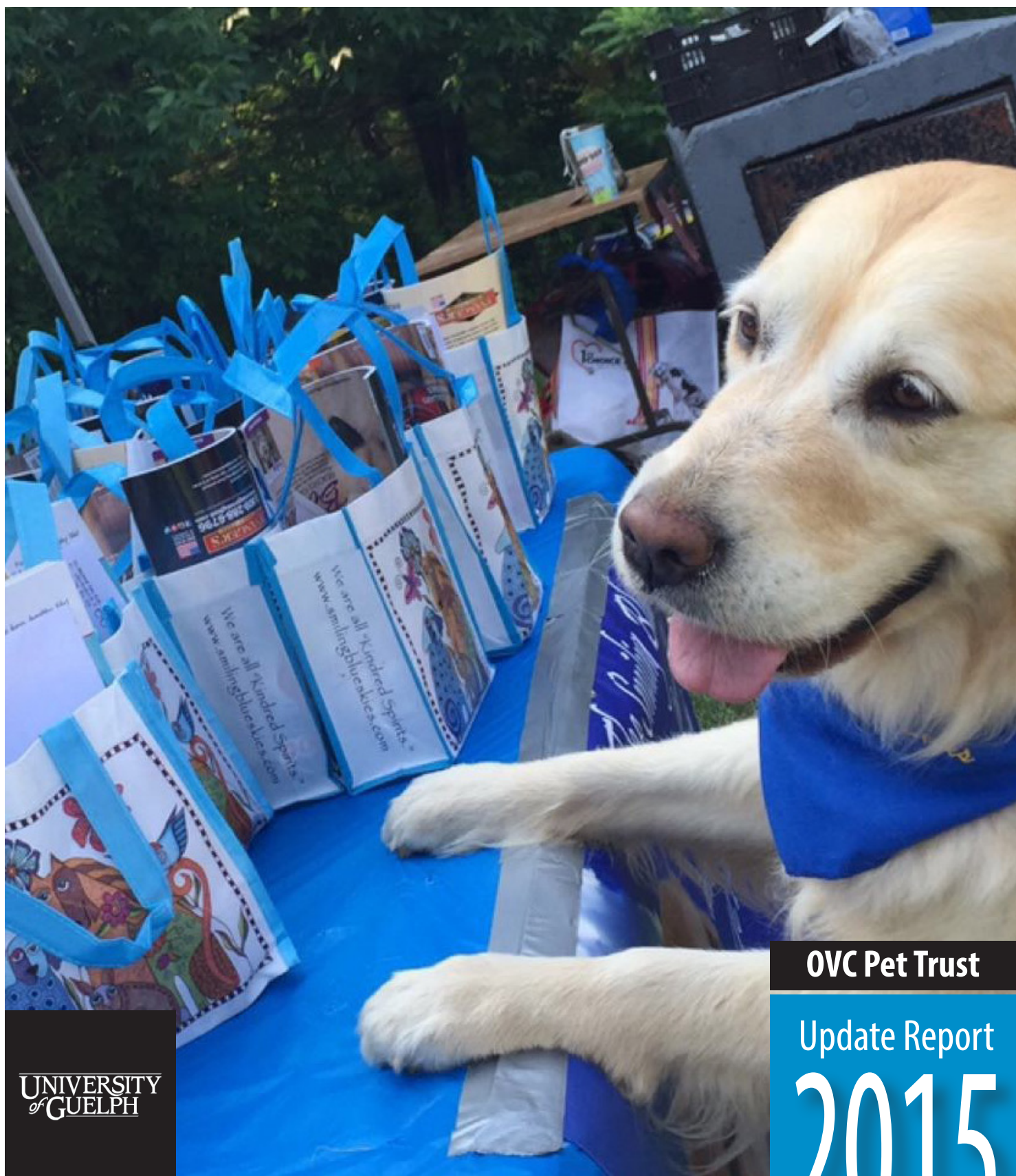


Smiling Blue Skies

Taking a bite out of cancer since 2001



UNIVERSITY
of GUELPH

CHANGING LIVES
IMPROVING LIFE

OVC Pet Trust

Update Report

2015

Smiling Blue Skies

Changing the future...helping to create a cancer-free world



“Since the spring of 2001, The Smiling Blue Skies Cancer Fund has been supporting OVC Pet Trust’s quest to find answers to canine cancer. Thank you to all the heroes out there, whether all grown up or “reaching tall,” all giants in our eyes, who are helping to take a bite out of cancer, on behalf of the precious pets and people in our lives. Long live blue skies, where hope is a kite and dreams really do come true.

