



Policy on the Oversight of Animals in Science

As per the **Canadian Council on Animal Care (CCAC) Terms of Reference for Animal Care Committees (2006)**:

“The ACC should regularly visit animal care facilities and areas in which animals are used, in order to better understand the work being conducted within the institution, to meet with those working in the animal facilities and animal use areas and to discuss their needs, to monitor animal based work according to approved protocols and SOP’s, to assess any weaknesses in the facilities (aging facilities, overcrowding, insufficient staffing and any other concerns) and to forward any recommendations or commendations to the person(s) responsible for the facilities and for animal use.”

“Each institution must establish procedures for post-approval monitoring of animal use protocols, and must define the roles and responsibilities of the members of the animal care and use program in the monitoring process...the committee must work with the members of the veterinary and animal care staff to ensure compliance with its decisions and with the conditions set out in approved protocols.”

Policy Objectives:

To facilitate university compliance as dictated by the Animals for Research Act (ARA), and Queen’s University policies and Standard Operating Procedures (SOP). This policy is designed to provide support to the research community, while ensuring animal welfare. This is achieved by confirming adherence to University Animal Care Committee (UACC) approved animal use protocols as well as policies and SOPs in a collegial and unobtrusive manner.

The program consists of three elements:

1. University Animal Care Committee (UACC) Facility Assessments
2. University Animal Care Committee (UACC) Laboratory Assessments
3. Quality Assurance Program (QAP) Assessments

1. University Animal Care Committee (UACC) Facility Assessments

The UACC will assess facilities (on a minimum annual basis) to evaluate locations where animals are housed and/or undergo procedures. This provides a visual of the areas, ensuring that all important criteria are being met, clarifying that the equipment and human resources are appropriate and sufficient, and helping to place the use of the facility into context. Shared and dedicated technical spaces within facilities will also be assessed and the UACC will endeavor to have representative users present. Areas of evaluation are outlined in *Appendix 2 - Facility Assessment Checklist*. Noted deficiencies will be categorized by the UACC (see *Appendix 1 - Definition of Outcome Terms*) and conclusion letters generated outlining the timeline for correction.

2. University Animal Care Committee (UACC) Laboratory Assessments

The UACC will conduct laboratory assessments (on a minimum annual basis) to evaluate all areas outside of the main animal facilities where animals are brought. The assessments are conducted to evaluate compliance with the Animals for Research Act and UACC policies, to better understand the in vivo work being conducted, and to encourage open communication between researchers and the UACC.



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The UACC will endeavor to have representative users present. Areas of evaluation are outlined in *Appendix 3 - Laboratory Assessment Checklist*. Noted deficiencies will be categorized by the UACC (see *Appendix 1 - Definition of Outcome Terms*) and conclusion letters generated outlining the timeline for correction.

3. Quality Assurance Program (QAP) Assessments

Under the guidance of the University Veterinarian/Director, Animal Care Services, the UACC Chair and the UACC, the QAP Coordinator will conduct QAP assessments. The objective is to assist Principal Investigators (PI) and their research staff in their continuous efforts to comply with UACC policies and best practice. This process will also enable assessment of student competency following completion of training workshops. The QAP Coordinator works with the PI and laboratory associates to maintain compliance with approved protocols, and (if required) will provide additional training.

The following activities are subject to review:

- Active protocols (priority given to level D and E protocols)
- Suspected animal welfare issues and allegations of non-compliance
- Any protocol as directed by the UACC to require monitoring (i.e. new procedures)
- Research Posters

The QAP Coordinator reports QAP outcomes to the UACC, with an obligation to advocate on their behalf when interacting with researchers and research associates. The QAP Coordinator does not have UACC voting privileges.

Systematic Protocol Review:

Active protocols or animal procedures will be systematically reviewed, with priority given to protocols classified as level D and E.

Targeted Protocol Review:

When there is an allegation of non-compliance, an incident report has been filed, or the PI does not respond to a QAP request following 3 attempts¹ a targeted QAP visit will be arranged. Impromptu and/or targeted visits will only be initiated at the request of the UACC.

Poster Review:

Undergraduate and Graduate research posters may be assessed for compliance with the Animal Use Protocol (AUP). This approach will be used at the direction of the UACC, and will be a cursory review of the project. The Quality Assurance Program aims to capture off-site and collaborative research with this tool.

