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| Douglas Colour Logo |
| **ANIMAL CARE COMMITTEE** |
| **TRAINING MANUAL** |
| Thank you for joining the Douglas College Animal Care Committee (DCACC).  This manual is intended to familiarize members with the function and responsibilities of the DCACC. Background information on the Canadian Council on Animal Care, which the DCACC represents locally, is also provided.  Every person on the Committee is an equal member. Your voice is essential to the proper functioning of the DCACC to uphold the highest standards of care and use for animals used in teaching and research.  Your participation on the Committee is very much appreciated.  If you have any questions, please contact: |
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# Acronyms Used in this Manual

ACC Animal Care Committee

-may also be referred to as IACC(Institutional ACC) or UACC (University ACC)

Animal All vertebrates (including fish), cephalopods (octopus and squid) and some other higher invertebrates with well-developed nervous systems (so capable of feeling pain)

AUDF Animal Use Data Form

AUP Animal Use Protocol

CCAC Canadian Council on Animal Care

CFIA Canadian Food Inspection Agency

CIHR Canadian Institutes of Health Research

COI Categories of Invasiveness

CVBC College of Veterinarians of British Columbia

CVMA Canadian Veterinary Medical Association

DCACC Douglas College Animal Care Committee

GAP Good Animal Practice

NSERC Natural Sciences and Engineering Research Council

PAU Purpose of Animal Use

PI Principal Instructor/Principal Investigator

SOP Standard Operating Procedures

SPCA Society for the Prevention of Cruelty to Animals

SSHRC Social Sciences and Humanities Research Council

TOR Terms of Reference

VTEC Veterinary Technology (Program)

3Rs Replacement, Reduction, and Refinement

# Canadian Council on Animal Care

*Condensed from the CCAC Online National Institutional Animal User Training Program – Modules 1-3*

## What is the CCAC?

The Canadian Council on Animal Care (CCAC) is the national peer review agency responsible for setting and maintaining standards for the ethical care and use of animals in research, teaching and testing in Canada. Their website is [www.ccac.ca](http://www.ccac.ca).

Animals are defined by the CCAC as all vertebrates (including fish), cephalopods (eg octopus and squid) and some other higher invertebrates having well developed nervous systems (and thus capable of feeling pain).

## Background

During the late 1950s and early 1960s, there was increased demand from scientists and the public for a system to oversee and ensure the humane treatment of animals used in science, especially with the increased recognition that improving the care and treatment of research animals resulted in more valid scientific results.

“Good animal care = good science”

The result was the establishment of the CCAC in 1968 under the recommendations of the Medical Research Council and National Research Council to oversee the use of animals in science (research, teaching and testing) throughout Canada with regard to their procurement and production, their care and housing facilities, and their use in experiments and teaching.

The CCAC is not responsible for the non-scientific care of animals, such as those in animal welfare shelters, in agriculture or in private veterinary clinics, as other agencies are responsible for this oversight (eg Society for the Prevention of Cruelty to Animals (SPCA), Canadian Food Inspection Agency (CFIA), provincial and national veterinary associations).

## Legislation related to experimental animals

There is no federal legislation protecting the use of animals in science as it falls under provincial jurisdiction. Rather, the CCAC acts as a national quasi-regulatory body.

All provinces have some legislation related to animal welfare (for instance, BC has the SPCA Prevention of Cruelty to Animals Act), However, only six provinces have legislation dealing specifically with the use of experimental animals (ie animals used for research, teaching or testing purposes): Alberta, Manitoba, New Brunswick, Nova Scotia, Ontario and PEI.

*Does the federal government have any power? Yes….*

The Criminal Code of Canada protects animals from cruelty, abuse and neglect.

The Health of Animals Act protects livestock from infectious diseases that are a threat to the health of animals and people.

Lastly, the government has “spending power” through its federal granting agencies, such as the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC).

These agencies provide large sums of publicly funded, competitively acquired grants to researchers on the condition that the institution is in compliance with the CCAC; if not, the institution may lose all its funding.

## CCAC Program

The CCAC is comprised of 25 member organizations representing national organizations with an interest in the use of animals at all levels. Humane societies (eg SPCA), Association of Universities and Colleges of Canada, the pharmaceutical industry, animal care technicians and veterinarians, and the federal granting agencies are all members.

The CCAC is primarily funded by CIHR and NSERC (SSHRC does not typically use animals due to the type of research they fund), and by a cost recovery system from government facilities and private institutions.

The purpose of the CCAC is *“to act in the interests of the people of Canada to ensure that the use of animals, where necessary, for research, teaching and testing employs optimal physical and psychological care according to acceptable scientific standards and to promote an increased level of knowledge, awareness and sensitivity to relevant ethical principles”.*

This mandate is carried out through regular peer review based assessments and certification (typically every three years), provision of detailed guidelines and policies (regularly updated and peer-reviewed) and an education and training program.

Canada is the only country to provide these services under one umbrella organization and the CCAC is highly respected internationally. Over 2000 volunteers across the country participate in the CCAC programs of assessment, guidelines development and education and serve on over 220 institutional animal care committees.

## Ethical Principles of the CCAC

The use of experimental animals in science is considered a privilege, not a right, and it comes with great responsibility. In general, the public is supportive of animal based research if the following two concerns are addressed:

*Is it necessary?*

*Will the animals suffer?*

The CCAC Policy Statement, “Ethics of Animal Investigation” addresses these concerns and states that the *“use of animals in research, teaching, and testing is acceptable ONLY if it promises to contribute to understanding of fundamental biological principles, or to the development of knowledge that can reasonably be expected to benefit humans or animals. Animals should be used only if the researcher’s best efforts to find an alternative have failed. A continuing sharing of knowledge, review of the literature, and adherence to the Russell-Burch “3R” tenet of “Replacement, Reduction, and Refinement” are also requisites. Those using animals should employ the most humane methods on the smallest number of appropriate animals required to obtain valid information”.*

## The 3Rs

The 3Rs stand for Replacement, Reduction and Refinement. The term “alternatives” can also be used to represent all three “Rs”, not just the replacement of animals.

The 3Rs concept is a fundamental tenet of the CCAC Program. First introduced in 1959 by William Russell (a philosopher) and Rex Burch (a microbiologist) in their book, *The Principles of Humane Experimental Technique*, the 3Rs are ethical principles to apply when making decisions concerning the use of animals in research, teaching and testing.

Specifically, the 3Rs refer to the:

* *Replacement of animals with non-animal models or animals of lower sentience (feeling)* - for example:
  + cell cultures,
  + invertebrates (bacteria, nematodes, fruit flies),
  + inanimate models (stuffed animals, mannequins),
  + computers (videos, interactive surgical exercises)
* *Reduction of animal usage whenever possible* – for example:
  + literature searches to prevent unnecessary duplication of experiments,
  + good experimental design (good data collection, statistical analysis, sufficient animal numbers) to ensure results are valid and reproducible,
  + using trained personnel (to minimize stress to animals and ensuring data is properly obtained will reduce numbers)
  + using genetically similar animals (to reduce variability) and which develop signs closely matching the condition being studied provide more useful results.
* *Refinement of techniques to minimize animal usage and minimize any pain, stress or distress that animal may experience* – for example:
  + Safer anesthetics resulting in fewer animals deaths
  + Only using appropriately and adequately trained personnel on animals
  + Group housing (as animals tend to be social), stable environment (temperature, lighting, humidity), and the provision of items (chew toys, climbing items, hiding boxes) to meet their psychological needs and not just their physiological needs.
  + Establishing humane endpoints - the point in a study where human intervention occurs to minimize or alleviate animal pain and suffering without compromising the research data. For instance, in a disease or cancer study, animals cannot be allowed to suffer until death; signs are identified that signify suffering and once that point is reached, the study ends.