- Suzi Beber
Founder, Smiling Blue Skies Cancer Fund
www.smilingblueskies.com

OVC Pet Trust was started 30 years ago by a group of dedicated volunteers to support the work of veterinary specialists and researchers at the Ontario Veterinary College (OVC) who were committed to improving the health and well-being of our pets.

Over the years, Pet Trust has developed long-standing partnerships and friendships that have helped make their vision a reality. One of these amazing relationships is with Suzi Beber, the founder of the Smiling Blue Skies Cancer Fund.

Under Suzi’s leadership, the Smiling Blue Skies volunteer team has dedicated countless hours over the past 14 years and have raised more than \$1.6 million to fund important research projects and initiatives at OVC to advance the prevention and treatment of cancer and create leading edge facilities to treat cancer in pets.

In 2015, the support of Smiling Blue Skies has helped enhance the experience of those in need of care at the Mona Campbell Center for Animal Cancer. Investigation of novel cancer treatments and approaches is a top priority for our oncology team. This year, Smiling Blue Skies provided much needed funding for a new Clinical Trials Coordinator position within the centre. This role allowed our team to manage more than a dozen new trials and helped recruit participants for projects that will change the face of how we treat cancer in the future.

Thank you Suzi - from all of us at OVC and Pet Trust, for your tireless commitment to help people and pets work through the struggles of this disease. Because of your dedication – we really are taking a bite out of cancer.

A handwritten signature in black ink, appearing to read 'K. Robinson'.

Kim Robinson, Managing Director, OVC Pet Trust

About the Clinical Trials Coordinator Role

The new Clinical Trials Coordinator is dedicated to managing clinical trials at the Ontario Veterinary College and supporting critical cancer research to maximize the benefits of these studies and help as many pets as possible.

The Clinical Trials Coordinator oversees recruitment of owners and their pets, collection of necessary data and acquisition of samples for tumour banking. The Coordinator liaises with other specialists throughout the OVC Health Sciences Centre and actively seek patients from all services (e.g. neurology, internal medicine and others) that could be included in clinical trials. In addition to working with the principle investigators, the coordinator maintains strong relationships with clients to explain the steps involved in the trial, obtain consent for participation and monitors how patients respond to treatments.

This role is vital to the cancer care OVC offers to patients and their people, while simultaneously helping to advance cancer research.



As Clinical Trials Coordinator, Vicky Sabine, works alongside Kaya Skowronski whose primary responsibility is the coordination of the Companion Animal Tumour Sample Bank. With these two full-time positions in place, OVC is able to offer new opportunities to advance translational cancer research in companion animals.

Sabine, a PhD in Veterinary Medicine, previously worked on the development of a gene therapy cure for canine osteosarcoma, under supervisor Dr. David J. Argyle at the University of Glasgow and spent more than seven years as a breast cancer translational research scientist at both the University of Edinburgh, and more recently, at the Ontario Institute for Cancer Research in Toronto.

In her role, Vicky assists in administrative aspects of all companion animal OVC Health Sciences Centre based clinical projects, with priority

being given to oncology-related and Pet Trust-funded projects. She helps with recruiting patients, obtaining consent, liaising with referring hospitals and ensuring samples are collected.

All tumours or samples are collected with owner consent. Cases include mast-cell tumour, osteosarcoma, soft tissue sarcoma, mammary cancer, hemangiosarcoma, thyroid cancer and melanoma. Sabine notes that any solid tumour is potentially eligible for banking.

Blood samples from oncology patients are also being banked now, regardless of whether a patient is a surgical candidate.

Since Sabine's arrival, the tumour bank has celebrated a significant milestone. In June of this year the bank announced it has accumulated tumours from over 500 cases (dogs, cats and rabbits).



In photo: Top: The Institute for Comparative Cancer Investigation (ICCI) team Drs. Paul Woods, Kaya Skowronski, Vicky Sabine, Michelle Oblak, Geoff Wood and Brenda Coomber. Bottom: Clinical Trials Coordinator, Vicky Sabine and her two dogs - Arran and Baloo.

