COMPANION ANIMAL HEALTH FUND • WESTERN COLLEGE OF VETERINARY MEDICINE

Vet Topics

SUMMER 2025

A kind KONG tribution

By Rigel Smith

Gillian Gratton (right) with WCVM oncology team members. *Rigel Smith*

For pet owners facing the difficulty of a cancer diagnosis in their beloved animals, even the small comforts of a chew toy can make a world of difference. Thanks to a growing community initiative, the veterinary oncology team at the Western College of Medicine's (WCVM) Veterinary Medical Centre (VMC) can offer that comfort.

Pet Planet Primrose, a pet store in Saskatoon, Sask., runs the "KONGs for Dogs Fighting Cancer" campaign every October in partnership with Kali's Wish Cancer Foundation and KONG — manufacturers of the durable, hollow enrichment toy for pets. The campaign is also a joint effort with the Prince Albert Pet Planet location.

Kali's Wish is the only Canadian organization aimed at supporting pets and their owners after a pet cancer diagnosis and during treatment, providing resources and support to affected families.

For every $8 donated to Kali's Wish throughout the campaign, Pet Planet contributes one KONG toy to dogs fighting cancer in the VMC's medical oncology department.

Continued on next page.

IN MEMORIAM

The WCVM community was saddened by the news of Gillian Gratton's tragic death on April 11, 2025. Gratton earned her Master of Science degree at the WCVM in 2012 and was a USask employee for over a decade. Her passion for animals, her dedicated support of animal care and her kindness will never be forgotten.

A KIND KONG-TRIBUTION

continued

"Everyone has been affected by cancer in some way, either in people or animals, so anything we can do to make that struggle just a little bit easier is something we strive for," says Gillian Gratton, owner of Pet Planet Primrose.

Thanks to the public's generous support, Pet Planet Primrose donated more than 250 KONG toys to the WCVM's veterinary oncology service this year — the store's largest contribution since it began participating in the program three years ago.

Dogs receive their KONG toy after their first consultation visit with the WCVM oncology team. More than just a simple gift, these toys create a moment of connection in what's often an overwhelming and emotional first visit.

"Putting ourselves into the owner's shoes when they're just receiving this terrible information about their pet — [we know] it's really difficult for them," says Dr. Liang Jun (LJ) Tseng, a resident in medical oncology at the WCVM. "This donation isn't so much about the toy itself, but that sense that someone is thinking about them and they're not alone."

Melissa Underhill, a registered veterinary technologist (RVT) with the VMC's oncology team, agrees: "It's probably the one time where you might see a smile on the owner's face during the appointment. Beyond the emotional impact, oncology team members have seen firsthand how these toys help ease a dog's anxiety during hospital visits.

"It's especially helpful for our more anxious patients who aren't sure of their surroundings," says Underhill. "It keeps them calm, distracted and helps them associate the clinic with something positive."

Underhill emphasizes the campaign's value in raising awareness about treatment options available for pets with cancer.

"At one point, a cancer diagnosis was very much a diagnosis of death," says Underhill. "Now there are just so many more options out there, and cancer patients can still have a decent quality of life."

Tseng says the KONG donations benefit the patients and their families, plus they're a boost for the oncology team.

Gratton says the campaign's success is due to the generosity of pet owners in Saskatoon and area.

The WCVM veterinary oncology team and Gratton hope to see the number of donated KONG toys grow even more in future campaigns.

"We just want to give support in any way that we can," says Gratton. "To bring a little brightness into everyone's lives during a hard time."

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CAHF and friends target pet health research

The Companion Animal Health Fund (CAHF), along with several other pet health-focused funds at the Western College of Veterinary Medicine (WCVM), are investing more than $123,600 to support eight new pet health research projects.

Addressing a wide range of companion animal health issues, WCVM researchers will carry out these studies in collaboration with partners on and off campus. The new projects cover various aspects of pet health, including disease prevention, treatment advancements and overall well-being.