## Compliance with the CCAC Program

Membership to the CCAC Program is “voluntary”. However, most organizations in Canada recognize the scientific, ethical and social benefits of being members of a well-respected, internationally recognized program that is monitored by their peers, and willingly adopt the CCAC program as the minimum standard for the appropriate care and use of animals in science.

As a result, all Canadian Institutions (colleges, universities) that receive public funding from the Federal Granting agencies are required to be members of the CCAC to retain their research funding.

The Canadian Veterinary Medical Association (CVMA) and College of Veterinarians of BC (CVBC) also require CCAC membership for the certification of their veterinary and animal technician programs.

The federal government and many provincial government and private organizations have voluntarily required participation in the CCAC program. An increasing number of scientific journals now require authors to confirm compliance with the CCAC program.

Members in good standing receive the CCAC Good Animal Practice (GAP) Certificate. Douglas College is a proud member of the CCAC in good standing and holds a GAP Certificate.

## How is compliance with the CCAC Program monitored?

The CCAC requires each of its members to create an Institutional Animal Care Committee (IACC or ACC) which acts as the local representative of the CCAC. Thus, the CCAC uses a decentralized model of responsibility with the onus lying with the ACC to ensure its institution is in compliance with the CCAC guidelines and policies.

To ensure that the ACCs are in compliance, the CCAC conducts regular assessment visits to the institutions. These visits act as the Quality Assurance program for the institution and are typically held every three years. The assessment visit is a peer-review based system involving a member of the CCAC and volunteers with experience in the CCAC program (such as ACC members from other institutions and SPCA members)

# Animal Care Committee

## Role of the Animal Care Committee

Animal Care Committees (ACCs) are responsible for ensuring the ethical care and use of animals in science (ie research, teaching and testing). They are primarily interested in the welfare of the animals, with a lesser interest in the project’s merit scientifically (in the case of research and testing) or pedagogically (in the case of teaching). Other agencies or committees are responsible for ensuring the merit of the project (eg NSERC, institutional curriculum committees); if merit hasn’t been peer reviewed, then the ACC must arrange for it to be carried out (using a Peer Review Form)

ACCs ensure that their institution adheres to the CCAC guidelines and policies, as well as any applicable institutional, national and provincial regulations. The ACCs operate under CCAC-established Terms of References (TOR) which detail the roles and responsibilities of the ACC and the institution.

There are over 220 ACCs in Canada scattered throughout government, academia and private sectors.

The ACCs carry out their roles through five main activities:

1. **Ethical review and approval of Animal Use Protocols (AUP).**

Review of all research, teaching or testing protocols is the major responsibility of the ACC. No work can begin until an approved AUP is in place.

The AUP is designed to allow the author (known as the Principal Instructor/Investigator or PI) to describe their proposed project and their effort to conform to the 3Rs. They must justify the need for animal usage, minimize discomfort and distress of the animals, ensure competency of those conducting the procedures and detail the husbandry and housing provided for the optimal care of the animals.

* Appendix A provides a checklist of questions to assist members reviewing protocols.
* Appendix B (DCACC Terms of Reference) lists the information that is required on every AUP. This list is also provided later in this manual.
* The CCAC Guidelines on: animal use protocol review is a useful document to review and is available on the CCAC website at <http://www.ccac.ca/Documents/Standards/Guidelines/Protocol_Review.pdf>

1. **Visits of animals’ facilities**

ACCs conduct site visits at least once a year to ensure proper and well-equipped facilities are available for the animals and to monitor care post-approval.

* A Site Visit Checklist is included in Appendix F (Forms)

1. **Development and implementation of policies and procedures on institutional animal care and use**

eg: Standard Operating Procedures (SOPs), Occupational Health and Safety programs and Crisis Management programs that are up-to date with CCAC guidelines

* Appendix C is a Table of Contents of existing SOPs

1. **Ensuring appropriate and sufficient human resources for all the animals**

In particular, that there is adequate veterinary care, and that the care of animals (7 days a week, including holidays) and procedures conducted on animals are carried out by trained and qualified personnel.

1. **CCAC Reporting**

Through the submission of the annual Animal Use Data Form (AUDF) which lists all animals used in the calendar year, and the completion of the Animal Care and Use Program Review Form every three years for the CCAC Assessment Visits.

The ACC, through its veterinarian, has the authority to halt any study if it feels that the guidelines are not being met or an animal is suffering unnecessarily.

The ACC must be directly involved in all significant decisions with respect to animal care and use and must report directly to the senior administrator responsible for all animal care and use at the institution, which includes provision of animal care services (service component) and overseeing the appropriate care and use of animals (regulatory component eg ACC). At DC, the Vice President Academic is the senior administrator responsible.

The ACC must have the authority, delegated by the senior administration, to control and sometimes restrict animal use, as necessary. It must work with the administration, the animal users, and the veterinary and animal care staff to ensure that appropriate resources, facilities, equipment, policies, practices and procedures are in place for its animal care and use program.

## ACC Members

To ensure appropriate animal well-being and accountability to the Canadian public, the CCAC requires broad representation of interests and expertise on the ACC.

Membership consists of:

* Institutional animal users (researchers, teachers)
* Institutional non-animal users (researchers, teachers)
* A veterinarian
* Animal technical staff
* A community member to represent the Canadian public and provide an external perspective
* A student member to represent the student population (in teaching institutions)
* An acc coordinator to provide administrative support to the committee
* Director/manager of animal facilities
* Acc chair (often an institutional researcher/teacher)
* Other members as necessary (eg: ethicists, statisticians, OH&S officers)

Appendix D is a confidential listing of the members on the DCACC.

Members are selected by other members on the ACC and/or by the senior administration.

## Responsibilities of ACC members include:

* Reviewing all animal use protocols and other ACC documents
* Attending ACC meetings and other activities
* Participating actively in the protocol review process
* Touring the animal facilities at least once a year
* Participating in the development and review of institutional animal care and use policies and procedures
* Attending CCAC assessment visits

Members should have an active interest in animal care, welfare and science and be willing to address the ethical dilemmas raised by the use of animals in science. They must respect the confidentiality of ACC matters and must participate in all aspects of the ACC’s work.

Members must become familiar with the type of animal usage being carried out at the institution, learn about the ACC functions by reviewing their Terms of References and past minutes, and familiarize themselves with the CCAC guidelines and policies (available at <http://www.ccac.ca/en_/standards>) and the relevant institutional policies.

## Responsibilities of the ACC Coordinator

The ACC Coordinator is a specifically designated employee (or employees) of the institution with sufficient time and experience to provide active and effective support for all of the committee’s activities.

The services that may be provided by the ACC Coordinator are listed below:

* Organizing ACC activities (eg meetings, site visits)
* Contributing to the orientation/training of ACC members and providing relevant resources and information
* Receiving new animal use protocols, amendments and renewals and assisting protocol authors
* Producing ACC documentation (eg meeting minutes, site visit reports)
* Drafting of letters to animal users (eg letters on ACC decisions, protocol renewal reminders)
* Managing protocols, including renewals and amendments
* Contributing to the process of producing and updating ACC policies, forms and other documents
* Contributing to the institutional post-approval monitoring process
* Contributing to the process of producing and updating standard operating procedures (SOPs)
* Tracking the training of animal users
* Other services to be specified (for example: maintaining the DCACC Website)

See Appendix E for a timeline of duties for the ACC Coordinator.