Competency Review:

Student strengths and weaknesses are assessed during training workshops. Any areas of concern are communicated to both the student and Principal Investigator upon completion of workshops, and arrangements may be made for further training. Follow up competency reviews may also be conducted to assess how students continue to perform following workshops.

¹ The initial QAP request letter will be followed by one reminder (2 weeks later) and communication from the UACC will take place if no response is received within another 2 weeks (4 weeks from initial letter). Following this, a targeted review may be sought.



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UACC Reporting & Documentation:

QAP assessment outcomes will be reported monthly to the UACC. A trend report of all outcomes will be generated and made available. The UACC reserves the right to follow up on any conclusion letter as submitted to the PI and may request a follow up assessment. Outcomes of laboratory and QAP assessments are documented within the compliance section of each relevant AUP in Topaz Elements.

Appendix 1 – Definition of Outcome Terms

Full Compliance

Granted when procedures follow approved practices. No discrepancies are found during the assessment; animal welfare, lab practices and conditions are not a concern.

Compliance (Attention Required)

Granted when minor discrepancies are found during the assessment that do not cause direct concern to the animal(s), but still need to be addressed. These issues are documented in a formal conclusion letter, and usually addressed and/or corrected during the visit or within days of the PI receiving the final report.

Examples: Protocols that have not been altered to reflect new institutional policies; records of training not entered in protocol; inappropriate Personal Protective Equipment (PPE) in the lab.

Non-Compliance (Minor)

Granted when deficiencies are observed that do not necessarily cause immediate pain or distress to the animal but do deviate from the approved protocol. These concerns may be conveyed during the visit and are documented in a formal conclusion letter. A response of action from the PI must be specified in writing within fourteen days of receiving the report.

Examples: Any procedural drift from approved protocol on a live animal that does not impact animal welfare; failure to list personnel on protocol who are working with animals; failure of staff to attend available mandatory training sessions; inadequate documentation of records; use of expired drugs (with the exception of analgesics and anesthetics); failure to don appropriate PPE within the facility; over-crowded cages; aseptic technique (minor deficiencies).

Non-Compliance (Major)

Granted when deficiencies observed can cause pain or distress to the animal. Depending on the situation, these issues can be relayed during the visit or after consultation with the University Veterinarian. Immediate action by the PI and/or lab staff must be taken. Concerns will be documented in a formal conclusion letter. A response of action from the PI must be specified in writing within seven days of receiving the report.

Examples: Severe morbidity (e.g. pain and/or distress, moribund state, ignoring clinical endpoints, inadequate euthanasia techniques or methods); unapproved procedural drift that escalates the Level of Invasiveness of the research project(s) to the degree that it impacts animal welfare; aseptic technique (major deficiencies); use of expired analgesics/anesthetics.



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Appendix 2 - UACC Facility Assessment Checklist

This document is meant to be a reference for members while performing facility tours – not all areas may apply in all facilities.

Facility:
ACC Members Present:
Representatives Present:
Date:

A) Traffic Flow and Safety Issues

- Y N Are all access points to the facility secure (card access, appropriate doors locked)?
- Y N Are emergency exits accessible?
- Y N Is there adequate emergency and safety signage?
- Y N Is there a proper flow of general traffic, etc. from clean to dirty?
- Y N Is there prevention of contamination of clean cages and equipment by dirty ones?
- Y N Are you aware of the Queen's UACC approved Crisis Management Plan?
- Y N Are you familiar with backup power procedures (generator etc.)?

Comments:

B) Ancillary Areas: Feed/Bedding/Equipment Storage/Cage Wash

- Y N Are these areas clean, neat, with sufficient space?
- Y N Are the floors, ceilings, drains, walls and doors all in good repair?
- Y N Are the surfaces and furniture sealed and able to be cleaned? Limited paper products?
- Y N Feed storage – is the food used before expiry and stored off floor in dry area? Labelled?
- Y N Is dirty bedding disposed of safely?
- Y N Are chemical products stored appropriately (away from animals)?
- Y N Are you familiar with the institutional pest control program?

