is bad and focus on the potential good, as others have done. Some of the potential uses for cannabis in humans, according to Health Canada, include palliative care, treating chemotherapy-induced nausea and vomiting, and stimulating appetite in cancer or AIDS patients. Other uses are for MS, epilepsy, chronic and acute pain, arthritis, movement disorders like Parkinson's and Huntington's, glaucoma, asthma, stress and psychiatric disorders, dementia, skin inflammation, and inflammatory bowel disease. It may have anti-cancer effects, and there are many emerging potential uses

as well. Health Canada has a lengthy list of pharmacological actions of cannabis on various systems of the body—it almost seems like a dream come true with all of these positive effects for humans. Is it too good to be true though? And what about in companion animals?

According to Dr. Kramer, there are very few published studies. The ones that have been published have been funded by large cannabis companies themselves, for example ElleVet, which has done work with Cornell on osteoarthritis, or Canopy Growth, which has been given the green light to research cannabis use for anxiety in animals. However, little by little, there is more research emerging because of legalization in various US states and in Canada. According to the Veterinary Information Network, Colorado State University and Auburn University are currently doing research on cannabis use in epilepsy and have looked at its use in osteoarthritis as well. In Canada, the Western College of Veterinary Medicine has embarked on a collaborative effort with human physicians called the Cannabinoid Research Initiative of Saskatchewan that will help investigate applications of cannabis for humans and animals.

However, since we are still in a weird no man's land with respect to research, lack of approved products, etc., I think it is important to heed the advice of the CVBC on this topic.

**“WE ARE STILL IN A WEIRD NO MAN'S LAND WITH RESPECT TO RESEARCH.”**

The CVBC provided a link to the College of Veterinarians of Ontario who published the following on their website: "Veterinarians are an important resource for public education about animal health. They can educate clients about the risks of cannabis to animals and stay informed about cannabis products that Health Canada has approved for use in animals. Currently, there are no approved drugs with cannabis or cannabidiol (CBD) for animals. There are veterinary health products (VHP) with hemp that are approved for sale in Canada; these are low risk substances used to maintain or promote the health and welfare of animals and do not make health claims. VHPs can contain ingredients such as hemp seed derivatives containing no more than 10 ppm THC, which will be exempt from the Cannabis Act.

**“PRODUCTS CONTAINING HIGHER LEVELS OF THC CAN BE EXTREMELY TOXIC.”**

These products can be identified by a notification number on the label. Pet owners should be aware of unapproved products being marketed to consumers. If a cannabis product does not have a drug identification number (DIN) or a notification number (VHP) then its safety and efficacy cannot be verified."

And even though there are positives to cannabis, we still have to worry about its toxicity. The *Journal of Veterinary Emergency and Critical Care* published a study in 2012 that reported: "A significant correlation was found between the number of medical marijuana licenses and marijuana toxicosis cases ... in Colorado. Ingestion of baked goods made with medical grade tetrahydrocannabinol butter resulted in 2 deaths ...." When I asked Dr. Kramer if she was worried about the side effects or toxicity of cannabis, she responded "Absolutely. Overall, hemp-based products appear to be very safe, and Dr. McGrath's [Colorado State University] recent pharmacokinetic and safety study has demonstrated this as well. The emerging field of veterinary cannabinoid medicine for companion animals is very much in the experimental stage. Although we are starting to realize the benefits, we still need ... studies to set therapeutic dosages and to elucidate possible drug interactions. We have no idea

**“AND EVEN THOUGH THERE ARE POSITIVES TO CANNABIS, WE STILL HAVE TO WORRY ABOUT ITS TOXICITY.”**

why some animals have amazing responses and why others experience negative effects. Also, because it is already such a lucrative business, there are numerous products already available to pet owners. There is no federal regulation of these products and it is very much a 'buyer beware' situation. It is possible that many products may contain larger amounts of THC or contain no cannabinoid product whatsoever. While most patients seem to tolerate hemp products very well there are some that experience negative effects. Some animals will act 'weird' or 'stoned' on CBD only products. Other negative effects include lethargy, vomiting and diarrhea, pruritus, anxiety, and elevated hepatic enzymes. And of course, dogs and cats have

many more cannabinoid receptors for THC than people do, so products containing higher levels of THC can be extremely toxic."