Since 1978, the CAHF has played a crucial role in providing funding for pet health research, graduate student training and public outreach initiatives. The fund relies on financial support from veterinarians, humane societies, pet health companies and individual supporters who share a commitment to improving the lives of companion animals. *Visit cahfpets.ca to view full research summaries.*

Screening normal and diseased intestine of dogs and cats for the presence of *Helicobacter* and *Mycobacterium spp.*
Drs. Ahmad Al-Dissi and Kinda Ghubari, WCVM

A comparative histochemical study of tracheal collapse in dogs
Drs. Andy Allen, Hélène Philibert and Roman Koziy, WCVM

Comparison of different ventilation modes in guinea pigs (*Cavia porcellus*) anesthetized via face mask or endotracheal intubation
Drs. Barabara Ambros and Isabelle Desprez, WCVM

Preservation of canine lymphoid immunophenotype markers in non-neoplastic and neoplastic conditions in peripheral blood and lymph node using an anti-apoptosis solution (Q-VD-OPh)
Drs. Ryan Dickinson, Bruce Wobeser, Behzad Toosi and Melissa Meachem, WCVM

Determination of the optimal location for prophylactic gastropexy in dogs
Drs. Kathy Linn, Min Kyong Song and Jasmine Gu, WCVM

First fusion gene screening study in 100 canine cancers: WCVM tumour bank study
Drs. Arata Matsuyama and Behzad Toosi, WCVM; and Dr. Austin Hammond, GIFS

Whole genome sequencing investigation to identify causal variants for pigmentary uveitis in golden retrievers
Drs. Lynne Sandmeyer and Marina Leis, WCVM; and Drs. Rebecca Bellone and Tamer Mansour, UC Davis

Overcoming chemoresistance in canine osteosarcoma through high-throughput drug screening and molecular profiling
Drs. Dr. Behzad Toosi and Arata Matsuyama, WCVM; and Dr. Franco Vizeacoumar, Saskatchewan Cancer Agency

University of Saskatchewan

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‘Everyone needs a Chonk’

How one cat changed a girl’s life

By Rigel Smith

Passing time in a pet store 250 kilometres from home isn’t where you might expect to meet the pet that will change your life — but that was the case for the Helgason family of Kindersley, Sask.

In a Medicine Hat pet store, eight-year-old Lena Helgason spotted a large fluffy white cat available for adoption. When Lena put her hand against the glass separating them, the cat outstretched his paw to meet her. Lena’s mother, Tami, recalls that moment as “something out of a storybook.”

Lena, now 12, has always loved animals but often had trouble connecting with them. Lena is on the autism spectrum and has a diagnosis of attention deficit hyperactivity disorder (ADHD), which makes her very high energy, explains Tami. As a result, many animals shied away from her. But that big white cat, known affectionately as Chonk, was different.

The chance encounter came just days after saying goodbye to their first family cat.

“Chonk immediately took to her,” says Tami. “We had no intention of bringing another kitty into our home, but it was so weird and wonderful it just made sense.”

The bond between Lena and Chonk grew on the two-and-a-half-hour drive home.

“He did not want to be in his little carrier,” recalls Lena. “He tried to pull the zipper open, so I helped a little bit and unzipped it. Then for the rest of the way home he sat with me.”

What followed that serendipitous meeting was an unwavering friendship. Chonk was happy to do it all with Lena, whether it was being carted around in a handsewn sling or dressing up in princess costumes.

But the pair’s relationship went further than simple companionship. Tami and Lena both agree that Chonk saved Lena’s life. For Lena, communication and self-regulation had always been a struggle. Tami recalls years of difficulty in school, particularly with social interactions and emotional regulation.

“It was just really hard for her. Nothing seemed to be clicking,” says Tami. “But when Chonk became part of her life, that all started to change.”

“Some days I would have really bad days, and I didn’t want to talk about it,” says Lena. “I would go home … and I would tell him everything, and I felt like he understood me, even though I never said a word out loud.”

“It was almost like she just needed that kind of secret safe space, and he gave her that,” adds Tami.

But then Chonk got sick. What they thought was a mild wheeze turned out to be something worse. The family was referred to the Western College of Veterinary Medicine’s (WCVM) Veterinary Medical Centre (VMC) in Saskatoon, Sask., where they learned Chonk had terminal cancer.

The hospital’s veterinary oncology team prescribed prednisone, a steroid medication used to reduce inflammation that helped to ease Chonk’s breathing.

