Best friends
THE PET MAGAZINE OF THE ONTARIO VETERINARY COLLEGE

Caring for Crusoe
After visiting the Ontario Veterinary College for advanced, life-saving care, Crusoe the Celebrity Dachshund and his humans give back to pet health.

SPECIAL FEATURES INSIDE: CATS + DOGS + COVID-19
The past year has brought extraordinary challenges and uncertainty to virtually every aspect of our lives. It has highlighted important connections and vulnerabilities in our communities, and reinforced the fundamental links between animals and people.

We at the Ontario Veterinary College (OVC), and frontline veterinary healthcare teams across Canada, have continued to deliver on our mission under the most difficult of circumstances. We have found ways to safely provide veterinary care for our loved pets, who have suddenly become even more important to us given our diminished circle of relationships. Our committed faculty and staff have ensured that our students have continued on their academic path, and our research programs have adapted.

As the COVID-19 pandemic unfolded in early 2020, I was so impressed by the commitment, caring and creativity of our teams in the OVC Health Sciences Centre. Within days, they adapted to restrictive public health guidelines, transitioned service to urgent cases only, implemented a new telehealth platform and new protocols for arrival and check-in at the hospital, then quickly ramped up services again to ensure the best medical outcomes for all of the pets needing our services. This means that more pets are back at home with their families where they belong.

Veterinary healthcare teams everywhere are frontline health workers. Their commitment to caring has taken a toll on the doctors, technicians and staff that have come to work every day throughout the pandemic. Almost every practice has been understaffed throughout this emergency, and the long hours have impacted their families too. We need to thank them for their service every chance we get.

Less visible, but just as important, many of our OVC researchers and graduate students with disease modelling, epidemiological and infectious disease expertise have been at the centre of the pandemic response. They are also embracing new research opportunities presented by this crisis, to better keep us safe during the next global pandemic, and to uncover how COVID-19 is affecting pets and their owners in Ontario and beyond. They too deserve our thanks.

Throughout it all, we find ourselves grateful for the beloved animals in our lives who give us so much comfort, joy, love, companionship and support. Thank you for continuing to support OVC Pet Trust on our mission to improve life for pets and the people who love them. Stay safe, we will be happy to enjoy this issue of Best Friends.

Jeffrey J. Wichtel, BVSc, PhD, Dip. ACT
Dean and Professor
Ontario Veterinary College
University of Guelph

OVC Pet Trust, founded in 1986 at the Ontario Veterinary College (OVC), University of Guelph, is Canada’s first charitable fund dedicated to the health and well-being of companion animals. OVC is a leader in veterinary healthcare, learning and discovery for the health of all species, including our own. In 2021, Quaasquarrell Symonds (QS) ranked OVC 1st in Canada, 3rd in North America and 3rd in the world for veterinary science amongst veterinary schools worldwide.

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HEALTHIER LIFE
DOG LIVE A LONGER, WHAT PET OWNERS NEED TO KNOW ABOUT... HOW MEASURING THAT KIBBLE CAN HELP YOUR DOG LIVE A LONGER, HEALTHIER LIFE

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HAPPENING HERE: COVID-19 RESEARCH AND EXPERTISE AT OVC

Experts at the University of Guelph’s Ontario Veterinary College (OVC) are contributing their knowledge in national and global media and embracing new research opportunities during the COVID-19 pandemic. With leadership in areas such as disease modelling, epidemiology, infectious disease, public health, disease surveillance, virology and immunology, OVC researchers often have been at the center of the pandemic response.

WHAT RISK DOES COVID-19 IN HUMANS POSE TO THEIR PETS?

Drs. Scott Weese and Dorothee Bienzle are examining what risk COVID-19 in humans poses to their pets and why some animals become infected while others do not. The study includes cats, dogs and ferrets in which at least one human household member has symptoms consistent with COVID-19 or has had a positive test.

WHAT EFFECTS DOES VIRTUAL HEALTH CARE HAVE ON THE VETERINARIAN-CLIENT RELATIONSHIP?

New research is investigating the effect of virtual (remote) health care on the veterinarian-client relationship from the perspectives of both pet owners and veterinarians. Increased access to technology has created an opportunity for clients and patients to receive veterinary care remotely throughout the COVID-19 pandemic. The research team, led by Dr. Jason Cox, is studying veterinarian and pet owners’ perceptions and experiences communicating during virtual and face-to-face interactions. Pet owner survey participants will be asked to complete surveys assessing their perspectives of the best types of communications for virtual veterinary care, as well as challenges and how they may be overcome and ideas for improving veterinary-client discussions.

FIRST OF ITS KIND: OVC NAMES VCA CANADA CHAIR IN RELATIONSHIP-CENTRED VETERINARY MEDICINE

The foundation of the veterinary profession is relationships—between the client and the animal and between the client and the members of the veterinary team and between veterinary team members. The pandemic has dramatically changed the way veterinarians and clients are interacting and communicating,” says Dr. Jason Cox of the university.

WHAT ARE HOUSEHOLD CHANGES FROM COVID-19 LOCKDOWNS AFFECTING PETS AND THEIR OWNERS?

A team of researchers have launched a study to better understand how household changes from the COVID-19 shutdowns have affected pets and their owners. Through an online survey, OVC researchers hope to learn how the changes brought on by the pandemic have impacted Ontario pet owners and their animals.

TWO OF 6 PROFESSORS ON A MISSION TO BUILD A GLOBAL INFORMATION SYSTEM “KNOWLEDGE ENGINE” TO GATHER DATA ON ANIMAL HEALTH AND DISEASE

Across the world, livestock production and aquaculture are critical to human nutrition and health. These activities play critical roles in society, providing income and food, but also clothing, building materials, fertilizer and draught power. However, the presence of endemic and emerging diseases, such as COVID-19, as well as other factors, negatively impact them, jeopardising their contributions. Dr. Theresa Bernardi, the IDEXX Chair in Emerging Technologies and Preventive Healthcare at U of G’s Ontario Veterinary College and Dr. Deborah Stacey, from the School of Computer Science, have been named as co-leads of the Informatics theme of the Global Burden of Animal Diseases (GBADs) program. The GBAD program’s mission is to improve animal health at a local, national and global level. Led by the University of Liverpool, the World Organisation for Animal Health (OIE) and a partnership of international institutions, including the University of Guelph.