Supporting Oncology Research at the Ontario Veterinary College in 2015

Smiling Blue Skies Investment **\$160,000**

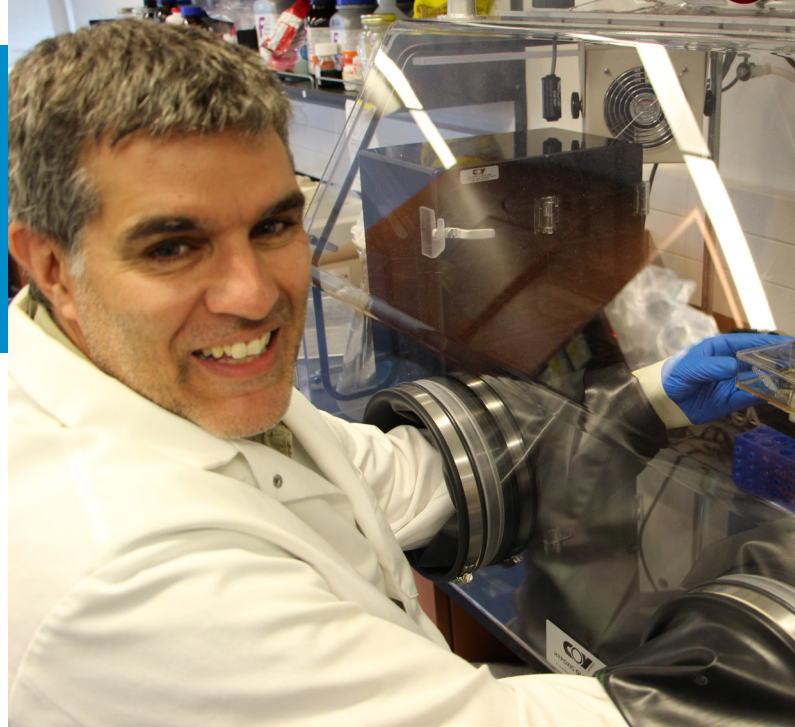
The Ontario Veterinary College's Health Sciences Centre (OVC-HSC) is a busy hub of specialized veterinary care and research located at the University of Guelph, approximately 1.5 hours outside of Toronto. The companion animal hospitals within the centre employ 25 clinicians and 45 registered veterinary technicians (RVTs). The OVC-HSC medical team also includes 11 companion animal interns and 25 Doctor of Veterinary Science students (DVSc); veterinary graduate students focused on a variety of specialties within companion animal medicine.

Open 24 hours a day, OVC-HSC delivers care to approximately 2,000 companion animals each year with an annual average of 12,000 patient visits. 5,000 of these visits are to the Mona Campbell Centre for Animal Cancer.

Since patient selection is such an important component of running a successful clinical trial, the Clinical Trials Coordinator plays a vital part in managing and distributing the most up-to-date information to all members of the OVC-HSC team. Promoting information about the trials to referring veterinarians, their care teams as well as to pet owners is also a primary responsibility for this position.

In 2015, the creation of core communications tools and strategies to promote clinical research studies and the Companion Animal Tumour Sample Bank has been a key area of focus in order to:

- Increase patient recruitment for clinical trials
- Promote collaborations
- Facilitate cancer research at OVC and the University of Guelph



Accomplishments in 2015

- Orientation of new residents and interns.
- Presented at the Institute for Comparative Cancer Investigation (ICCI) Symposium 2015, with 80 cancer researchers from Canada and the United States in attendance.
- Published articles in OVC, Pet Trust and University of Guelph newsletters, which were also promoted through social media channels.
- Developed new Clinical Trials webpage to promote clinical trials and improve accessibility.
(www.ovc.uoguelph.ca/hsc/en/aboutovchealthsciences/ClinicalTrials.asp)
- Managed client communications about participation in current trials (400 new patients enrolled in 2015).