My take-home message for veterinarians in BC is that we may be a bit late to the party when it comes to cannabis, but we can make every effort to learn more and push for more research that will ultimately assist us and the animals we care for. Perhaps, you, like me, will have to set aside some long-standing ideas about cannabis to be able to see the way of the future. Most of us adopt the evidence-based medicine philosophy, and right now it doesn't appear that we really have enough evidence to provide a slam dunk answer either way. We will all have to stay tuned, as this is uncharted territory for veterinary medicine in Canada and the rest of the world. Who knows, in five years, new graduates could be coming into our hospitals after having been taught to prescribe cannabis, as if it's the new phenobarbital or meloxicam. **WCV**

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# USING SUPPLY MANAGEMENT TO PROVIDE A BETTER LIFE FOR FARM ANIMALS IN CANADA

BY DANIEL M. WEARY, DPhil

**C**anada's supply management system was the big livestock farming news story of the past year. Before US trade negotiators (and President Donald Trump) made this a key issue in the negotiations around the new United States-Mexico-Canada Agreement (USMCA) trade agreement, it is a fair bet that few Canadians spent much time thinking about how our dairy, poultry, and egg farmers were regulated. But once this came under threat, many Canadians rallied to support our farmers and the system we use to match the supply of products including milk, poultry, and eggs to consumer demand.

The USMCA negotiations were not the first to threaten Canada's supply management system. This system was also challenged in recent negotiations with European (CETA) and Asia-Pacific (CPTPP) trading partners. Future challenges now seem inevitable. The easy response for future trade negotiators will be to abandon the supply management system unless there is strong political support to maintain it, and this political support will have to come from the Canadian public seeing value in supply management.

I believe that supply management benefits Canadians by providing access to animal products that better meet societal expectations for how these should be produced. Here are some examples of how this works taken from the dairy sector. An obvious benefit of supply management is that it helps prevent periods

**“I BELIEVE THAT SUPPLY MANAGEMENT BENEFITS CANADIANS BY PROVIDING ACCESS TO ANIMAL PRODUCTS THAT BETTER MEET SOCIETAL EXPECTATIONS FOR HOW THESE SHOULD BE PRODUCED.”**

of over-supply (resulting in price declines that put farms out of business) and under-supply (resulting in price increases and some farmers postponing culling decisions). Both situations can jeopardize the welfare of animals living on the farm. Supply management also allows the industry to decide who may sell products into the system, providing an enforcement tool for industry standards. For example, the Dairy Farmers of Canada's ProAction program requires, among other things, that farmers provide some form of pain mitigation when dehorning. Farms that do not comply risk losing their ability to sell milk. This provides a way for Canadian farmers to enforce community standards in a way that is not possible in the United States and most other countries in the world.

In this lull before the next round of challenges to supply management, we have the opportunity to consider how supply management can further support production systems that reflect community values. The current ProAction initiative provides an important first step in sanctioning “bad apples,” but it does not provide a bold vision for how Canada's dairy system provides a good life for the cows, or a clear contrast with standard production practices in the United States and elsewhere. One element of such a vision could be to require that every farm provide meaningful opportunities for outdoor access, including access to pasture when feasible. This would provide a clear benefit for the cows and a clear contrast with the confinement systems typical in the United States.

Outdoor access will not be enough. Some of the world's leading dairy-producing countries, including New Zealand, Australia, and Ireland, feature low-cost pasture-based systems. These systems can look good from a distance, but the reality is that they often fail to provide options for animals to escape sometimes poor conditions in inclement weather, including heat stress and muddy pastures. The “low-cost”

**“CANADIAN DAIRY FARMERS HAVE INVESTED IN RESEARCH AND TECHNOLOGY THAT MAKE OUR INDOOR HOUSING SYSTEMS AMONG THE BEST IN THE WORLD.”**

aspect of these systems also means that farms lack the resources to provide high-quality indoor housing for their animals.

In contrast, Canadian dairy farmers have invested in research and technology that make our indoor housing systems among the best in the world. Our farmers also have the expertise to manage these indoor systems well. Thus, a made-in-Canada ideal could be a free-range system that combines excellent indoor housing with meaningful outdoor access, varying with season and farm-specific constraints and opportunities. Canada's dairy farmers, in consultation with the community, may decide on other features of this Canadian ideal that help provide an excellent home for the animals and distinguish us from international competitors.

