

# WEST COAST VETERINARIAN

SEPTEMBER 2021 | N° 44

## COLIC

FUR FARMING AND  
PUBLIC HEALTH

HORMONE-DRIVEN  
BEHAVIOUR IN  
DOGS

NON-  
COMPETITION  
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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 [wceditor@gmail.com](mailto:wceditor@gmail.com).

» ON THE COVER

Photo by Jon Tyson/  
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**A**s I write this message, one of my dogs is dying. Olga—my beautiful 13-and-a-half-year-old Golden Retriever—is reaching the end of her time with me, and it is crushing us.

She was the first dog I got after I said that I would absolutely never get another dog again way back in 2008. The first of many, of course, but Olga, in that role, has been a very special girl for all these years.

We have been delaying her death for years, to be honest. Olga was not dealt a great hand when it came to her health. She developed kidney disease seven or eight years ago, and we fought that with everything we had. A few years ago, as her kidneys worsened, we added medicines and started subcutaneous fluids. Our daily sessions administering the fluids

became our special time eventually, though some of you witnessed my initial freak-out at having to stick a needle in her. That first one nearly killed me.

As we've monitored her health, had tests and scans and medications added, introduced acupuncture and vitamins and probiotics, Olga has remained happy and spirited—and vocal if I was late with her food or the other dogs got too close.

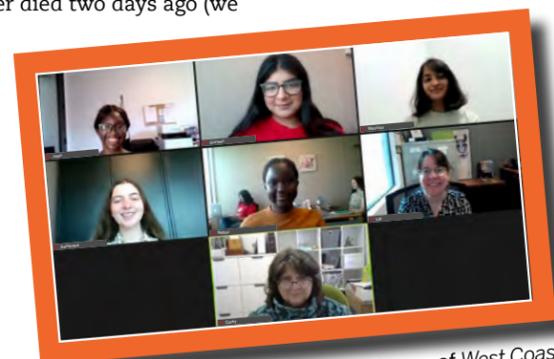
Taking her to a new veterinarian at a new clinic two weeks ago, I asked about her swollen glands. An FNA brought a diagnosis of cancer the following day.

So I write this message still in awe of the skill and knowledge of veterinarians but also in awe of the compassion shown by the veterinarians I speak to regularly and the genuine care I've received recently from the clinic staff. Olga's brother died two days ago (we

stayed in touch with the owner of her brother and sister), and his owner told me that the mobile veterinarian who came to their home was an angel who gave the perfect ending to a precious life.

I'm also hoping for a perfect ending. I wish it weren't so imminent, but I also know I've had the most perfect dog with the most precious life made long and happy by so much love from us and by excellent veterinary care. **WCV**

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



Between the June and September issues of *West Coast Veterinarian*, the Chapter welcomed and said goodbye to four Canada Summer Jobs youth.

**WCV**  
SEPTEMBER 2021

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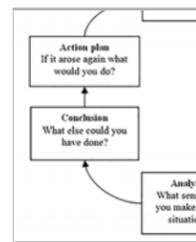
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1. Kirkby Shaw, K, et al. Vet Med Sci. 2016;2:3-9. 2. Rausch-Derra L, et al. Am J Vet Res. 2015;76(10):853-859.  
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**EMILIA WONG GORDON, DVM, DABVP (Shelter Medicine)**, is the only board-certified shelter medicine specialist in Canada and serves as the senior manager, animal health, for the BC SPCA. She provides animal health support, training, and oversight for 34 animal shelters provincially. Dr. Gordon also conducts shelter medicine research, works with veterinary students, participates in community partnerships and outreach, and volunteers on several committees including the SBCV-CVMA Chapter Animal Welfare Committee.



**SARAH GRAHAM, DVM, DACVS (Large Animal), DACVSMR (Equine)**, is a graduate of the Cummings School of Veterinary Medicine at Tufts University and completed a large animal surgical residency at the University of Florida. She was certified by the American College of Veterinary Surgeons and American College of Veterinary Sports Medicine and Rehabilitation and stayed at the University of Florida as a clinical assistant professor before returning to her native British Columbia. While at the University of Florida, she collaborated on experimental and clinical research on the surgical treatment of equine colic, and she is keenly interested in improving access to and outcomes after colic surgery. She is also interested in using acupuncture and rehabilitation to support recovery after injury or surgery. Currently, Dr. Graham provides locum relief to equine surgical practices in Canada.



**KAREN VAN HAAFTEN, DVM, DACVB**, graduated from Ontario Veterinary College in 2009. After several years in small animal private practice, she developed a passion for clinical behaviour and completed a residency at the University of California, Davis. Now a board-certified veterinary behaviourist, she is the senior manager of behaviour and welfare at the BC SPCA. In this role, she supports 36 networked sheltering branches with their behaviour caseload and also consults on cruelty investigation cases and provincial animal welfare policy work. Her research interests include psychopharmacology, behaviour modification for undersocialized cats, and humane training methods. She lives in Vancouver with two fluffy cats.



**JAN HAJEK, MD, FRCPC**, is an infectious disease specialist at Vancouver General Hospital and a clinical assistant professor at the University of British Columbia. His clinical work concentrates on tropical diseases, global health, and the treatment of severe bacterial diseases among people with substance use disorder and homelessness. In 2014, he worked with the WHO in West Africa to respond to the Ebola outbreak, and this past year he has worked on the COVID-19 ward at Vancouver General Hospital. He provides ongoing telemedicine support to Doctors Without Borders (MSF) as an infectious disease consultant.



**ELAINE KLEMMENSEN, DVM**, is always up for an adventure, especially if it involves people, pets, and creating connections within the veterinary profession. Her adventures in veterinary medicine have included being an associate veterinarian, partner, practice owner, locum, and international volunteer. Passionate about leadership development and workplace culture, she recently embarked on her latest adventure, founding Evolve Leadership Coaching and Consulting where she is determined to help veterinary leaders discover the “secret sauce” that will move their team from surviving to thriving. A student at Royal Roads University, Dr. Klemmensen is a graduate of the Values-Based Leadership Certificate and is currently enrolled in the Executive Coaching program.



**TONI LAOUTARIS, RVT, VTS (Anesthesia/ Analgesia)**, graduated from Georgian College in 2006 and began working in a hospital offering emergency/critical care and surgery services shortly thereafter. A passion for anesthesia resulted in her obtaining her specialty with the Academy of Veterinary Technicians in Anesthesia and Analgesia in 2014. She moved to beautiful British Columbia in 2016, feeling fortunate to have the opportunity to join the team at the Vancouver Animal Emergency and Referral Centre as lead anesthesia technologist. She joined the team at the Hands-Free Veterinary Radiography Initiative in 2017 and has been providing education and training on safer radiation practices using non-manual techniques for veterinary hospitals since then.



**LEXIS LY, BSc**, is currently an MSc student in Applied Animal Biology at the University of British Columbia’s Animal Welfare Program. Her work focuses primarily on the relationships between human vulnerability and companion animal welfare. The study described in this issue was completed as part of her BSc. A primary goal of her MSc work is to use One Welfare principles to maintain human-animal bonds and help animal welfare organizations provide equitable services.



**ALEXANDRA PROTOPOPOVA, PhD**, has a doctorate in behaviour analysis from the University of Florida. She is an assistant professor in the University of British Columbia’s Animal Welfare Program. Her research focuses on the physiology, behaviour, and welfare problems experienced by companion animals housed in shelters and pet homes.

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I am honoured to be able to welcome Dr. Megan Bergman as the College of Veterinarians of BC's new registrar and CEO as of July 19 of this year.

Dr. Bergman brings her experience in private practice, regulatory medicine, and administration. Most of her career has been in Manitoba, so she and her husband will have to adjust to living on the West Coast. The SBCV is looking forward to working with Dr. Bergman.

We also have a new dean at WCV who deserves our congratulations. After one year as interim dean, Dr. Gillian Muir has been appointed to a five-year term as dean. The University of Saskatchewan went through an extensive process to find and appoint a new dean to succeed Dr. Doug Freeman. The SBCV board has met and worked with Dr. Muir over Zoom and found that she understands our veterinary shortage and supports our efforts to get funding for more seats for BC students under the interprovincial agreement for WCV. This agreement between Saskatchewan, BC, and Manitoba dictates the operating funds for WCV. BC students who accept a non-funded seat at WCV have to pay the international tuition fee of \$67,000 per year, which we feel is discriminatory to those who cannot afford it. We look forward to continuing our good working relationship with WCV.

How many of you read the report from the CVMA president in every edition of WCV? How about attending the CVMA Zoom webinars? Through these, you would have met an incredible veterinarian in Dr. Enid Stiles. Dr. Stiles has served her year-long term through a most difficult time but has always been positive and supportive. She has been a true leader for our profession. Dr. Stiles hosted the annual provincial veterinary organizations' presidents' meeting in June and outlined all the projects the CVMA has been working on and developing

as well as reminded us of what it has to offer our members. She spent close to 45 minutes reviewing the many important issues that the CVMA has been working on and reviewing the position statements that the CVMA Animal Welfare Committee has either updated or developed anew. As I listened to this, it reinforced my opinion that we are served by an incredible organization that has been led by fantastic veterinarians. The CVMA does listen to your concerns and does its best to help veterinarians and the animals in our country and abroad. Thank you, Dr. Stiles, for your dedication and your leadership.

Before leaving the discussion about the CVMA, I want to thank the SBCV members who work with the CVMA. Dr. Christiane Armstrong has served as your CVMA council representative for five years. She has participated in various committees and kept the board apprised of what is happening within the CVMA as well as raising issues we are concerned about. Our thanks extend to Dr. Armstrong for all the time she donates for veterinarians in our province and country. We also thank Dr. Bettina Bobsien for taking on the position of chair of the CVMA's Animal Welfare Committee, one of the biggest and most active CVMA committees. Lastly, we thank Dr. Cecily Grant, who serves as the SBCV liaison on the CVMA AWC. Dr. Grant has spent many hours researching and reviewing the complex issues that the AWC is working on. We are all fortunate to have such devoted veterinarians donating their time and wisdom.

I hope you have all been able to visit with family and friends whom you may not have been able to meet due to the pandemic. It has been a difficult time for everyone. For me, it was great to be able to travel off Vancouver Island to see my grandson for the first time in almost a year. I hope you are all able to get back to doing things that you have had to postpone. Please take care of yourselves and stay cautious. Enjoy the fall and don't forget to attend our November continuing education. [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, three horses, three dogs, and two cats and coaches youth soccer in his spare time.*

As your CVMA president, it is my pleasure to update you on some of the CVMA's initiatives.

#### CVMA POSITION STATEMENTS

As part of the CVMA's virtual committee weekend, Council met in March to provide policy directions and make required decisions including the approval of the following revised and new position statements.

#### USE OF ANIMALS IN SCIENCE

The CVMA recognizes that animals play an important role in scientific advancement. Science involving animals must be conducted within an ethical framework (including the principles of replacement, reduction, and refinement) and in compliance with animal welfare guidelines and provincial and federal legislation. It must also have the potential to contribute to the understanding of biological principles, or to the development of knowledge and skills that can reasonably be expected to benefit humans, animals, or the environment.

#### USE OF LEAD FISHING TACKLE AND LEAD SHOT IN CANADA

The CVMA strongly supports a ban on the use of lead fishing weights, jigs, and lead shot because of the direct and indirect harm they may induce in humans, wildlife, and the environment. The CVMA strongly supports the development and use of non-toxic materials for hunting and angling purposes.



*Louis Kwantes, MSc, DVM, was born in Michigan and raised in Japan. He now lives Sherwood Park, Alberta, and has for the past 28 years. He graduated from Ontario Veterinary College in 1987 and completed an MSc in Tropical Veterinary Medicine at the University of Edinburgh in 1989. Dr. Kwantes's professional background includes mixed animal practice in Ontario and overseas veterinary postings in Haiti, Uzbekistan, and the Middle East. He is presently at National Veterinary Associates at Park Veterinary Centre, a companion and exotic animal veterinary clinic he co-founded in 1997. He is a past board member of the Edmonton Veterinary Emergency Clinic, past president of the Edmonton Area Small Animal Veterinarians group, and served the Alberta Veterinary Medical Association for over 12 years in a variety of capacities, including as president in 2015. Dr. Kwantes was presented a CVMA award for scholarship and leadership in 1987, shared the CVMA Hill's Public Relations Award in 2006, and was awarded a Rotary Integrity Award in 2015. He is grateful to have represented colleagues as executive member of the CVMA's Executive Committee the past few years and is excited to serve as the 2021–2022 CVMA president. Together with his wife, Janet, he is now an empty nester, save for a spoiled cat. Dr. Kwantes still loves working with animals and people and feels honoured to share in the bond between pets and their caretakers.*

#### HUMANE MASS DEPOPULATION OF DOMESTICATED ANIMALS

The CVMA holds that when mass depopulation of domesticated animals is undertaken, methods used must be as humane as achievable in the situation. Mass depopulation must only be performed by trained personnel who are supervised by persons competent in depopulation and knowledgeable in animal welfare. Methods of restraint and killing must be adapted to the specific circumstances of the situation and the species, size, and age of animal. The CVMA recognizes the potential for emotional impacts on everyone involved in mass depopulation activities and strongly recommends that resources be available to support these individuals.

#### CARE OF NEONATAL CALVES ON DAIRY FARMS

The CVMA supports restrictions contained in the Health of Animals Regulations on the age at which neonatal calves can be transported on long journeys and at what age they can be transported to auction markets. The CVMA recognizes that these changes may result in the retention of some surplus calves on dairy farms for a longer period than in the past. The CVMA maintains that producers have an obligation to provide the same appropriate standard of care to all calves on their farm irrespective of their economic value. Veterinarians should support their clients by providing advice on how to meet appropriate health and welfare standards, and, if necessary, on appropriate methods of humane killing.

#### ANTIMICROBIAL STEWARDSHIP IN VETERINARY MEDICINE

The CVMA strongly supports antimicrobial stewardship by veterinarians to help protect animal health and welfare, public health, and the environment.