Comments:

C) Housing Rooms

- Y N Are the floors, walls, doors, and ceilings in good repair?
- Y N Do cages/housing look clean and well-maintained?
- Y N Is cage/housing change frequency appropriate for numbers of animals and species?
- Y N Cage cards – are they filled out with required information such as special instructions/procedures/health concerns?
- Y N Does housing allow for easy observation of each animal with no overcrowding?



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- Y N Are the animal rooms/areas clean and organized?
Y N Do the animals appear to be in good condition/health?
Y N Is fresh, clean feed and water always available?
Y N Is adequate environmental enrichment available (cage level social housing/hiding/nesting)?
Y N Is the lighting intensity and cycle appropriate for the species?
Y N Are temperature and humidity levels acceptable for animals and personnel?
Y N Is the noise level acceptable for animals and personnel?
Y N Is the air pressure appropriate for the biohazard level? (positive/negative)

Comments:

D) Ancillary Areas: Surgical Suite and Technical Rooms

- Y N Are the rooms clean and well-organized?
Y N Are the floors, walls, doors and ceilings in good repair, clean, etc.?
Y N Are surfaces sealed and able to be cleaned? Limited paper products?
Y N Is there an appropriate table, biological safety cabinet or counter space for sterile surgery?
Y N Is there a postoperative recovery area?
Y N Are drugs/solutions labelled and stored appropriately? Used within expiry date?
Y N Are mechanisms in place to support the proper management of controlled substances?
Y N Is there adequate surgical documentation?
Y N Is the inhalant anesthetic machine available and serviced/calibrated annually?
Y N Are anesthetic gases properly scavenged?
Y N Is the air pressure appropriate for the biohazard level? (positive/negative)

Comments:

E) Personnel (Information to be Collected Prior to the Tour)

- Y N Are there sufficient qualified personnel at all times when animals are present, with good overall coordination of activities throughout the facility to avoid problems?
Y N Is there effective communication among veterinarian(s), facility manager/animal care staff and animal users?
Y N Is there effective communication from animal users to animal care staff/veterinarian(s)?
Y N Do personnel have access to all active animal use protocols (Topaz Elements)?
Y N Do opportunities for continuing education exist?
Y N Is there a Health & Safety program in place?
Y N Is there a plan in place for allergies?
Y N Are there facility specific SOPs?
Y N Are personnel familiar with the UACC Policy on the Reporting of Animal Welfare and Compliance Concerns and the anonymous electronic process for submission?



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F) Existing Deficiencies-Future/Strategic Plans ((Information to be Collected Prior to the Tour)

Does the facility have any known limitations that you would like to address at this time? Are any changes/improvements to the facility planned in the foreseeable future?

Comments:

G) Follow-up

Item requiring follow-up	Responsible person:	Date of follow up:	Resolution:

H) Overall Results

Are you satisfied that the facility is appropriately following relevant policies and guidelines in regards to facility maintenance, management, security, and animal care and welfare?

- Full Compliance
- Compliance (Attention Required)
- Non-Compliance (Minor)
- Non-Compliance (Major)



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Appendix 3 - UACC Laboratory Assessment Guide

Principal Investigator: _____

Laboratory Room Number(s): _____ Building: _____

Date Inspected: _____ Inspected by: _____

Representatives Present: _____

Protocol Number: _____

Species of Animal: _____

Date of Prior Report: _____

Inspection highlights from last visit:

Comments:

Changes/renovations since previous visit:

Comments:

The purpose of the tour is to determine how animals are used in the space and to ensure that all relevant policies and guidelines are being followed. (***what is being done - how - by who – when/for how long***)

Areas of Interest & Relevant Questions:

- **Procedures:**
 - Walk us through all procedures that an animal might undergo in this space (identify any substances administered).
 - Why do the animals come to this space (specialized equipment/instruments etc.)?
 - If multiple animals are in the lab at one time explain where they are kept.
 - If animals are returned to the housing facility after procedures take place, describe all precautions that are taken to eliminate the transfer of pathogens between animals.

- **Surgery/Euthanasia:**
 - Is surgery performed in this space? (major/minor/recovery)
 - How does the surgery/area follow aseptic technique? (if non-recovery technique may be modified or N/A)
 - Is a surgical/anesthetic log maintained? ** (*controlled substances need to be documented in the surgical/anesthetic log, to verify legitimate use*).
 - Describe all anesthetic practices.
 - How do you confirm depth of anesthesia?