Supply management provides an opportunity to enforce new standards, and a mechanism for compensating farmers for any changes in the cost of production. Without supply management, farmers could still develop a vision of what they wanted their farms to be, but they would lack a mechanism to compensate for any extra costs and to exclude “free riders” who fail to meet the standards. In Canada we have this mechanism, and I have provided here a starting point for the conversations needed to create a vision for our farms of the future. Let's now get to work and complete this vision, showing the value of supply management before this mechanism is traded away in the next round of negotiations. [WCV](#)

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## FROM THE BRINK

BY VERONICA GVENTSADZE, MA, PhD, DVM

First, a seeming non sequitur: an ode to the blackbirds of the Mayan Riviera of Mexico where we're on holiday as I write this. When sunset turns to twilight, the main square of any town on the Yucatán peninsula becomes host to hundreds of great-tailed grackles. The birds are sleek, leggy, and keen-eyed, a bit like small magpies in both build and boldness. They descend on the trees like large black snowflakes, whistling and clicking and chattering, flying from tree to tree in search of the perfect roost. For the next half hour or so, until the birds settle in to sleep, it feels like the entire universe vibrates with trilling, an abstract symphony of silver bells and ultrasonic whistles. Why do the birds want to be here? How can they ignore the din of human voices, cars, and blaring music, or the shock of bright lights, and fall asleep in the very heart of human turmoil? Maybe they don't sleep in the same way we do, with our need to sleep restfully. Or maybe their senses ignore input to which they are accustomed and which they know to be non-threatening. Maybe in their native jungle their nights are beset by far deadlier if softer noises, like the grunting of hungry jaguars. Here in the towns, they have safety and wake up to abundant food.

I opened with Mexico's grackles because they represent the ultimate in adaptability to human presence: not only have they adjusted to people taking over their habitat, but they seem to benefit from such changes. On the other end of the spectrum are the protagonists of this article, the caribou. These animals are hurt by any and every aspect of human activity, leading to the deplorable state of this species in Canada. Despite being one of the few large mammalian species to survive the end of the last ice age, caribou are far more vulnerable to modern reality than other ungulates of Canada. They neither kick like moose, nor use their antlers like elk, nor run like white-tailed deer. Since they put up practically no resistance to predators, it is their intact habitat they rely on for baseline safety.

Many factors have come together to destroy that safety net. Logging takes away old-growth trees that provide a habitat for the lichens that woodland caribou rely on for food. Clearcuts are attractive to moose, and

the wolves that follow them become a new threat to caribou on adjacent intact territory that is no longer buffered. Logging roads and ATV or snowmobile trails provide an easy way in for all manner of predators, primarily wolves. Noise from snowmobiles, ATVs, and other machinery keeps the sensitive caribou away from their accustomed grounds and routes. Pipelines prevent migration. Hunting takes out healthy specimens. And yet, I think caribou are incredibly trusting and curious animals when it comes to humans. In the Yukon, you can stand on open ground and wave your arms to make them look like antlers, and these gentle animals will come up to inspect such a strange sight.

Of particular note is the South Selkirk herd of woodland caribou, which has received recent publicity around the planned capture and relocation of the remaining animals. Somewhat less known is the South Purcell herd, also down to a few animals. These two herds are not the only ones on the brink of extinction, but they have attracted international attention because their ranges border on the United States. Animals, of course, know nothing of borders, and travel back and forth, so the proposed capture and relocation would mean the end of woodland caribou in the US. The plan for the survivors of the South Selkirk herd is to net these animals from a helicopter, tranquilize and immobilize them, and fly them by helicopter to a pen near Revelstoke using a specially designed hammock. The Revelstoke pen, like other maternity pens, is not an ecosystem, like a national park; it is a sort of refuge camp where the animals are protected from predators and provided with food gathered by humans. Caribou

“THE CONCEPT OF TRIAGE IS FAMILIAR TO US AS MEDICAL PROFESSIONALS, BUT IT ALSO APPLIES TO ASSESSMENT OF ECOLOGICAL CRISES.”

are brought here when they can no longer calve and raise their young in a human-modified environment. This proposed measure has attracted criticism as well as admiration.