#### USE OF THERMOCAUTERY FOR THE TREATMENT OF LAMENESS IN HORSES

The CVMA is opposed to the painful treatment of lameness using thermocautery ("pin firing" or "firing") in horses, as the practice is ineffective and is inconsistent with evidence-based medicine.

#### EXTRA-LABEL DRUG USE IN VETERINARY MEDICINE

The CVMA holds that extra-label drug use is an important and legally acceptable strategy for the effective treatment of animals when done by a licensed veterinarian within the confines of a valid veterinarian-client-patient relationship in circumstances where an approved veterinary product or drug is not available or is not suitable. [WCV](#)

# ADDITIONAL FUNDING DENIED

## FOR BC VETERINARY STUDENTS AMID PROVINCE'S VETERINARIAN SHORTAGE

BY MADISON AUDEAU, BSc

If you've picked up this magazine, then it's likely no surprise to you that our province is in dire need of more veterinarians. The BC Labour Market Outlook projects 770 job openings for veterinarians between now and 2029, and frankly, that demand hugely outstrips the supply. Even with our current influx of both experienced veterinarians and new graduates entering the province, we just can't keep up.

In 2019, the CVMA-SBCV Chapter, by request of the BC Ministry of Advanced Education and Skills Training, conducted a survey of veterinarians and veterinary professionals across the province. Around 65 per cent of BC veterinary employers said they anticipated hiring at least one more veterinarian over the next two years and would indeed hire another today if more candidates were available.

As of this writing, there are over 70 job postings for veterinarians and summer veterinary students on the SBCV's online classified ads pages. Because I am the student liaison for the Chapter, Executive Director Corey Van't Haaff regularly reaches out to me on behalf of clinics looking to hire summer students from WCVM. I receive far fewer emails from BC students actively looking for jobs—it seems that forward-thinking practices have already found them.

Veterinary clinics all over the province are experiencing the ramifications of this shortage. As much as we want to see every patient who is behind each ring of the phone, there's only so much time in a day. Throw in a global pandemic during which we've seen a remarkable rise in new pet adoptions, and the situation becomes more critical.

In the Vancouver Island community where I worked last summer, there were so few veterinarians available to

participate in the after-hours on-call emergency service that at one point, the service itself was at risk of dissolving. This would have meant that all clients with emergencies would be forced to drive over an hour south to the nearest emergency hospital in Nanaimo, which announced in early July that they'll be operating with only one veterinarian per shift and that waits for urgent care appointments may exceed 48 hours.

The veterinarian shortage translates to a challenging work environment for those veterinarians we do have. Wait times for appointments are often weeks long and getting longer. Overwhelmingly busy hospitals and long workdays lead to compassion fatigue, burnout, and, unfortunately, sometimes suicide. Too often, clients who have grown frustrated and embittered by the situation, in turn, take it out on the veterinary support staff, further bringing down morale and exacerbating the crisis. Going on as we have been just plainly isn't sustainable.

Several solutions have been proposed over the years, including making it easier for internationally trained veterinarians to practice in BC and increasing wages to entice more veterinarians to the province. The most popular suggestion by far is to increase the number of seats available to BC students at WCVM, which currently offers 20 provincially subsidized seats to BC students every year as part of the interprovincial agreement (IPA) between the western Canadian provinces.

An opportunity for BC to expand that number arose rather serendipitously when Alberta announced in 2017 that, after establishing their own veterinary college over a decade earlier, they'd be pulling their funding from the IPA. As a result, Alberta no longer had those 20 seats reserved for students beginning at the 2020 intake.

In 2018, WCVM had informed the SBCV Chapter that those seats could indeed be made exclusively available to BC students, provided the funding was approved by BC's Ministry of Advanced Education and Skills Training. The proposal, which would also increase the number of education equity seats for Indigenous students at WCVM, comes at a cost of \$8.3 million per year.

Despite having the support of the Minister of Agriculture, the BC SPCA, and the province's Chief Veterinary Officer, the Minister of Advanced Education and Skills Training went against the recommendations of



**“THE MINISTER OF ADVANCED EDUCATION AND SKILLS TRAINING WENT AGAINST THE RECOMMENDATIONS OF THE LABOUR MARKET STUDY FUNDED BY HER OWN MINISTRY IN TURNING DOWN THE PROPOSAL.”**

the labour market study funded by her own ministry in turning down the proposal. The five-year IPA was renewed again last winter, securing BC's 20 subsidized seats—but no additional seats. It's clear the minister doesn't see providing funding to train more veterinarians for BC as a priority.

Without BC stepping up to fund those seats, WCVM, now at a 26 per cent financial loss, was put into the position of having to open those seats up to applicants from across Canada and international students. As such, a new type of spot was created: the non-IPA seat. Without subsidy from any provincial government, these new seats at WCVM come at a price tag of \$68,000 a year—compared to the \$12,000 that IPA-funded students from BC will pay in 2021. The idea is that students who weren't selected for an IPA seat would get another chance; an opportunity to pay the international student rate but with the benefit of getting to stay closer to home rather than study abroad.

There's certainly no shortage of qualified students in BC who hope to become veterinarians. WCVM reportedly received over 145 applications from BC students last year. Since WCVM is the sole option for prospective students with BC residency, the application pool is both very large and very competitive.

The introduction of non-IPA seats forces BC applicants into an awkward position financially, as they may be offered either type of seat. “I felt like I had to accept my spot, paying \$35,000 per semester, or else change my residency, which would have delayed my career,” said a successful applicant and non-IPA seat holder. “I worked hard through my four years of undergraduate studies to reach my dream of being a vet. My grades were good, but being in the most competitive pool meant that they weren't good enough. If I had been from another province, I wouldn't have to take on so much more debt than other students.” Despite the non-IPA seats being available to a wide range of applicants, 16 of the 20 were filled by students from BC last year.

“Forcing BC students to pay for themselves through non-IPA seats is placing a financial burden on the students who are trying to address the dire shortage they see around them,” said another class of 2024 member from BC. “These vets will graduate heavily in debt and are more likely to move somewhere with a lower cost of living in order to start paying off their loans. This means BC will lose out on the veterinarians who are most likely to want to come back to BC. Investing in BC students is the surest way to address the growing shortage of veterinarians in the province and to protect the interests of the public and the health of our animals.”

It's discouraging that the Advanced Education Minister isn't interested in supporting the education of additional veterinary students for BC. “I am extremely disappointed to hear that BC is not funding more WCVM seats,” said a non-IPA seat holder from the class of 2024. “The decision is unfair to both prospective vet students and the pet owners in BC who are struggling to find veterinarians. I'm hopeful that this matter will be readdressed soon.”

Thankfully, there's still some time. WCVM has confirmed that the 20 seats formerly belonging to Alberta could still be made exclusively available to BC if the province follows through on providing funding by March 1, 2022. That is, of course, if the Minister of Advanced Education and Skills Training so much as agrees to take a meeting—which has so far been a challenge.

Veterinarians, veterinary students, and support staff are doing everything we can to support our patients and clients through the distressing situation in which our province has found itself. Unfortunately, the Ministry of Advanced Education and Skills Training isn't doing its best to support us, and animals and their caretakers in BC are suffering needlessly as a result. If you feel strongly about this growing crisis, you're encouraged to join us in contacting your local MLA and expressing your concerns. [WCV](#)



Madison Audeau, BSc, WCVM class of 2023, is from Nanaimo, BC. After a career in radio broadcasting, she earned a BSc in Biology at Vancouver Island University before coming to WCVM. After graduation, she looks forward to returning to the BC coast as a small animal clinician.

PHOTO BY MATT SEMOUR/UNSPLASH.COM

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# 2021 SBCV CHAPTER 2021 FALL CONFERENCE & TRADE SHOW

NOVEMBER 5, 6 & 7

## AGENDA

STRONGLY RECOMMENDED BY THE CVBC

### FRIDAY, NOVEMBER 5, 2021

#### EVENING SESSION

Informed Consent with **Dr. Christiane Armstrong, DVM** (1 CE credit hour).  
Communication in Practice Is *Not* a Soft Skill with **Dr. Cindy Adams, PhD, MSW** (2 CE credit hours).  
These sessions are generously sponsored by True North Veterinary Diagnostics.



### SATURDAY, NOVEMBER 6, 2021

#### MORNING SESSION

Violence Link and the Veterinarian's Role with **Mr. Phil Arkow** (3 CE credit hours).  
This session is generously sponsored by RBC.



#### AFTERNOON SESSION

Collaborative Approaches for Improving Your Perioperative Pain Management and Expanding Your Geriatric Chronic Pain Case Management with **Dr. Conny Mosley, DVM, DACVAA, CVA** (3 CE credit hours).  
This session is generously sponsored by Elanco Canada.



### SUNDAY, NOVEMBER 7, 2021

#### MORNING SESSION

Business Management—How to Reduce Stress in the Veterinary Hospital with **Mr. Darren Osborne** (3 CE credit hours).  
This session is generously sponsored by VetStrategy.



#### AFTERNOON SESSION

Complex Disease Management—A Common Consideration in Geriatric Cats and Solving the Challenge of Feeding the Multi-Cat Home with Different Nutritional Needs with **Dr. Margie Scherk, DVM, DABVP** (3 CE credit hours).  
This session is generously sponsored by Hill's Pet Nutrition.



FEATURED SPEAKERS



Dr. Cindy Adams, PhD, MSW—Communication in Practice Is *Not* a Soft Skill



Dr. Conny Mosley, DVM, DACVAA, CVA—Collaborative Approaches for Improving Your Perioperative Pain Management and Expanding Your Geriatric Chronic Pain Case Management



Mr. Phil Arkow—Violence Link and the Veterinarian's Role



Mr. Darren Osborne—Business Management—How to Reduce Stress in the Veterinary Hospital



Dr. Christiane Armstrong, DVM—Informed Consent



Dr. Margie Scherk, DVM, DABVP (Feline)—Complex Disease Management—A Common Consideration in Geriatric Cats and Solving the Challenge of Feeding the Multi-Cat Home with Different Nutritional Needs

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West Coast Veterinarian's "A Year in the Life" is a four-part column written by one veterinary specialist about one topic that has four distinct life phases. Through the course of the year, each instalment highlights how this topic affects animals at a certain life stage and what veterinarians should know about how to treat it. This year's focus is dog behaviour.

# DELAYING SPAYING OR NEUTERING: HORMONE-DRIVEN BEHAVIOURS IN ADOLESCENT INTACT DOGS

BY KAREN VAN HAAFTEN, DVM, DACVB

A frequent question veterinarians are asked these days is: when is the best time to spay or neuter my dog? Many clients are choosing to delay spaying or neutering in large-breed dogs (more than 20 kg) until the dog is fully grown (9 to 15 months), but as dogs reach sexual maturity between 5 and 12 months of age, hormone-driven behaviours can become a significant challenge.

As part of consultations on the timing of spaying or neutering, veterinarians should take time to discuss potential behaviour challenges that come with living with an intact dog. There are many factors to consider, and clients who have never lived with an intact dog before might be surprised by some of the information outlined below.

## INTACT DOGS AREN'T WELCOME EVERYWHERE

Clients may find their mature intact dog is not welcome in certain spaces that are usually dog friendly, such as training classes, boarding facilities, dog daycares, or the dog park. Bringing an intact dog to environments where they will come into contact with unfamiliar dogs can cause disturbances.

Dogs often respond differently to intact dogs. Both male and female intact dogs often get a lot more attention from other dogs than desexed dogs do. This can lead to conflict between dogs, and is very distracting in environments such as dog training classes. Additionally, if other intact dogs are present and unrestrained, there is a risk of mating behaviour occurring. Many businesses such as daycares and training centres have policies prohibiting mature intact dogs from attending.

## URINE MARKING

Urine marking is a hormone-driven behaviour that occurs more often in intact dogs. Males will urine mark in socially significant areas, typically outdoors but sometimes indoors as well. Intact females tend to urine mark excessively when they are coming into or going through a heat cycle, and they usually squat to urine mark. Clients may notice small, frequent deposits of urine in socially significant areas. Males tend to be driven to urine mark over top of each other's deposits, which can lead to compounding urine marking issues in multi-dog households.

If this occurs, clients should be advised to clean marked areas with an enzymatic cleaner. Clients should focus on house training and provide more frequent opportunities to eliminate outdoors. If the dog is in heat, the problem is likely temporary and will most likely resolve within 7 to 10 days (but return with the onset of her next heat cycle). Applying belly bands when indoors can be used as a temporary measure for intact males. Spaying or neutering will resolve excessive urine marking in more than 95 per cent of cases, even if it is not performed until the dog is mature.

## ROAMING

Intact male dogs are hormonally motivated to roam, especially if there is an intact female anywhere within olfactory detection distance (farther than you might think). Clients may have to avoid off-leash training and hiking in unenclosed areas until the dog can be neutered. Training a strong recall should be a priority for most dogs, but recalls may become unreliable if an intact male catches the scent of a female in heat. Clients should be advised to make their yards secure and always use a leash on walks.

## HUMPING

One embarrassing (but natural) behaviour that intact male dogs sometimes engage in is humping. They may hump other dogs, people, or even objects such as furniture.

Clients need to be prepared to interrupt humping behaviour when necessary. They should work on training cues such as "recall" and "sit," which can be used to bring their dog away from targets of humping behaviour. It is important to work on training these cues before they are needed: it will be harder for dogs to listen to them when they are engaging in humping behaviour.

Once clients have their dog's attention, they should give them another activity to occupy them, such as a puzzle feeder, training session, or a nice walk or play session outdoors. It is important not to allow the dog to continue the humping behaviour, as it can be self-rewarding, so they should always find a way to positively interrupt the behaviour.

Clients should not punish the dog for humping as it is a natural behaviour dogs are hormonally motivated to perform. Distraction with a previously trained cue is the best response. Neutering will very likely resolve this behaviour, so if humping is excessive or disruptive, recommend that they consider neutering earlier than planned.