# Animal Use Protocol

## Explanatory Guide to the Animal Use Protocol

It is considered a privilege, not a right, to use animals for teaching, research or testing purposes. Researchers and instructors wishing to use animals must complete an Animal Use Protocol and the protocol must be approved by the DCACC before the acquisition or use of animals.

The AUP should clearly outline the purpose and benefits of the proposed project, justify the need for the use of animals and show adherence to the 3Rs. This is usually outlined in the Lay Summary at the beginning of the AUP.

It is important that all members of the DCACC be able to understand the Animal Use Protocol (AUP). If not, the protocol needs to be rewritten, keeping in mind that not everyone on the committee is versed in scientific jargon.

The AUP is divided into many sections for ease of review. This Guide describes each section, along with important points to keep in mind during the review process.

Administrative Use Only:

* ACC Coordinator assigns the protocol a number and the date received.

Period of Validity

* Author of the AUP (the Principal Instructor/Investigator or PI) completes this information.
* AUPs are valid for one year; they can be renewed up to three times. So valid for 4 years total.
* At the 4th renewal, a new AUP must be submitted which incorporates all the information from the previous renewals and amendments (the Resubmission box is then ticked off)
* If an AUP is rejected on first submission, tick off the Revision box when sending the revised AUP

Section 1 – General Information

* The full contact information should be provided, including an emergency telephone number.
* It is important that a designated name with contact information for emergencies is included.

Section 2 – Protocol Description (Lay Summary)

* The project summary should be concise yet descriptive, and provided in simple (lay) terminology.
* The content should be understandable to members who may not be well versed in scientific terminology (eg students, community reps); if they cannot understand this section, then the protocol should be returned to the PI for revision.
* This section is most important for the lay committee member. This section requires two pieces of key information:
  + - The primary objective
    - The benefit(s) expected from the study
* This lay summary may be used by the public relations department of the institution for media, CCAC or other publication purposes. No confidential information is to be included.
* Keywords are descriptive of the procedures and animals being used. Appendix 1 has a list of suggested keywords. May be used in the AUDF.

Section 3 – CCAC Categories

* Purpose of Animal Use (PAU), Categories of Invasiveness (COI) and Classification of acute or chronic are used in reporting to the CCAC and provide information to the CCAC of how animals are used and what level of discomfort they may experience.
* COIs are defined in Appendix 2 of the AUP.

Section 4 – Personnel

* Important that the qualifications and training are documented
* It is a College requirement that all individuals who work with animals (including PIs, graduate and undergraduate students, and technical staff) be adequately trained prior to working with the animals.
* If not, they must contact the ACC Coordinator to enquire how training can be provided.
* Name of a designated alternative for emergencies must be provided

Section 5 – Animal Use

* The animals that the PI wishes to use are detailed in this section.
* Be as specific as possible when listing the type of animal to request (eg mouse, not rodent).
* The number of animals requested for the year must be provided, along with room numbers for the holding (accommodation) room, and the experimental area.
* CCAC recommendations dictate that the animal holding room (first box) and the experimental room (second box) should not be the same room, with some exceptions
* Environmental enrichment refers to housing and items that optimize the psychological and physiological needs of the animals. For instance, are animals group housed, provided with running wheels, hide boxes?
* In c), if a researcher is proposing to do their work in the “field”, where they will be working with wild animals, they will normally require the permission of the authorities who have jurisdiction over the animals in that area (usually the government).
* In instances when a valid protocol is needed in order to request a permit, then the PI should state that the permit will be obtained prior to beginning the work. Once they obtain the permit, they should notify the DCACC Coordinator with the permit specifics.

Section 6 – Animal Use Justification and Alternatives

* This is where the PI shows adherence to the 3Rs: Replacement, Reduction, Refinement
* In a) the PI must justify why the particular species they have requested must be used and why an alternative is not possible
* In b) the PI must clearly justify the number of animals they have requested. This justification should be supported by a chart or a flowchart if necessary. It should be easy for the ACC members to follow this section, see the necessity of the numbers requested for the success of the project and compare it with the animal numbers in Section 5. As one of the three R’s is “reduction”, the PI must clearly explain how they are using the minimum number of animals possible.
* In c)-e) the PI explains their efforts to try to replace animals with non-animal alternatives, as per one of the three Rs (“replacement”). The PI should clearly state that non-animal alternatives have been explored, and the animal work is necessary because the alternatives are not appropriate for the research goals.

Section 7 – Procedures

* In a) **list** all procedures to be performed on animals in the order they will occur.
* In d) **describe** the proposed procedures, chronologically, in sufficient detail that all procedures that affect animal welfare are described.
* The procedures should be clearly explained. If the experimental protocol is complex, then a flowchart detailing the procedures may be helpful.
* This section **should not** contain detailed descriptions of procedures that have no direct bearing on animal welfare.
* In e) specify the monitoring frequency of animals post-procedurally.

Section8 – Drugs and Chemical Use

* All drugs used for anaesthesia and analgesia (pain relief) must be detailed in this section. It is important that an analgesic be provided if there is surgery or other potentially painful procedures involved
* If the PI believes that an analgesic cannot be used as it would interfere with the research results, it must be soundly justified in the protocol after consultation with the DCACC Veterinarian. The DCACC will review carefully before making a decision whether or not to approve the protocol. Endpoints will have to be carefully defined, if approved.

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Section 9 – Endpoints/Fate of Animals

* Endpoints are a list of criteria which describe various clinical signs which would necessitate either;
  + - clinical treatment,
    - removal from the study, or
    - prompt and humane euthanasia of the animal(s).
* PIs, in consultation with veterinary staff, should provide concrete clinical signs that will be used to decide the Endpoint and the required action plan
* Endpoints are binding - if an animal displays one or more of the clinical signs outlined as endpoints, the appropriate actions, as determined by the veterinarian, will be carried out.
* In d) describe the method of euthanasia to be used after an experiment has been completed or an endpoint has been reached. Euthanasia is defined as “a good death”; it should be prompt, not painful, nor exert undue stress on the animal.
* If a “physical” method of euthanasia is chosen (e.g. cervical dislocation or decapitation), then this must be accompanied by prior use of anaesthetics that render the animal unconscious prior to the euthanasia, unless this is clearly contraindicated and justified.

Section 10 – Hazards

* It is important that the individuals working with the animals are not exposed to health hazards that may compromise their well-being. This section should detail any possible health risks (biological, chemical, carcinogenic or radioactive) involved in the project, along with appropriate precautions to be taken to ensure that personnel are protected from harm.
* If this section does not apply, then the “Not Applicable” box should be checked off

Section 11 – Additional Information

* For teaching protocols, Appendix 3 should be completed to provide pedagogical merit for the project
* For research protocols, Appendix 4 should be completed to provide scientific merit for the project.

## AUP Approval Process

* No use of animals for research, teaching or testing purposes may be carried out without an approved AUP.
* All Animal Use Protocol Forms must be in the name of and signed off by the PI, who must be a faculty member (unless otherwise approved). After the PI signs and submits the AUP to the DCACC Coordinator, it is forwarded to the DCACC Chair and Veterinarian for initial review.
* The Chair will correspond with the PI if revisions or clarifications are required. Once satisfied, the final version of the AUP is sent to the DCACC Coordinator who forwards it to the rest of the committee for review.
* The AUP is reviewed at a full DCACC meeting. Decisions are made by consensus; not a vote. One of three decisions will be made: approved, conditionally approved or rejected. If conditionally approved, revisions or clarifications to the protocol will be requested but the PI may commence work with animals. If rejected, the PI may request a meeting with the Chair or the full committee to discuss. The PI may also appeal to the Vice President Academic if not satisfied.
* Once a protocol is approved, the PI receives an approval letter and they may begin their work. The protocol is valid for one year.
* After one year, the DCACC Coordinator will send a request to the PI for renewal of their protocol. Protocols may be renewed up to three times.
* After four years, a new updated protocol must be submitted if the PI wishes to continue their work.
* Approved protocols are kept on file with the DCACC Coordinator. A copy should be kept where the animals are located in case a review of the AUP is required.