$11-MILLION GIFT TO OVC AIMS TO IMPROVE THE LIVES OF ANIMALS THROUGH MORE ACCESSIBLE HEALTH CARE

Improving the lives of animals through more accessible health care is the goal of a $11-million donation to the University of Guelph from long-time OVC Pet Trust board member Kim Lang and her husband, the largest single gift received by the Ontario Veterinary College (OVC), was announced in November 2019. Through this transformational gift, OVC will revolutionize animal health care and education to shape the future of veterinary care. The gift will create the Kim and Sivo Lang Community Healthcare and Partnership Chair (CLHP), the first academic program of its kind in Canada and will enable opportunities for vulnerable people and animals who do not have access to veterinary care. The program will allow OVC to be a leader in understanding how best to support underserved communities and demonstrate the impact that providing veterinary care and improving animal health can have on human health and the health of the community. 

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CATS & DOGS

Preliminary results from OVC research suggest a substantial proportion of pets in households of persons with COVID-19 become infected.

Research from the University of Guelph’s Ontario Veterinary College (OVC) shows SARS-CoV-2, the virus that causes COVID-19 in humans, can also infect dogs and cats. Veterinary pathologist Dr. Dorothee Bienzle and veterinary internist and infectious disease specialist Dr. Scott Weese, both from OVC’s Department of Pathobiology, are leading the work. The study is one of the first of its kind to examine what risk COVID-19 in humans poses to pets, and why some animals become infected while others do not.

In April 2020, the researchers began seeking volunteer participants with cats, dogs or ferrets from households where at least one member had symptoms consistent with COVID-19 or had a positive test result. After confirming eligibility to participate, Bienzle and Weese conducted household visits to collect nasal, throat and rectal swab samples from the pets, as well as a swab of the fur where the pets are most likely to be touched or handled.

Of approximately 60 animals tested to date, samples from four cats and one dog yielded positive PCR results, samples from one cat and two ferrets yielded inconclusive results, and the remainder tested negative. The team also tested blood samples from approximately 90 pets for antibodies against SARS-CoV-2. Presence of antibodies indicate previous exposure and/or infection. Antibodies were present in about 50 per cent of cat and 30 per cent of dog samples. For some animals, transient respiratory or generalized illness was reported by owners.

“These preliminary results suggest that a substantial proportion of pets in households of persons with COVID-19 become at least briefly infected,” says Bienzle. “Due to the narrow window of time available to detect a current infection in pets, especially if their owner is still sick and isolating, blood testing the animal at a later time to check for previous infection is preferable for assessment of human-to-animal transmission,” she says in a news release for the European Society of Clinical Microbiology and Infectious Disease (ESCMID) Conference, where the teams’ early findings were unveiled this past September.

Bienzle and Weese stress that COVID-19 is predominantly a human disease. Their study continues to investigate what factors contribute to pets becoming infected and which types of households are at highest risk of having COVID-19 infection spread to companion animals.

“We still have a lot to learn about the virus and the interaction between humans and pets. This study is helping us lay the groundwork for future research to have an idea of how often human-to-pet transmission occurs,” Weese says.

“As is typical with zoonotic diseases, we’re trying to walk the fine line between raising awareness and preventing people from overreacting,” says Weese. “I encourage pet owners to exercise common sense if people in your home are isolating, your pets should do the same.”

DISEASE TRANSMISSION:
Transmission of SARS-CoV-2, the virus that causes the coronavirus disease (or COVID-19), to pets probably isn’t uncommon. That’s not big news. We know cats, in particular, are susceptible to infection. With limited surveillance, a reasonable number of infected pets have been identified. We’ve been saying for a while that transmission to pets was likely occurring under the radar, but it’s not likely a big deal – it’s something to watch and figure out over time, but not to freak out about.

INFECTED PETS?: Pups in households with human COVID-19 are unlikely to be shedding the virus at any given time. While they can be infected, the window that they’ll shed the virus is likely pretty short. That’s why we have a hard time finding positive animals through PCR testing (looking for the virus) versus antibodies (looking for evidence of previous infection).

DON’T PANIC: Relax. The messages are the same: treat pets like other members of the family when it comes to control measures for this virus. If the people in the household are isolating, the pets should too. If someone is staying away from people because they might have COVID-19, they should stay away from animals too.

WE ARE STILL LEARNING: The health impact of SARS-CoV-2 infection in pets is still unclear. We suspect cats are somewhat similar to people (with fewer infections). Most don’t get sick. Most that get sick get mild flu-like disease. A small percentage may get more seriously ill.

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Drs. Bienzlee and Weese are OVC Pet Trust-funded researchers. Visit Weese’s blog, to stay up-to-date on all things COVID-19 and pets: www.wormsandgermsblog.com.
A recent study at the University of Guelph’s Ontario Veterinary College (OVC) aims to help pet owners use a practical, hands-on approach to improve the life of their dog.

Led by OVC professor and veterinarian Dr. Jason Coe, the study aimed to determine dog owners’ accuracy when measuring different volumes of dry dog food using certain types of measuring devices: a one-cup dry-food measuring cup; a two-cup graduated-liquid measuring cup; or a two-cup commercial food scoop.

The research team assessed owners’ accuracy with an electronic gram scale, comparing owner-measured volumes with the correct weight in grams.