## HEAT CYCLES

Clients need to be prepared for their intact female dogs going through a heat cycle approximately twice a year. Some dogs go into heat more or less frequently, and the first heat cycle is often silent (no physical or behavioural signs of heat).

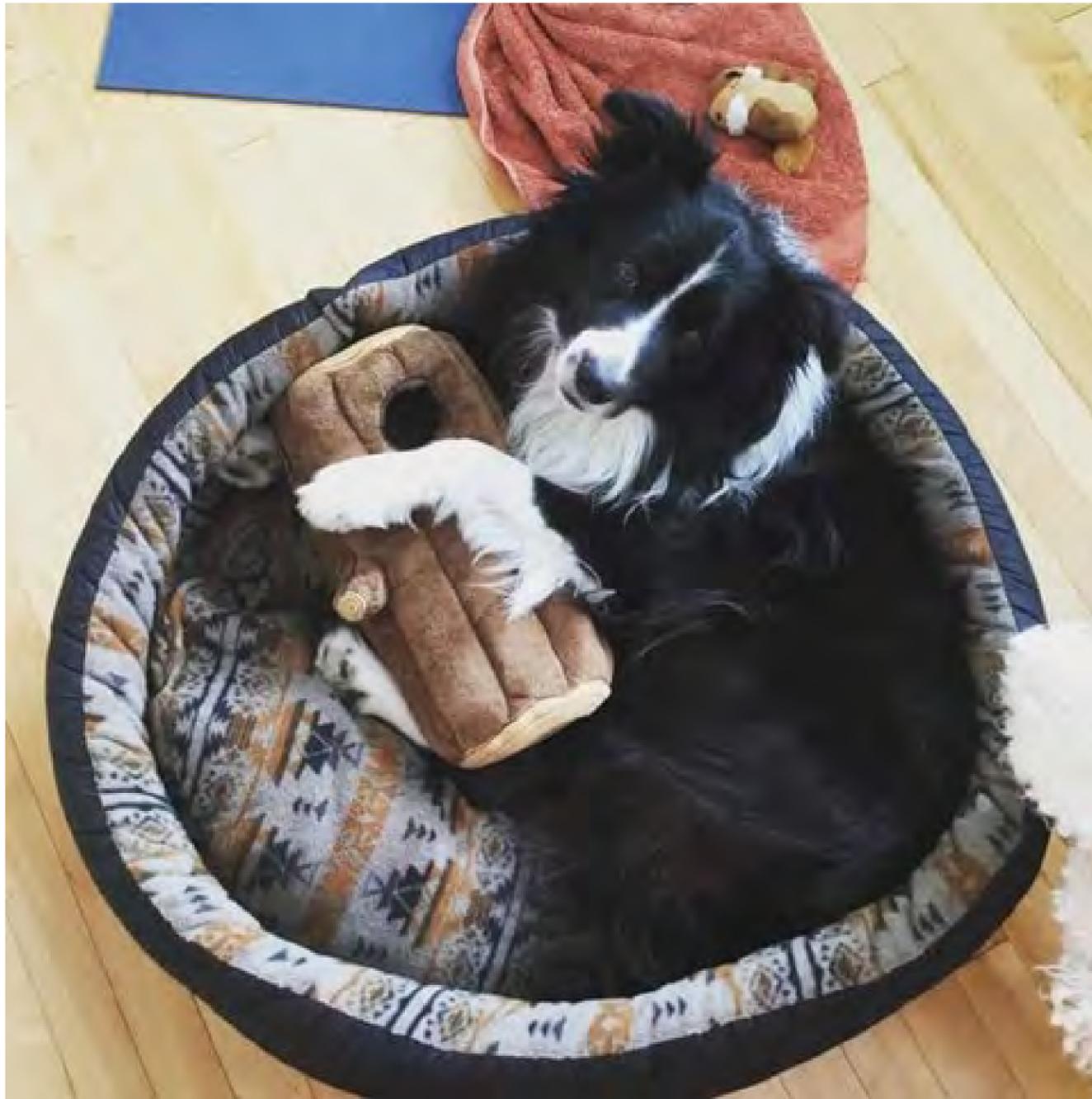
The first sign most clients notice is leaking of straw-coloured or blood-tinged fluid from the vulva. The vulva becomes swollen, and the dog will spend more time licking the genital area. Appetite may be reduced, and frequency of urination will likely increase. Dogs in heat will show more interest in intact male dogs than usual, and intact males will show significant interest in them. Sometimes dogs will have behavioural changes during heat: they may become agitated or irritable.



Humping is a common hormone-driven behaviour in adolescent intact male dogs.

PHOTO COURTESY DEBBIE MARTIN

“VETERINARIANS SHOULD TAKE TIME TO DISCUSS POTENTIAL BEHAVIOUR CHALLENGES THAT COME WITH LIVING WITH AN INTACT DOG.”



With pseudopregnancy, dogs will sometimes show nesting and mothering behaviour toward toys. They may show defensive aggression if owners try to approach or remove the toy.

PHOTO COURTESY NITA HYNES

The estrus or breeding period typically lasts 7 to 10 days, during which time the dog should be kept isolated from other dogs, especially intact males. Clients may choose to keep the dog contained to their home and yard for this period, depending on whether running into off-leash dogs on walks is likely.

Vulvar discharge is a common concern. Clients need to know it's likely this fluid will end up on their furniture. Some dogs are very good at keeping themselves clean, but if that's not the case, clients may be able to manage this fluid by having their dog wear a special "dog diaper" or sanitary pads when in the home. These are available from many online sources.

Due to increased surgical risk when spaying a dog in heat, it is important when booking spay appointments for mature females to determine when their last heat cycle finished. Clients should also be aware that spay appointments may have to be pushed back if their dog comes into heat unexpectedly.

### PSEUDOPREGNANCY

Pseudopregnancy or false pregnancy is common and can occur following a heat cycle even if the dog was not mated during estrus. It is caused by elevated progesterone levels after estrus, and is not considered pathological.

Four to nine weeks after estrus, the dog may show physical and behavioural signs consistent with pregnancy: mammary gland development (and possibly lactation), decreased appetite, and fluid retention. Vomiting may also occur.

Behaviourally, dogs may show restlessness, nesting behaviour, and/or mothering behaviour toward other animals or objects. In some cases, defensive aggressive behaviour similar to maternal aggression may occur.

Treatment is generally not required, as progesterone levels will naturally begin to drop after a few weeks if the dog is not truly pregnant. However, sometimes management is required to prevent triggering aggressive responses. Clients can use baby gates and exercise pens to block access to nesting areas so that the dog is not disturbed by normal household activities. Occasionally dogs need to be temporarily separated in multi-dog households until signs of pseudopregnancy have subsided.

Advise clients to avoid handling the mammary glands, as this may increase milk production and delay hormonal shift. If dogs are showing mothering behaviour toward toys such as stuffed toys, removing the toys may cause distress and is not recommended. Clients should allow their dogs to use the toys as an outlet for these maternal behaviours until progesterone levels fall. In some cases, fast-acting anxiety-reducing medications may be useful to treat transient anxiety.

Spaying is not recommended while false pregnancy signs are occurring, as this may cause the signs to persist longer.

### AGGRESSIVE BEHAVIOUR

Some types of aggressive behaviour have a hormonal component and can be more common in intact dogs. Territorial aggression involves dogs showing threatening behaviour when unfamiliar people or animals approach their home territory. This is more common in intact dogs, and neutering can be an effective part of treatment plans.

Aggression between dogs is also more common with intact dogs, especially between intact males when an intact female is nearby. Removing any in-heat females from the environment is usually effective in treating this problem.

Other dogs are often very curious about intact dogs and may test their patience by excessively investigating their rear end. It's not uncommon for intact dogs to get frustrated with this and tell the other dog to back off, which can trigger conflict. Prevention is the best strategy in these cases: clients should choose easygoing playmates for their intact dog to socialize with and avoid uncontrolled environments such as the dog park. Dogs who have experience with intact dogs are usually less prone to this intense investigation behaviour. [WCV](#)

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# HOW TO HARNESS

BY ELAINE KLEMMENSEN, DVM

On a recent road trip, I was listening to a podcast where the host posed the following question: “Are you a person who likes to go with the wind or who likes to be the wind?” Even though I was travelling alone, I found myself answering aloud, “Definitely BE the wind.” Perhaps, like me, you know the answer to this question without having to think too hard, but if you are unsure, let me explain. Do you wake up willing to go with the flow and see how your day unfolds? Or do you wake up with a specific idea of what you hope to accomplish or experience that day?

Great questions make us stop and think. They offer the opportunity to reflect on the values that drive our behaviours and influence how we show up. There is no right answer to this question. Rather, what matters is taking the time to reflect honestly on how “going with the wind” or “being the wind” is serving you. If you are someone who goes with the wind, you may be unsure of your destination, feel pulled in multiple directions, and be easily sidetracked from reaching your goals. Alternatively, if like me, you prefer to be the wind, you might be hyper-focused and risk sacrificing creativity for productivity and conformity, missing out on moments of spontaneity and serendipity.

John Dewey, an American philosopher and proponent of educational reform, believed that as individuals we don’t learn from experience, we learn from reflecting on experience. We have no time for creating space for reflection in our fast-paced, results-driven culture. Production, creation, action, and implementation are how we measure our worth, and as a result, we wear our busyness like a badge of honour. Who has time for reflection when there are not enough hours in the day to meet the needs of our clients and patients, let alone those of our team members? But what might be the pitfalls of this action-focused “be the wind” approach to leadership and life?

Before we explore the value of reflection, I want to pause and define reflection in the context of learning. Reflection is an internal process that involves thinking about our attitudes, beliefs, values, and behaviours. It is critical to an individual’s learning process and, if used with positive intent, can improve communication, build trust, and improve patient outcomes. In 1984, David Kolb stated, “Learning is the process whereby knowledge is created through the transformation of experience.” He created Kolb’s Learning Cycle (Figure 1), a model that incorporates trial and error, concrete experience, reflection, and research to define the stages of learning.

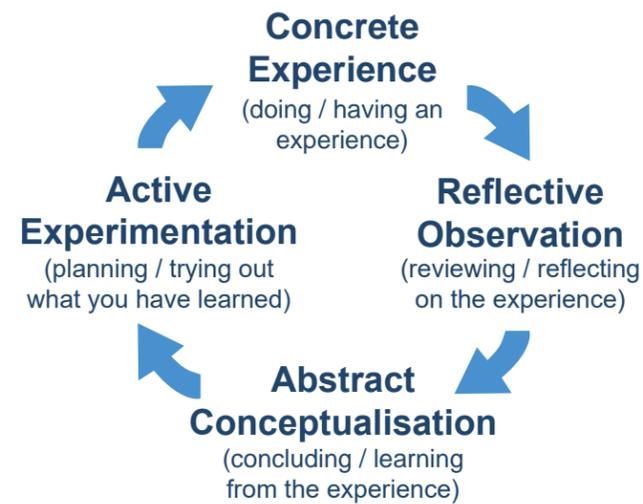


FIGURE 1: Kolb's Learning Cycle.

Creating space for both individual and team reflection is critical to becoming an agile, learning organization. It ensures we don’t dash madly off in the wrong direction or miss critical information that might have altered our plan. It provides an opportunity to explore our earlier beliefs, ingrained practices, and established patterns to evaluate their effectiveness. It provides a connection between what happened, what we wanted to happen, and what we can do in the future to alter the outcome and better serve our patients and clients. Finally, creating space for reflection gives our people the opportunity to share their experience, providing valuable perspective and creating the shared stories, artifacts, and symbols that form the fabric of our hospital culture.

Studies have shown the benefit of reflection in building authentic leaders and agile teams able to collaborate, innovate, and navigate complex challenges and uncertainty. Veterinary teams would be wise to embrace this research and incorporate opportunities for reflective learning as a practice standard. What exactly does reflection look like in a veterinary setting? How can leaders at all levels leverage it to engage their team, obtain knowledge, innovate, and improve?

# THE WIND

“THE REFLECTIVE LEARNING PROCESS CAN BE USED IN A VARIETY OF CONTEXTS IN THE CLINICAL SETTING, SUCH AS EXPLORING HOW HOSPITAL POLICIES

IMPACT EFFICIENCY, DEBRIEFING ON NEGATIVE PATIENT OUTCOMES OR CLIENT EXPERIENCES, AND EVEN DISSECTING A CHALLENGING TEAM COMMUNICATION ISSUE.”

Creating a designated time to coach team members is the first step to leveraging the benefits of reflective learning. Depending on the situation, it can be used in a team setting or a more private venue with select team members. Regularly scheduled events like morning rounds, staff meetings, or scheduled team training sessions are a good place to start. The reflective learning process can be used in a variety of contexts in the clinical setting, such as exploring how hospital policies impact efficiency, debriefing on negative patient outcomes or client experiences, and even dissecting a challenging team communication issue. In a veterinary setting, practical use of Kolb’s learning cycle would look similar to Figure 2.

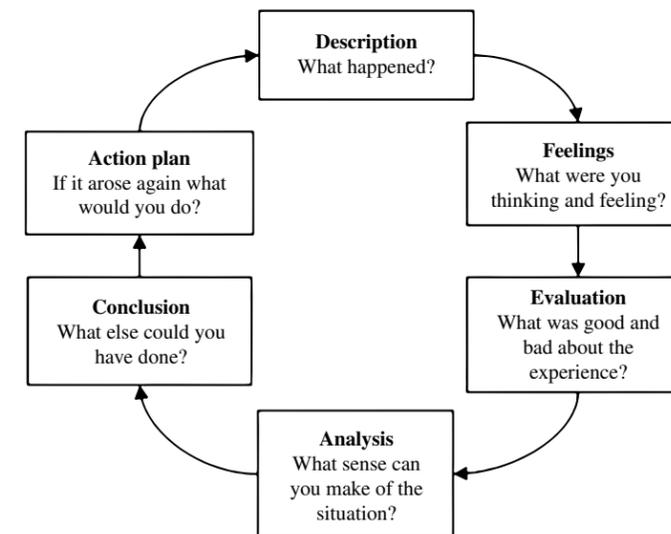


FIGURE 2: Experiential learning in action.