“It helped keep him really comfortable, and it meant that he got to be with us through the summer … which we were very grateful for,” says Tami.

“He was an angel,” says Lena. “He was the best cat in the world.”

After Chonk’s passing in October 2024, Lena decided to donate the $125 she had saved for a guitar to the college’s Companion Animal Health Fund to help support pet health research and training. Lena’s older sister, Eli — who had previously lost a beloved dog — also decided to contribute $125 to the research fund.

“I really just wanted to help save the animals’ lives so the animals could save people’s lives,” explains Lena. “Everyone needs a Chonk.”

“I really just wanted to help save the animals’ lives so the animals could save people’s lives.”

Supplied

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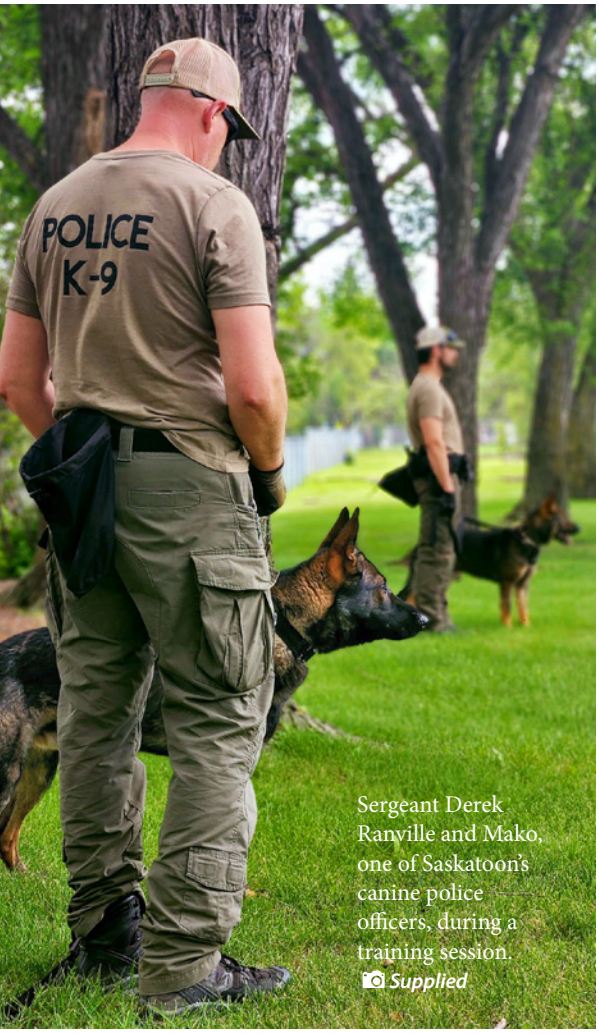

Sergeant Derek Ranville and Mako, one of Saskatoon's canine police officers, during a training session. *Supplied*

Saving service dogs

A WCVM study investigates administration methods of reversal drug for xylazine

By Vanessa McCrae

Veterinary researchers at the University of Saskatchewan are working on a safer and easier option for administering a drug that reverses the effects of xylazine in police dogs and other canine working animals that accidentally ingest or inhale this potent sedative.

Police dogs play a critical role in society and in the lives of their handlers.

"These partners spend more time with us than we do our families. They deserve the best care possible, so we look out for them as they look out for us," says Derek Rainville, sergeant of the Saskatoon Police Service Canine Unit and handler to Mako, one of the unit's canine police officers.

Canadian and U.S. police report a sharp rise in xylazine, a veterinary drug for large animals, being mixed into illicit drugs. In Canada, cases jumped from just five in 2018 to 1,350 in 2022. In the U.S., xylazine-related overdose deaths rose from 102 in 2018 to 3,468 in 2021.

Closer to home, xylazine used in combination with fentanyl, acetyl fentanyl and methamphetamine has been linked to four deaths in Saskatchewan.

"These overdoses have an impact on the community, and more directly, on the family and friends of those involved," says Rainville. "They also impact health care, police resources, and can have an emotional effect on the personnel involved."