In photo: Dr. Bridle is culturing tumour cells in a hypoxic chamber. "In preparation for a new clinical trial at OVC (the first companion animal cancer research supported by the Terry Fox Foundation), the cells are used to test the efficacy of the oncolytic virus that will be used in the canine osteosarcoma trial scheduled to begin Fall 2016. Hypoxia means low-oxygen conditions. Tumours in animals and people grow so fast that the circulatory system cannot keep up; new blood vessels don't grow fast enough. So over time, the oxygen level in a tumour decreases. This makes cancers more aggressive and difficult to treat. Being able to replicate these conditions in cells grown in the laboratory increases our chances of finding therapies that should work against real cancers." Dr. Bridle is also currently conducting research supported by the Smiling Blue Skies Cancer Fund.

- Created mobile friendly information cards for all clinicians. These tools help identify potential candidates for studies faster.
- Developed 'Clinical Research' information packages containing details regarding all oncology and oncology-related studies and promotional material to expand awareness. Information packages are distributed at OVC and non-OVC events, including tours by the Ontario Minister of Education and U of G Vice President of Research, OVC alumni, OVC Practitioner Appreciation rounds, Cat Health Symposium 2015, and OVC Alumni Association continuing education symposium. Condensed versions of the information package are also available for all new oncology clients.
- Networked with 'Clinical Research Coordinators' and primary investigators at other North American veterinary centres performing clinical research studies, including Penn State University, University

of Florida, Colorado State University and Ohio State University, to learn how they recruit patients into their research studies. These collaborative conversations help our team identify areas patient recruitment could be improved.

By expanding support in this area, the 2015 contributions of the Clinical Trials Coordinator have allowed OVC-HSC to achieve remarkable results when compared to 2014.



In photo: Examples of Clinical Trials promotional materials .

Initiating New Trials

OVC's first NIH COTC (National Institute of Health Comparative Oncology Trials Consortium) multi-centre trial is now in the final planning stages. Once complete, osteosarcoma patients will be recruited. This multi-centre trial will enable OVC to offer potential cutting-edge treatments to patients.

In addition to the multi-center trial, the team is constantly reaching out to OVC primary investigators who are or who may be involved in current and/or future research studies recruiting companion animal patients. A searchable database of surgical oncology procedures performed at OVC has also been created to assist with identifying potential funding grants and opportunities for collaborations.



In photo: Patient Missy with OVC Anesthesia Veterinary Technician Ines Jiminez and Laura Furness, Veterinary Technician and Radiation Therapist. Missy's treatment involves radiation therapy. Missy has rhabdomyosarcoma, a relatively rare form of cancer that can strike children and also occurs in young dogs.



Osteosarcoma

Osteosarcoma is a highly aggressive bone tumour in dogs. These canine tumours are very similar to those that occur in children. This makes dogs an important model for understanding osteosarcoma in humans. Amputation and chemotherapy are the gold standard for treatment in dogs, but alternative local therapies including limb sparing surgeries or stereotactic radiation therapy may be possible in certain cases. In dogs, local therapy aims to provide pain relief to improve/maintain quality of life until the development of metastases. Much work is still needed to better understand and direct therapy. This is an area of active research at the Ontario Veterinary College.

In photo: Osteosarcoma patient Jake at OVC for post limb spare surgery bandage change.

Patient Enrollment Companion Animal Tumour Sample Bank (CATSB)

Numbers of oncology patients recruited into oncology and oncology-related studies and banked in CATSB during periods Jan 1 – Oct 31 2014 and Jan 1 – Oct 31 2015:

Time frame (Jan 1 - Oct 31)	Clinical Research Studies			CATSB	
	# Oncology-related Studies	# patients recruited	# Golden retrievers recruited	# of cases banked	# Golden Retrievers banked
2014	11	221	20	103	6
2015	13	147	14	239	25

Please note: While there is a smaller number of patients recruited in 2015 than in 2014, the largest contributing study in 2014 was from a survey (n=75) rather than a study collecting patient samples or involving patient treatment. As well, in 2014, three of the studies were able to include any cancer patients whereas in 2015 all the studies are for specific canine/feline cancers or diseases which include oncology patients, possess strict inclusion/exclusion criteria and two of the cancers under investigation are rare or uncommon diseases, namely acute myeloid leukemia and T-cell lymphoma.