Leaders can coach team members to share their experience, starting with the facts of the situation or what happened, progressing to what each individual was thinking and feeling, and then evaluating what, in their opinion, was positive and negative about the experience. Participants must learn to listen with an open mind and suspend judgement while team members share their experience of the situation. From here the team can start to analyze and make sense of the situation, leading them to consider what else could have been done and how they might respond differently if the situation arose again.

I suspect many of you already practice reflection regularly, but you may do so unconsciously, reviewing in your head the conversation with a client that went poorly or the surgery where you were in the zone and it went great. Reflective learning can be applied to many different situations we encounter daily, both positive and negative. Following the steps outlined above will make your learning more concrete and help you come to terms with bad experiences and move on. In this way, you can build resilience and improve your overall well-being or that of your team. With practice, reflective practices that lead to experiential learning are a way to harness the power of the wind. Rather than trying to “be the wind” or just “going with the wind,” learn to leverage the wind to gain the lift you need. Then enjoy the ride as you view the world from a new perspective.

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# FUR FARMING AND PUBLIC HEALTH

BY JAN HAJEK, MD, FRCPC

**“MINK ARE A PARTICULAR RISK FOR CERTAIN ZOO NOTIC DISEASES BECAUSE THEIR RESPIRATORY TRACTS HAVE VERY SIMILAR SIALIC ACID AND ACE2 RECEPTORS TO HUMANS, AND LIKE HUMANS, THEY ARE SUSCEPTIBLE TO INFLUENZA AND SARS-COV-2 INFECTION.”**

PHOTO BY ELENA FEDOROVA / SHUTTERSTOCK.COM

**A**s an infectious disease specialist, I have witnessed the devastating impacts of zoonotic infections. I have treated patients with Ebola in West Africa and with rabies in Uganda. This past year, along with treating patients with COVID-19 here in Vancouver, I also learned a lot about fur farming—especially mink and raccoon dogs.

Mink, native to Canada, are special animals. They have webbed feet and are semi-aquatic, spending up to 60 per cent of their time in water in the wild. They are territorial and live on ranges covering two to five kilometres of wetland or waterfront. Similar to cats, mink are skilled hunters and make a purring sound when they are content.

Mink are a particular risk for certain zoonotic diseases because their respiratory tracts have very similar sialic acid and ACE2 receptors to humans, and like humans, they are susceptible to influenza and SARS-CoV-2 infection. As these viruses can jump between humans and mink, especially on large fur farms, the large numbers of susceptible mink living in close contact make for high mutation risk with potential consequences for transmissibility, pathogenicity, immune evasion, and spread to other animals.

## THE FUR FARMING INDUSTRY

Worldwide, an estimated 90 million animals are kept on fur farms. Most are in China, Denmark, and Poland. In 2018, an estimated 50 million animals were on fur farms in China (21 million mink; 17 million foxes; 12 million raccoon dogs); 38 million in Europe (35 million mink; 2.7 million foxes; 166,000 raccoon dogs); and 3.1 million in the United States, predominantly mink.

For ethical and public health reasons related to COVID-19, an increasing number of countries—including top global producers like Poland and the Netherlands—have now banned fur farming.

In Canada, an estimated 1.8 million animals are bred and killed for fur (1.7 million mink; 2,400 foxes). Most fur farms are located in Nova Scotia, Ontario, and British Columbia. In 2020, the BC Ministry of Agriculture granted permits to 10 mink fur farms and one chinchilla farm. Chinchillas, native to the South American Andes, are bred for their soft fur or kept as pets for their playful and affectionate nature. There are currently no fox farms in BC.

Hunting and trapping have existed for millennia; but fur farming only started 100 years ago. To maximize profits, industrial farming practices are used, with animals kept in long rows of wire-bottom battery cages. This causes stress, resulting in abnormal repetitive behaviours, and even instances of self-mutilation and cannibalism. The high numbers of animals and high densities also drive the spread and persistence of respiratory viruses.

Mink are typically bred in March and give birth in May to an average of five kits. About 80 per cent are killed for fur in November and December, with the rest remaining for breeding. Mink can be vaccinated against several diseases, including canine distemper (paramyxovirus) and mink enteritis virus (parvovirus).

Before COVID-19, Aleutian mink disease virus is the most significant health issue for mink on farms. It causes a chronic progressive disease associated with immune dysregulation and death. Although it only very rarely causes disease in humans, it poses a risk as a potential future emerging infectious disease.

## INFLUENZA

Unlike coronaviruses, which are long single-stranded RNA viruses, influenza viruses are composed of eight RNA segments. In addition to random mutations during replication, influenza viruses can make sudden drastic evolutionary changes when different strains are mixed together. For example, if a mink is infected by a bird with avian flu and a farmer with seasonal flu, the viruses can combine together through a process known as reassortment or antigenic shift. In 2009, the H1N1 “swine flu” pandemic likely emerged due to spread and reassortment of influenza viruses between pigs and farmers in Mexico.

As well as workers with seasonal flu, the practice of feeding mink raw discarded parts of pigs and chickens can also be a source of influenza. Although severe cases of pneumonia can occur, most influenza infections in mink are mild or asymptomatic. Because of the generally low mortality and relatively low economic consequences for farmers, there is no regular surveillance for influenza in mink—presenting an often-unrecognized pandemic risk.

## NETHERLANDS: HUMAN-MINK-HUMAN TRANSMISSION

In April 2020, the first cases of SARS-CoV-2 infection among mink on fur farms were diagnosed in the Netherlands, presenting as acute respiratory illness. People working on the farms had been sick with COVID-19 earlier and likely spread the virus to the mink. By analyzing genomic sequences, researchers were able to document the emergence of “mink-adapted” strains that then spread from the mink back to the workers. Aerosolized dust samples had detectable virus, and even stray cats on farms became infected. In light of these developments, outbreaks on multiple farms, and longstanding ethical concerns, fur farming was banned in the Netherlands and farmers were compensated for their losses.

## DENMARK: “MINK-ADAPTED” VARIANTS SPREAD INTO GENERAL PUBLIC

In June 2020, cases of SARS-CoV-2 infection were detected among mink on fur farms in Denmark—a country with 5.8 million people and 17 million mink. By November, over 200 farms were affected. As in the Netherlands, mutations rapidly accumulated—including in areas of the spike protein critical for viral entry and immune response. These variants spread into the general public and showed an impaired response to antibodies. Although the effect was small, it raised serious concerns that further mutations could affect transmissibility and vaccine efficacy.

Ongoing surveillance on a mink fur farm in Denmark documented cases of reinfection of mink occurring two months after recovery and seroconversion, raising concerns about viral persistence. Experts cautioned that the virus could evolve along unexpected evolutionary pathways, affect other species, and establish a reservoir in wildlife with risks for future pandemics. In response, the Danish government announced the culling of all mink and a ban on fur farming until at least 2022.

## UNITED STATES: INFECTION OF A WILD MINK

Beginning in August 2020, outbreaks of COVID-19 have been documented on 16 mink fur farms in the US. Farm sizes ranged from 200 to over 40,000 and mortality rates on farms ranged between 2 per cent and 42 per cent. The response was challenging. In many states, fur farms do not need a license to operate. There is no compensation for losses from illness nor is there mandatory surveillance. A wild mink infected with SARS-CoV-2 was found near a fur farm, raising further concern about possible spillover and establishment of new reservoirs in wildlife, like influenza among aquatic birds.

## CANADA: OUTBREAKS ON THREE MINK FUR FARMS IN BC

In December 2020, at a time of devastating outbreaks in nursing homes, cases of COVID-19 were also diagnosed among workers at a mink farm in the Fraser Valley (with 15,000 animals). The mink were initially asymptomatic but tested positive for SARS-CoV-2 by PCR. The affected workers were isolated to reduce spread to other people, but the mink were not culled. Within weeks, another outbreak on a smaller mink farm (with 1,000 animals) was reported. In this case, the owner acted proactively and culled mink for public health reasons rather than for fur. However, there was no compensation offered. Exiting the industry without government support may not have been financially practical for larger fur farms.

In March 2021, permits to fur farms were reissued and breeding more mink was allowed. Significant public investments were made to monitor for additional outbreaks. Although mink fur farms in other parts of Canada have not reported cases of COVID-19, it is unclear what testing and screening protocols they have in place.

In May 2021, an outbreak among 25,000 animals on a third mink fur farm was reported. The workers had all been vaccinated (or offered the vaccine). The outbreak was detected as part of a provincial program of enhanced COVID-19 surveillance. Genomic testing to date has not identified any concerning novel “mink-adapted” mutations.

Vaccines against SARS-CoV-2 for mink may reduce future risks. However, the performance characteristics and uptake of these vaccines are unclear; 100 per cent immunity is unrealistic and, given the crowded conditions on fur farms, there will still be concern about virus transmission and public health.

**“AS IN THE NETHERLANDS, MUTATIONS RAPIDLY ACCUMULATED—INCLUDING IN AREAS OF THE SPIKE PROTEIN CRITICAL FOR VIRAL ENTRY AND IMMUNE RESPONSE.”**



PHOTO BY ROKAS TEIVIS/SHUTTERSTOCK.COM

## ASSESSMENT OF THE RISKS OF COVID-19 ON MINK FUR FARMS IN CANADA

In August 2020, a Canadian expert group assessed the risk of human-to-mink transmission in Canada to be low, with a moderate level of uncertainty. Notably, in January 2021, after outbreaks on more than 400 fur farms worldwide, a WHO-UN expert group estimated this risk to be high.

The Canadian expert group also considered the probability that mink fur farming would lead to a permanent virus reservoir among wildlife in Canada and a future zoonotic risk to be most likely low, but the estimated probability ranged from negligible to high due to a high level of uncertainty.

In light of the risks and uncertainties, the decision to permit breeding more mink this year in BC has been called shockingly reckless. These accusations raise the question of what level of risk imposed by zoonotic diseases is acceptable for a private industry from a public health perspective.

Similar to other public health interventions, the response to risks posed by mink farms must involve careful consideration of individual freedoms, public benefits, as well as available resources, risk tolerance, and societal values. With unclear but definitely non-zero risk, and very limited broader benefit, I find it hard to see how mink farming is justifiable.

## WHAT'S NEXT?

We have entered a pandemic era.

COVID-19 has killed four million people, disrupted education for children, worsened domestic violence, and widened global inequities. It has also demonstrated that the way animals are treated can have massive health, economic, and social impacts globally. Response and recovery efforts must address the risks associated with our uses and abuses of animals.

Mink, civet cats, and raccoon dogs were among the many live animal species sold in crowded markets in Wuhan in 2019, and it has been speculated that these markets may have had a role in the beginnings of the COVID-19 pandemic. In response, China banned most of the terrestrial wildlife trade—and provided support for people who had relied on breeding wild animals for income.

When it comes to zoonotic infectious diseases, a proactive approach based on the precautionary principle is best. By the time outbreaks occur, the response is more difficult, more costly, and more traumatic.

To prevent new pandemics, we should stop the international trade of wild animals. We should reduce deforestation and biodiversity loss. We should also end fur farming and support fur farmers to transition and build a healthier and more compassionate future. Paraphrasing the words of Dr. Julio Montaner in addressing the HIV pandemic, “We know the evidence, we know what needs to be done.” [WCV](#)

# COLIC: NEW INSIGHTS INTO AN OLD PROBLEM

BY SARAH GRAHAM, DVM, DACVS  
(Large Animal), DACVSMR (Equine)

**F**or equine veterinary practices, client calls for colic can make up the largest portion of after-hours emergency cases, reported at 35 per cent, according to one recently published study from the UK. Colic, or abdominal pain, can result from gastrointestinal or non-gastrointestinal sources, with colic from gastrointestinal origin being the most common. Previous studies have shown that the mortality rate for colic is higher than for any other cause. Given the prevalence of the problem and the detrimental impact it can have on horse health, owner satisfaction, and industry economics, it is incumbent upon the veterinary profession to continue to strive for reduced incidence and better outcomes for horses.

A recent scoping and systematic review appears to have confirmed the age-old wisdom that management practices play a large part in a horse's risk for developing colic. However, this reflects the fact that the majority of studies published on the subject relate to management changes and include analysis of feeding, stabling, pasture access, caregiver type, exercise, and water. Based on a systematic review of the published literature, increased risk of colic is associated with recent changes in feeding management, feeding high levels of concentrate, or changes in stabling. Owners should be educated about the effect that these changes could have so that they can increase vigilance and take preventive measures. And while increases in colic may be seasonal, colic can no longer be blamed directly on the weather, as a new study reported that barometric pressure values and changes were not statistically associated with a diagnosis of colic.

**“FEEDING IN A MANNER THAT IS MORE SIMILAR TO GRAZING, WHERE THE HORSE HAS ACCESS TO SLOW FEEDING FOR MORE THAN 18 HOURS PER DAY, MAY BE VERY HELPFUL FOR PREVENTING THESE CONDITIONS.”**



PHOTOS COURTESY SARAH GRAHAM

A side-to-side jejunocecostomy performed after a lipoma strangulated the ileum and jejunum in a Morgan mare. The mare did well post-operatively and returned to previous use.

Unfortunately, the onset of colic and associated clinical signs are not always easily recognized by owners. The results of an online questionnaire published in 2020 revealed that fewer than half of responding owners knew the correct normal values for heart rate, temperature, and respiratory rate. Only 50 per cent of participants would call the veterinarian if their horse was flank watching, and 42 per cent if their horse was inappetent. When the respondents were provided with clinical scenarios, only 9 per cent were confident in identifying colic in a horse with clinical signs of large colon impaction. This identifies the need to further educate horse owners on monitoring their animals at home. The British Horse Society has developed an educational website to assist with this: [www.bhs.org.uk/our-work/welfare/our-campaigns/react](http://www.bhs.org.uk/our-work/welfare/our-campaigns/react); however, the terminology is more relevant to residents of the UK.