Xylazine, a sedative and muscle relaxant for animals, affects the cardiovascular and neurologic systems by slowing heart rate and breathing, altering blood pressure, and depressing neurological function. Xylazine is typically used for large animal sedation in veterinary medicine. In humans, xylazine causes serious wounds on the skin leading to infection and tissue death.

Xylazine is often mixed with opioids like fentanyl to prolong sedation, but these drug combinations increase the risk of fatal overdose. While fentanyl's effects can be reversed with naloxone (such as Narcan), the reversal drug has no effect on non-opiods like xylazine.

As a veterinary medication, there are currently no human-approved reversal drugs for xylazine. However, the veterinary drug atipamezole can reverse its effects in working dogs accidentally exposed on the job.

The concern is that atipamezole requires injection into muscle, which most canine handlers aren't trained to do.

A team of researchers at the Western College of Veterinary Medicine (WCVM) are exploring an easier and safer drug administration option to tackle this growing issue. Drs. Jen Loewen, Vanessa Cowan and Al Chicoine are part of the team comparing atipamezole's effectiveness when given intranasally (through the nose) rather than into the muscle.

With financial support from the WCVM's Companion Animal Health Fund, the research team is conducting a two-phase study. First, they're assessing atipamezole blood levels in dogs after administering the drug through the two different routes — into the muscle and into the nose — without xylazine sedation. In the second phase, they'll evaluate if xylazine sedation affects atipamezole levels and if nasal administration is as effective as injections for reversing sedation.

Study results could be a key step in addressing the rise of xylazine in illicit drugs. If approved, intranasal atipamezole for first responders would simplify and improve administration, removing the need for injection training.

"In my opinion, it would require less training and be easier to provide and access," says Rainville.

This study may also prove useful for future translational research in humans, including the possibility of developing intranasal atipamezole for people exposed to xylazine-contaminated drugs.

Vanessa McCrae (née Mitcham) of Langley, B.C., is a second-year veterinary student at the WCVM who worked as a summer research student in 2024.

Visit cahfpets.ca to read the unabridged version of this story

By Tyler Schroeder

FAST-TRACKING A DIAGNOSIS

Canine mammary cancer study may lead to new diagnostic tools

A Western College of Veterinary Medicine (WCVM) veterinary pathologist is leading new research that strives to improve methods for the early detection of canine mammary cancer — a common diagnosis of tumours in female dogs.

Canine mammary cancer accounts for 50 to 70 per cent of diagnosed tumours in female dogs, with over 25 per cent of dogs developing a mammary tumour in their lifetime. Unfortunately, early intervention is rare. By the time these tumours are detected, about half of cases are malignant — making treatment options such as surgery less effective.

In 2022, Dr. Melissa Meachem, an assistant professor in the WCVM's Department of Veterinary Pathology, received a $30,000 research grant to explore opportunities for early canine mammary cancer intervention by studying the cancer's interactions with the body's immune system. The grant came from Morris Animal Foundation, an American non-profit organization that supports innovative veterinary research. Pet Valu and Blue Buffalo Co. also partnered in funding the project.

Meachem is investigating the potential of the cancer expressing certain proteins in development that mask the tumour's presence from immune system detection, allowing it to grow and spread unchecked. Researchers have studied this process in human breast cancer, but it hasn't been thoroughly explored in canine mammary cancer. The proteins under investigation are programmed death-ligand 1 (PD-L1), programmed cell death protein 1 (PD-1), and T cell immunoglobulin and ITIM domain (TIGIT), which are known to be involved in human breast cancer.

To determine if these proteins are involved in canine mammary tumours, Meachem and her graduate student, Dr. Shanika Kurukulasuriya, analyzed over 500 biopsy samples of mammary tissue from diagnostic cases through Prairie Diagnostic Services (PDS), a provincial veterinary diagnostic lab in Saskatchewan. The team used immunohistochemistry to identify specific proteins in the tissue samples. This technique involves applying a stain that binds to the target proteins, enabling the researchers to measure how much protein is present and where it's located in the cells.

To streamline analysis, the WCVM team employed QuPath, a computer program that semi-automatically analyzes the tissue slides. QuPath differentiates tumour cells and helps avoid the errors of manual analysis, offering more objective data. The program also scans entire tumours, providing a more complete and consistent picture.

