



OVC Pet Trust

Donor Report

2014

UNIVERSITY  
of GUELPH

CHANGING LIVES  
IMPROVING LIFE

# *Smiling Blue Skies...*

## *Taking a bite out of cancer since 2001*



It is hard to believe, that what once began with one dog, one thousand dollars, and a one year trial known as “Pet Trust: In Memory of Blues,” now embraces all of us.

The partnership between Smiling Blue Skies and OVC Pet Trust is nearing its 14th year. With your leadership, that one thousand dollars has turned into over one point four million dollars, and collectively, you and the many Smiling Blue Skies supporters have helped to fund important research projects and initiatives at the Ontario Veterinary College (OVC).

**Smiling Blue Skies has helped OVC advance the prevention and treatment of cancer and create leading edge facilities to treat cancer in pets. These initiatives include:**

- Validation of a blood test to diagnose hemangiosarcoma, a highly aggressive cancer
- Equipment purchases and support for the Mona Campbell Centre for Animal Cancer, including surgery lighting and naming of the Smiling Blue Skies Comfort Room
- Development of Canada’s first cancer registry for companion animals
- Investigation of novel cancer treatments and approaches, providing much needed seed money for research that can be difficult to obtain from traditional grant funding sources
- Funding for a new clinical trials co-ordinator position at the Institute for Comparative Cancer Investigation, supporting more than a dozen new trials

*“Since the spring of 2001, The Smiling Blue Skies Cancer Fund has been supporting OVC Pet Trust’s quest, to find more and better ways to deal with, and understand the complex and devastating disease of cancer.”*

# 2014 *Smiling Blue Skies* support:



“Your generosity is leading to great discovery.

## 2014 Funds have supported the following:

- ✓ \$46,000 New Clinical Trials Coordinator
- ✓ \$23,000 Immunotherapy for dogs with lymphoma, research led by Dr. Byram Bridle
- ✓ \$10,000 Training and start up for the new radiation oncologist at the animal cancer centre
- ✓ \$2,000 Travel and Registration for the Clinical Grief Counselor to attend the 4th International Veterinary Social Work Summit: *A Hidden Joy: The Role of Social Work in Animal-Related Grief and Bereavement* at the University of Tennessee, Knoxville
- ✓ \$26,891 To be allocated for innovative research projects in 2015

***We are proud to report that 10% of OVC faculty are conducting research on cancer in companion animals.***

# Clinical Trials Coordinator:

Currently, we are doing our best to include as many patients as possible in ongoing clinical trials to find new ways to diagnose and treat cancer, but we will do so much more with our new full-time Clinical Trials Coordinator.

One technician can only devote about one-third of her time to cancer clinical trial coordination. This is enough time to manage the 6 studies in dogs that are now underway. We have 11 new studies that will be starting within the next few months. Hundreds of dogs with cancer will be involved. The new clinical trials coordinator will be a talented technician who is dedicated to coordinating all of these clinical trials and will ensure this critical cancer research continues. We want to maximize the benefits of these studies and help as many pets as possible.

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



The Clinical Trials Coordinator is vital to the cancer care we can offer our patients and their people, while simultaneously helping to advance the study of cancer in our patients.

We anticipate filling this role in early January 2015.

***Investment: \$46,000***

# Immunotherapy for Dogs with Lymphoma:

*Investment: \$23,000*

Funds raised at the inaugural Smiling Blue Skies walk in Guelph is supporting research that aims to fight cancer in dogs using a novel biotherapy. Dr. Byram Bridle will be running a veterinary clinical trial to treat lymphoma in dogs using an oncolytic vaccine. This vaccine combines the benefits of oncolytic virotherapy, which uses a very safe virus that can replicate in and destroy cancerous but not normal cells, and immunotherapy that directs a dog's own immune system to attack its own cancer cells. Hallmarks of both approaches is exquisite specificity and an ability to target cancer cells anywhere in the body. The goal is to develop an effective treatment without the toxic side effects associated with standard therapies.



# Training for Radiation Oncologist:

*Investment: \$10,000*

The Mona Campbell Center for Animal Cancer is currently recruiting for a new Radiation Oncologist to run the radiation therapy program. The centre is equipped with a state of the art linear accelerator with on board imaging which is not available at most animal cancer centres. Therefore, it is unlikely that any applicant to this position will be familiar with the complex operations of the equipment and require specific training on our equipment to ensure optimal patient care. In order to attract the best Radiation Oncologist it is critical that we are able to provide the support they require to be successful in providing exceptional patient care at our facility.



# Research:

The Smiling Blue Skies Fund for Innovative Cancer Research, has opened even more doors for advancing cancer research.

As Dr. Brenda Coomber, Co-director of the University of Guelph's Institute of Comparative Cancer Investigation reported, "Getting the ball rolling on a novel concept can be a major challenge, and almost every cancer researcher hears the same thing from funding agencies . . . 'Come back when you have some evidence you are on the right track.' The Smiling Blue Skies Fund for Innovative Cancer Research fills an urgent gap in OVC and the cancer centre's ability to support creative cancer research at its most fragile and vulnerable early stage."

The following oncology studies were funded in 2013-14.