# Appendices

## Appendix A: Protocol Review Checklist

Taken from: Module 1 of the CCAC National User Institutional Training Program.

The review of proposed animal use before it begins is one of the fundamental pillars of the CCAC program and it is the most important responsibility of the Animal Care Committee (ACC).  The CCAC has a number of documents and guidelines that assist the ACC in fulfilling this important responsibility.  The following two CCAC documents should be familiar to ACC members prior to reviewing Animal Use Protocols: [Terms of Reference for Animal Care Committees](http://www.ccac.ca/en/CCAC_Programs/Guidelines_Policies/POLICIES/TERMS00E.HTM); and [Guidelines on animal use protocol review](http://www.ccac.ca/en/CCAC_Programs/Guidelines_Policies/GDLINES/PROTOCOL/PROTGDE.HTM).

Before a request to use animals in research, teaching or testing can be approved, the protocol reviewers should be able to satisfactorily answer a series of questions such as in the chart below. The questions should provide a sense of the role that members of an ACC have in evaluating the acceptability of a proposal to use animals in research, teaching or testing.

Although members of the ACC must be able to easily understand all parts of an animal use protocol, there are two sections of the protocol form that commonly present problems for reviewers - the **lay summary** of the study, and **the proposed numbers of animals to be used.**  These warrant a little further explanation.

The **lay summary** of the proposed animal use is that part of the form that requires the investigator to describe in simple terms why the study needs to be carried out.  In this section the principal investigator is required to tell the ACC how the study fits into a broader context, often a problem of human or animal health.  Even basic studies can be explained within a larger context.  Although some scientific language may be used, it should be possible for the principal investigator to avoid technical terms, abbreviations and acronyms and provide a simple explanation.

The following is an example of a lay summary written in scientific/technical jargon, followed by a more understandable description of the same project.

*An assessment of the value of a vegetable oil organic emulsion on the gustatory features of laminates of heat processed yeast-grain combinations, nitrated jambon, and bacterially processed lactogenic products.*

*Does mayo improve the taste of ham and cheese sandwiches?*

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| Many nerve cells that initially survive a stroke, die a few days later, when the situation is stable.  The reason for this late vulnerability lies partly in the interaction of these surviving nerve cells with their surrounding supporting cells.  These supporting cells make up one half of the brain volume.  After a stroke they become even more numerous and they form a brain scar tissue in and around the lesion that is caused by the stroke.  Some of the supporting cells are scavenger cells that seem to aggregate around surviving nerve cells and to exert damage via neurotoxins.  In addition, surviving nerve cells try to re-establish connections with other nerve cells that were interrupted by the stroke.  They have elongations that grow through the scar tissue region in search of another viable nerve cell.  Scar cells repel these elongations and after a fruitless search for another neuron, these nerve cells simply give up and initiate the "suicide" program.  However, some cells of the scar tissue have also a positive effect.  They release substances that help nerve cells to survive stress and damage.  Our research uses a rat model with which the beneficial properties of this tissue can be used to help nerve cells to survive and to suppress the negative aspects of the scar tissue. | **This is an actual lay summary from a research protocol submitted to an ACC.  It is used here with permission.** |

A second problem is the **justification of the number of animals requested for the study.**  The ACC must be able to understand the experimental design, and the reasons for the number of animals required for different components of the study.  If the information is not adequate, the ACC will usually request further information, resulting in a delay in the review process.  Although the ACC is concerned that excessive numbers of animals not be used, it is also concerned with too few animals being used so that the results may not be interpretable, resulting in the need to carry out additional studies.

**Protocol Review Checklist: Sample questions for ACC Members to ask themselves**

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| **QUESTION** | **EXPLANATION** | **DECISION (yes, no)** |
| **Do you understand why the study should be done?**  **(*See Lay Summary and explanation on page 2 below*)** | The scientist proposing the animal use should have explained, in language easily understood by every one of the reviewers, including the non-scientific members, the potential benefits, for people or animals, arising from the study. |  |
| **Are you convinced that animals must be used?** | The scientist proposing the animal use should have convincing arguments that there is no other way to obtain the information being sought in the study. |  |
| **Has the proposal been independently reviewed for scientific merit?** | If this has not been done, the ACC must take steps to ensure that a peer review for scientific merit is undertaken.  Approval to use animals requires that the use is ethically acceptable and scientifically meritorious. |  |
| **Has the concept of the Three-Rs been addressed?** | The scientist proposing the study or teaching use of animals must indicate the steps taken to **refine** procedures and to **reduce** or **replace** animals in the study. |  |
| **Has the choice of animal species and model, and the number of animals requested been justified?** | Not all species are suitable for all studies.  The number of animals requested should fit the proposed experimental design. Are there too many animals or perhaps not enough?  (Statistical justification should be provided.) |  |
| **Do you understand exactly what will be done to each animal and in what sequence?** | The description of the procedures should be clearly written in understandable language.  For example, volumes of injections or samplings, and their frequency should be presented in the written protocol, along with a plan for animal monitoring. |  |
| **Are you comfortable that the expertise of the people carrying out the procedures is optimal?** | Will additional training or help be required to carry out the project? |  |
| **Are the facilities for performing the study suitable?** | Are the facilities appropriate for housing the species proposed?  Will there be environmental enrichment for the animals?  Are surgical facilities available?  What about suitable anesthetic equipment? |  |
| **Have the signs of pain, stress or distress been described?** | Are there measures to relieve these signs, including euthanasia?  Humane endpoints should be identified, particularly when it is known that pain and distress are likely to occur, but also when there is the possibility of inadvertent animal injury or pain and/or distress. |  |
| **Will euthanasia be carried out in an appropriate, approved manner?** | Do the people involved have the necessary skills to perform euthanasia? |  |

|  |  |
| --- | --- |
| **Comments:** |  |

## Appendix B: DCACC Terms of Reference

**(Revised: April 28, 2009)**

**Purpose**

The Canadian Council on Animal Care (hereinafter referred to as “CCAC”) is the national organization that is responsible for setting and maintaining standards for the care and use of animals in science in Canada.

The CCAC requires that institutions conducting animal-based research, teaching or testing establish an animal care committee and that it be functionally active.

Douglas College is committed to the humane and ethical care and use of animals. To ensure that the highest standards in the care and use of animals for research, teaching and testing are upheld, Douglas College has established an animal care committee (hereinafter referred to as “DCACC”). The DCACC is responsible to the Vice President Academic of Douglas College, the senior administrator responsible for animal care and use at Douglas College.

The DCACC approves animal housing facilities and arrangements, procedures and protocols involving the use of animals for research, teaching and testing under the care and control of Douglas College. The DCACC’s operations are governed by these Terms of Reference, but need not be limited to them, and are regularly reviewed to ensure compliance with Douglas College standards and the CCAC Guidelines and Policies.

The DCACC’s Terms of Reference are congruent with the CCAC *Policy Statement on Terms of Reference for Animal Care Committees (March 2006*).

(Please see Appendix 2 for an identification of acronyms used in this document.)

