



IMPROVING  
HEALTH



PREVENTING  
DISEASE



SAVING  
LIVES

## Ethical and humane research involving animals at the University of British Columbia

**UBC's researchers contribute to a global effort to save lives, fight disease and address critical health issues concerning humans and animals.**

Our dedicated researchers have helped to improve understanding and treatment of global health challenges like cancer, HIV/AIDS and Alzheimer's disease. They've developed treatments for age-related blindness, technologies to treat heart disease, and tests to diagnose heart, lung and kidney failure. Some have even made breakthroughs in animal-borne diseases that can affect humans, such as Creutzfeldt-Jakob disease, avian influenza, and Severe Acute Respiratory Syndrome (SARS).

**At most universities, scientific research involving animals plays an essential role in saving lives and improving health.**

We *only* involve animals in research when no alternative exists. While we make every effort to minimize the use of animals in research, at some point the effectiveness of a new drug or treatment must be evaluated in a living organism before it is approved for human trials.

Although it's possible to conduct some health research using non-animal models, there is no comprehensive, scientifically proven alternative to humane animal research—yet. Animal research works because humans are animals, too. In the emerging paradigm of *One Medicine*, researchers approach human medicine as a subset of animal medicine, helping to ensure a better quality of life for both humans and animals.

**Research involving animals at UBC is responsibly monitored and complies with national regulations.**

The staff and faculty members who work with our animals care about their welfare, and they are required to maintain the highest ethical and professional standards in their research. Before our researchers are permitted to conduct research with animals they must prove that other techniques, such as the use of computer models or cell cultures, cannot produce the necessary results.

Our animal care program and facilities are fully accredited and regularly inspected by independent regulatory organizations such as the Canadian Council on Animal Care (CCAC). The Government of Canada authorizes and empowers the CCAC to inspect and certify animal care programs at all Canadian universities, including UBC, on behalf of the public. The CCAC's standards for humane animal research have been translated into six languages and are considered the international gold standard. *We meet and exceed this world-leading standard.*

## Facts About Research with Animals

To encourage respectful debate and understanding, it's important to know the facts:

*Misconception: Modern advances in research techniques have eliminated the need to involve animals.*

**Fact:** Research tools such as computer modeling and cell cultures are increasingly powerful, but living organisms are more complex than any computer and can't be completely replaced.

*Misconception: Animals involved in research live in pain and suffering.*

**Fact:** Most biomedical research does not result in significant discomfort or distress for research animals. A 2008 CCAC report found that the overwhelming majority of procedures involving animals in Canada either cause little or no discomfort or stress, or cause minor stress or pain in short duration, such as an injection or minor surgery similar to spaying or neutering a pet.

The CCAC's animal care standards specifically require our researchers to use accepted pain management practices and to establish pre-defined, humane endpoints for any procedure involving pain.

*Misconception: The CCAC's guidelines for animal care are voluntary, not mandatory.*

**Fact:** Participation in CCAC programs is *not* voluntary. We must be accredited by CCAC to receive funding from the federal government, which funds most of the university research in Canada. If we don't comply, the CCAC has the legal authority to immediately suspend our animal care and research programs. This has never happened at UBC.

*Misconception: UBC accepts large donations from pharmaceutical companies to conduct research on animals.*

**Fact:** In 2009/10, less than nine per cent of our total research funding came from industry sources in all sectors. Of this amount, the portion that came from pharmaceutical companies mostly funded research using human subjects, not animals.

## Breakthroughs Involving Animal Research

Cancer, HIV and diabetes used to be an automatic death sentence. Today, with the help of research involving animals, people fighting these diseases are living longer, healthier lives.

Recent UBC research involving animals has led to hundreds of medical innovations that extend life and improve quality of life in humans and animals, including:

- » The first successful drug for treating age-related macular degeneration, the leading cause of adult blindness, restoring the sight of hundreds of thousands of people worldwide;

- » A bio-absorbable coated cardiac stent for treating coronary artery disease, the most common cause of death in Canada and a major cause of hospital admissions;

- » New drugs for the treatment of pain;

- » A newly licensed anti-arrhythmic drug treatment for atrial fibrillation, a common cause of heart failure;

- » New formulations of the chemotherapy drugs vincristine and vinblastine, improving their absorption by the body and reducing their toxicity; and

- » A new therapy for prostate cancer that extends average life expectancy by one year in advanced cases of the disease. Prostate cancer is the leading cancer in males in British Columbia and is a leading cause of cancer deaths.