Large and intermittent meal feeding, which may be practised in show barns or intensely managed operations, is not well tolerated by horses, who are hindgut fermenters. For the horse to pass large volumes of feed through the intestines, large volumes of fluid must also accompany the food. The volume of water that a horse consumes each day is directly linked to the amount of feed they consume in addition to other effects such as amount of exercise and environmental temperature. In addition to consumed water, the intestines secrete very large volumes of fluid into the lumen (approximately 30 per cent of the horse's body weight). This is followed by systemic hypovolemia, which can be observed via transient increase in packed cell volume and plasma protein concentration after eating. The exocrine-gut axis controls the fluid shifts into and out of the colon, and large meals appear to cause dramatic changes in fluid volumes that may put horses at risk of impaction or distension that could lead to displacement or volvulus. Feeding in a manner that is more similar to grazing, where the horse has access to slow feeding for more than 18 hours per day, may be very helpful for preventing these conditions.

As equine veterinarians know from years of practice, the majority of colic cases seen at the farm are mild. Data from a 2015 study of primary evaluations for colic showed that 76.4 per cent were non-critical and responded to simple medical treatment. However, 17.5 per cent of cases were classified as surgical and/or strangulating lesions. Analysis of the data showed five variables to be associated with a case that is classified as critical: degree of pain (using a combined pain score), increased heart rate, capillary refill time greater than 2.5 seconds, weak pulse character, and absence of borborygmi in at least one quadrant. The most common reasons reported for euthanasia were, "owner elected," "owner unable to afford referral/surgery," or "unable to travel due to pain/age." Therefore, referring to a hospital for continued monitoring and care is an option that should be discussed early in the treatment process at the farm when cases present with tachycardia (48 bpm or above) or pain that fails to resolve with a single dose of flunixin meglumine (with or without a dose of short acting sedative like xylazine). This may be an especially difficult decision to make when the nearest referral hospital is many hours away. It also underscores the importance of advance planning by owners, which includes considering medical insurance and realistically evaluating their financial capabilities and available transport options.

Once a case is referred, the receiving hospital will perform a detailed evaluation, which usually includes blood work, per rectum examination, ultrasound evaluation, peritoneal fluid analysis, nasogastric intubation, and intravenous catheter for IV fluid administration. The majority of these procedures can be performed rapidly and safely in a hospital setting with stocks and basic laboratory equipment. Performing detailed ultrasound or peritoneal fluid collection at the farm may lead to unintended but costly delays. The objective at the hospital is to determine whether medical

management and intensive monitoring is indicated or surgical intervention recommended.

Systemic lactate has been shown to be an excellent marker of critical illness. It may be the result of hypoperfusion and hypoxia, which are secondary to hypovolemia, although there are other proposed mechanisms and further research is warranted. Nevertheless, peritoneal lactate will elevate past the peripheral in cases of small intestinal strangulation (large intestine strangulation is not as consistent) and can aid in providing a pre-operative diagnosis of strangulating lesion. Recent studies have shown that ponies may have higher elevations in systemic lactate and blood glucose on presentation than horses, and that should be taken into consideration when evaluating them. Other interesting work with biomarkers has assessed fibrinogen and serum amyloid A. More novel biomarkers are plasma HMGB-1 and nucleosome concentration, which were assessed in a small number of horses on admission for colic. However, while differences were detected between healthy horses and those with gastrointestinal disease, no test at admission was able to distinguish between strangulating and non-strangulating colic or to predict survival or non-survival.

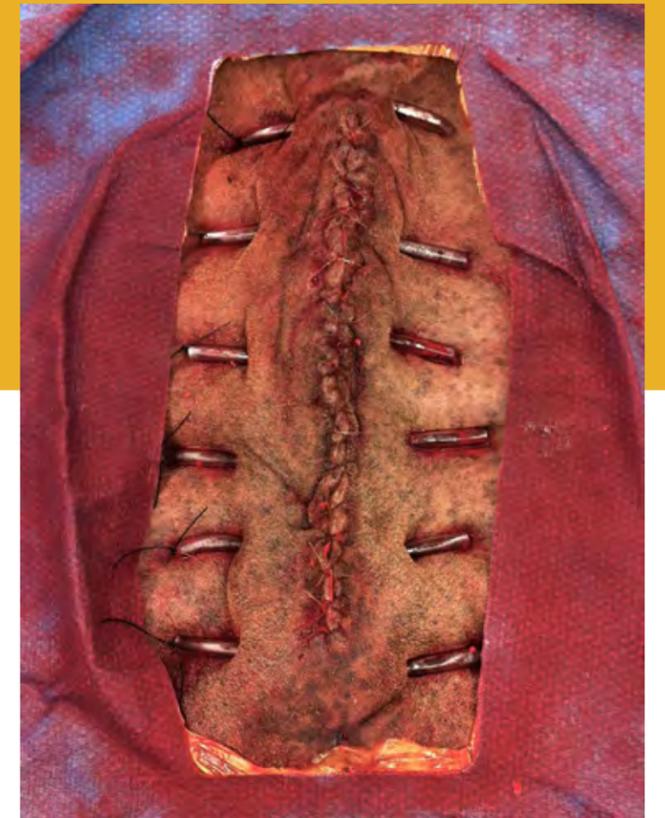
Horses with suspected strangulating lesions and those with obstructive lesions with signs of unrelenting pain or systemic compromise are generally recommended for surgery. Surgery is routinely performed under anesthesia in dorsal recumbency. Numerous case reports and case series describing a standing flank approach to an acute abdomen have been recently reported. However, given the limited exposure to the abdominal cavity through a flank incision, the relatively high level of uncertainty (specific location/diagnosis and/or additional lesions) and the risk of unpredictable reactions of an un-anesthetized and potentially painful animal, ventral midline will likely remain the preferred approach for most cases. Elective and preventive procedures such as nephrosplenic space ablation remain highly amenable to a standing flank approach and appear to be effective in reducing future episodes of colic.

Surgery performed for non-strangulating lesions of the large colon generally carries a good prognosis for recovery and discharge of generally greater than 90 per cent survival. This typically includes conditions of left dorsal displacement/nephrosplenic entrapment (LDD), right dorsal displacement (RDD), non-strangulating volvulus, and pelvic flexure retroflexion (PFR) and tend to occur in young to middle-aged horses. However, these conditions are also associated with relatively high incidence of post-operative colic: up to 23 per cent for LDD, 42 per cent for RDD, 45 per cent for PFR and 20 per cent for non-strangulating volvulus. Recurrence of strangulating large colon volvulus is approximately 15 per cent after the first episode. Given the likelihood of recurrence for some of these conditions, preventive

**“RESEARCH HAS SHOWN THAT THE SUCCESS RATES OF COLIC SURGERY ARE SIMILAR FOR GERIATRIC AND YOUNGER HORSES.”**

procedures such as large colon resection or colopexy, in addition to the less-invasive nephrosplenic space ablation, have been considered during the first or subsequent surgical intervention.

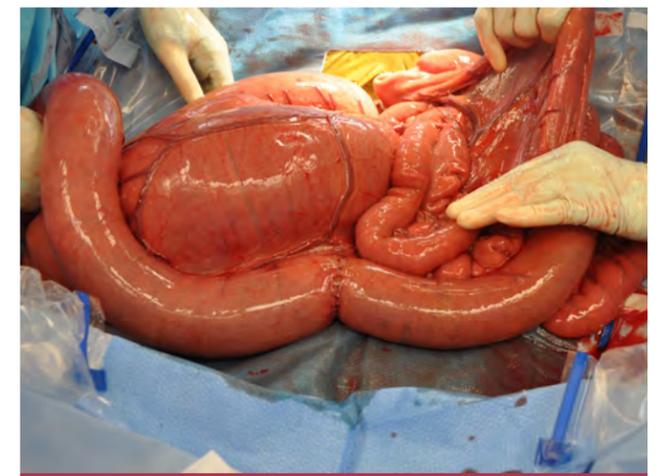
Surgery on the small intestine tends to carry a higher burden of doubt among both owners and veterinarians. Except in certain geographic locations, the vast majority of small intestinal lesions are strangulating, and the incidence of these lesions increases with age due to the concurrent increase in risk for strangulating lipoma.



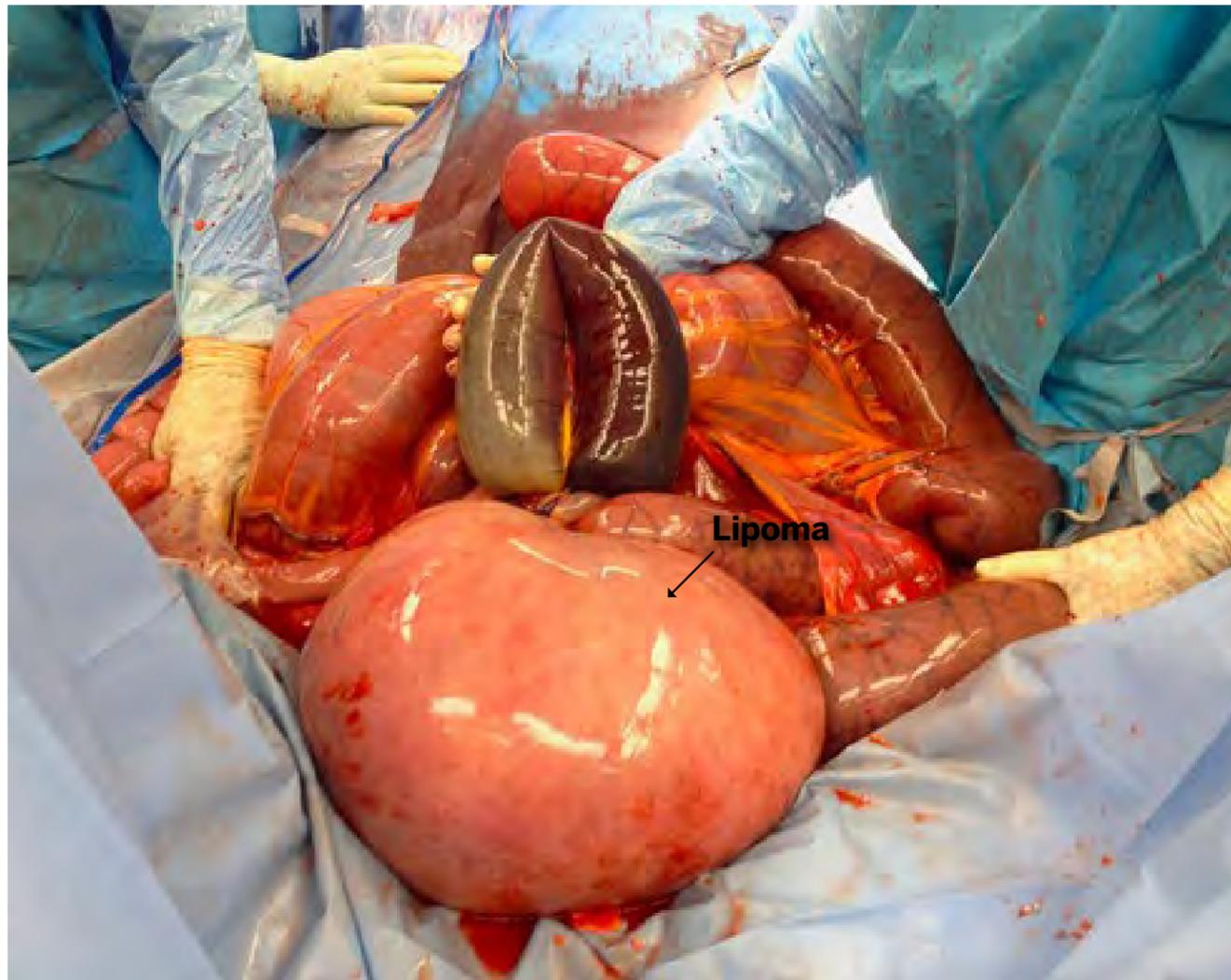
After a repeat celiotomy, the incision was reinforced with tension-relieving sutures due to weakness of the body wall after first surgery. Horses who have early repeat celiotomy have a higher risk for incision infection and therefore hernia formation.



Mesodiverticular band without strangulation. This remnant of embryonic development caused obstruction of the distal jejunum and was removed at surgery with an end-to-end jejunoileostomy. The horse had no post-operative complications and was discharged after 1 week in the hospital.



Repeat celiotomy after jejunojejunosomy in an Arab mare. Shrinkage of the mesentery secondary to contraction of a large mesenteric hematoma caused kinking of the anastomosis. The section was removed and a second jejunojejunosomy was performed. The horse did well post-operatively and owner satisfaction was high.



A large lipoma strangulating a small section of jejunum in a 20-year-old Thoroughbred gelding. The devitalized section of bowel was removed and an end-to-end jejunojunostomy was performed. He experienced no complications and returned to his intended use for several years before retirement. He is still alive at the age of 29 and has experienced no other episodes of colic.

Therefore, owners are presented with a more difficult choice as to whether to proceed with a more costly and risky surgery on an older horse. This is somewhat unfair to the horse, as research has shown that the success rates of colic surgery are similar for geriatric and younger horses. Older horses may have additional conditions (lameness, tooth conditions, etc.) that render them less useful or more difficult to manage and therefore of less value. However, some of this pessimism is truly undeserved as success rates for small intestine resection and anastomosis have certainly improved in recent decades, likely due to better surgical techniques, improved anesthesia, and faster referral. Horses undergoing jejunojunostomy have reported survival rates of up to 95 per cent, and those undergoing jejunocostomy have short-term survival of up to 91 per cent.