**Authority**

The DCACC (or its designates who shall be licensed veterinarians approved by Douglas College (hereinafter, the Veterinarians)) has the authority, on behalf of the Vice President Academic, to ensure the proper care and use of animals at Douglas College which includes, but is not limited to, the following:

* Order that any objectionable procedure cease and desist if, in its opinion, the procedure causes any unnecessary distress or pain to an animal;
* Order the immediate halt to any use of animals which i) deviates from the approved use, ii) utilizes any non-approved procedure, or iii) involves any procedure that causes unforeseen pain or distress to any animal;
* Authorize that an animal be killed in a humane manner if, in his/her opinion, pain or distress is caused to the animal which is not part of the approved protocol and cannot be alleviated;
* Establish and implement policies and procedures for all activities involving animals and animal care, including post-approval monitoring of animal use protocols;
* Investigate reports of non-compliance with the DCACC Terms of Reference as well as complaints of improper treatment of animals that are under the care and control of Douglas College;
* Recommend disciplinary action to the Vice President Academic for individuals who have failed to comply with the DCACC Terms of Reference.

The Chair of the DCACC and the Veterinarians must have access at all times to any and all areas where animals are, or may be, held or used. If, according to a Veterinarian’s professional judgment, an animal requires treatment, removal from a study or euthanasia, the Veterinarian has the authority to proceed with any necessary emergency measures, even if the animal user or the DCACC Chair has not been contacted.

**Responsibilities**

It is the responsibility of the DCACC to:

* Ensure that no College research, testing or teaching program that involves animals (including field studies) be commenced without prior DCACC approval of a written animal use protocol;
* Establish a register of animals that are brought under the care and control of Douglas College and direct that no animal may be acquired or used prior to DCACC approval of a written animal use protocol;
* Ensure that no animals are held for display or breeding purposes, or for eventual use in research, teaching or testing projects without prior DCACC approval of a written animal use protocol;
* Require that all animal users complete an animal use protocol form (the content requirements of this form are set out in Appendix 1 to this document);
* Ensure that each research project has been found to have scientific merit through independent peer review before it approves the project;
* Ensure that a review of pedagogical merit has been carried out before it approves the use of animals for teaching purposes;
* Review and assess all animal use protocols with particular emphasis on the CCAC *Policy Statement on: Ethics of Animal Investigation* and CCAC *Guidelines on: Animal Use Protocol Review* as well as all other relevant CCAC guidelines and policy statements. If the DCACC deems it necessary, additional supporting information from the /investigator/instructor should be provided. Alternatively, the investigator/instructor should be required to meet with the DCACC to ensure that all DCACC members understand the procedures to be used on the animals. The DCACC must also ensure that all procedures using animals comply with CCAC guidelines and, if a discrepancy exists, require that the investigator/instructor justify the variance on scientific grounds;
* Ensure that animal users update their protocols with any modifications they intend to make, and approve any modifications to a protocol before they are implemented. The DCACC must ensure that animal users report any unanticipated problems or complications, as well as detail the steps that have been taken to address the problem(s);
* Review all protocols annually (The DCACC requires the submission of a new protocol after a maximum of three consecutive renewals);
* Document all DCACC discussions and decisions in the DCACC minutes and on attachments to the protocol forms;
* Ensure that all DCACC members and animal users have the opportunity to become familiar with the CCAC Guide and *CCAC Policy Statement on: Ethics of Animal Investigation* and all other CCAC guidelines and policy statements, as well as applicable federal and provincial statutes, municipal bylaws, and Douglas College administrative requirements;
* Ensure the appropriate care of animals takes place at all stages of the animal’s life and ensure that veterinary care is available.
* Establish procedures, commensurate with current veterinary standards, that are designed in such a manner that animals under the care and control of Douglas College avoid unnecessary pain and distress, receive anesthesia and analgesia properly and effectively, and obtain appropriate post-operative care;
* Consider animal welfare, including environmental enrichment;
* Establish and implement policies to provide for a system of animal care that is designed to meet Douglas College standards and which include:
  + requiring that all animal experiments and other aspects of animal care meet all CCAC guidelines and policies, comply with all federal and provincial laws as well as municipal bylaws, and adhere to Douglas College administrative requirements that may be in effect,
  + ensuring adequate animal care and management of the animal facilities in particular by having the Animal Health Technology Program Coordinator clearly designated to be in charge of animal care, and management of the animals facilities, who is a member of the DCACC and who should provide updates to the DCACC members on the activities within the animal facilities,;
  + verifying the qualifications of animal users and animal care personnel, supporting the continuing education needs of Veterinarians and animal care staff, and ensuring that animal users receive appropriate training according the CCAC *Guidelines on: Institutional Animal User Training, 1999,*
  + implementing an occupational health and safety program for those involved in animal care and use,
  + certifying standards of husbandry, facilities and equipment, creating standard operating procedures (hereinafter “SOPs”) for all activities and procedures that involve animals, including animal care, facility management, and animal use SOPs. The DCACC should receive all SOPs and ensure that all necessary SOPs are produced and regularly reviewed,
  + establishing procedures for euthanasia;
* Encourage the use of pilot studies with a few animals when possible and require that animal users report the pilot study results to the DCACC regardless if the study proceeds or not.

**Membership**

* At least two (2) scientists and/or teachers experienced in animal care and use, who represent the major animal-using divisions of Douglas College;
* A veterinarian who is experienced in experimental animal care and use;
* A faculty member whose normal activities do not depend on or involve animal use for research, teaching or testing;
* At least one (1) and a maximum of two (2) person(s) with no Douglas College affiliation who represent community interests and concerns and who are not involved with animal use for research, teaching or testing;
* A technical staff member who is actively involved in animal care and/or use;
* A first and second year AHT student enrolled at Douglas College;
* The Animal Health Technology Program Coordinator (ex officio) (hereinafter the “AHT Program Coordinator”) who oversees the animal facilities
* The institutional Animal Care Coordinator who provides administrative support to the DCACC (ex officio) (hereinafter the “DCACC Coordinator”); and

As the need arises, the DCACC is free to co-opt other persons to the DCACC, especially for the review of protocols or to solicit expert advice. Examples may be representatives from the disciplines of Occupational Health and Safety, Biosafety, Biostatistics, Ethics or Communications and Marketing.

**Selection**

Members are nominated by Douglas College personnel and Program Advisory Committee(s) members. Nominations are reviewed and approved by the Vice President Academic.

**Member Responsibilities**:

Members must reflect the constituency they have been nominated to represent and be in a position to allocate time to fulfill DCACC responsibilities.

**Term of appointment**

The term of appointment is for no less than two (2) years and no more than four (4) years, renewable usually up to a maximum of eight (8) consecutive years of service, with one-half (1/2) of the members having anniversary dates one (1) year later than the other half to ensure continuity. This does not apply to DCACC members who must be part of the DCACC because of their role within Douglas College (ex officio members): the DCACC Coordinator, the Veterinarian(s) and the AHT Program Coordinator. The AHT Program Coordinator, having overall responsibility for the animal facilities, must be on the DCACC.

**Election of Chair**

The DCACC Chair will be elected for a two (2) year term from the DCACC membership and, in order to avoid potential conflicts of interest, **must not be**

* The AHT Program Coordinator;
* The designated Douglas College clinical veterinarian;
* An animal health or veterinary personnel charged with compliance with CCAC guidelines; or
* Involved with a significant number of protocols approved by the DCACC.

**Staff Support for the DCACC (the DCACC Coordinator)**

Staff support services will be provided through the Office of the Vice President Academic.