“Our study results have an extremely practical application for both pet owners and veterinarians,” Coe says, adding that a small change made by the caregiver can have a significant impact on a dog’s quality of life.

“We know from research that there are health implications of not having a healthy weight in our companion animals, particularly dogs. Not only does being overweight increase their chances of chronic disease; obesity is a quality-of-life issue that can shorten a pet’s lifespan,” Coe continues.

The good news is, Coe has evidence-based recommendations informed by this study which are easy to implement, may extend your pet’s life and significantly contribute to the overall health and well-being of your animal.

LESSONS LEARNED

Coe’s study results show that individual owner accuracy ranged from -47.83% (underestimation) to 152.17% (overestimation) across devices and volumes. Accuracy was found to be strongly linked to the volume of food measured and the type of measuring device used. It was particularly more difficult for owners to estimate small volumes of food – which may have implications for small dogs.

Coe wants owners to know there’s an easy solution and is hopeful his work will bring more awareness to food measurement.

THE BENEFITS OUTWEIGHT THE WORK

When measuring pet food, a gram scale is the most accurate measurement system – whether it is electronic or manual. As a pet owner, Coe himself moved to feeding his own dog, a Bernese Mountain dog named Harley, to a gram scale. He admits there was a period of behaviour adaptation to make the change, but now that he’s added it to his daily routine, it’s only a matter of seconds added to his day.

PRO TIP: To save time, Coe measures a full day’s amount of food for Harley and then divides the total into meals and treats.

Coe stresses that inaccurate measurement of kibble by dog owners can have profound implications for the health and well-being of canines; consistent underestimating of food can put dogs at-risk of calorie restriction and nutritional deficiencies. On the other end of the spectrum, overestimation of food measurement, or overfeeding your dog, poses an increased risk for weight gain and obesity.

People who own small dogs should be aware they are even more likely to be measuring inaccurately. Coe advises owners to speak to their veterinarian about how many grams they should be feeding their animal if there is any uncertainty.

THE WAY FORWARD

Coe has dedicated his career to studying and teaching evidence-based approaches in the areas of veterinary clinical communication and the human-animal bond.

He encourages dog owners to reflect on how they are currently determining the amount of food they feed their pet and if there is an opportunity for change.

While more and more manufacturers are providing measurement information on food packaging that is easier for pet owners to understand, Coe stresses that each dog is different and veterinary teams can make sure you are targeting the correct quantity of food for your pet’s individual needs.

Coe’s research continues to pursue studies that aim to benefit pet owners and their animals, including how veterinarians and pet owners approach the conversation of pet obesity.

WHAT PET OWNERS NEED TO KNOW ABOUT...

HOW MEASURING THAT KIBBLE CAN HELP YOUR DOG LIVE A LONGER, HEALTHIER LIFE

Dog owner measurement mistakes may lead to nutritional deficiencies, weight gain or obesity.
With two New York Times bestselling books and more than six million followers and subscribers across his social media platforms, eleven-year-old Crusoe the Dachshund is a celebrity in his own right.

To his fans he is known as an adventure dog who loves to travel the globe with his pet parents and (dog) sister Daphne; explore the world around him; and chase balls. To his dad Ryan Beauchesne, Crusoe is easy going but bossy, laidback yet demanding and the best dog he could ever ask for.

2020 brought Crusoe’s family devastating news. After a routine veterinary visit, Ryan and Lauren (Crusoe’s mom) learned that their dog was showing signs of gallbladder disease, commonly referred to as canine gallbladder mucocele (GBM). Located in the abdomen underneath the liver, the gallbladder is a pouch-like sac that acts as a reservoir for bile in the body. GBM is the result of excessive secretion of mucus in the organ. It is the most common disease in dogs requiring surgical removal of the tissue. If left untreated, it can lead to the rupture of the gallbladder itself, which can cause sepsis, a serious infection that causes the body to go into shock and organs to shut down, leading to death.

It was clear that Crusoe would need to undergo gallbladder surgery, a procedure called cholecystectomy, either by open or laparoscopic minimally invasive surgery. When reviewing options for Crusoe, Ryan learned that laparoscopic gall bladder removal cannot be performed for all cases of gallbladder mucocele, but when it is deemed appropriate, dogs enjoy a much shorter hospital stay, experience reduced post-operative pain and are at lower risk of complications that can be related to the surgical incision.

“I had a huge amount of trust in OVC. I was fortunate to have conversations with Dr. Ameet Singh leading up to Crusoe’s surgery date; I trusted him completely. I knew we were in the best possible hands. I will forever have a long-lasting appreciation for what the entire OVC team did for our family.”

Crusoe was admitted to OVC on June 4, 2020. Ryan recalls the feeling of handing over Crusoe, who he lovingly refers to as his child. “I had a huge amount of trust in OVC. I was fortunate to have conversations with Dr. Singh leading up to Crusoe’s surgery date; I trusted him completely. I knew we were in the best possible hands. I will forever have a long-lasting appreciation for what the entire OVC team did for our family.”

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On June 5, Crusoe underwent gallbladder surgery at the OVC Companion Animal Hospital. He recovered in the Intensive Care Unit (ICU) and was able to be discharged to go home with his family the next day.

MIS has come a long way in veterinary medicine. “There have been many advancements made in the field, with new techniques and innovation pushing the boundaries of how we can help pets,” Singh says.
WHAT IS MINIMALLY INVASIVE SURGERY (MIS)?

Innovations in veterinary medicine and technology have changed what surgery may involve for pets. New MIS techniques can sometimes replace traditional, open surgical procedures. MIS is a procedure that causes the least amount of intrusiveness to the body, because large incisions are not necessary as in the case of more traditional open surgeries. MIS is associated with less pain, faster healing time, a shorter hospital stay and fewer complications in both humans and animals. While MIS is often preferred for these reasons, it may not always be an option depending on the patient’s illness or disease.