The most frequent, devastating, and expensive complications after small intestine resection and anastomosis are post-operative reflux and post-operative colic. Contentious debate continues about whether reflux is a condition relating to anastomotic complications or whether the problem is functional (ileus) and secondary to inflammation of the intestine. In one retrospective report, all 19 horses who were treated by repeat celiotomy after onset of post-operative reflux or colic were discharged from hospital with median survival time of 90 months. Optimistically, horses who recover from small intestine resection and anastomosis tend to have a low incidence of colic after successful discharge from hospital.

Studies have consistently shown a high rate of return to previous or higher levels of activity after colic surgery. Most recently reported, 83.7 per cent of cases returned to previous or intended discipline and 78.5 per cent of case regained their former or a higher level of performance regardless of age of the horse, location of the lesion, or incidence of post-operative colic, incision infection, or hernia.



Typical appearance of a horse with acute-onset, severe colic pain after early referral. Abdominocentesis revealed serosanguinous fluid with elevated peritoneal lactate when compared with systemic lactate, confirming the need for surgical intervention.

Colic continues to be one of the most common and sometimes devastating problems for the horse, and recent updates in the literature support this fact. Our clients need to be educated about identifying the common signs of colic and when to contact their veterinarian for assistance. Feeding and management that considers the physiology and design of the horse's digestive tract may go a long way in preventing some of the most common forms of colic, like large colon impaction and displacement. In addition, encouraging owners to plan for the worst, through the purchase of medical insurance or creation of a rainy day fund, may help if their horse becomes a critical case. Pre-operative diagnosis and recommendations for surgery continue to rely on clinical parameters and evaluation of systemic-to-peritoneal lactate ratios, and surgery should be performed under general anesthesia in the vast majority of cases. Prognosis for the most common forms of colic is good and return to intended use after colic surgery is high.

*In the interest of saving space, the references for this article are made available on the Chapter's website at [www.canadianveterinarians.net/documents/supplementary-references-for-west-coast-veterinarian-issue-44-september-2021](http://www.canadianveterinarians.net/documents/supplementary-references-for-west-coast-veterinarian-issue-44-september-2021). WCVI*

# WHAT YOU CAN'T SEE CAN HURT YOU— LOWER YOUR EXPOSURE TO X-RAY RADIATION

BY TONI LAOUTARIS, RVT, VTS (Anesthesia/Analgesia)

**T**here is a movement occurring throughout BC and Canada: the hands-free radiology movement. And it may very well revolutionize our industry, providing safer working environments for all veterinary personnel, today and in the future. So whether or not this is a topic you've been "exposed" to before, I'm here to "collimate" a little light on the subject in the hopes that more practices will feel less "restraint" in trying something a little different in the name of improved occupational safety.

Now, you may be wondering how a VTS in anesthesia/analgesia got interested in radiation safety. Many years ago, as a new and very green surgery technician, working at a busy referral centre, manually restraining patients in the radiology suite to obtain recheck TPLO radiographs multiple times a day, I thought I knew it all. That was, until I transferred to a different practice and was informed of their hands-free radiology policies. Sure, I was stubborn at first because change is hard. That was until I saw the benefits for both me and my patients. It was an absolute game changer and after 10-plus years, I haven't looked back and am a passionate advocate for radiation safety, using hands-free radiology techniques.

## WHY IS RADIATION SAFETY SO IMPORTANT?

Registered veterinary technologists are commonly called upon to obtain diagnostic images for various radiographic studies, multiple times a day, as per the clinician's request. It is paramount that veterinary workers understand the potential health threats they are exposed to within their day-to-day jobs, particularly when the threat is invisible and has the potential to silently creep up on them. The reality is that radiation safety guidelines for the veterinary industry are extremely outdated, and current exposure limits are based on research that was done decades ago. We now know that X-ray radiation is a carcinogen and every X-ray we take increases our overall risk of developing cancer.

## UNDERSTANDING RADIATION

Two types of radiation occur within the electromagnetic spectrum: non-ionizing and ionizing. Ionizing radiation, which includes X-rays, is produced when unstable atoms give off energy to reach a more stable state. The high-frequency waves carry a tremendous amount of energy that allows them to penetrate the body and produce an image, but are a health threat because they have the potential to change the DNA inside a cell or damage the cell itself.

The effects of radiation exposure are termed stochastic, meaning that they are random, are not dose-related, and can occur at any time. Stochastic effects can occur in the following ways:

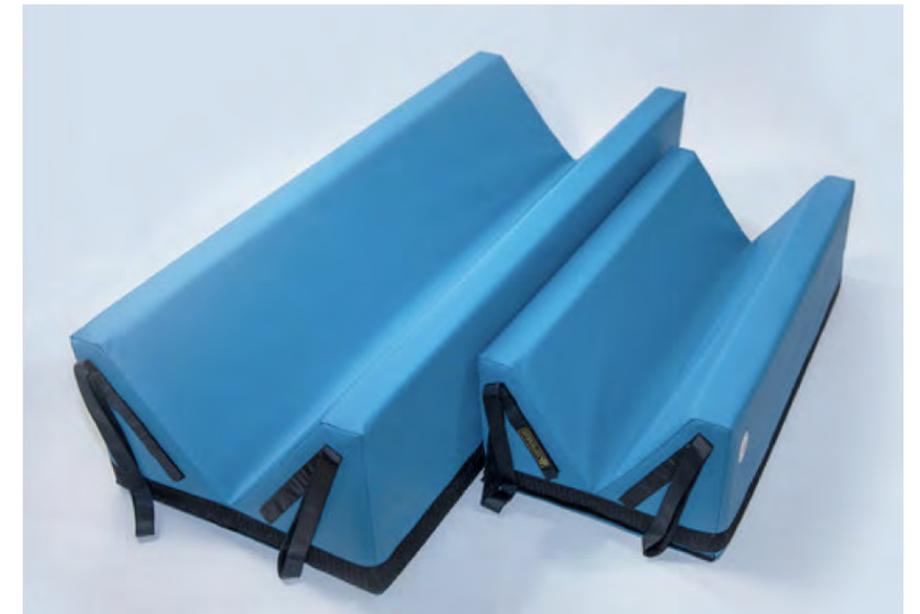
NEOPLASIA	Abnormal growth that develops following a long latent period
MUTAGENESIS	Damage to the genetic material of the person who is exposed
TERATOGENESIS	Effects passed on to children during fetal development in the womb (even if pregnancy occurs years later)

## BENEFITS OF HANDS-FREE RADIOLOGY

1. Improved morale: staff are happier and feel an increased sense of value when their working environment is safer.
2. Better diagnostic images: less restraint, less struggle, and fewer retakes means improved image quality for optimal diagnosis.
3. Improved efficiency: the equipment used for hands-free restraint techniques allows one employee to position the patient for acquisition instead of requiring two people to restrain the patient.
4. Aligns with fear free policies: light sedation required for certain positioning reduces stress to the patient.
5. Pregnant employees can still obtain radiographs using hands-free restraint techniques.

## LOWERING EXPOSURE IN YOUR PRACTICE

Adopting new policies and implementing change within your practice takes patience and persistence because just like any new skill, practice makes perfect. When it comes to radiation safety, it is important to remember that any reduction in exposure is beneficial and should be celebrated. While there are currently many practices that have almost 100 per cent compliance with acquiring radiographs using hands-free techniques, the process starts off slowly and goes one step at a time. There are three key components for success: equipment, training, and attitude.



## HANDS-FREE EQUIPMENT

There are numerous commercially available devices available that will help you obtain hands-free radiographs. These devices keep the patient comfortable and replace our arms and hands, allowing us to step out of the room, away from the patient and primary beam.

**Troughs:** Most practices already own foam v-troughs, using them for patient comfort and straight positioning while acquiring ventrodorsal abdominal or thoracic radiographs. These troughs are also extensively used while positioning for orthopedic radiographs using hands-free techniques.

**Sandbags:** These radiopaque pieces of equipment are essential for replacing the employee's hands and arms during positioning using hands-free restraint techniques.

**Foam wedges:** Wedges are radiolucent and are key for correcting rotation during the acquisition of abdominal, thoracic, and orthopedic studies.

**Non-traumatic straps:** Soft, stretchy Velcro straps allow the employee to position limbs in a safe and comfortable way during the acquisition of abdominal, thoracic, and orthopedic studies. These straps are much more cost-effective than using medical tape.

**Sedation:** Mild sedation is required for certain studies, particularly during the acquisition of orthopedic radiographs. Analgesia should never be omitted for patients with pain. Fortunately, there are many options out there in the form of oral and injectable agents, allowing practitioners to tailor sedation to the patient's needs in a safe and effective manner. Sedation techniques for hands-free radiology practices very much align with fear free medicine approaches.



PHOTOS COURTESY TONI LAOUTARIS



“WHEN ADOPTING NEW POLICIES IN THE X-RAY ROOM, IT IS CRUCIAL THAT ALL MEMBERS OF THE TEAM GET ON BOARD. EVERYONE MUST, IN ESSENCE, BECOME A “SAFETY OFFICER,” LOOKING OUT FOR THE HEALTH AND WELFARE OF ALL STAFF MEMBERS AT ALL TIMES.”



#### TRAINING

As with the introduction of any new skill, training and education are paramount for success. While the acquisition of abdominal and thoracic studies using hands-free techniques is generally straightforward and swiftly mastered, positioning for orthopedic radiographs requires a little more guidance for your team. Fortunately, there are resources and training workshops available that will provide you with the training and tools you need. The hands-free initiative ([handsfreexrays.com](http://handsfreexrays.com)) provides continuing education via cost-effective workshops tailored for your practice and team, equipping you with the knowledge and skills required for success. To date, the initiative has already visited over 400 practices throughout North America, and the feedback has been resoundingly positive.

#### ATTITUDE

When adopting new policies in the X-ray room, it is crucial that all members of the team get on board. Everyone must, in essence, become a “safety officer,” looking out for the health and welfare of all staff members at all times. Embracing the principle of ALARA (as low as reasonably achievable) will help you keep taking steps to lower exposure while working in the radiology suite. While it may not be feasible to acquire 100 per cent of the radiographs in your practice using hands-free techniques, particularly while learning the new skills for doing so, lowering exposure levels should be the principal goal. Every reduction in exposure is to be considered a win.

#### THE THREE CATEGORIES OF ALARA: TIME, DISTANCE, AND SHIELD

##### Time

Reducing the amount of time employees are in the radiology suite is essential for lowering exposure levels. Proper positioning, collimation, and selecting appropriate milliampere seconds and kilovolt peak settings will ensure that staff are acquiring diagnostic-quality images the first time, without the need for retakes. Rotating radiology duties between team members on shift that day or throughout the week further reduces the time spent obtaining radiographs and therefore helps to lower each person’s exposure.

##### Distance

Distancing yourself from the beam during acquisition is paramount because every step you take away from the primary beam exponentially reduces your exposure. The tools and techniques for hands-free X-ray radiology help you distance yourself as much and as often as you can. Whether you are able to completely step out of the room or you simply take a few steps back from the patient while gowning up, you will be reducing your exposure.

##### Shield

Lead shielding and dosimetry monitoring are required by law. Gowns, goggles, thyroid protectors, and gloves must be in good working condition and should be evaluated throughout the year to make sure there is no damage to the lead lining. It is important to remember that these items are not intended for use in the primary beam, and that they are there to protect employees from scatter radiation.

If you’re interested in learning more about hands-free radiology techniques for your practice, I strongly encourage you to do so. While it takes a little time and training, these skills and concepts are easily achieved with the right tools and education. In turn, the benefits of having a healthier team and improved diagnostic images will far outweigh the efforts taken to get there. [WCV](#)

RELINQUISHING AN ANIMAL TO A SHELTER IS A SYMPTOM OF

# LARGER SOCIETAL ISSUES

BY LEXIS LY, BSc, ALEXANDRA PROTOPOPOVA, PhD, AND EMILIA WONG GORDON, DVM, DABVP (Shelter Medicine)

In recent years, and especially during the COVID-19 pandemic, leaders within animal sheltering have begun to focus their efforts on understanding what roles animal shelters play within society and how to best serve their respective communities. To that end, many have begun to consider whether “unsuccessful” pet ownership rests on broader, more complex societal issues rather than only on personal culpability. Decades of public health research show that non-medical factors, such as income, educational attainment, unemployment, race/ethnicity, and neighbourhood can all influence various other outcomes in the life of a person. These factors, called the “social determinants” of health, have become vital in understanding how the conditions we live in and larger social systems affect the circumstances of our daily lives.