**Committee Operations**

* The DCACC Chair, with the assistance of the DCACC Coordinator is responsible for adhering to generally accepted operating procedures for meetings as follows:
  + Arranging a minimum of two (2) face-to-face meetings per year. Meetings may be initiated by the DCACC Chair or the DCACC, after consultation with one another; and
  + Distributing a notice of meeting and an agenda at least two (2) weeks before the meeting to all DCACC members;
* A quorum at a meeting is a majority of the DCACC members and should include both veterinary and community representation;
* DCACC minutes and reports must be promptly produced and appropriately distributed to the members of the DCACC. Minutes of the DCACC meetings will be forwarded to the Vice President Academic, the senior administrator at Douglas College responsible for animal care and use;
* Other DCACC documentation such as exchanges between the DCACC and animal users must be completed and filed in a timely manner;
* DCACC members must be provided with orientation and training opportunities by Douglas College; and
* The DCACC must regularly visit (at least once each calendar year) the Douglas College animal care facilities to monitor conditions and compliance, meet with animal users to understand their needs, and make and report recommendations based on an assessment of the facilities and their use. These visits will be documented through DCACC minutes or reports. Those responsible for the animal facilities and for animal use should respond to any DCACC recommendations in writing, and site visit reports should always receive joint follow-up by the DCACC and the senior administration of Douglas College.

**General**

The DCACC must regularly review (at least every three years):

* its Terms of Reference to ensure they meet new CACC guidelines or policies and changing needs within Douglas College, the scientific community, the animal welfare community, and society as a whole and provide its recommendations for changes or amendments to the Vice President Academic;
* the security requirements of the animal and research facilities;
* its SOPs and the animal care and use policies of Douglas College;
* the policies and procedures for monitoring animal care and experimental procedures within Douglas College which shall include identifying the persons responsible for monitoring animal health and welfare; maintaining contact with the CCAC Secretariat and informing the CCAC Secretariat of changes in the Douglas College program;
* the CCAC Animal Use Data Form (on an annual basis);
* its crisis management plan for the animal facilities and for the animal care and use program, in conjunction with Douglas College’s Crisis Management Plan. The DCACC crisis management plan should include a communications plan for addressing public and media inquiries on concerns related to animal use; and
* its role in the community and strive to maintain a high profile within Douglas College and the broader community so that it demonstrates Douglas College’s commitment to the promotion of animal welfare issues. In order to achieve this goal, the DCACC should, from time to time, sponsor seminars or workshops on the use of animals in science and the ethics of animal experimentation as well as develop and maintain communication with animal welfare organizations.

**Animal-Based Projects Involving Other Institutions**

Most animal use is undertaken by investigators and instructors working within their own ‘home’ institutions and overseen by their local Animal Care Committee(s). However, in certain cases, investigators and instructors undertake animal use in one or several ‘host’ institutions. In other cases, various parts of an animal-based project are carried out by several institutions. In such situations, the CCAC Guidelines on Animal-Based Projects Involving Two or more Institutions must be followed to understand how collaborative animal-based projects should be prepared by investigators and instructors and overseen by institutional Animal Care Committee(s).

**Post Approval Monitoring (PAM)**

The DCACC is responsible for ensuring compliance with its decisions and with the conditions set out in approved protocols and SOPs. While the DCACC will work in a collegial manner with animal users and attempt to correct deficiencies, persistent breaches of compliance or threats to the health and safety of personnel or animals, must be reported to the DCACC Chair. The Chair and DCACC must promptly address these issues, through communications with the animal user(s), meetings and site visits. Breaches of compliance that cannot be corrected by the DCACC acting in conjunction with veterinary and animal care staff and the non-compliant animal users will be referred to the Vice President Academic along with a recommendation of disciplinary action. It shall be the responsibility of the Vice President Academic to take any follow-up and/or corrective action including any decisions regarding appropriate remedies and disciplinary actions. In the event of serious breaches of compliance, the Vice-President Academic must inform all members of the animal care and use program about sanctions or disciplinary measures that will be taken by Douglas College.

As the DCACC is not generally present when animal use protocols are being undertaken, the DCACC must work with the members of the veterinary and animal care staff to ensure compliance with approved protocols and SOPs. Post approval monitoring will include, but is not limited to: an animal tracking log and regular documented site visits by the AHT Coordinator or designate to ensure the proper compliance with approved protocols and SOPs. Copies of all approved protocols and SOPs will be readily available to animal users and staff.

**Protocol Review Process**

**Protocol Submission**

* Protocol forms are available online at [http://www.douglascollege.ca/about/governance-and-policies/vpac/dcacc.html](http://www.douglas.bc.ca/about/governance-and-policies/vpac/dcacc.html);
* Fully completed applications are to be typed, and then signed by the principal instructor/investigator (hereinafter referred to as “PI”) and his/her Dean. The application, with all supporting documentation, shall be submitted to the DCACC Coordinator at gappera@douglascollege.ca by the following deadlines:
  + For projects starting in: September January May
  + Protocols must be submitted in : June October February
* The DCACC will attempt to accommodate the occasional project/exercise that must be approved on short notice. Failure to appropriately complete the application form may delay approval;
* The DCACC Coordinator will assign the application a protocol number and check the form for completion. The form will then be forwarded to the designated DCACC Veterinarian for initial review. The PI may be contacted at this point by either DCACC member regarding any questions or concerns they may have to ensure the form is ready for full DCACC review. Any agreed changes should be made and the form resent as a revised copy;
* The DCACC will discuss protocols and make decisions on them during full DCACC meetings, rather than through individual reviews. Comments from DCACC members who cannot attend the meeting will be considered;
* The DCACC shall attempt to reach decisions by consensus, as opposed to voting;
* All DCACC discussions, recommendations and decisions shall be documented in the DCACC minutes and on attachments to the protocol forms;
* The DCACC will notify the PI in writing of the DCACC’s decision.

**Protocol Renewal / Interim Approvals**

* Protocols are approved for one (1) year. For protocols continuing beyond this period, a PI must complete the Annual Renewal Form (available online) and submit it to the DCACC Coordinator. The DCACC requires the submission of a new protocol after a maximum of three (3) consecutive renewals (i.e., after the fourth year).
* Interim approvals and annual protocol renewals may be delegated to a protocol review subcommittee, which must include at least one (1) scientific member, one (1) Veterinarian, and one (1) community representative, and should preferably include the DCACC Chair as one of its members. Interim approval should only be used infrequently, and the interim review process, including exchanges between the DCACC and protocol authors, must be documented and must then be subject to discussion and final approval at a full meeting of the DCACC.

**Protocol Changes**

Any modifications to a protocol must be approved by the DCACC before implementation. Minor modifications, such as the addition or removal of animal users or the addition of a small number of animals, can be requested by completing the appropriate Amendment Form available online and submitting the form to the DCACC Coordinator. Minor modifications may be approved by the DCACC Chair or delegate. Major modifications require the submission of a new protocol. Examples of major changes include such activities as a substantial increase of the number of animals required for use, a change of species, the use of more invasive or more frequent procedures, or the use of entirely new procedures.

**Peer Review**

For teaching proposals, the DCACC will ensure that the Douglas College Curriculum Committee has reviewed protocols for pedagogical merit prior to approval.

For research proposals, the DCACC will ensure that a peer review of scientific merit has been carried out. Where review has not been carried out by an external, peer review agency, the DCACC will require that it be obtained according to the CCAC *Policy Statement on: The Importance of Independent Peer Review of the Scientific Merit of Animal Based Research Projects, 2000.* The DCACC will solicit two (2) reviews of the objectives, hypotheses, methods and contributions of the project by knowledgeable scientists who do not collaborate with the PI. As a minimum, one (1) referee must be external to the DCACC. The reviews must be documented and must contain sufficient information to support the reviewers' conclusions.