Tumour Bank Facts

- The Companion Animal Tumour Sample Bank (CATSB) has banked approximately **14,000 samples** from **600 companion animal** patients
- **99% compliance rate** from OVC-HSC clients when asked about their companion animal's participation in CATSB
- Since November 2014, CATSB has more than doubled the yearly average of cases banked from approximately 100 to **more than 200 cases banked per year**

In photo: Kaya Skowronski, Tumour Bank Coordinator processing tumour samples at the Ontario Veterinary College, Health Sciences Centre.



MOST PREVALENT CANINE TUMOURS IN CATSB

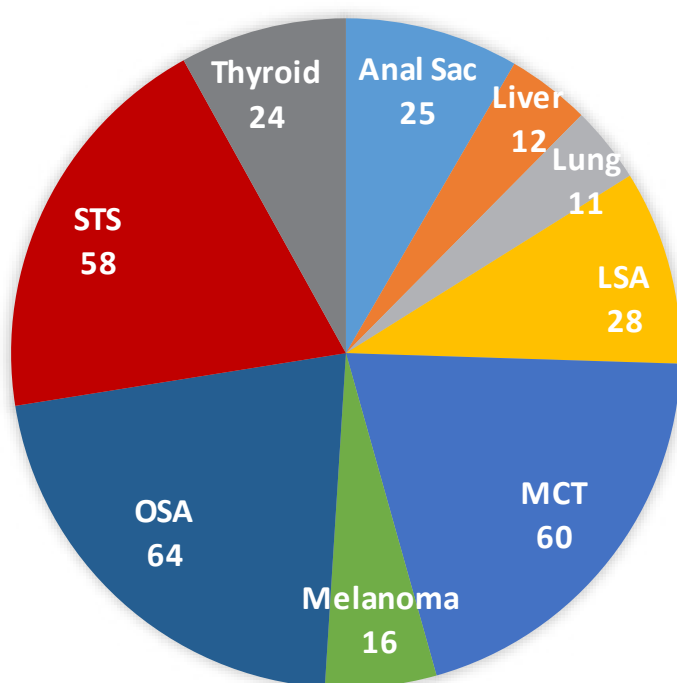


Figure 1 - The most prevalent canine tumour types in the tumour bank as of Oct 2015, and respective number of cases banked for each tumour type.

Abbreviations:

OSA – osteosarcoma

MCT – mast cell tumour

STS – soft tissue sarcoma

LSA – lymphoma

Total Number of Cases Banked Yearly in CATSB

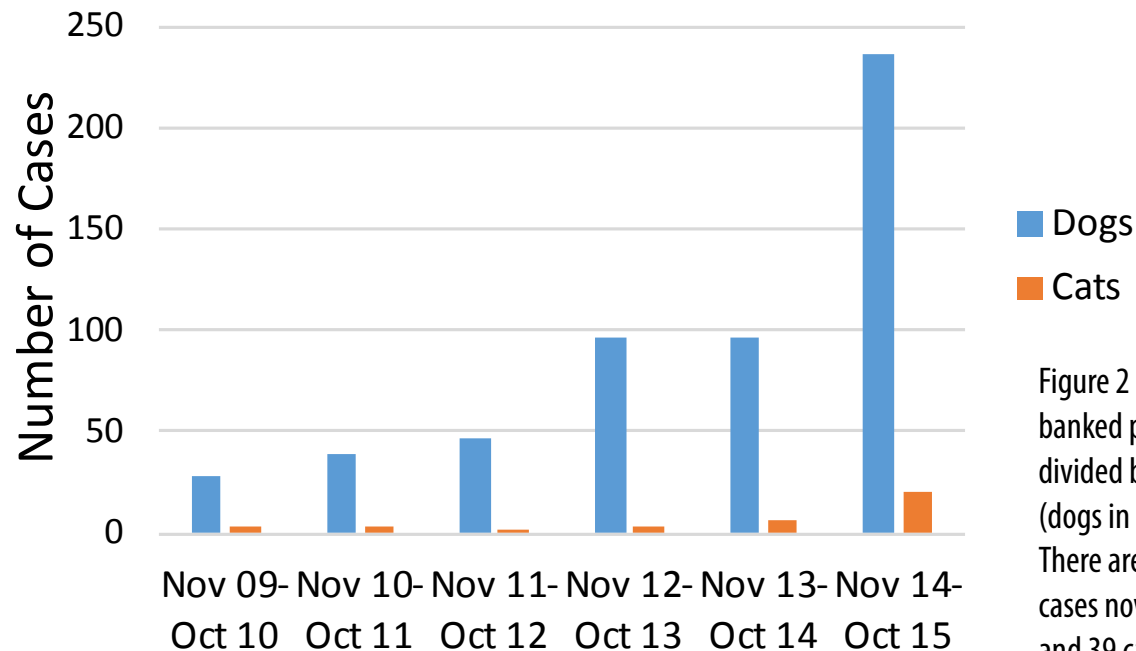


Figure 2 - Number of cases banked per year. Cases are divided by year and species (dogs in blue, cats in orange). There are approximately 590 cases now banked; 551 dogs and 39 cats.

Twelve studies at the Ontario Veterinary College currently seeking oncology patients:

Canine oncology studies:

- Acute Myeloid Leukemia Study
- Analysis of cytokines in dogs with multicentric lymphoma treated with Madison-Wisconsin protocol -microRNA profiling for diagnosis and prognosis - the microRNA project is a separate project, please separate from analysis of cytokines project
- Prognostication of canine T-cell lymphoma
- Effects of diphenhydramine (Benadryl) in dogs with mast cell tumours undergoing surgery at OVC
- Analysis of cytokines in dogs with osteosarcoma treated with amputation, radiation and/or chemotherapy
- Investigating biomarkers for metronomic cyclophosphamide treatment of canine soft tissue sarcoma

Feline oncology studies:

- Oncolytic Maraba vaccination and standard-of-care surgery for the treatment of mammary carcinoma in cats

Oncology-related studies:

- Thiamine supplementation in dogs and cats with anorexia or a reduced appetite
- The effects of pre-storage leukoreduction on inflammation induced by blood transfusion in critically ill dogs
- Randomized, blinded study comparing fentanyl and hydromorphone infusions to control pain in canine ICU patients
- Feline acute kidney injury study

Information on oncology and oncology-related clinical trials currently recruiting companion animal patients at the Ontario Veterinary College can be found at: <http://ovc.uoguelph.ca/icci/trials>

In photo: RVT Vicky Heinbecker with Lymphoma patient.





Educating the Next Generation

Teaching, learning and research to improve the health of all species is at the very foundation of the Ontario Veterinary College. Increasing opportunities for students to know more about the research side of veterinary science, beyond what they are already learning in their clinical studies, is a key objective. In addition to the educational opportunities that are provided on a regular basis to students, OVC also offered two 4-month internships to advanced biotechnology students from Sir Sanford Fleming College, Peterborough in 2015. The interns assisted with clinical research studies and the tumour bank. One DVM student was also hired as part of the University of Guelph Work Study Program (September – December 2015). Their time was spent focusing on data collection and patient outcomes for the Companion Animal Tumour Sample Bank. Future internships include opportunities for veterinary technician students from St. Lawrence College, Kingston (February - March 2016) to assist with clinical research

studies and the tumour bank. All roles are managed in part by the Clinical Trials Coordinator. This is a notable improvement over 2014 when no work study students or interns were able to be offered in the ICCL.

Our Spaces

Office space for clinical research administration purposes has been established. This is important for Good Clinical Laboratory Practice (GCLP) requirements, as it is necessary to have sufficient, secure storage space for study folders and confidential information. A tumour bank tissue culture laboratory was established in April 2015 to grow cell lines from tumour samples obtained at surgery. The process of finalizing high capacity liquid nitrogen storage for preserving cell lines and for better archiving of urine samples is currently underway.

In photo: Oncology Team – Smiling Blue Skies Walk, Guelph 2015. Dr. Kaya Skowronski & Avery (daughter), Dr. Michelle Oblak (surgical oncologist), Amanda Bridge (receptionist), Bojena Kelmendi (Clinical Counsellor), Dr. Tony Mutsaers (medical oncologist), Gino & Vicky Heinbecker (RVT) & Dr. Paul Woods.

What Does The Future Hold?

OVC clinicians and clients

It is essential to provide information to DVM students to raise their awareness and understanding of the importance of clinical research and the type of clinical research performed at the Ontario Veterinary College. Once in practice, graduates will have an understanding of both the referral and clinical trials process. By educating our students now we will help increase patient recruitment and participation in the future.