Common reasons for MIS at the OVC Health Sciences Centre include removal of the gallbladder, adrenal gland, spleen, kidney, lung and pericardium (the sac around the heart) – most commonly when these organs are invaded by cancer.

The creation of a Minimally Invasive Procedures Suite is underway at OVC, a first for any veterinary teaching hospital in Canada. The suite will include state-of-the-art technology and is part of the college’s new surgery and anesthesia facilities within the OVC Companion Animal Hospital.

WHAT IS LAPAROSCOPY?

Laparoscopy, or laparoscopic surgery, is used to examine organs inside the abdomen.

Thoracoscopy, on the other hand, is used to diagnose and treat areas involving the organs of the chest, esophagus, airway and chest wall. Both techniques involve making small incisions (less than 5 millimetres) and inserting a camera and instruments into the abdomen or chest cavity to perform the surgical procedure.

While the OVC’s social media platforms are primarily entertainment channels, Ryan enjoys sharing learnings that he has had that may benefit their followers, which is why he chose to share Crusoe’s medical journey and why he needed surgery.

Ryan is now an advocate for supporting innovation and discovery that aims to help pets and wants other pet owners to know why it’s so important.

In gratitude for the care their dog received, Crusoe’s family decided to give back to OVC through OVC Pet Trust. The Crusoe Fund was created in gratitude for the lifesaving care the Crusoe received at OVC. The fund supports research and discovery in the area of Minimally Invasive Surgery (MIS) to improve life for companion animals.

While watching with Dr. Singh was eye-opening. Ultimately, the work of OVC and its team is why this couple gave this family support.

What research projects are you currently working on?

My research is currently inspired by a problem: I encounter on the clinic floor to help improve life for my patients and potentially save animals in the future. One of my research projects is exploring a combination of two oral sedation drugs to improve the experience for pets with cancer. In veterinary hospitals, I am hopeful that my research findings will give tools to owners to help manage and decrease their pets’ stress in a safe and effective manner.

In another study we are investigating how to protectively help dogs experience less post-operative pain after back surgeries by specifically examining the anti-inflammatory properties in a drug called lidocaine.

Do you own any animals yourself?

I share my home with two dogs, Hana and Sora, and a black cat named Neko. One of my greatest joys is spending time with these pets. I find that my research findings will give tools to owners to help manage and decrease their pets’ stress.

What is so gratifying for me. During the day, our team deals with a number of complex cases and I receive up to 10 patients at a time. At night or when I am on call for emergencies, I deliver the primary care myself. This keeps my technical skills sharp, and as a teaching hospital offers a great learning opportunity – it allows our students and trainees valuable one-on-one experiences with a board-certified anesthesiologist.

What impact does OVC Pet Trust support have from your perspective?

I cannot even tell you how grateful we are for the people who give to OVC through OVC Pet Trust. Thanks to OVC Pet Trust donors, we have the chance to pursue meaningful research that makes a difference in the lives of pets, as well as access to state-of-the-art equipment and monitoring systems that allow us to provide standard of care similar to a human hospital. One of the amazing things at OVC is that we have such a remarkable number of tools at our disposal for our patients, allowing our team to offer the very best medical care.

GETTING TO KNOW...

Dr. Andrea Sanchez
Anesthesiologist and Associate Professor
Department of Clinical Studies
Ontario Veterinary College
University of Guelph

What role does anesthesia play in veterinary patient care at OVC?

Our animal patients require anesthesia during procedures, such as surgery and diagnostic imaging to keep them still, pain-free and in a controlled state of unconsciousness.

Anesthesiologists constantly monitor physiological parameters, which include breathing, heart rate, blood pressure and body temperature before, during and after the procedure. The standard of care is not that different between animals and humans. At OVC, we use human health-grade monitors and equipment. Our team performs epidurals, places catheters and measures advanced parameters in our patients. We have a lot of patients that are very sick and in critical and complex cases; that can be very challenging.

What would you want pet owners to know about anesthesia?

While we are not on the frontline facing animal owners, when they arrive at OVC, an anesthesiologist team member is always by their side. From the moment our patient comes through the door, we keep them comfortable. We spend hours with them; we sit with them; we talk to them, and we cuddle with them. We help them recover, until they are eventually transferred to the Intensive Care Unit (ICU) or recovery wards. While I usually have minimal or no contact with our patients, I often create a deep bond with my patient. Knowing that an animal came to us extremely sick and our team was able to make sure the surgeon or specialist could do their job by keeping the patient comfortable and stable is so gratifying for me. During the day, our team deals with a number of complex cases and I receive up to 10 patients at a time. At night or when I am on call for emergencies, I deliver the primary care myself. This keeps my technical skills sharp, and as a teaching hospital offers a great learning opportunity – it allows our students and trainees valuable one-on-one experiences with a board-certified anesthesiologist.
It may be redundant to say that the impacts of the COVID-19 pandemic have changed the world as we know it, but what does this mean for our pets? A recent study in the United States revealed that 84 per cent of pet owners have become more conscious of their pet’s health during quarantine, 73 per cent of respondents are worried about leaving their dogs or cats at home when it’s time to return to the office, and 59 per cent fear their pet would suffer from separation anxiety.

Here are two (virtually) with OVC Pet Trust-funded researcher and professor Lee Niel, an animal behaviour and welfare expert at the University of Guelph’s Ontario Veterinary College, to answer the burning questions of pet owners on how this global health emergency may be impacting our companion animals.

**WHAT CHANGES IN MY HOME DUE TO THE PANDEMIC AFFECT MY PET?**

There are many ways COVID-19 may potentially be affecting our companion animals. For example, puppies that do not have appropriate exposure to other dogs as adults, socialization for your new pet during COVID-19 while respecting physical distancing measures may be challenging. However, if you have welcomed a new family member into your home during the pandemic, there are many things owners can do to try to replicate these experiences in a safe way. It is currently possible in most areas to go for physically-distanced walks to ensure exposure to various different sounds, smells and situations. While opportunities for direct contact with other dogs and people are limited, even seeing others from a distance is beneficial. During more restrictive times, owners can still bring stimuli into the home environment. For example, owners can play recordings of different animal, human and environmental sounds and bring items with different smells into the home.