**In-Principle Approval**

Occasionally, DCACC approval is required by the funding agency before it will review the application. In such cases, DCACC approval should be provisional, pending assurance from the funding agency that the application has high scientific merit.

**Appeal Process**

In the event that a protocol application is not approved by the DCACC, the DCACC will provide detailed reasons in writing to the PI regarding the unsuccessful application.

If the PI disagrees with the decision and the reasons stated by the DCACC, he/she may appeal in writing to the DCACC by specifying the decision that is being appealed and providing the reasons for the appeal.

If the DCACC review of the PI’s appeal confirms the original decision, the PI may only launch a subsequent appeal on the grounds that i) the DCACC did not follow the proper process in arriving at its decision, or ii) additional information is available that was not evident during the DCACC decision-making process.

For a subsequent appeal, the PI may submit a request to appeal to the Office of the Vice President Academic. The matter will be forwarded to the Animal Care Committee of a neighboring post-secondary institution with which Douglas College has a formal agreement to perform this review. The decision of that institution’s Animal Care Committee shall be final. Although the CCAC may be called upon for information purposes, appeals cannot be directed to the CCAC.

**APPENDIX 1**

**CONTENT OF THE ANIMAL USE PROTOCOL FORM**

**Excerpted from the Canadian Council on Animal Care Policy on Terms of Reference for Animal Care Committees**

*(Supplemental information can be found in the CCAC Guidelines on: Animal Use Protocol Review, 1997).*

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | |
|  | i) | project title and descriptive procedural keywords or brief description of the procedures to be conducted on animals, as defined in the *CCAC Animal Use Data Form*; | | |
|  | ii) | principal investigators/teachers, and all personnel (post-doctoral fellows, research staff, graduate and undergraduate students) who will handle animals, along with their training and qualifications with respect to animal handling (see point 3m) iii)); in the case of undergraduate students, who may have very little training, close supervision is required; | | |
|  | iii) | departmental affiliation; | | |
|  | iv) | proposed start date, proposed end date (if the study is to take place over more than one year, the work and numbers of animals for the first year only should be approved, and further work can then be approved in yearly protocol renewal(s) or new protocols - see Section 3g) on protocol renewals); | | |
|  | v) | for research or testing projects, funding source(s) and status of funding approval; | | |
|  | vi) | for research projects, an indication of whether the project has received peer review for scientific merit; | | |
|  | vii) | for teaching programs, a course number and an indication of whether the course has been re-viewed with respect to the pedagogical merit of using live animals; institutional or departmental curriculum committees can be called upon to provide a review of pedagogical merit to the DCACC; Appendix 3 of the animal use protocol form is to be completed to better capture information relevant to the ethical review of teaching programs (see Section 12 of the *CCAC guidelines on: animal use protocol review*); | | |
|  | viii) | for testing projects, an indication that the testing has been planned according to the most current regulatory requirements, using guidelines acceptable to the regulatory agency(ies) and which meet the requirements of the *CCAC policy statement on: ethics of animal investigation*; that the planned animal use not exceed the requirements of the regulatory authorities - if it does, justification for the additional animal use must be provided; | | |
|  | ix) | lay summary; | | |
|  | x) | an indication of the use of biohazardous, infectious, biological, chemical or radioactive agents in animal-based projects; and, if so, an indication of institutional approval of this use; | | |
|  | xi) | category(ies) of invasiveness as defined in the *CCAC policy statement on: categories of invasiveness in animal experiments*, and *Purpose of Animal Use* (PAU) as defined in the *CCAC Animal Use Data Form*; | | |
|  | xii) | information with regard to the Three Rs (replacement, reduction and refinement alternatives) of animal use, to include: | | |
|  |  | xii.1 | a description of why sentient animals must be used for the project, of how the applicant arrived at this conclusion (e.g., searches of databases on alternatives), and of possible replacement alternatives (non-animal methods, cell/tissue culture, computer simulations, audio-visual teaching methods, the replacement of sentient animals with animals of lower sentiency, etc.) and justification if these are not to be employed; | |
|  |  | xii.2 | justification of the species and numbers of animals to be used over the course of the year, to emphasize reduction of animal use within an appropriate experimental design, while ensuring that sufficient numbers of animals will be used to fulfill requirements for statistical significance/scientific validity in the case of research projects, or for acceptance of regulatory tests; | |
|  |  | xii.3 | a description of all of the refinements to be employed to protect and enhance animal health and welfare, which may include: | |
|  |  |  | xii.3.1 | anesthesia and analgesia, including dosages and methods of use, for all invasive protocols; strong scientific justification must be provided for not using anesthesia or analgesia in the case of invasive protocols; |
|  |  |  | xii.3.2 | other medical treatments as appropriate, as indicated through veterinary consultations; |
|  |  |  | xii.3.3 | housing and husbandry methods, and environmental enrichment as a means to refine animal care; any limitations on environmental enrichment from that normally offered to animals in the institution, based on CCAC guidance, must be justified to the DCACC; |
|  |  |  | xii.3.4 | refinements to the procedures to be employed on the animals; |
|  |  |  | xii.3.5 | refinements to the length of time that animals will be held/used; |
|  |  |  | xii.3.6 | any other possible refinements; |
|  |  | xiii) | a clear description detailing the procedures that are carried out on the animals (referring to appropriate SOPs as much as possible); the use of graphic representations is encouraged; | |
|  |  | xiv) | a description of the endpoint(s) of the experimentation, selected according to the *CCAC guidelines on: choosing an appropriate endpoint in experiments using animals for research, teaching and testing*, 1998 (refer to institutional SOPs, if available and relevant); the person(s) responsible for monitoring the animals and applying endpoints should be identified, and the schedule for monitoring animals and any relevant checklists of signs and symptoms to be used when evaluating the animals should be included; all protocols, even non-invasive ones, must identify endpoints, to ensure that any animals requiring treatment are treated and that animals are not simply kept indefinitely; relevant information for identifying and applying endpoints must be readily available, preferably posted, in the area where the animal-based work is taking place; | |
|  |  | xv) | a description of capture, restraint, transportation and/or housing of animals used in field studies, as well as any other information pertinent to field studies, such as capture of non-target species, ecological impacts and potential injuries or mortality during capture or transportation, if relevant; wildlife studies should be addressed in a separate appendix of the protocol form, or can have their own protocol form, especially where a significant number of wildlife studies are undertaken (see the suggested wildlife protocol form in Appendix B of the 2003 *CCAC guidelines on: the care and use of wildlife*) as decided by the DCACC; | |
|  |  | xvi) | the method of euthanasia, if used; justification for any physical euthanasia methods, or for any methods that deviate from those described in the most recent CCAC guidance on euthanasia; | |
|  |  | xvii) | a description of the fate of the animals if they are not to be euthanized, including the length of time that they are to be held; | |
|  |  | xviii) | any other information considered important or necessary and pertinent, including information or results derived from any relevant previous protocols; the description and use of previous relevant results is particularly important to ensure that methodologies are not simply re-used without learning from any animal welfare problems that were encountered in the past, that the protocol continues to have relevant goals and methodology, and that appropriate refinements to protect and enhance animal welfare are sought and implemented. | |

**APPENDIX 2**

**Acronyms Used**

|  |  |
| --- | --- |
| VTEC | Veterinary Technologist |
| CCAC | Canadian Council on Animal Care |
| DCACC | Douglas College Animal care Committee |
| PI | Principal Investigator / Instructor |
| SOP | Standard Operating Procedures |
| Veterinarian | Licensed veterinarians approved by Douglas College |