Some familiar medical advances that involved animal research include:

- » The discovery of insulin, penicillin, streptomycin and yellow fever vaccine;

- » Effective treatments for cancer, HIV/AIDS, hypertension, high cholesterol, and depression;

- » The development of important medical devices such as the electrocardiogram, computer assisted tomography (CAT scan) and magnetic resonance imaging (MRI); and

- » An improved understanding of how cells work, and how genetic differences play a role in immunity and disease, the regulation of cholesterol, and the development of life.

### Obeying the Three Rs: Replace, Reduce, Refine

All UBC animal researchers are required to follow an evaluative process established by the CCAC called the *Three Rs*.

Our researchers make every effort to *replace* research animals with inanimate systems or non-animal models, *reduce* the number of animals to the least possible, and *refine* husbandry and experimental procedures to minimize pain and distress.

## Reviewing and Monitoring Research Involving Animals

The Canadian Council on Animal Care (CCAC) oversees every aspect of UBC research involving animals. Every three years, CCAC auditors inspect all UBC animal facilities and review research projects, institutional policies and the work of the Animal Care Committee (ACC). The ACC is required to review all UBC research proposals involving animals and must include members of the public, in addition to our own expert staff and faculty members. Representatives from the local community have always presided on the ACC.

Once a study has received ACC approval, our highly qualified animal care staff and independent veterinarians support and monitor the research to ensure it remains compliant with regulations. Typically, this review process takes several months to complete.

- 1 A UBC researcher submits a new scientific proposal to a funding agency. An independent expert panel reviews the proposal and recommends funding *only* if the research will make a significant contribution to scientific knowledge.
- 2 UBC's Animal Care Committee reviews all aspects of the project. If approved, a compliance certificate is issued that expires in four years and must be reviewed annually.
- 3 The researcher must pass mandatory training in animal handling protocols to ensure that health precautions will be followed for all research staff and animals.
- 4 Animal care staff help to refine procedures, train personnel and care for the animals. An independent veterinarian monitors the study to ensure regulations are obeyed.
- 5 The Animal Care Committee reviews the project annually. Every four years, the researcher must submit a new proposal to the Committee to continue the research.

*Funding is denied if the research will not make a significant contribution to scientific knowledge.*

*A compliance certificate is denied if the research goals can be achieved without animals.*

*The research is disallowed if adequate training is not completed.*

*UBC takes disciplinary action and may halt research if regulations are not obeyed.*

## Anonymous Reporting

In addition to regular veterinarian visits and internal and external audits of research facilities, UBC provides a "whistleblower" process for identifying non-standard animal care practices.

All faculty members, students and technical staff are encouraged to anonymously report non-compliant practices to the Director of Animal Care, who personally investigates each incident report and, if necessary, pursues disciplinary action. This can include the immediate closure of a research facility.

## Advancing Animal Welfare at UBC

UBC is home to some of Canada's leading researchers and teachers in animal welfare, including two NSERC Industrial Research Chairholders.

Graduates of our Animal Welfare program (MSc and PhD) pursue careers protecting animals in shelters, agriculture, transport, and the pet industry, across Canada and internationally.

Visit [www.landfood.ubc.ca/animalwelfare](http://www.landfood.ubc.ca/animalwelfare) to learn more.

## Stay Informed

The following websites offer more information about the importance of research with animals and the regulations that oversee it:

- » Canadian Council on Animal Care [www.ccac.ca](http://www.ccac.ca)
- » Canadians for Health Research [www.chrcrm.org](http://www.chrcrm.org)
- » Speaking of Research [www.speakingofresearch.org](http://www.speakingofresearch.org)
- » Foundation for Biomedical Research [www.fbresearch.org](http://www.fbresearch.org)