The research has already yielded some surprising findings. While most studies on human and canine mammary cancer suggest that PD-L1 is highly expressed in malignant tumours, the WCVM team discovered that malignant canine mammary tumours had lower PD-L1 expression than expected. However, they found that pre-cancerous cells expressed a higher level of PD-L1, a discovery that hasn't been reported before. This suggests that PD-L1 could play a key role in the growth and survival of these cells.

Meachem believes that the expression of PD-L1 in pre-cancerous cells could serve as an early marker for detecting mammary cancer in dogs before it becomes malignant. While further research is needed, she believes that the study's results may lead to new diagnostic tools that will allow veterinarians to detect mammary cancer in its earliest stages.

Dr. Melissa Meachem
Christina Weese

Dr. Shanika Kurukulasuriya
Christina Weese

Visit cahfpets.ca to read the unabridged version of this article.

Griffyn the warrior: surviving parvovirus

By Rigel Smith

When Christie Tetreault brought home her high-energy, determined puppy named Griffyn, she never imagined that she would soon be fighting for the young dog's life. At just 14 weeks old, the schnauzer-pug mix contracted canine parvovirus (parvo) — a highly contagious, potentially deadly disease attacking dogs' bone marrow and gastrointestinal systems.

Veterinarians recommend that all owners vaccinate their dogs against parvovirus — the only effective way to prevent the disease. The process includes an initial three doses between eight and 16 weeks old, followed by a booster shot one year later and then every three years afterward. Until dogs are fully vaccinated (two weeks after their third shot), owners should avoid taking their pets to dog parks and other high-traffic environments where they may become infected.

"I was super careful. Griffyn was only two weeks away from her final shot when she got sick," says Tetreault, who believes Griffyn contracted parvo from an unvaccinated dog. When Griffyn began vomiting seven days later, Tetreault rushed her pet to the Western College of Veterinary Medicine's (WCVM) Veterinary Medical Centre (VMC). "They [VMC clinical staff] tested her outside, just in case. And sure enough — it was parvo. I just broke down," says Tetreault.

Dr. Karen Sheehan, a WCVM veterinarian and clinical instructor, explains that dogs pick up parvovirus from contaminated feces, often left by infected dogs, foxes or coyotes. The hardy virus can survive for years in harsh prairie environments.

"It's normal dog behaviour to sniff where other dogs have eliminated," says Sheehan. "But if they're sniffing infected feces in close contact and then go to lick their nose or their lips, they're going to ingest that virus."

Once a dog is infected, clinical signs usually appear in three to seven days. The virus attacks the dog's gastrointestinal system and bone marrow, where white blood cells are produced.

"Usually white blood cells would be the first line of defence … but with parvo, they can get wiped out," says Sheehan. "The dog's immune system can't respond appropriately, and it can become life threatening."

Sheehan says with appropriate treatment, the survival rate is 90 per cent. Treatment includes hydration, anti-nausea medications and antibiotics to prevent secondary infections. Infected dogs are also isolated to prevent further spread.

Griffyn was initially stable, but on day five she suffered a seizure and developed sepsis — a life-threatening condition caused by infection spreading to the bloodstream. But the VMC veterinary team didn't give up on Griffyn, and after nine days, she returned home. Tetreault says the disease weakened Griffyn, and it took months for her pet to regain her strength.

After her experience, Tetreault made a generous donation to initiate a parvo campaign with the WCVM's Les and Irene Dubé Good Samaritan Fund, which helps cover medical costs for owned and ownerless animals at the VMC. She is also collaborating with the WCVM on parvovirus awareness programs and writing a children's book about Griffyn's experience.

"Griffyn still loves life. She still loves everyone and everything. And somehow, she still loves vets," says Tetreault.

To support the parvo campaign, visit donate.usask.ca/online/wcvm.php and select "Parvo Awareness Campaign" as the gift designation.

Visit cahfpets.ca to read the unabridged version of this story.

Bits AND Bites

Committed to education

For nearly 15 years, Calgary businesswoman and philanthropist Bev Hughes has been shaping the future of veterinary medicine through her annual scholarship at the Western College of Veterinary Medicine (WCVM).