## Appendix C: SOPs: Table of Contents

**CCAC 4.3.5**

**Anesthesia**

A-1 Pre Anesthetic Exam

A-2 Anesthetic Machine Set Up

A-3 Blood Pressure

A-4 Sub Cutaneous Injection

A-5 IM Injection

A-6 IV Injection

A-7 IV Catheter Placement

A-8 IV Fluids Set Up

A-9 Sedation

A-10 General Anesthesia

A-11 Analgesia

A-12 ET Tube Cleaning

**Animal Care**

AC-1 Aggressive Dogs

AC-2 Fractious Cats

AC-3 Day Hospitalization

AC-4 Dog Walking

AC-5 Blood Collection

AC-6 Urine Collection Canine

AC-7 Urine Collection Feline

AC-8 Endpoints

**Dentistry**

D-1 Dentistry

D-2 Dental Machine Clean and Maintenance

D-3 Dental Instrument Autoclaving

**Lab**

L-1 Pre Anesthetic Panel

L-2 General Health Profile

L-3 PCV

L-4 Idexx Lab Requisition Form

L-5 Urinalysis

L-6 UA Analyzer

L-7 UA Analyzer Calibration

L-8 UA Analyzer Cleaning

L-9 LaserCyte Consumables Installation

L-10 Snap Calibration and Use

L-11: Electrolyte Analyzer QC

L-12 VetTest QC

**Radiology**

R-1 Radiology

R-2 Radiology Processor Start Up, Shut Down and Maintenance

**Surgery**

Sx-1 Surgical Suite Prep and Cleaning

Sx-2 Surgical Prep

Sx-3 Surgical Scrub (Personnel)

Sx-4 Opening Surgical Packs

Sx-5 Ovariohysterectomy

Sx-6 Canine Orchectomy

Sx-7 Feline Orchectomy

Sx-8 Rabbit Orchectomy

Sx-9 Rabbit Ovariohysterectomy

Sx-10 Surgical Suite Weekly Clean

Sx-11 Surgical Suite QC

**CCAC 5.2**

**OH&S**

Occupational Health and Safety Program Binder

OHS-1 Spill Cleanup Procedures

OHS-2 Biological Waste Disposal

Emergency Evacuation Procedures

**CCAC 6A.3**

**Cleaning and Disinfection**

CD-1 Preparing Disinfecting Solution

CD-2 General Disinfection

CD-3 Cleaning Dishes

CD-4 Cleaning Litter Boxes

CD-5 Kennel Cleaning

CD-6 Kennel Laundry

CD-7 Drying Laundry

CD-8 Surgical Greens Laundry

CD-9 Vacuuming

CD-10 Mopping

CD-11 Isolation Procedures

CD-12 Chemical Products Storage

CD-13 Daily Duties and Cleaning

CD-14 Weekly Duties and Cleaning

**Sterility**

S-1 Cleaning Surgical Instruments

S-2 Ultrasonic Cleaner

S-3 Instrument Milk

S-4 Eye Pack

S-5 General Surgery Pack

S-6 Wrapping Instrument Packs

S-7 Wrapping Gown Packs

S-8 Wrapping Sterility Pouches

S-9 Cold Sterile

S-10 Autoclaving Packs

S-11 Autoclave Cleaning and Maintenance

S-12 Autoclave QC

## Appendix D: Douglas College Animal Care Committee Membership

*This information is not posted on the website*

## Appendix E: Duties and Timelines for the DCACC Coordinator

1. **Receives and manages new Animal Use Protocols (AUPs), amendments, renewals**, **SOPs. \*Confidential material \***

Reviews them for completion only, then forwards them to the DCACC Veterinarian (Diane Boyle) and Chair (Madeleine Stephens) for ethical review.

Assists authors with form completion and the dissemination of comments by Veterinarian and/or Chair back to the authors.

**Timeline**: as they come in

1. **The Annual Renewal Form**

Sent annually to all AUP authors (known as principal instructors/investigators or PIs) at least one month prior to the protocol coming up for renewal. The form will be reviewed at the next DCACC meeting.

AUPs are valid for one year from the date of approval. Protocols may be renewed 3 times, before a new submission is required at 4 years.

At DC, most AUPs have a September renewal date. Provide enough time for the PI to complete the form and return it for the DCACC meeting.

.A progress report must be included on the renewal form, as well as inclusion of any changes from the original protocol. The renewal form is reviewed by the DCACC for approval at the next meeting.

No projects involving animals may commence without approval by the DCACC.

**Timeline for renewal forms**: at least 1 month prior to DCACC meeting so they can be returned and forwarded to committee members at least one week prior to the meeting

1. **DCACC Meeting Reminders**

Send out an email to all DCACC members reminding them of upcoming meetings.

Attach the agenda, minutes from the previous meeting, AUPs for review, any Annual Renewal Forms or Amendments, and any other material that may be requested by the Chair.

IMPT: all forms are confidential, so they must be sent in a secure manner. Suggest email to save on paper, if it can be done securely.

**Timeline**: initial email informing them of the meeting one month prior and send all documents at least one week prior to the meeting

Chair, DCACC will make up the agenda with assistance from the coordinator (who will enter all the protocols names, etc, for review)

1. **Attend DCACC meetings, take minutes and obtain signatures**

Minutes need to be taken during the meeting, then typed up and sent to the DCACC Veterinarian (Diane) and DCACC Chair (Madeleine) for initial review. Once final, Coordinator sends a copy to all the committee members by secure email

Book room for meeting and arrange catering for dinner for 10-12 people; vegetarian meal as one member doesn’t eat meat.

**Timeline**: Meetings: minimum 2 meetings a year

Minutes: within 2 weeks of the meeting ideally

Room booking: as soon as date of next meeting is known

Catering: not later than 3 days before the meeting

At the DCACC meeting, obtain all required signatures as everyone is present (eg from the Chair, Veterinarian, community member)

1. **Protocol Review Letter to the AUP authors**

At the meeting, AUPs will be reviewed and a decision to approve, conditionally approve or reject the applications will be decided.

A protocol review letter is typed up by the Coordinator stating the DCACC’s decision, is signed by the DCACC Chair, and sent to the AUP author (cc’d to Dean).

(If the decision is a conditional approval or rejection, the Chair would type the draft letter stating the concerns to be addressed, and then send it to the Coordinator to forward to the author).

**Timeline**: within one week of the DCACC meeting

1. **Arrange annual site visits of the animal facilities** at David Lam and New West Campuses for the DCACC.

**Timeline**: fall (ideally before the meeting on the same day)

1. **Complete the CCAC Animal Use Data Form**

In January, obtain a list of all the animals used in the previous calendar year (Jan-Dec) from the AUP authors or from the Animal Tracking Log in the AHT and Biology labs. Use these statistics to complete the Animal Use Data Form (AUDF) and send it to the CCAC.

**Timeline:** January each year, obtain the stats and send it to the CCAC on their AUDF Form they send out prior to March 31 of each year (CCAC sends a reminder)

1. **Assist with documentation preparation**

eg SOPs, CCAC Protocol Review Forms, updating relevant documentation etc.

1. **Add and maintain ACC Information on the Vice President Academic Website**

## Appendix F: DCACC Forms

1. Animal Use Protocol (AUP) – Vertebrates
2. Animal Use Protocol (AUP) – Invertebrates
3. Amendment Form – Personnel Changes
4. Amendment Form – Procedural Changes
5. Annual Renewal Form
6. Peer Review Form
7. AUP Approval Letter to PIs
8. Site Visit Report and Checklist
9. Animal Use Data Form (AUDF)
10. Animal Tracking Log