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- If animals are euthanized, explain how (primary & secondary methods).
- What signs are monitored for confirmation of death?
- How are bodies/tissues disposed of?
- Records:
 - How do you know the procedures you conduct are approved?
 - Are you familiar with our UACC website/policies/SOPs?
 - Do you know who to contact for assistance? (University Veterinarian/UACC Coordinator/QAP-Training Coordinator/UACC Chair/Environmental Health & Safety)
- Occupational Health & Safety:
 - Are controlled substances used? How do you manage these? (stored where/how, disposed of how)
 - May we see all controlled substances used/held in this space? (check expiry dates) ** (if expired drugs are found, then confirm whether they are merely being stored or actively used as per log)
 - Do you maintain a controlled substances log? May we see this? (check entries/dates)

Example:

<i>Date</i>	<i>Amount RECEIVED</i>	<i>Date</i>	<i>Amount Used</i>	<i>Initials</i>	<i>Amount REMAINING (rolling total)</i>

- Do you have any questions about Health Canada-Controlled Substance Exemptions?
- If chemicals are used, describe disposal (including paraformaldehyde).
- Observe sharps containers (available, appropriate container, overfull?)
- Observe for any noticeable safety hazards.
- Do you wear any PPE in the lab? Are you aware of animal allergy risks?
- Are you familiar with the UACC Crisis Management Plan?
- Are you familiar with the UACC Policy on the Reporting of Animal Welfare and Compliance Concerns and the anonymous electronic process for submission?
- Feedback:
 - Comments/Questions for UACC regarding protocol submission/ approval process?
 - Comments/Questions for UACC Coordinator regarding Topaz Elements access/function?
 - Comments/Questions for QAP/Training Coordinator?
 - Comments/Questions for the University Veterinarian?
- Overall Results
 - Full Compliance
 - Compliance (Attention Required)
 - Non-Compliance (Minor)
 - Non-Compliance (Major)

Notes:



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Appendix 4 – Quality Assurance Program, (QAP) Assessment Report

Visit date and location: _____

Principal Investigator: _____

Protocol number: _____

Protocol renewal date: _____ Protocol expiry date: _____

Protocol title: _____

Species: _____

Lab members present (full name and affiliation): _____

QAP personnel present: _____

General Protocol:

Do all lab members have easy access to the protocol within Topaz? Yes No N/A

Are personnel demonstrating procedures listed on the protocol, and appropriately trained? Yes No N/A

Have personnel read the protocol and demonstrate accurate knowledge of the protocol? Yes No N/A

Notes:

Animals:

Are the animal species (and strains if listed) used consistent with those listed in the protocol? Yes No N/A

Is the number of animals housed appropriate for the cage size? Yes No N/A

Do phenotypes have any special characteristics (dwarfed limbs, hair loss, abnormal behaviours, neurological issues, etc.)? Yes No N/A

Have there been any unusual colony issues (mortality, morbidity, cannibalism, dystocia)? Yes No N/A

Breeding:



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Is breeding information recorded (date of pairing, DOB, number of pups, weaning date, etc.)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are animals weaned at the appropriate age?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are pups genotyped in accordance with the SOP?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are the breeding pairs housed as per the UACC Policy on Colony Management?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

Notes:

Procedures (General):

Are the procedures performed consistent with those described within the approved protocol?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are animals handled according to the methods taught in training, keeping pain and distress to a minimum?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are all procedures accurately documented on the cage card?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Does the protocol on the cage card match the protocol number?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are personnel wearing appropriate PPE?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are biohazard SOP's and policies being followed?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

Anesthesia and Drugs:

Are anesthetics used consistent with those described within the approved protocol?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Are all compounds administered within their expiry dates?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the anesthetic depth appropriate for the procedure?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the anesthetic depth appropriately monitored? And by what means? _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is inhalant gas scavenged properly?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is the frequency of monitoring during recovery adequate?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Is there an appropriate recovery area for this species?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>