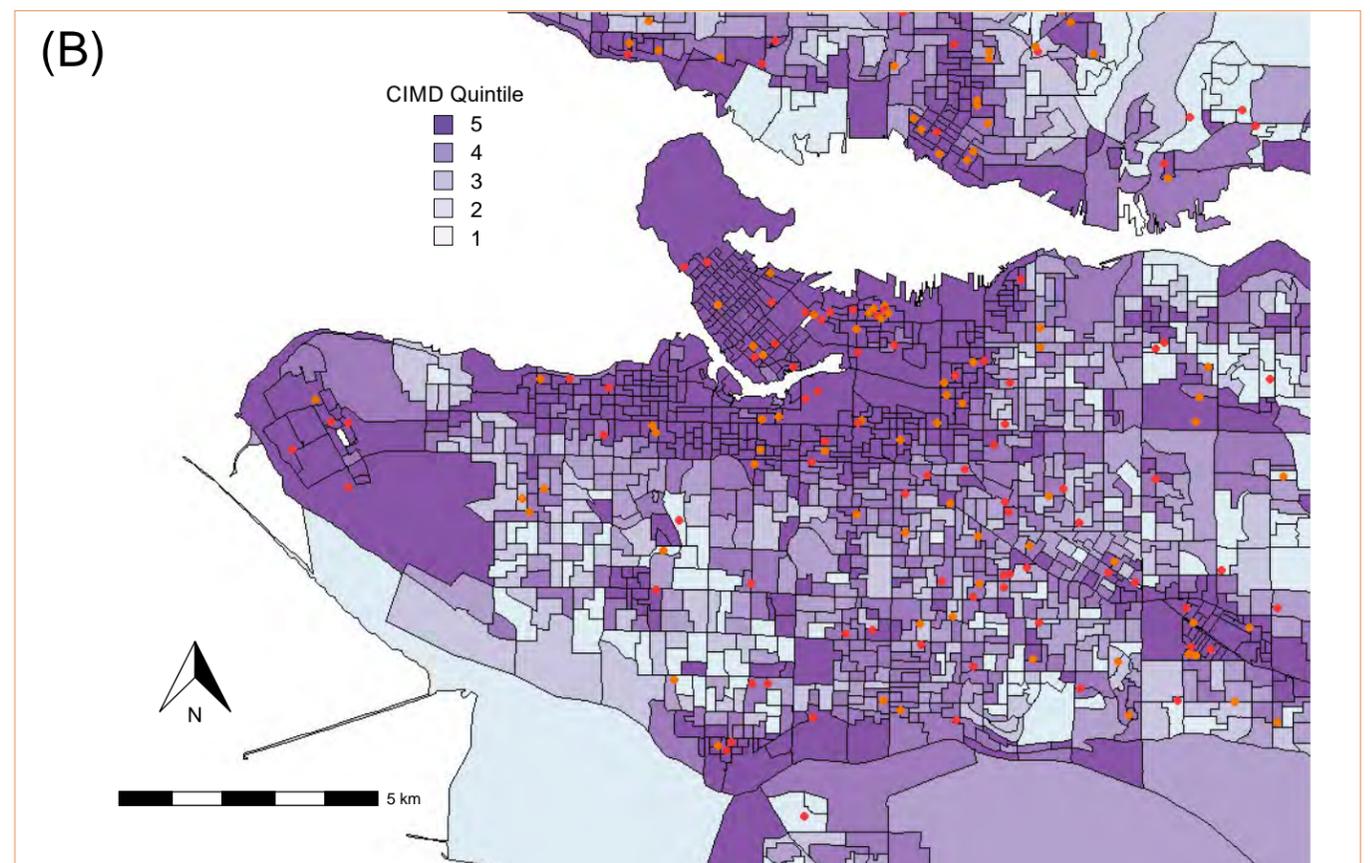
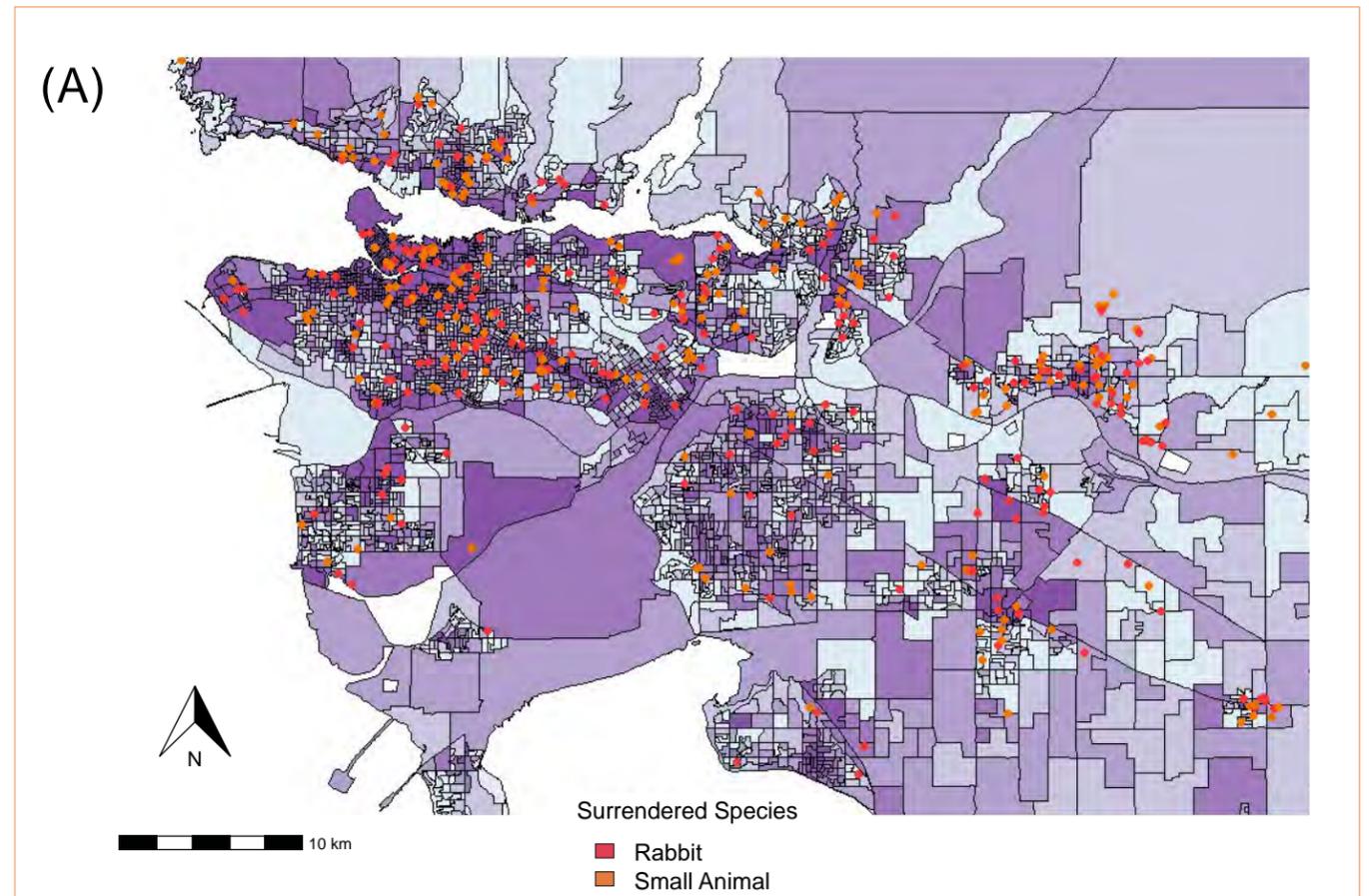
Due to the close relationship of humans and their non-human animal family members, it is not hard to believe that social determinants of humans influence the outcomes of their pet guardianship. Social factors such as housing type, house ownership, education, and income have been found to be associated with increased likelihood of pet ownership. On the opposite end, owner-related issues such as the inability to pay veterinary costs, housing issues, and owner health issues are frequently reported as the reason for surrendering a pet to an animal shelter.

Given that many pet owners surrender their pets for owner-related reasons, it seems that human social determinants may introduce an additional risk of surrendering animals to a shelter. To better understand this risk, we used data from the BC

SPCA and Canadian census data to explore the relationship between community-level social determinants and factors related to animal surrender. Animal surrender-related factors of interest included the reason for surrendering, the species of animal, and the health status of the animal on intake. To measure social determinants, we used the Canadian Index of Multiple Deprivation (CIMD). The CIMD is made up of four factors that indicate community-level deprivation. It uses units of area called dissemination areas, which typically span multiple blocks in a neighbourhood. Each dissemination area has one score for each of the four dimensions—the higher the score, the more deprived the community is for that dimension. The four dimensions of the CIMD are:

- **Ethnocultural composition:** this factor is a measure of the racialized population, including those who self-identify as a visible minority, those who are foreign-born, those who are linguistically isolated, and those who are recent immigrants.
- **Situational vulnerability:** this factor includes more individual variations that indicate deprivation, including those who identify as Indigenous, those without a high school diploma, those who have a low income, single-parent families, and those who live in dwellings that need major repairs.
- **Economic dependency:** this factor encompasses the proportion of people who receive their income from a non-employment source, including those who are old enough to receive their pension and those who are too young to participate in the workforce, as well as the employment level in the dissemination area.
- **Residential instability:** this factor indicates housing insecurity in the area and includes the proportion of apartments, proportion of people living alone, proportion of rented dwellings, and the proportion of people moving to and from the dissemination area in recent years.

We plotted the addresses of the owners who surrendered their animals on a map of the province and connected this information to the CIMD dissemination areas. This allowed us to analyze which CIMD factors predicted increased risk of surrendering for particular reasons, of particular species or breeds, and of particular health statuses.



Locations where small animals (orange) and rabbits (red) were surrendered in (A) Metro Vancouver and (B) the City of Vancouver plotted on top of quintiles for residential instability (1 = least unstable, 5= most unstable).

BY SCOTT NICOLL,  
BA, MA, LLB, AND  
GURINDER CHEEMA,  
BA, LLB

# NON-COMPETITION CLAUSES: HOW BIG? HOW MUCH? AND HOW LONG?

“YOU MAY NOT KNOW THAT COURTS WILL NOT ENFORCE EXCESSIVE GEOGRAPHIC LIMITATIONS AS A RULE.”

I mentioned in my last column that successive topics in this space would focus less on professional regulation and more on general business best practices. The first of these best practices topics I want to review with you is the proper way to use a non-competition clause and a possible alternative for or addition to the same.

Non-competition clauses are something that most businesspeople are aware of. Many believe they understand them and know what they do and what they should look like. If you are a business owner, you want the agreement to be as expansive and detailed as possible, covering every manner of infringement by an employee who has left to become a competitor in the marketplace. If you are an employee faced with signing your first employment agreement, you are not surprised to see a lengthy and apparently all-encompassing non-competition clause. You conclude on reading it that you will effectively need to leave town to ply your trade as a veterinarian, should you ever decide to quit this job. My experience is that neither the employer nor the employee in those instances have a sufficient understanding of how and when non-competition clauses should be used and what they mean when they are used. People also fail to understand that there is often a better alternative, depending upon the needs of their specific situation.

The simplest definition of a non-competition clause is that it will prohibit an employee from entering into competition with their former employer after the conclusion of the employment period. Most employers believe it is critically important to include a non-competition clause in an employment contract. They are not wrong, as far as that goes. Not all such clauses, however, are created equal. Any employer seeking to use a clause they used in prior agreements with other employees or at other locations without asking careful questions about the appropriateness of that clause in each case will likely be disappointed in the effectiveness of the clause, should they ever need to rely on it.

Non-competition clauses are an excellent tool, sometimes both in theory and in practice. They are, however, also often found to be unenforceable restraints on trade by courts. It will depend on how the court assesses the reasonableness of the clause in the particular circumstance. Courts are careful when asked to enforce non-competition clauses because a poorly drafted clause can limit a person's ability to make a living or pursue their career, something a court will only endorse after a rigorous analysis. At the same time, however, courts will enforce non-competition clauses that are reasonable between the parties and not contrary to how they define the “public interest.”

I will discuss three key factors the courts will examine when assessing whether non-competition clauses are reasonable or contrary to the public interest.

## GEOGRAPHY

You probably know that non-competition clauses often impose geographical limitations on a former employee. You may not know that courts will not enforce excessive geographic limitations as a rule. The size of the geographic limitation deemed reasonable in your case will depend on the specifics of the location to which the clause applies. Generally speaking, courts are more likely to uphold larger geographic limitations in more rural areas with limited veterinarians than they are in more populous urban centres with many veterinary practices. The courts will reason that where there is already a greater concentration of population and competition within a specific geographic radius around the employer, a smaller geographic footprint will be sufficient to protect the legitimate business interests of the employer. This is less likely to be the case in more rural locations.

A good non-competition clause is typically more important to the employer's business in rural practices than in urban settings because the economic consequences of an unenforceable non-competition clause could be significant for a veterinarian practising in a rural area with limited clinics. Consider the example of a rural location with only one veterinary clinic and no other clinics within a conveniently accessible radius. The clinic takes on a newly licensed veterinarian, and the contract includes a non-competition clause. The newly licensed veterinarian receives good training and mentorship from the clinic, but eventually decides to leave the clinic and establish their own practice. The non-competition clause is found to be unenforceable because it was not carefully drafted. The new veterinarian is now in direct competition with their former employer and is benefiting from an existing relationship with the employer's clientele. The former employee may even be soliciting the employer's clients if the agreement also lacks a non-solicitation clause. The stakes in rural communities can often be significant when it comes to the effect of non-competition clauses. Nowhere

The results of this exploratory study gave much insight into many possible relationships between human deprivation and animal surrender. For example, dissemination areas with higher situational vulnerability were at a greater risk of surrendering litters of kittens or puppies and of surrendering animals who were found on intake not to be spayed or neutered. This relationship is not new—low-income communities may experience barriers related to accessing preventive veterinary care. This understanding led to the conception of low-cost spay and neuter clinics to lower the cost barrier associated with the procedure. However, our study indicates that the relationship between vulnerable communities and the surrender of unwanted litters is still prevalent in British Columbia, which indicates further interventions may be needed.

Another result showed that the residential instability dimension predicted increased surrender of small animals and rabbits. Pet owners already identify housing issues as a major stressor of pet ownership. Accommodating pets when renting means that some owners choose lower-quality or higher-priced dwellings, or even keep pets without approval. The conversations surrounding pet-friendly housing are typically focused on dogs and cats, while the results of our study show that more focus is needed on rabbits and other small pet animals.

Due to the geospatial nature of this analysis, further exploration could be done by region. Indeed, the results revealed different reasons for animal surrender across different areas of the province. Across all of British Columbia and in the Metro Vancouver region, areas with higher ethnocultural composition scores had an increased likelihood of surrendering pets for reasons such as being unable to afford the animal, health issues, or personal issues.

In contrast, in Kamloops, where there is a lower proportion of visible minorities and a lower proportion of rental housing, residential instability predicted increased likelihood of surrender for these same owner-related reasons. These demographic differences may contribute to differences in hardships experienced in distinct regions and should be considered when animal shelters are providing community support.