When it comes to independence, when behaviour professionals are also concerned because young animals may not be learning how to cope with spending time alone. Ensuring your pet has an opportunity to develop independence is extremely important, and there are many ways we can help our pets develop this independence. For example, owners can spend time in a separate part of the house or backyard, or leave the puppy or kitten at home while going out for walks or doing errands.

**HOW CAN WE MAINTAIN NORMALCY FOR OUR PETS DURING COVID-19?**

Creating a daily routine is beneficial for people and for animals alike. According to research, predictability and control are two key methods for reducing stress in all species, including humans. Stress research shows humans and animals like predictability. Having a set schedule helps us know what to expect throughout the day. Creating regularity, for example, can help reduce the stress and suffering of our pets during times of pandemic. For example, animals that are used to having regular walks throughout the day may need to exercise within the house during times of social distancing. The same goes for feeding your animals their meals at the same time each day and establishing set times for walks throughout the day.

**WHAT IS SEPARATION ANXIETY AND HOW DO ANIMALS EXPERIENCE IT?**

Separation-related behaviours (SRBs) occur when the pet experiences distress when separated from their people. Common SRBs that are observed include increased activity and whining, attempts at returning home, attempting to escape, inappropriate toileting and destructiveness such as chewing or destroying household items. Many behaviour professionals are concerned that pets are getting used to having their people around and are losing their ability to cope with being alone. It is important to ensure animals in the home still have some alone time during the pandemic to reduce these impacts. This might include allowing the animal to rest in a separate room or for periods of time while working from home, or making sure to leave them home alone during some outings so that they remain used to the experience.

**HOW HAS THE HUMAN-ANIMAL BOND CHANGED DURING THE PANDEMIC?**

The human-animal bond is a mutually beneficial relationship between people and animals, and changes in that bond could certainly have occurred during the pandemic due to changes in how people are interacting with their pets. Changes largely depend on the individual animal, their species, and the nature of their relationship with their owner before (pre-COVID-19), compared to now. Many of us are experiencing additional stress during the pandemic and this might impact the ways in which we interact with our pets. In some cases, people might be relying more on animals for companionship; in other cases, people might be withdrawn and giving animals less of their time and attention.

The dog that is happy to have their owner home may be enjoying the extra attention and suffer from separation-related behaviours when their humans’ routine goes back to ‘normal’. A cat who is nervous around people and would prefer to be left alone may in fact be more content when they can have more alone time. Some people may benefit from having an animal with them during this time, especially those that are home alone. The overall impact is going to be dependent on the individual relationship between the animal and their human(s).

**WHAT SEPARATION-RELATED BEHAVIOURS DO OCCUR, IF SEPARATION-RELATED BEHAVIOURS ARE RECOMMENDED?**

In normal life, treating SRBs can be difficult to manage because our daily routines have limited flexibility and often require extended time away for work and school. Working from home provides an opportunity to work on SRBs while avoiding triggers such as extended absences from the home. The general approach to treating SRBs is to pair gradual increases in time alone with good distractions that keep the animal busy and happy. For example, a “snuffle mat” filled with treats might be paired with short absences. If the animal responds well to these short absences, the duration can be gradually increased over time. In some cases it can be useful to combine these behaviour modification strategies with medications that reduce anxiety. These are of course general ideas; individuals should always consult their family veterinarian and behaviour professionals to get advice for animals with specific issues or problems.

**WHAT ABOUT IF YOU HAVE WELcomed A NEW PET INTO YOUR HOME DURING COVID-19?**

The sensitive period for socialization occurs quite early on for both puppies and kittens (the first 16 weeks for puppies and the first 9 weeks for kittens), and optimal socialization includes exposure to lots of different types of people, other animals, environments, sounds and smells during this period. If young animals don’t get appropriate exposure to these various types of stimuli early on, they can develop persistent fears later in life. For example, puppies that do not have appropriate exposure to other dogs might be fearful of other dogs as adults. Socialization for your new pet during COVID-19 while respecting physical distancing measures may be challenging.

However, if you have welcomed a new family member into your home during the pandemic, there are many things owners can do to try to replicate these experiences in a safe way. It is currently possible in most areas to go for physically-distanced walks to ensure exposure to various different sounds, smells and situations. While opportunities for direct contact with other dogs and people are limited, even seeing others from a distance is beneficial. During more restrictive times, owners can still bring stimuli into the home environment. For example, owners can play recordings of different animal, human and environmental sounds and bring items with different smells into the home.

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**IF SEPARATION-RELATED BEHAVIOURS DO OCCUR, WHAT TREATMENTS ARE RECOMMENDED?**

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**WHAT WOULD YOU RECOMMEND?**

Check with your family veterinarian or a qualified behaviour professional to see what would work best for your individual pet’s needs. Most hospitals are now open or offering telemedicine appointments. Behaviour issues lend themselves well to telehealth, because as we know, animals can sense when we are nervous, so it shows their normal behaviour in the home than in the clinic.
Over the last decade the fluid delivery plan Dr. Alexa Bersenas concentrations in critically ill dogs

Hyaluronic acid serum

market to improve patient outcomes. and safety of drugs currently available on the sedative combination and provide scientific in their pets with listed warnings on the about the risks of sedation and anesthesia

Pot-bellied pig owners are concerned protocols in pot-bellied pigs

Comparison of two sedation location and surgical technique.

Fracture repair is always a race between to 50 per cent depending on plate, animal, species. Failure rates vary widely from three to 50 per cent depending on plate, animal, location and surgical technique.