Companion Animal Tumour Sample Bank

The ICCI is currently implementing new procedures to become certified for biobanking best practices by the Canadian Tissue Repository Network to enhance the validity of tumour bank samples.

Referring veterinarians

It is imperative for OVC referring veterinarians to be aware of the clinical trials offered at OVC. Regular updates will continue to be sent to those who have subscribed to the ICCI-clinical-research-mailing list. Invitations to join the list will continue to be extended to all referring veterinarians.

Clinical research

By streaming online, OVC staff was able to attend the meeting on 'The Role of Clinical Studies for Pets with Naturally Occurring Tumors in Translational Cancer Research', held at the Institute of Medicine, Washington, D.C. in June 2015. Funding opportunities to support travel to veterinary cancer conferences is being explored for the future. There is great benefit to attending these meetings in person for networking and investigating potential collaborative opportunities.



As part of their surgical training, students in the Doctor of Veterinary Medicine (DVM) program at OVC learn the principles of cancer surgery. In this photo, Dr. Michelle Oblak explains the importance of understanding margins - an essential skill to master that can help improve outcomes when treating cancer patients.

Thank you & Congratulations...

...The work of the Smiling Blue Skies Cancer Fund is an inspiration

Suzi Beber's leadership and the generosity of volunteers that give their time, effort and care into making the Smiling Blue Skies Cancer Fund a success truly amazes me.

\$1.6 million dollars is a significant achievement and each dollar has helped expand our ability to offer life-saving care to many cancer patients and drive innovation in discovering new ways to diagnose and treat canine cancer. I offer a heartfelt thank you from all of our care givers and researchers here at OVC and look forward to building our partnership in the future."

Jeff Wichtel, Dean,
Ontario Veterinary College, University of Guelph

I would like to take this opportunity to personally thank 'Smiling Blue Skies' for not only creating this position but also confirming funding for the next 3 years. This is fantastic news for OVC and its companion animal oncology patients. Both Kaya and myself are looking forward to continuing to develop clinical research and the Companion Animal Tumour Sample Bank and the benefit they will provide both directly and indirectly to current and future cancer patients, whether they be dogs, cats or humans.

Vicky Sabine, Clinical Trials Coordinator



Thank you Smiling Blue Skies Cancer Fund



Top: Toronto Smiling Blue Skies Co-Producers, Lorrie Holmes and Kelly Manis. Bottom: Fundraisers and volunteers at the SBS 2015 Toronto Walk. Photos courtesy of Virginia Macdonald

I've been a commercial dog walker in Toronto since 2004. In 2012, after losing 8 of my clients' dogs to cancer, I decided to create a walk to raise money and awareness.

I'd never done such a thing before and after asking around, I was directed to Suzi Beber, founder of the Smiling Blue Skies Cancer Fund. She was thrilled to hear I was interested and provided me with guidance and free rein to produce Toronto's first walk.

Since 2012, the Toronto walk has raised over \$140,000 for the Smiling Blue Skies Cancer Fund.

I've never met Suzi in person but she has become my mentor, friend, dog nutrition/health guru, and is my "go to" person for anything dog.

Suzi, is a pillar of strength and a valued resource for those dealing with cancer, be it animal or human. Suzi selflessly makes herself available 24/7 through Smiling Blue Skies to anyone who needs her guidance.

Suzi is a daily inspiration to me. When I have "one of those" moments, I remember her strength and remind myself it's really not that bad.

I'm privileged, blessed, and a better person for having her in my life and look forward to the day we finally meet.

Kelly Manis
Co-Producer
Smiling Blue Skies Walk to End Canine Cancer - Toronto





Help the pets we love- live, longer healthier lives.

OVC Pet Trust, founded in 1986 at the Ontario Veterinary College, University of Guelph is Canada's first charitable fund dedicated to the health and well-being of companion animals.



OVC Pet Trust honours the relationship between pets and their people and veterinary caregivers by raising funds to support innovative discoveries that improve the prevention, diagnosis and treatment of diseases of pets.

Funds also help train veterinarians to provide exceptional healthcare for pets and provide equipment and facilities for the Ontario Veterinary College.

University of Guelph
Charitable Registration Number:
10816 1829 RR 0001



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