The alternative is what has come to be known as priority threat management. The concept of triage is familiar to us as medical professionals, but it also applies to assessment of ecological crises. From this perspective, rescuing the survivors of these two herds is the equivalent of applying a poultice to a mortally ill patient. If we are to conduct ecological triage, biologist Tara Martin says we need to identify which species in the province have the highest likelihood of recovery. Besides caribou, the Kootenay Border Region is home to many other threatened species whose survival would depend on the recovery of entire ecosystems, not isolated species.

This would be especially hard to do in an agricultural area like the Kootenay Border Region. Once habitat is destroyed, it's easy to make the argument that the remaining survivors of an ecological crisis are too expensive to save, and that we might as well not waste resources on such attempts as netting caribou and flying them to maternity pens. However, the very industries that extract resources in caribou habitat further north have helped pay for the establishment of maternity pens by First Nations, who remain the driving force behind practical efforts to save these animals. Companies that have sponsored maternity pens include Enbridge,

“IN THE CASE OF WOODLAND CARIBOU, MODIFICATION OF THEIR ENVIRONMENT IS OFTEN EITHER IRREVERSIBLE, OR TAKES TOO LONG TO REVERSE.”

Canfor, West Fraser, Spectra Energy, Walter Energy, Anglo American, Trans-Canada, Canadian Natural, and Teck. Other sponsors include Canada's federal government, the Habitat Conservation Trust Foundation, BC Hydro, and the BC Oil and Gas Research and Innovation Society. One could be cynical and suggest that for all these players, it's far cheaper and perhaps better PR to sponsor the extreme measures of rescuing a few surviving animals than to prevent their extinction in the first place. Meanwhile, the BC government continues to approve logging cutblocks in threatened caribou territory. It seems that this province has not yet outgrown the pioneers' illusion of limitless and self-renewing natural resources.

And perhaps the proponents of the priority threat management approach have a valid point. Of course caribou are beautiful, and iconic, and apparently worthy of being on the 25-cent coin. Of course we are devastated by what we as humans have done to the home of these animals. An opportunity to rescue is an opportunity to feel less guilty if not altogether good about ourselves as human beings. But the caribou care nothing for our motives. Three bulls and a cow are not a “herd”; they are remaining survivors. If genetic diversity is a goal, that feature has already been lost on the herd level. BC government biologist Leo DeGroot has said that as a herd, such a small number of animals is “functionally extirpated.” The expression is as merciless as the reality. In light of this, rescuing the survivors of each such herd is a desperate measure that would appear to have very little value for the species as a whole.

Indeed, what is the rationale for encouraging these surviving members of functionally extirpated herds to multiply and rear their young in an

environment that does not come close to the one in which they evolved? Is it a purely emotional response that has no value in evolutionary terms? It is the hope that at some point these rescued animals and their juvenile offspring can be released back into the wild and will migrate to join the more robust Columbia North herd. But whether or not such animals can successfully integrate into existing herds, one thing is clear to me: the species as a whole will likely never be the same. The preservation and propagation of survivors of functionally extirpated herds may prove to be just as beneficial to the entire species as protection of the more robust herds. It is possible that these surviving specimens have withstood the pressure of a most unnatural selection we have imposed on them and might thereby contribute positively to a species that is being modified by human activity.

Even when their environment is left alone to regenerate, some species bounce back more easily than others. In the case of woodland caribou, modification of their environment is often either irreversible, or takes too long to reverse. For example, even if trees

are planted on clearcuts, such trees cannot sustain woodland caribou for at least decades to come, since the lichens on which the animals rely are a feature of old-growth trees. We have to accept that these animals' habitat will never again consist of natural ecosystems of the kind they evolved in. Preserving the numbers of prey species in such modified ecosystems appears to require culling natural predators (wolves, cougars), a measure that has drawn harsh criticism from many but that seems inevitable if a new—if artificial—balance is to be struck. Animals who survive and multiply in human-modified ecosystems will be different from those subjected to purely natural selection, which no longer exists; eventually, such differences will become pronounced. Only time and studies will tell how caribou raised in maternity pens will contribute to the genetic diversity and robustness of their species. [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.

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