Does filling empty plate holes with threaded plugs increase its resistance to failure? Dr. Noel Moens

Fracture repair is always a race between fracture healing and implant failure. Leaving plate holes open is often unavoidable in fracture fixation, even though empty holes are known to be weak points in the implant. If filling the holes with inserts protect the plate against failure, it can be used to decrease fracture fixation failure in any species. Failure rates vary widely from three to 10 per cent depending on plate, animal, location and surgical technique.

Comparison of two sedation protocols in pot-bellied pigs Dr. Melissa Sinclair

Pot-bellied pig owners are concerned about the risks of sedation and anesthesia in their pets with listed warnings on the internet and from lay personnel. This research will give insight into the optimal sedative combination and provide scientific information on the quality characteristics and safety of drugs currently available on the market to improve patient outcomes.

DOG HEALTH

Hyaluronic acid serum concentrations in critically ill dogs Dr. Alexa Bersenas

Over the last decade the fluid delivery plan for critically ill human patients has been reconsidered in light of unexpected findings in several recent studies. This project will begin to address whether current intravenous (IV) fluid practices have a negative impact on- days presenting with critical illness and whether alternative fluid strategies should be considered and investigated.

Fecal transplant as a treatment for inflammatory bowel disease in dogs Dr. Sharon Brice

This project could benefit pets by identifying new treatment options for inflammatory bowel disease (IBD).

Immune receptor expression in canine bladder cancer Dr. Samuel Hocker

Treatment and overall prognosis for canine urinary bladder cancer has not significantly changed over the past couple of decades. Investigation of specific receptor expression will prompt further investigation into new therapeutic options.

Using novel agents to evaluate for lymph node metastasis in dogs with lung tumours Dr. Michael O’Malley

Removal of lymph nodes at the time of lung tumour surgery is an important part of stopping to-determine evidence of cancer spread and will direct future therapy. These novel techniques will aim to improve a clinician’s ability to sample the correct lymph node at the time of surgery, thus improving patient care.

Improving therapy delivery to dogs with cancer Dr. Jon Petrik

This safety study will pave the way to utilize vascular normalization approach to dramatically improve the efficacy of traditional therapies in a variety of canine cancers.

Studying the effect of carbon dioxide gas insufflation on intrathoracic working space and cardiorespiratory parameters during minimally invasive surgery (MIS) of the chest in dogs Dr. Amelia Hopf

Normally advanced anesthesia techniques are required to perform advanced MIS of the chest in dogs. This study will provide additional information on the use of carbon dioxide insufflation for working space creation during MIS chest surgery in dogs.

Overcoming resistance to treatment for dogs with lymphoma Dr. Darren Wood

The majority of dogs with lymphoma will relapse within six months and eventually develop drug resistance. Identification of molecules that are involved in this resistance will help overcome this barrier and result in better treatment response and longer remission times.

Assessment of two minimally invasive methods to access the canine portal vein and a method to minimize bleeding Dr. Alex Muns

This study will allow for a new method to access the canine portal vein minimally invasively in those various conditions that are currently either not treatable, or treated with an invasive surgery.

Using ultrasound to measure a structure behind the eye, the size of which has a correlation with brain swelling which may be present in patients undergoing laparoscopic surgery Dr. Ryan Appleby

Identification of whether minimally invasive surgery in dogs causes brain swelling will be important as it will affect care selection and may lead to changes in anesthetic protocols, postoperative care and a reduction of post-op illness in patients.

Effects of endocannabinoid enzymes in canine bladder cancer Dr. Tony Mutsaers

This research aims to gain new insights into how endocannabinoid enzymes affect canine urothelial carcinoma and if these enzymes may represent a potential target for treatment.

Targeting the uPAR protein to improve canine bone cancer treatment and prognosis Dr. Tony Mutsaers

This research seeks to improve the response to chemotherapy treatment of dogs with highly metastatic osteosarcoma. Current standard therapy triples the overall survival time, yet the vast majority of dogs still succumb to cancer spread to the lungs and other tissues within one to two years. This project uses cancer cells in the lab and banked cancer tissue to investigate the

An improved understanding of clients’ practices will center on how veterinarians can effectively engage pet owners in weight-related conversations in order to improve the outcome of treating overweight or obese companion animals.

Assessing pet owners’ motivation for behaviour change relating to companion animal obesity Dr. Jason Cole

An improved understanding of clients’ perceptions of pet obesity and their current readiness or motivation to manage pet weight can be used to inform the development of evidence-based best practices for veterinarians. These best practices will center on how veterinarians can effectively engage pet owners in weight-related conversations in order to improve the outcome of treating overweight or obese companion animals.

All projects included in this issue of Best Friends’ Your Gifts at Work were funded in 2020.

YOUR GIFTS AT WORK

Each year, OVC Pet Trust invests $500,000 in new projects and equipment to advance health and well-being for pets.
providing analgesia / anesthesia by means of an epidural. Research will provide best practice recommendations for dosing, depending on which method of calculation is used, which may result in toxicity and risk of adverse effects (gastrointestinal, renal) to the benefit of the patient and require lengthy cell culture. Establishing a non-invasive method to generate these stem cells in vivo will benefit both practitioners and owners by eliminating surgical collection and reducing treatment wait times.

Lidocaine as an analgesic after spinal surgery in dogs

Dr. Andrea Sanchez

Results of this study would support (or not) the routine inclusion of lidocaine IV to treat pain after spinal surgery and would open the door to using this protocol in other canine conditions. Lidocaine is a very inexpensive and widely available: it is not a controlled drug; it is not addictive; and side effects are extremely rare. If results are positive, the use of controlled and more expensive substances could be decreased, (e. fentanyl), while the use of anti-inflammatory drugs (steroids, NSAIDs) could also be lowered, decreasing its potential common side effects (gastrointestinal, renal) to the benefit of canine patients. This study may provide a safe, cheap and efficacious analgesic protocol for dogs to use in both general and referral practices.