## Fall 2014:

### Immunotherapy for dogs with melanoma

Pet Trust is supporting research that aims to fight cancer in dogs by directing their own immune system to attack cancer cells without the toxic side effects of standard treatments. Dr. Byram Bridle's project is focused on melanoma, and the proteins called melanoma-associated antigens (MAAs) expressed by tumour cells. Using melanoma samples from the OVC's tumour bank, vaccines containing MAAs will be used to provoke the body's cancer-killing immune response. The specimens will be analysed for expression of MAAs and the data will be used to develop vaccines to target the most commonly expressed MAAs in canine melanomas.

### Effects of an anti-inflammatory drug on dogs undergoing mast cell tumour surgery

Dr. Alex Valverde is investigating whether a common antihistamine used to treat allergies and other conditions is also helpful when given to dogs undergoing mast cell tumour (MCT) surgery. One of the most common types of malignant skin cancer in dogs and cats, MCTs release histamine, a compound produced by most cells in response to injury and in allergic and inflammatory reactions. The release of histamine causes the blood vessels to widen and lowers blood pressure (hypotension). This natural defence mechanism may put dogs at risk during surgery. This study will determine whether a histamine blocker called diphenhydramine — the active ingredient in the over-the-counter medication Benadryl — before surgery effectively and safely minimizes the chances of cardiovascular problems.



## Predicting treatment outcomes for dogs with lymphoma surgery

Dr. Darren Wood is developing a non-invasive blood test that may predict how canine lymphoma patients will respond to therapy. One of the most commonly diagnosed cancers in dogs, most will go into remission following chemotherapy. However, there are no good tools available to predict which dogs will respond well, and which will suffer a relapse. This project aims to determine whether blood and tissue samples can be used to detect protein molecules called miRNAs that have been shown to correlate with the presence of cancer, and how their presence or absence correlates with treatment outcomes.

## Overcoming cancer cells' resistance to chemotherapy in canine osteosarcoma

Dr. Geoff Wood is investigating ways to counteract the effects of a protein associated with the ability of cancer cells to resist chemotherapy in dogs with bone cancer. A previous OVC study found that a gene called PRKAR1a, normally made by canine bone tumours, is not produced by tumours from long-surviving dogs. In humans, the lack of this gene is associated with better chemotherapy response as well. PRKAR1a plays a role in autophagy, a state in which cells "self-consume" some components and recycle them to survive when they are under extreme stress. In cancer, this process may help malignant cells survive chemotherapy, then start growing again once treatment is over. This project will use bone cancer cells grown in the laboratory to test the ability of drugs to inhibit autophagy and enhance the cancer-killing ability of chemotherapy. The goal is to discover the best combinations for future clinical trials.



# Spring 2013:

## Predicting cancer treatment outcomes

Certain proteins associated with mast cell tumours (MCT) in dogs may help improve diagnosis and predict the patient's response to therapy. The most common type of skin cancer found in dogs, MCT can differ greatly and it can be difficult to choose the best therapy for an individual dog, or to predict how the cancer will behave. This project will study tissue specimens from 600 MCT cases and analyze the structural and molecular changes through different stages of tumour progression, and a particular protein targeted by the cancer drugs Palladia and Masivet.

## Impact of radiation therapy on bone loss

OVC cancer specialists are hoping to improve treatment of osteosarcoma by examining the effects of radiation therapy used in combination with drugs that help prevent the loss of bone mass. Radiation therapy may be used in lower doses to relieve pain or at higher doses to kill tumour cells. It is often used in combination with bisphosphonates, drugs which prevent the loss of bone tissue due to diseases such as osteoporosis. This study will examine the effects of radiation therapy on osteosarcoma cells treated with bisphosphonates.

## Evaluating tools used in microwave ablation therapy

An OVC diagnostic imaging specialist is investigating ways to reduce the cost of microwave ablation therapy, a minimally-invasive alternative to surgery used to treat a variety of cancers in humans. The technique is not commonly used in veterinary medicine, mainly due to equipment costs. This project will assess the lifespan of microwave antennas following repeated use and reprocessing, and lay the groundwork for a clinical trials program.



# **Thank you & Congratulations:** *The work of the Smiling Blue Skies Fund to end Canine Cancer is truly an inspiration*

“*Congratulations on the success of Smiling Blue Skies - and my heartfelt thanks! It is incredible what you have organized and the benefits continue long after the walks themselves, as new people are introduced to Smiling Blue Skies and the wonderful work you are doing to help dogs with cancer.*

*You continue to amaze me with your creativity and dedication!”*

Elizabeth A. Stone, Dean,  
Ontario Veterinary College

Every member of the Board wishes to extend their deepest gratitude and acknowledgment of your ongoing, extraordinary and tireless contributions in the pursuit of Cancer research at OVC. Your tenacity and bravery in the face of personal challenges makes the money you raise all the more meaningful and, at the same time, humbling. It's clear Blues must have been a very special dog whose beautiful spirit profoundly touched not only you but, with a rippling and wonderfully positive effect, so many others, both human and canine. You have made Blues legacy profoundly meaningful to so many and we sincerely thank you and your very special spirit.

Chip Coombs, Chair Pet Trust Board



## Thank you Smiling Blue Skies Fund

*"You are a wonderful person, and have given so much for others. It's because of people like you, Suzi that inspired us to make a difference in the lives of others and our canine companions. I cannot thank you enough."*

Dan Ryan, Smiling Blue Skies Fund Supporter

*In photo: Members from the cancer team, Mona Campbell Centre for Animal Cancer, Ontario Veterinary College at the Smiling Blue Skies Walk to End Canine Cancer in Guelph, 2014.*





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



**Ontario Veterinary College**

## **OVC Pet Trust**

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