Recently, animal shelters have begun to recognize the importance of pet owner well-being when attempting to reduce intake to shelters. The concept of “intake diversion” is becoming more commonplace as animal shelters find ways to prevent the surrender of animals by identifying underlying reasons for surrender and providing programs or resources to help owners retain their pets. Many shelters have created resources to

help pet owners find pet-friendly housing in their community and have provided funds to pay for pet deposits where needed. In other community-supported initiatives, animal shelters have provided temporary boarding for pets whose owners are experiencing crises such as domestic violence or hospitalization.

Humane Canada reports show that intake of animals to Canadian shelters is trending downward, albeit at a slow pace. Due to the undeniable relationship

between owner well-being and pet welfare, animal shelters must consider ways that they can support pet owners experiencing crises. Doing so can help animal shelters provide the most relevant support to maintain the bond between pet owners and their animals, as well as contribute to the ultimate goal of reducing intake to animal shelters. Ultimately, to reduce animal relinquishment, we must consider human vulnerability and be ready to tackle the problem from a One Welfare perspective, where we recognize the interconnections between humans, animals, and the environment.

This research was originally reported in Lexis H. Ly, Emilia Gordon, and Alexandra Protopopova, “Exploring the Relationship between Human Social Deprivation and Animal Surrender to Shelters in British Columbia, Canada,” *Frontiers in Veterinary Science* 8 (March 2021). [WCV](#)

“ULTIMATELY, TO REDUCE ANIMAL RELINQUISHMENT, WE MUST CONSIDER HUMAN VULNERABILITY AND BE READY TO TACKLE THE PROBLEM FROM A ONE WELFARE PERSPECTIVE, WHERE WE RECOGNIZE THE INTERCONNECTIONS BETWEEN HUMANS, ANIMALS, AND THE ENVIRONMENT.”

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is careful drafting of clear and reasonable non-competition clauses more important.

One case illustrates this point. A 2014 decision of the BC Court of Appeal involved the court enforcing a non-competition clause on a veterinarian who started a competing clinic three years after their departure from their previous employer and within 40 kilometres of their employer in a small town in the interior of BC. The non-competition clause in question was deemed by the Court to be an unconventional one, as it did not prevent the veterinarian from competing. Instead, it required them to pay their former employer a prescribed amount if the veterinarian competed with the employer upon the termination of the contract. The Court found that the payment required by the contract constituted a reasonable restraint on trade. The amount that the veterinarian had to pay was deemed reasonable compensation for the costs that the employer incurred for training and the provision of equipment. In addition, the court found that competition from the veterinarian would decrease the employer's business and the payment accounted for the impact on the goodwill of the employer's business. Ultimately, the court found that the non-competition clause was enforceable because it was not ambiguous and the veterinarian set up a clinic within the geographic limitation imposed by the clause.

It is worth noting that the two closest clinics within a 160-kilometre radius of the clinic in this case were 100 kilometres away in the United States. In addition, most of the clinic's business was drawn from eight dairy farms in the area. These geographical considerations were a significant factor in the court finding that a competing dairy veterinary practice would significantly impact the employer's business. The clause in this case was carefully and specifically drafted to apply to this situation and, as a result, was upheld.

#### NATURE OF ACTIVITIES PROHIBITED

A second factor that the courts will examine carefully is the nature of the activities that the clause seeks to restrict. Non-competition clauses impose restrictions on the types of activities an employee can engage in. Non-competition clauses that are too restrictive in the types of activities that they seek to prohibit will be unenforceable. The activities must be restricted to the employee's specific field and must also intersect with the type of work the employee performed.<sup>1</sup>

It is not helpful for veterinarians that the wide scope of veterinary services can make the assessment of the relative degree of restriction posed by specific clauses in this context challenging. Consider a situation where a veterinarian works at a clinic and provides a limited scope of services to a specific type of animal. The veterinarian decides to leave the clinic. The employment contract the veterinarian signed contains a non-competition clause that bars them from engaging in any veterinary services, and not just those services

they performed while employed, and which they will provide at the new clinic, within a 25-kilometre radius for three years. Courts would deem such a non-competition clause overly broad as it seeks to cover more activities than what the veterinarian performed during their employment. Non-competition clauses that completely prohibit an employee from practising their profession for any length of time will likely be unenforceable.<sup>2</sup>

The decision of *IRIS the Visual Group Western Canada Inc. (IRIS) v. Park*, 2017 BCCA 301, is not a case involving a veterinarian, but it does involve the interpretation of a non-competition clause as against a paramedical professional employee. The British Columbia Court of Appeal found in this case that a non-competition clause was unenforceable in part because it was overly broad. Dr. Park signed an independent contractor agreement to work as an optometrist with IRIS. The agreement contained a non-competition clause that prohibited her from competing either directly, or in partnership with other persons or entities, in a business that competes with IRIS. The clause prohibited Dr. Park from working for any business that dispensed prescription or non-prescription optical appliances like eyeglasses or sunglasses, vision-correcting lenses, and contact lenses. Dr. Park left her position and established her own optometry practice within five kilometres of her previous employer. The court found, among other things, that the list of prohibited activities went well beyond what was necessary to protect the employer's interests. The restriction on competing in any business that dispensed prescription or non-prescription optical appliances prevented Dr. Park "from engaging in a wide range of work, including work that had nothing to do with the practice of optometry."<sup>3</sup>

Seeking a restriction on an overly broad scope of activities will make the clause unenforceable. An employer is much better served by accepting the minimum possible description of activities and by ensuring that the list only includes activities actually performed by the employee during the term of their employment.

#### THE LENGTH OF TIME

A third factor the courts will consider is the length of time that the employer seeks to restrict the employee from competing against them. Generally, non-competition clauses that last too long will be unenforceable. The longer the time that the clause seeks to restrict, the less likely it is to be enforceable.

The example in this instance involves a law firm attempting to restrict the ability of a former lawyer employee to compete with them in suburban Vancouver. In *MacMillan Tucker MacKay v. Pypier*, 2009 BCSC 694, the court found that a non-competition clause was too long in time to be enforceable. The suburban Vancouver law firm had a non-competition clause with the employee that barred the employee from working in the legal profession within a five-kilometre radius of the firm for three years. The court found that the length of time the clause sought to restrict went beyond anything reasonably necessary to protect the firm's interests and clients. It was unreasonable to preclude a professional employee from pursuing their profession within a five-kilometre radius of the firm for a period of three years in an urban location where there is already significant competition from other law firms. The real concern of the law firm in this instance was likely more that the former employee would be actively soliciting the clients of the firm after they left. Significantly, the use of the lengthy and expansive non-competition clause would not necessarily even address that concern. Clients will routinely travel

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more than five kilometres for services in both rural and urban environments. The law firm would have been better served by limiting the ability of the employee to solicit the clients of the former firm and reducing the breadth of the non-competition clause.

#### ALTERNATIVE: A NON-SOLICITATION CLAUSE

This last point is an important one. As an employer, you should consider carefully what the risks to your business actually are when a professional employee leaves. A non-competition clause on its own may not address your most significant risks, as it likely did not in the law firm example above. Careful employment agreements will use a combination of non-competition clauses tailored to the specific circumstances as well as a non-solicitation clause intended to prevent your employee from soliciting your clients or employees for a period of time after their employment with you ends. Note that these clauses on their own do not prevent the employee from otherwise competing against your business. Non-solicitation clauses, however, can be a more valuable tool in those cases where you are most concerned about former employees soliciting your clients. They are also often more effective tools at preserving your commercial interests in rural communities where the potential client pool can be limited. They also have the distinct legal benefit of being more likely to be upheld by the court in comparison to non-competition clauses.

Non-solicitation clauses do not restrict a person's ability to earn a living after they have ceased to work with your clinic. These clauses simply restrict a former employee's ability to use the existing relationships that they formed while working at your clinic to benefit their new business. The courts look at that interest very differently.

As the employee in this scenario, you are also typically better served by a non-solicitation clause than a broad non-competition clause. The non-solicitation clause means that you cannot actively solicit the employees or clients of your former employer. The clause does not prohibit you from advertising, however, and it does not prohibit the former clients from choosing to become clients of yours in the absence of any solicitation from you. The clause will typically prohibit any targeted and direct contact with clients using information you obtained during your tenure at your prior clinic. Advertising in the community about your new location and the services you provide, however, is not prohibited by such a clause.

<sup>1</sup> Yeager Employment Law, "Can a Non-Competition Clause Stop You from Working in the Industry?" yeageremploymentlaw.com/non-competition-clauses.  
<sup>2</sup> Segev LLP, "Non-Competition Clauses and Tech Employees," segev.ca/non-competition-clauses-and-tech-employees.  
<sup>3</sup> 2017 BCCA 301, para 66.

#### FINAL THOUGHTS

As an employer, you will definitely want to include a non-competition clause in an employment agreement with your professional employees. When you do, however, be careful to ensure it is carefully drafted. It must not be overly broad. It must not attempt to restrict the ability of the former employee to earn a living more than is required to effect a reasonable protection of your business interests. The courts will look at such factors as the size of the geographic area (the larger the area, the more difficult it will be to enforce), the nature of the activities sought to be restricted (the broader the description of activities, the more difficult it will be to enforce), and the length of time of the restriction (the longer it is, the more difficult it will be to enforce). Any employment agreement with a professional employee should also include a non-solicitation clause limiting or preventing the professional employee from soliciting both your clients and your employees for a period of time following the end of their employment. This will often be a more valuable clause for professional businesses than a non-competition clause.

You will not be surprised to hear that my advice is that you should consult your lawyer when attempting to craft these clauses for your particular situation. Your lawyer will understand your business and be able to advise you on what particular precautions are necessary in your case to best protect your business. Do not make the common mistake of assuming that the clause you have used for one employee is the appropriate wording to use for all subsequent employees. Businesses routinely copy and paste employment agreements between employees, but that is not a best practice when it comes to employment agreements with professional employees. Each one should be tailored to that individual employee.

I do not recommend that you attempt to draft these agreements on your own. Poorly drafted employment agreements, including poorly drafted non-competition clauses, can result in significant financial harm to your practice. Luckily for my Goldendoodle, I do not presume to know how to best protect her health. I seek and rely on professional assistance to keep her as happy and healthy as possible as she grows older. Similarly, unless you have legal training, you should not presume to know how to properly construct or interpret a non-competition or non-solicitation clause, let alone an entire employment agreement. You should seek professional assistance, just as your patients and their owners do. **WCV**



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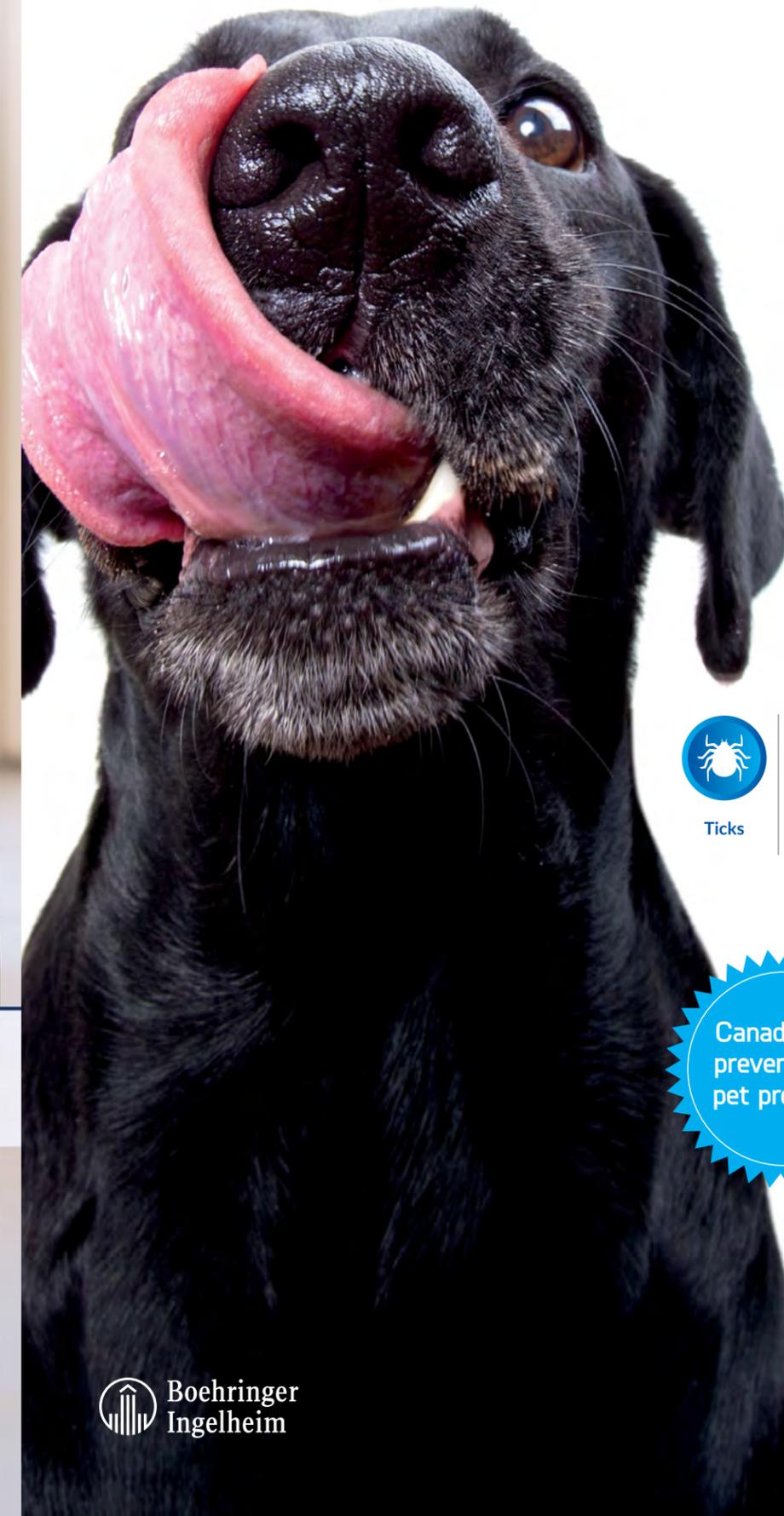
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