Determination of the distance that a local anesthetic travels towards the head when an epidural is injected near the hip area, if the volume is calculated using the length of the back or if calculated using body weight

Dr. Alexander Valverde

During a pilot investigation, the volume injected in an epidural, based on the length of the back versus the weight of the dog, using a mathematical model were compared, and demonstrated three variables to be different, although used interchangeably by veterinarians. This could result in overdosing or under-dosing, depending on which method of calculation is used, which may result in toxicity and risk of complications, or may result in inadequate analgesia. Research will provide best practice recommendations for providing analgesia / anesthesia by means of an epidural.

CAT HEALTH

Assessment of novel computer modelling approach to understanding the behaviour of intravenous fluids administered to anesthetized cats

Dr. Shane Batsman

This study will provide evidence-based information on the behaviour of IV fluids in healthy cats under anesthesia. With an improved understanding, fluid prescriptions can be developed that are safer and more effective in felins.

Hyaluronic acid in anesthetized healthy cats

Dr. Alexa Bersenas

Over the last decade human studies have unexpectedly identified increasing evidence that local use of IV fluids is negatively associated with outcome in critically ill patients; early investigations suggest similar results in dogs. Cats are notoriously sensitive to IV fluid administration. This study aims to explore whether current IV fluid practice negatively impacts cats and whether standard fluid practices require further investigation.

Why do cats with heart disease develop clots?

Dr. Sena Fanfara

The results of this study will identify parameters that might be implicated in cats with hypertrophic cardiomyopathy (HCM), thereby detecting factors that could be targeted in the prevention and treatment of clot formation in HCM cats.

Cell therapy for chronic gum inflammation in cats

Dr. Thomas Koch

If the proposed cell treatment for chronic gum disease in cats is effective, it will provide a new and cost-effective treatment option for cats with this severely debilitating disease.

Evaluation of a novel kidney biomarker (KIM-1) in healthy cats before and after general anesthesia

Dr. Alice Defarges and Dr. Alexa Bersenas

With the use of a novel biomarker like KIM-1, early and non-invasive diagnosis of slight kidney injury may be possible, which in turn might allow earlier and more effective intervention and reduce the incidence of chronic kidney disease in cats.

Current anesthesia and pain management of cats undergoing spaying or neutering procedures in Ontario

Dr. Camryn Kent

A recent small study raised concerns regarding the lack of use of medications to reduce pain in cats following surgery as furatia. The study will identify deficits in current practice standards if present and assist with targeting student education and continuing educational experiences for practitioners.

How long does it take for the iodine level in the body to return to normal after contrast injection for imaging study? Determining the waiting period necessary before imaging study and treatment with radiocative iodine in hyperthyroid cats

Dr. Valerie Painier

The main goal of this project is to determine the ideal wait period between iodine contrast administration and treatment in cats. The positive impact of this research is knowing precisely when to treat hyperthyroid cats resulting in better health outcomes.

Trazodone and gabapentin as sedatives prior to blood donation in cats

Dr. Andrea Sanchez

Oral sedatives are anecdotaly used in some animals prior to hospital visits. This study will design a safe and effective sedation protocol to ease the pre-anesthetic stress in blood donor cats and improve recovery quality. This protocol could then be extrapolated to different cat populations and will guide general practitioners. A powerful tool to manage cats for everyday veterinary visits, becoming an essential component of building “feline friendly” practices.

AVIAN & EXOTIC HEALTH

Fatty liver in the bearded dragon: investigations into the diagnosis and treatment

Dr. Hugues Beaufrere

Fatty liver is very common in bearded dragons and other reptiles but the diagnosis remains difficult and treatment options are limited. This study will explore new blood biomarkers and validate imaging techniques for diagnosis as well as discover a new promising treatment option.

Investigations into minimally-invasive ovariohysterectomy in the guinea pig

Dr. Hugues Beaufrere

Pigs are popular pets and are very susceptible to post-surgical pain and complications. This study aims to safely evaluate and perform minimally invasive surgeries in guinea pigs and demonstrate the difference between laparoscopic and open surgery in terms of pain and post-operative recovery as a model for other minimally invasive surgeries.

Establishment of values of normal reference ranges produced by the guinea pig adrenal gland

Dr. Anthony Abrams-Ogg

By providing reference-intervals for common hypoadrenocorticosomatic screening and differentiating tests, we will be able to provide practitioners with information required to rate out hypoadrenocorticosism before attributing the patient’s clinical signs to ovine disease. Additionally, for patients who test positive for hypoadrenocorticosism, these reference intervals also provide values to assess response to treatment.

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Optimization of immunohistochemistry in avian tissues

Dr. Leonardo Such

Information from this study will improve our immediate ability to diagnose round cell tumors (e.g., lymphomas) and inflammatory diseases in pet birds and backyard poultry species, ultimately allowing to develop better therapeutic strategies.

EQUIPMENT

Handheld ultrasound units

Dr. Ryan Appleby


Videoendoscopic system for avian and exotic research

Dr. Hugues Beaufrere

This unit will allow us to continue and expand our research on minimally invasive research in avian and exotic patients as well as small animals. The direct impact will be through the development and validation of new minimally invasive techniques.

Acquisition of a plama and cell separator for veterinary research

Dr. Alice Deforges and Dr. Alex Bersenas

This technology has the potential to perform translational research. Moreover, it could revolutionize the treatment of cancer and immune-mediated diseases in our companion animals.

Replacement blood clotting instrument for the VQ Comparative Hemostasis Laboratory

Dr. Durren Wood

Thromboelastography (TEG) is a broad test that measures blood clot formation and the strength and stability of the formed clot. As the only laboratory on the UofG campus that has a focus on hemostasis research and diagnostics, research translates directly to applied veterinary practice.
Most pet owners would agree—saying goodbye to a beloved companion is one of the most heartbreaking and emotional moments they may experience and navigate over the lifetime of their animal. What if there was a way to help with the possible grief that comes with saying goodbye?

A new study published by researchers at the University of Guelph’s Ontario Veterinary College (OVC) contributes to an expanding area of research to investigate the perceptions, wishes and overall experiences of pet owners before, during and after companion animal euthanasia.

Professional motivations and personal interests led Alisha Matte, who completed the research as a part of her PhD alongside Associate Professor Dr. Deep Khosa, to explore the subject matter.

“Finding the experience of care delivery provided by veterinary professionals has an impact on pet owner experience,” Matte adds, who dedicated her thesis to her dog Brody, the Shih Tzu she lost while attending the University of Guelph.

While Matte and Khosa recognize that veterinary professionals want to support both the medical care of animals and emotional well-being of pet owners and will always do the best job they can, research shows that veterinary professionals do report sometimes feeling unsure of how best to support owners.

That’s where the team’s research comes into play. “We need a better understanding of pet owners’ perspectives, which in turn can assist in helping veterinary teams who provide support, make decisions and plan for companion animal euthanasia,” Khosa says. Khosa’s research interests also include multiple aspects of primary healthcare practice and veterinary education.

With the help of social media, Matte collected survey responses from more than 2,300 pet owners around the world, with the majority of participants located in Canada and the United States.

Participants overall reported high levels of satisfaction with their euthanasia experience.

Pet owners’ overall satisfaction was found to be related to how veterinary professionals handled the administrative aspects (i.e., payment and paperwork), emotional support, follow-up care and care for their pet’s remains.

Pet owners’ resulting grief was found to be related to the number of euthanasia instances they had previously experienced, the type of human-animal bond (pet vs. companion vs. family member), if the euthanasia was unexpected and their satisfaction with the emotional support they received from their veterinary professional.

Pet owners wanted to be able to contact their veterinarians with any concerns or questions about their pets’ health leading up to euthanasia; to have the option for the euthanasia to be performed in their home; and to have access to after-hour services for euthanasia.

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In these days and times, there are really no “six degrees of separation.” We are all joined together, sharing the gifts of each day, despite life’s challenges, and our pets are with us, every step of the way, to help shepherd us on this journey. Often, I catch myself daydreaming about the myriad of past events, smiling and shedding happy tears when photographs of these moments is bursting with love and devotion, all for us. There is an old quotation that says, “A dog is one of the few remaining sensitive souls whose life has been touched by cancer, but what is different, is that we are reaching out in the way, to help shepherd us on this journey.

In photo: Sturgis and Epic. Photo credit: Suzi Beber.

We would like to thank the OVC Health Sciences Centre for the generous donation to OVC Pet Trust in memory of our beloved black Labrador Retriever, Tosca. When we learned of Tosca’s lymphoma diagnosis we immediately turned to the OVC Animal Cancer Centre for guidance, but unfortunately the disease progressed quickly and our girl passed away just six weeks short of her 16th birthday. We are also grateful to Woodbine Animal Clinic in Toronto for their expertise and support throughout Tosca’s life, and especially during that last stressful period.

“Although Pochin’s Tosca” arrived home on a December day in 2004 and immediately bonded with our four-year-old black Labrador, Lola. They were BFFs. At the age of 16 months she followed in Lola’s paw prints and certified as a Therapy Dog. She brought joy to the lives of so many others.

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“Although Pochin’s Tosca” arrived home on a December day in 2004 and immediately bonded with our four-year-old black Lab, Lola. They were BFFs. At the age of 18 months she followed in Lola’s paw prints and certified as a Therapy Dog. She visited Toronto East General Hospital (now Michael Garron Hospital) and Casey House, often two to three times per week, for more than 12 years. She brought smiles to many faces, eased the anxiety of children, gave long-term patients a weekly nuzzle or laugh and taught others about the love of animals. Tosca was a great surrogate mom to our black Lab, Zelda (now seven years old). She taught Zelda good things, like how to walk politely on leash, and some not-so-good things, like how to wake your people for breakfast at 5:00 a.m.

When she wasn’t “working”, Tosca had a great sense of adventure which often led her off the beaten path. In the summer, during woodland walks she would return wet and muddy but very happy. The first snowfall of every season would return wet and muddy but very happy. The first snowfall of every season brought the puppy in her and she would dive, slide and roll around making “doggie snow angels”. Tosca loved snow!

One winter her sense of adventure led her into our lives to teach us how to be accepting of all people, how to relax and take it easy, how to play and have fun, how to live in the moment. She was an enduring, solid presence who enriched our lives and brought joy to the lives of so many others. We will always remember and always miss our big, beautiful girl.

Katya and Jonathan Weisz
Toronto, ON

To share your “In Memory” story, please email Ashleigh Martyn at ovcpet@uoguelph.ca.
1. CELEBRATING OUR HEALTHCARE HEROES
Veterinary teams at the Ontario Veterinary College (OVC) have been operating on the frontlines of the COVID-19 pandemic since March 2020. We are proud of our healthcare heroes who deliver safe, compassionate and expert medical care to our pets who need it most. Whether it is being available to consult and provide advanced and specialized care; or treating pets in emergency situations in need of critical and life-saving medicine: our veterinary professionals make a true difference in the lives of our animal patients. Thank you! Photos by Jane Dawkins.

2. REN’S PETS - DOGUST
Ren’s Pets celebrated DOGUST in August 2020. Together with their customers, $10,000 was raised for OVC Pet Trust. In photo: Bosco the puppy enjoys a Bosco & Roxy’s dog cookie from Ren’s in support of pet health. Thank you to Ren’s and their generous community for choosing to “paw it forward” and give back to companion animal healthcare, discovery and learning at the Ontario Veterinary College. Photo by Ashleigh Martyn.