The BJ Hughes Scholarship is awarded to a third- or fourth-year veterinary student who intends to pursue an entrepreneurial career in small animal health care. The award covers the combined value of both tuition and student fees for one academic year — nearly $16,000 in 2024-25. Samantha Fontaine, a third-year student from Cooks Creek, Man., was the scholarship's most recent recipient.

Hughes' inspiration for creating the scholarship came from her own experience as a pet owner. When her long-time calico cat, Tessie, faced medical issues in her later years, Hughes turned to to Dr. Susan Ambrose, a local veterinarian (DVM'88) and a WCVM graduate, to humanely euthanize Tessie at home — a decision that left a lasting impression.

"I was so pleased with Dr. Ambrose, who went to our vet college here, that I started a scholarship in her name," says Hughes. The scholarship, which was later renamed the BJ Hughes Scholarship, has helped over a dozen WCVM students pursue their veterinary education.

Beyond the scholarship, Hughes has made a lasting impact on the WCVM through her generosity, donating more than $1.29 million since 2009. Her contributions played an integral role in creating the BJ Hughes Centre for Clinical Learning, a high-tech clinical skills laboratory that enables veterinary students to practise their clinical skills in a safe learning environment.

In fall 2024 the WCVM and the University of Saskatchewan (USask) honoured Hughes for her extraordinary contributions, celebrating her ongoing legacy in veterinary education.

David Stobbe

Hughes (right) and Samantha Fontaine at the WCVM's Fall Awards Ceremony in 2024.

RESEARCH IN PRINT

A roundup of WCVM-related companion animal research articles that have been recently published in peer-reviewed journals.

Huang W, Paulin MV, Snead ECR. "Serum cholesterol disturbances in dogs with common endocrinopathies at the time of diagnosis: a retrospective study." *BMC Veterinary Research*. March 2025. 21:138. doi: 10.1186/s12917-024-04413-0

Paulin MV, Schermerhorn T, Unniappan S, Snead ECR. "Arginine vasopressin and copeptin: comparative review and perspective in veterinary medicine." *Frontiers in Veterinary Science* (provisionally accepted: Feb. 2025). doi: 10.3389/fvets.2025.1528008

Lam JPM, Rozsa B, Paulin MV, Lucyshyn DR, Gu Jasmine, Cotter B, Grahn B, Carr A, Taylor S. "Uveodermatologic syndrome presenting with concurrent aseptic meningoencephalitis in a dog." *Canadian Veterinary Journal*. Feb. 2025. 66(2):130-37.

Cowan V. "Strychnine poisoning in nontarget species in Western Canada: a retrospective case series (2014 to 2023)." *Canadian Veterinary Journal*. Feb. 2025. 66(2):168-76.

Paulin MV, Mehrabanpour D, Unniappan S, Snead ECR. "Orally administered prednisolone decreases plasma arginine vasopressin and serum copeptin concentrations in healthy dogs." *Journal of Veterinary Internal Medicine*. Feb. 2025. doi: 10.1111/jvim.17304

Zadeh AS, Carr AP, Jenkins EJ. "*Dioctophyme renale* (giant kidney worm) in a dog: A review of a parasitic disease requiring surgical treatment." *Veterinary Record Case Reports*. Jan. 2025. doi: 10.1002/vrc2.1101

Cormillot S, Dickinson R, Weissman M, MacDonald-Dickinson V. "Multiple cutaneous mast cell tumours displaying epitheliotropism in a male cat." *Canadian Veterinary Journal*. Jan. 2025. 66(1):20-27.

Dr. Pam Goble

SUBMITTED

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WITH THE GIFT OF PET HEALTH

Pay tribute to the lives of your patients, clients and loved ones by making a donation to the Companion Animal Health Fund through its memorial program. Each time you give to the CAHF, we will send a letter to the client or loved one's family acknowledging your gift to the pet health fund.

> "Town Centre Veterinary Hospital donates to the CAHF memorial program for each of our patients that passes away. It has been a very rewarding hospital policy — a win-win-win if you will — for the veterinary community, for our specific clients, and for our specific hospital."
>
> **Dr. Pam Goble** ***(WCVM '89)***
> CAHF donor

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