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- Do all controlled drugs have a valid exemption? Yes No N/A
- Is the controlled drug log maintained and up to date? Yes No N/A
- Is the anesthetic machine and vaporizer serviced and calibrated? Yes No N/A

Notes:

Surgical:

- Is the surgery performed in a location approved by the UACC? Yes No N/A
- Does the surgeon wear sterile gloves during the procedure? Yes No N/A
- Is surgical attire worn (mask, cap, clean gown, shoe covers)? Yes No N/A
- Are the surgical instruments sterilized? Yes No N/A
- Is an appropriate method of sterilization used for instruments between surgeries? Yes No N/A
- Is the surgical site prepped using aseptic techniques? Yes No N/A
- Are sterile drapes used? Yes No N/A
- Is heat therapy provided to maintain body heat? Yes No N/A
- Is the animal receiving correct fluid therapy dose? Yes No N/A
- Does the method of wound closure correspond to the protocol? Yes No N/A
- Is the analgesia regime (drug, dose, frequency, route, duration) consistent with the protocol? Yes No N/A
- Is a surgical logbook maintained? Yes No N/A
- Is the post-surgical care accurately documented (weight, urine, defecation, fluid and food consumption, wound healing)? Yes No N/A
- Is the removal of sutures or staples consistent with the protocol and removed at an appropriate interval (7-14 days)? Yes No N/A
- Is the surgical procedure recorded on the cage card? Yes No N/A



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Notes:

Euthanasia and Endpoints:

Does the method of euthanasia correspond with the protocol? Yes No N/A

How is mortality confirmed (secondary method)? _____

If a physical method is used, is anesthesia administered prior? Yes No N/A

Where is the euthanasia performed? _____

Are remains disposed of promptly and correctly? Yes No N/A

Are lab members familiar with protocol endpoints (study or humane)? Yes No N/A

Are animals euthanized when an endpoint is reached? Yes No N/A

Are animals secluded from cage/ roommates for the euthanasia? Yes No N/A

Notes:

General (husbandry, transportation, etc.):

Is a daily log maintained for the room (temperature, humidity, etc.) Yes No N/A

Is health monitored daily? Yes No N/A

Are any medications/ fluids stored in the colony room within expiry? Yes No N/A

Is there sufficient species-specific enrichment? Yes No N/A

Is there sufficient PPE within colony and technical rooms? Yes No N/A

Is there sufficient disinfectant within colony and technical rooms? Yes No N/A

Are cages transported in an appropriate manner to the laboratory? Yes No N/A

Are animals provided with potable water within the lab? Yes No N/A



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Notes:

Additional Aquatics and Wildlife Questions:

Are records of feeding and feeding behaviour kept? Yes No N/A

Is the housing water quality as described in the protocol? Yes No N/A

Is the water quality monitored regularly (temperature, pH, DO, ammonia/nitrite levels)? Yes No N/A

Are water/ambient temperature appropriate for the species? Yes No N/A

Is health monitored daily? Yes No N/A

Is a daily log maintained for the room (temperature, humidity, etc.) Yes No N/A

Are any medications/ fluids stored in the colony room within expiry? Yes No N/A

Is there sufficient species-specific enrichment? Yes No N/A

Is there sufficient PPE within colony and technical rooms? Yes No N/A

Is there sufficient disinfectant within colony and technical rooms? Yes No N/A

Are tanks transported in an appropriate manner to the laboratory? Yes No N/A

Are steps taken to avoid contamination between tanks? Yes No N/A

Are electrical components protected from moisture? Yes No N/A

Surgery:

Are gloves pre-moistened? Yes No N/A

Is the surgical site appropriately prepared (removal of debris, etc.)? Yes No N/A

Is the skin kept moist and are gills provided with oxygenated water? Yes No N/A

Is the duration of surgery within the length of time the animal can be out of water? Yes No N/A

Has the person performing the task been appropriately trained and is using safe methods of handling? Yes No N/A



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- | | | | |
|--|------------------------------|-----------------------------|------------------------------|
| Are the methods of capture consistent with the approved protocol? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Are the methods of banding consistent with the approved protocol? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Are the methods for tissue collection consistent with the protocol? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Are the methods for blood collection consistent with the protocol? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Are the described timeframes for capture/release consistent with the protocol? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Are transmitters used? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |