

Animal Care Handbook

CATHY GATES

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Preamble

Trent University recognizes the need and benefit of using animals in research and teaching, while simultaneously recognizing the need for high ethical standards that accompanies this practice. In accordance with the guidelines of the Canadian Council on Animal Care (CCAC) and the Animals for Research Act of the Province of Ontario, Trent University will ensure that all researchers who are working with animals shall receive the proper training and guidance, as well as provide the proper facilities for the housing of said animals.

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. All research and teaching at the University involving the use of animals (including fish and invertebrates), whether laboratory or field-based, must receive approval from the Animal Care Committee (ACC) before such research or teaching begins. It should always be remembered, that working with animals in one's research is a privilege and not a right, violations, or reports of violations, of any of the universities policies, or the federal and provincial policies, will be treated seriously and can result in suspension or termination of an individual's animal usage privileges.

This handbook has been assembled in order to provide a comprehensive guide for researchers and students alike, in order to make sure that they have easy access to the information they need for the preparation, the duration and the "clean-up" of their approved protocol. Furthermore, it details the responsibilities of the various individuals and committees who approve and manage the facilities upon campus, as well as any forms that an individual might need. Finally, it includes information regarding ethical and humane euthanasia methods and biodata on the species of animals that are currently housed within the Trent facilities.

As of August, 2016, this handbook is still under review by animal related Trent affiliated Committees and can be subject to changes in the future.

Roles and Responsibilities

Canadian Council on Animal Care (CCAC)

The Canadian Council on Animal Care (CCAC) was founded in 1968, originally as a standing committee for the Canadian Association of Universities and Colleges, as a response to a growing usage of animals in research as well as the complementary rise of concern by Canadian people with their usage. It was incorporated in 1982 as a not-for-profit organization, independent from its founding association. “The CCAC Program has brought about high standards for experimental animal care and use. It develops evidence-based standards which incorporate expert opinion, the values of Canadians, as well as strategies to reduce the use of, and the harm and distress to, animals in science. It also assesses and certifies institutions using animals for scientific purposes and ensures that they meet CCAC standards”. In order to make sure that each institution is effectively enforcing CCAC practices and procedures, as well as having an animal facility that is both properly built and has the needed infrastructure within it, CCAC subjects them all to a peer review. This assessment of the institutions are carried out once every three years, and judges an institution on their reflection of CCAC guidelines and policies.

In layman’s terms, CCAC is responsible for the authoring and enforcement of the legislation that Canadians are expected to follow when working with animals, as well, they act as the primary advocate for the mass adoption and continuation of the usage of the “Three R’s”; Replacement, Reduction and Refinement.

All institutions who receive funding from the federal government, through Tri-council grants for example, must submit to oversight from the CCAC, and must adhere to CCAC guidelines and policies.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

The Ontario Ministry of Agriculture, Food and Rural Affairs is the provincial ministry that registers all research facilities, which use animals, in Ontario. Facilities must meet the minimum requirements of the regulations. The Director of the Animal Industry Branch may refuse to renew or suspend a registration of a facility that has not met requirements of the *Animals for Research Act*, R.S.O., 1990, c.A22 and its Regulations.

Trent University Animal Care Committee (ACC)

The Animal Care Committee (ACC) derives its authority from Trent University, CCAC, as well as from federal and provincial legislation, notably [The Animals for Research Act](#) (Ontario). As a result, in matters concerning animal regulations, the ACC is answerable to the University as well as to government officials. As most of the Committee’s activities have some bearing on animal care, it is often not possible (nor desirable) to determine where statutory authority and responsibility ends and University jurisdiction begins.

The ACC is responsible to the Vice-President (Research) or designate and to the President. The Manager of the Animal Care facility reports to the Vice-President (Research), or their designate, on matters related to their employment, and will work with the Chair of the ACC and the Vice President (Research) or designate on matters relating to Animal Care Facility (ACF) management and to implementation of animal care policy.

The ACC is made up of 15 members, recruited from Trent University and the surrounding communities. These members are: One faculty member from Biology, preferably someone experienced in animal care and research; One faculty member from ERS, preferably someone experienced in animal care and research; One faculty member from Psychology, preferably someone experienced in animal care and research; One other faculty representative who is a non-animal user; Two representatives of OPSEU local 365, preferably with a demonstrated interest and experience in animal care; One graduate student member, preferably from the Sciences; One undergraduate student member, preferably from the Sciences; One Veterinarian, preferably experienced in research-animal care; One staff member from Animal Care; One or two persons representing community interests; The Manager of Animal Care (ex officio); The Certifications and Regulatory Compliance Coordinator from the Research Office (ex officio); and the Science Facilities Manager (ex officio).

The ACC has the authority:

- 1) To stop any objectionable procedure if it considers that unnecessary pain or distress is being experienced by the animal. On deciding that prompt action is necessary to change the condition or size of the animal population, informs the Chair of the ACC, Vice President of Research, or designate as soon as is feasible.
- 2) To immediately terminate any use of animals which deviates from the approved protocol, any unapproved procedure, or any procedure causing unforeseen pain or distress to animals.
- 3) To order the humane killing of an animal if pain or distress caused to the animal is not part of the approved protocol and cannot be alleviated.
- 4) To confiscate animals that are not being used for purposes specified in approved protocols or which have not been brought formally (through the protocol approval process) to the attention of the ACC.

It is the responsibility of the ACC to make sure that all members of Trent University who are doing research with animals is doing so humanely and ethically. It does this through, primarily, its protocol process, in which it requires the researcher to provide a detailed summary of their experiment, an explanation of why it is necessary to use animals, as well as stated endpoints in order to make sure that the experiment reaches a set of objectives, while simultaneously holding any pain and distress to the animal to a minimum.

Work with animals outside of the main animal facilities is an exception that requires prior approval by the Animal Care Committee. The application for exception should be made within an animal user protocol submission and should include justification for the request.

Certifications & Regulatory Compliance Coordinator

The Certifications and Regulatory Compliance Coordinator develops, implements and manages a records management strategy to facilitate University compliance with all regulatory requirements related to the following areas: Research Ethics; Animal Care; Bio-safety and Radiation safety, Biohazard safety and the Policy on Human Remains. The Certifications and Regulatory Compliance Coordinator acts as the primary administrative point of contact for all faculty and students with the Research Ethics Board, Animal Care, Bio-safety and Radiation

Safety committees at Trent University. The Certifications and Regulatory Compliance Coordinator is the primary contact point for any members of the university who have questions regarding: Protocol Submission; CCAC or OMAFRA policies or regulations; or on general research ethics.

Currently the Certifications and Regulatory Compliance Coordinator is Karen Mauro.

Contact: kmauro@trentu.ca or dial 705-748-1011 ext. 7896

Manager of Animal Care

The Manager of Animal Care is the current manager of the Animal Care Facility. He must continually satisfy the requirements and expectations of the provincial OMAFRA inspector, the federal CCAC and CFIA, and the local ACC. These expectations exist as written documents (Animals for Research Act, animal care protocols, CCAC and ACC guidelines and policies) that must continually be interpreted by the Manager. Proper maintenance of these standards helps ensure that the university maintains its Tri-Council research funding and license to operate an Animal Care Facility without which no animal research would be possible. Due to this, the Manager of Animal Care is also responsible for the mandatory online training and orientation sessions that everyone must go through before being given permission to utilize the resources within and associated with the Animal Care facilities. The Manager has final say over who is and is not allowed to enter the facilities. Furthermore, the Manager of Animal Care is the unit that students and faculty rely on to supply the resources and support that they need for their animal based research.

The Manager of Animal Care is also responsible for the animals that are located within the facility. If he believes, or is informed of, that actions or experimentations that are taking place are unjust, it is his responsibility to hold an investigation into the protocol. Incidences requiring immediate action will be at the discretion of the Manager of Animal Care operating under the authority of the Trent Animal Care Committee. The ACC will then decide at the next meeting how best to proceed for the welfare of the animals and the experiment.

Occasionally, ACF personnel inquire about irregularities with an animal or records, please don't take offense. It is simply a matter of support for both you and your animals and doing their job to flag anything potentially abnormal before it is a problem.

Researchers are encouraged to keep open lines of communication with the facility technicians and Manager.

Currently the Manager of Animal Care is Jason Allen.

Contact: jallen@trentu.ca or dial 705-748-1011 ext. 7267

Veterinarian

The Veterinarian has the authority, to stop any objectionable procedure if he/she considers that unnecessary pain or distress is being experienced by the animal. To immediately terminate any use of animals which deviates from the approved protocol, any unapproved procedure or any procedure causing unforeseen pain or distress to animals. To order the humane killing of an animal if pain or distress caused to the animal is not part of the approved protocol and cannot

be alleviated. To order the administration of medical intervention or to medically intervene himself/herself if in the Veterinarians professional judgement such intervention will alleviate unforeseen pain or distress in an animal. To remove an animal suffering from unforeseen pain or distress from a study for the appropriate treatment. In such cases the Veterinarian will inform the Manager of Animal Care and the Chair of the Animal Care Committee immediately of the nature of the problem and the intervention action taken.

Occasionally, ACF personnel inquire about irregularities with an animal or records, please don't take offense. It is simply a matter of support for both you and your animals and doing their job to flag anything potentially abnormal before it is a problem.

Researchers are encouraged to keep open lines of communication with the facility technicians and Manager.

The current veterinarian is Jenny Laing, D.V.M.

Contact: JennyRLaing@trentu.ca or dial 705-748-1011 ext. 7267

Animal Care Facility Technicians

The Animal Care Technician is responsible for providing daily care to a variety of vertebrate animals in the Animal Care facility, including maintaining a healthy environment, as specified in policies of the Canadian Council of Animal Care (CCAC), and by providing assistance and advice to faculty, staff, and students as required for research, testing and teaching purposes.

Furthermore, the facility technicians will assist the above mentioned people in securing needed supplies, such as food water and bedding, as well as, assist researchers in maintaining a strict chore schedule. When you need supplies (e.g., testing equipment, replacement water bottle, extra cage), please let staff know in advance. Additionally, the technicians are specially trained in using various pieces of important equipment with the facilities. This equipment includes the industrial cage washer, pass through autoclave, and programming of facility services such as temperature, humidity, and lighting settings.

Occasionally, ACF personnel inquire about irregularities with an animal or records, please don't take offense. It is simply a matter of support for both you and your animals and doing their job to flag anything potentially abnormal before it is a problem.

Researchers are encouraged to keep open lines of communication with the facility technicians and Manager.

The current Animal Care Facility Technicians are Cynthia Grant and Eva Lehvonen.

Contact: CGrant@trentu.ca or Evalehvonene@trentu.ca or dial 705-748-1011 plus the appropriate extension.

Staff hours are 8:30am to 4:00pm, Monday to Friday. If you need immediate assistance, contact staff on duty. ACF Personnel generally start the day in the LHS facility (x7267) and then finish in the ESB facility (x6274). A phone list for emergency contacts is kept by the main entrance as well.

Primary Investigator

The primary investigator has 10 main responsibilities that he must follow, as laid out in Trent University's Standard Operating Procedures.

- 1) The Principal Investigator shall be responsible for the completion of the Animal Care Proposal prior to the commencement of work.
- 2) The Principal Investigator shall ensure the animals are ordered centrally through the Animal Care Facility (ACF) staff.
- 3) The Principal Investigator shall be responsible for providing pertinent documentation/communication which indicates commencement of work to the ACF staff.
- 4) The Principal Investigator shall encourage and support attendance of research technicians, faculty and appropriate students reporting to him/her at any Animal Care Committee (ACC) Animal Care Course(s) and other relevant training that is presented. The Principal Investigator shall be familiar with the Standard Operating Procedures of the ACF himself/herself.
- 5) The Principal Investigator shall identify for security access to the animal facility only those individuals with specific needs and shall expect those persons to comply with ACF Security Policies.
- 6) The Principal Investigator is responsible under WHMIS to ensure that he/she and associated technicians/students receive site-specific safety training in the Animal Care Facility and follow not only the general Laboratory Health and Safety guidelines Hospital and University Guidelines (i.e. Radiation Safety Program, Universal Precautions, Hazardous Chemical Waste Procedures, etc.) But also those specific for the ACF.
- 7) The Principal Investigator and associated research technicians/students shall be responsible for the humane treatment of all animals assigned to them.
- 8) The Principal Investigator shall ensure that he/she and associated research technicians/students are familiar with current legislation (i.e. The Animals for Research Act (1989), etc.) And the guidelines established by the Canadian Council on Animal Care (CCAC) for the care and use of experimental animals and shall furthermore comply with the Animal Care Facility policies which are based on these rules.
 - a. Those Principal Investigators requiring narcotic or control drugs must comply with specific legislation covering the use, record-keeping and distribution of the drugs including licensing as well as the Standard Operating Procedures (SOP) for controlled substance use.
- 9) The Principal Investigator and associated research technicians/students shall be responsible for general housekeeping and tidiness in the prospective area in which they work in the Animal Care Facility. Contact the ACF staff for assistance.
 - a. The Principal Investigator and associated research technicians/students shall be responsible for adequate and accurate labelling of cage cards once animals are assigned.

10)The Principal Investigator and associated research technicians/students shall ensure that they provide ACF staff with information regarding experimental apparatus, techniques, care, etc., if requested.

In addition, the principal investigator shall provide their own workers with personal protective equipment when experimental personnel are performing animal husbandry as part of a protocol.

Student/Research Assistant

A student or research assistant that is working with, or under, a professor are expected to, at all times, monitor and record controls on all variables, conduct all experimental procedures according to standard operating procedures (SOPs), employ skilled animal handling and manipulation techniques, observe all facility standard operating procedures established to limit disease introduction, and maintain proper levels of cleanliness in the area you have been assigned within the facility.

Facilities Break down

Currently, Trent University has two different facilities in which we house animals. These facilities are affectionately named, the ESB Facility and the LHS Facility, after the building's wings they are located within.

Standard lab rules apply to both facilities. No visitors, open-toed footwear, food, or drink allowed in the facility. Exceptions may be permitted if you will be in the facility for long periods of time but must be confirmed with the Animal Care Facility Manager beforehand.

Within either of the facilities, it is asked that you will please limit your activities to your approved work area. There are some areas which are sensitive to interruptions. Please also consider work which is occurring within the facilities as proprietary to investigators and it should not be discussed outside of work.

Let staff know when you believe you will be finished your project in order to assist with scheduling. When you have finished, return any keys, access cards, or equipment borrowed for the duration of the project. Please leave the work area as you found it.

ESB Animal Care Facility

As the name suggest, this facility is located with the Environmental Sciences Building. This facility primarily works with amphibian animals (such as salamanders) and fish.

The Standard Operating Procedures (SOP) binder, for this facility, is kept on a table in the foyer across from the restroom. SOPs provide basic instruction on how to perform all duties here and are as current and comprehensive as possible. In case of accidents of a chemical nature, please refer to the MSDS binder which is located on the shelf with the SOPs. In case of minor injury, there is a first aid kit by the restroom. If first aid is needed, the Animal Care Facility Manager has been trained in basic first aid. In the case of an emergency and you are alone, call Trent Security at 1333. A phone list for emergency contacts is kept by the main entrance as well. Our number here in the ACF is 748-1011 ext. 7267 if you are ever unable to come to campus and need staff to do something to keep your experimental work in order.

In case of fire, exit the nearest door. All internal doors should be closed before you exit. If you are involved in surgery when the alarm goes off, the operation site should be covered and the animal left on the gas, if possible. If that is not possible, the site should be closed and the animal placed in recovery as quickly and safely as can be managed.

LHS Animal Care Facility

The LHS facility is located within the DNA, in the Life and Health Sciences wing. Unlike the EBS facility, the LHS facility is divided into two wings, a Specific Pathogen Free (SPF) wing and a Non-SPF wing. This facility primarily houses rodent and avian animals.

The Standard Operating Procedures (SOP) binder, for this facility, is kept on a shelf in the washroom across from the main Animal Care office. In case of accidents of a chemical nature, please refer to the MSDS binder which is located on the shelf with the SOPs. In case of minor injury, there is a first aid kit in the restroom of LHS, across from the main Animal Care office, and the Manager of Animal Care has basic first aid training. In the case of an emergency and you are alone, call Trent Security at 1333. You can find staff home numbers and Trent's emergency numbers on the door to the wash-up room or by the phone in the rodent wing (tissue collection room). Our number here in the ACF is 748-1011 ext. 7267 if you are ever unable to come to campus and need staff to do something to keep your experimental work in order.

In case of fire, exit the nearest door. All internal doors should be closed before you exit. If you are involved in surgery when the alarm goes off, a staff member will verify if it is safe to continue the surgery. If that is not possible, the animal is to be euthanized under anesthesia and all personnel evacuate as safely as can be managed. Mag-locks should disengage when a fire alarm is on to facilitate your exit.

The SPF Wing (Specific Pathogen Free):

Personnel entering the Unit must not have been in contact with any rodent, wild or domestic, within 24 hours of entry.

Before entering the rodent wing you must change into dedicated shoes or shoe covers and a clean lab coat designed for the rodent wing. Please leave coats, outdoor footwear and bags in the lockers provided outside of the change room. Users repeatedly entering this wing on a regular basis are expected to leave indoor footwear here to be cleaned and dedicated for use in the rodent wing. There are disposable foot covers for one-time use when required.

After a week of use or when it is particularly dirty, throw the lab coat in the wash (blue bin in the change room). Washing is generally done once a week.

Cleanliness should be everyone's first priority. Users of the SPF wing must clean up after themselves immediately after using the area. Every day the ACF staff will wet mop the animal rooms, the change area and hallways leading to the Unit, with disinfectant

Access to the surgery suite is restricted to approved users. Surgery availability and supplies should be confirmed with the Manager at least three business days in advance. The same can be said if you require a change in the lighting schedule for animal holding or testing space.

When you need supplies (e.g., testing equipment, more food, extra cage), please let staff know in advance. They may have already planned to provide this material, but it doesn't hurt to be sure. People, animals and equipment/materials should not be moved from one room to the other unless procedures are reviewed with ACF operational staff. This means that basic room equipment, such as brooms, mops, garbage containers, food containers, etc. should be dedicated and not be moved from one room to another

If you should remember one thing about removing and replacing a cage from the rack it is this: ALWAYS ENSURE THE CAGE IS PROPERLY DOCKED! If the cage is not docked, the animals will not have proper air changes at the cage level or access to water! They could die.

The Non-SPF Wing:

This is the area perfusions may occur. Any animal exiting the SPF area may not re-enter that space. The non-SPF wing is also work for wildlife and animals not required to be under strict disease barrier measures.

Protocols

Before beginning the process of submitting a protocol, it is important that researchers review non-animal research methods. These alternative methods may be able to fulfill the requirements of the experiments without submitting an animal to various levels of invasiveness. Some of the methods that should be considered when developing a research project include the following: Epidemiological studies, Clinical studies, Autopsies and post-mortem studies, Non-invasive imaging techniques (CAT/MRI/PET/SPECT), Tissue cell culture, Microbiological studies, Computer and mathematical models, Chromatography, or spectroscopy.

Another helpful resource may be the Canadian Centre for Alternatives to Animals in Research (CCAAR). This is a group based at the University of Ottawa with the mission of developing a database of techniques for refinement of experimental protocols to minimize animal suffering.

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 ACC. The CCAC has a number of documents and guidelines that assist the ACC in fulfilling this important responsibility.

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:

1. Do you understand why the study should be done?
2. Are you convinced that animals must be used?
3. Has the proposal been independently reviewed for scientific merit?
4. Has the concept of the Three-R's been addressed?
5. Has the choice of animal species and model, and the number of animals requested been justified?
6. Do you understand exactly what will be done to each animal and in what sequence?
7. Are you comfortable that the expertise of the people carrying out the procedures is optimal?
8. Are the facilities for performing the study suitable?
9. Have the signs of pain, stress or distress been described?

10. Will euthanasia be carried out in an appropriate, approved manner?

Protocol Submissions

Protocols are due on the last Monday of each month unless otherwise advertised. Protocols are to be completed online using the ROMEO Researcher Portal system.

1. Choosing the correct Protocol Form:
 - a. The Protocol form is based on the type of work being done. Please choose the appropriate form. For projects which are field based and may or may have a laboratory component, choose the Wildlife form. For projects which are strictly laboratory based use the Laboratory form. The Wildlife form as has been altered extensively to include a section for laboratory work done on animals captured in their natural habitat. If you anticipate working with wildlife in the lab be sure to complete all the appropriate sections of this form. Contact the Manager of Animal Care for assistance with this. For assistance with your actual methodology involving animals contact the Vet.
2. Multi-year Protocols:
 - a. Long term protocols extending beyond one year in duration is possible for up to a maximum of three years. The multi-year protocol is to be used by principal investigators who will have projects which, due to the nature of the work, will extend beyond 1 calendar year up to a maximum of 3 calendar years. Principal investigators are required to submit an annual summary each year prior to the end of December of the year the protocol was approved and each year afterward. This will not apply to recurring Teaching Protocols where an annual resubmission of a full protocol will be mandatory.
3. Protocol extensions:
 - a. Protocols will no longer be renewed, but extensions will be granted. Projects which are anticipated to extend beyond one year will be approved as multi-year projects (see 2. above). Projects which were expected to be completed in one year, but have been delayed, can apply for extensions of up to six months as part of an amendment submission.
4. Amendment Forms:
 - a. The amendment form is to be used to address the 4 most common types of requests, thus streamlining the process (end date extension, increase in animal numbers, additional investigators (or alternate investigators), minor changes to methods). These requests account for almost 90% of amendment requests.
5. Live Animals and Teaching:
 - a. The use of live animals for teaching purposes is now strongly discouraged and pedagogical merit reviews are mandatory. Teaching protocols will require that the instructing department approve the use of animals in a course prior to protocol approval by the ACC. Please complete the protocol in its entirety and if you have any questions contact the Manager of Animal Care for assistance.
6. 3 R's of animal use:

- a. The CCAC has introduced a requirement that the "3 R's" of animal use in research (Replacement, Reduction and Refinement) has become a central tenet of protocol review. Please read and complete these sections of the Protocols completely.
7. Protocols Involving Biohazards or Radioisotopes
- a. Any protocols that involve the injection of any infectious agent or radioactive substance into an animal must have the proper additional documentation filled out. Any questions regarding this practice can be directed to Chris Williams. (email [hyperlink](#))

NOTE: ALL protocols (including any that finished during a respective calendar year) need to submit an annual update. The "Annual Protocol Summary" listed with protocol forms is due each year on December 31st. This will replace the "Multiyear summary" forms for work lasting more than one year as well.

NOTE: While a student may fill out the submission form the principle investigator must log-in to Romeo to review and submit it to the ACC. Submissions coming from anyone but the principal investigator will not be accepted.

For more information about the online system or if you have any additional questions or problems with the online forms, please contact [Karen Mauro](#) or dial 705-748-1011 ext. 7896

Pre-Project Responsibilities

Before any of the actual experimentation work can begin, you, as a researcher, must make sure that certain things have been completed. First, and the most obvious, is that any work that has to deal with animals can only be done who have completed the required training. The online training course, a WHMIS course and a guided orientation of the facilities are required before you are allowed to work on your project. The nature of some work might require you to also have to complete a biosafety course. The species that you are working with also might require additional training courses. In order to work with some birds, a "CITES Permit" is required, to perform banding on birds, a banding course must be completed, the collection of some animals requires the individual to earned a "Scientific Collection Permit". Researchers are expected to be aware of, and completed, any additional training or permits that they need before beginning their protocol.

In order to collect wild animals in the province of Ontario, one must have the above mentioned "Scientific Collector's Permit" from the Ontario Ministry of Natural Resources from the appropriate region. Once you have a permit, you can go to another regional office for an extension. There are fines for collecting animals without this permit.

Once the protocol has been approved, it goes to the professionals working within the Animal Care Facilities. From that, the Technicians or the Manager will make sure that your project is assigned to a suitable amount of working space and that the correct amount of animals needed has been ordered. Before your animals arrive, you are responsible to make sure that your space has all the necessary equipment it needs before you begin. For example, tanks to house fish should be set up and operating at least a week before any animal is housed inside it, in order to avoid any potential malfunctions or complications for the duration of the protocol. It is also

recommended that the space is examined to make sure that it contains not only the equipment that is needed for the experimentation, but that it also has: a Broom, Card holders/cards for cages (or tank labels for tanks), Paper towels, a Dust pan, a Garbage pail, Garbage Bags, a subject data sheet and the appropriate door forms and notifications (a hazard sign if you are working with hazardous materials, etc.). If you are working with animals that require a tank, make sure that there is also a hose located within the room. If the equipment is not in the animal/procedure room nor in the supply room, please advise a staff member and the equipment will be supplied for the room. For quarantine, isolation, radioactive or biohazard rooms, please consult the individual SOPs for special equipment required for those rooms. Labs requiring the use of chambers should schedule temperature, humidity, and lighting requirements with Animal Care Facility personnel at least three business days in advance of needing it.

All tables, shelving, millwork, or furnishings are to be disinfected between uses.

Within the research project, researchers will likely come across a situation in which they will have to restrain the animal in order to take a blood sample, to distribute medicine, or preform some action in which preventing the animal from struggling will be necessary. Different animals have different ways to protect themselves when they feel threatened, such as biting scratching or kicking. By restraining the animal properly and humanly, you are preventing yourself, and the animal, from being injured. Although the correct approach to handling and restraint can be understood from printed and audio-visual materials, practice is essential. Appropriate handling and restraint methods have been developed for most laboratory animal species. As a researcher, you should be familiar with the appropriate handling and restraint methods BEFORE the research project starts.

Project Duration Responsibilities and Procedures

As mentioned previously, working with animals at Trent University is a privilege and not a right. Those who have been granted this privilege have responsibilities and obligations that they must meet in order to retain said privilege. While some of these responsibilities can be described as general rules and regulations, others are maintaining a working knowledge of proper procedures and practices. Below contains a refresher on the general rules of the facility, as well as details about some of the procedures that might not have been covered in your initial training.

Proper documentation is incredibly important to the success of the Animal Care Facility. Besides providing needed information to the facility technician, to assist them in helping with the husbandry portions of the work, they allow the ACF to keep detailed records of all treatments delivered, surgery undergone, milestones researched, and medicines dispensed. Failure to maintain frequent documentation could result in the eventual suspension of a protocol and care of the animals being transfer to the ACF Staff.

Just because a researcher is not on the University campus, it does not mean that University rules do not apply to them. When collecting in the field, you are a representative of the University and will be required to adhere strictly to the University policies. Animal collection should be performed in a humane manner that causes a minimum of discomfort to the animals. If the

animals are not to be brought back to campus alive, they should be euthanized according to procedure.

If you remain unsure on how to perform a certain practice or on a certain rule, or you feel it was not covered in depth enough through training and the orientation, direct your questions to Jason Allen, the Animal Care Facility Manager at jallen@trentu.ca or dial 705-748-1011 ext. 7267.

Animal Care Facility General Rules:

1. Researchers are responsible for the maintenance of laboratory research equipment (e.g. camera, specialized caging, etc.) and room space that they have been given permission to use for the duration of their research;
 - a. No equipment is allowed to enter the or Rodent Wing without proper cleaning;
 - b. Which rooms may be used for experimental equipment are subject to the approval of the Manager of Animal Care. Scheduling may be required as space is limited. Consult with the Manager of Animal Care well in advance to ensure there is sufficient space available for your work
2. The space used for testing should always be kept clean and clutter free;
3. Personal Protective Equipment (PPE) are to be worn as defined by the needs of the workspace or project(e.g. lab coat, mask, dedicated footwear, or gloves);
4. Proper attire should be worn at all times. Coats, books and backpacks should be left in the foyer. Footwear should be clean and appropriate for the work (the Laboratory Safety Manual suggests “no open toed footwear”);
 - a. Personnel who will be working in the Rodent wing or surgery are required to change into ACF attire. The proper attire for working in the Rodent wing is listed below;
5. All Health and Safety practices must be adhered to at all times;
6. All persons working in the Animal Care Facilities should plan work efficiently to avoid multiple entries and exits from restricted areas as much as possible. This will lower the risk of re-contaminating the ACF with external agents;
7. No food or drink is permitted in the facilities at any time, unless you have received permission from the Manager of Animal Care for an exception in designated areas;
8. All new faculty, staff, and students must be appropriately trained, have been given an orientation to working in the facilities, and be named on an approved protocol before independent access to the facilities is granted;
9. Access to the Animal Care Facility is restricted to only those persons who have business there. Only ACF staff will have access to the Animal Care Facility directly from outside. All others must access the Animal Care Facility from the inside of the building. Persons requiring access to the rodent will use the Rodent Wing door only. Exceptions can be granted, following a valid reason, at the discretion of the Manager of Animal Care;
10. Authority for authorizing individual keys for the Biology wing and the Rodent wing rests with the Manager of Animal Care. The level of access to the ACF will be determined based on work requirements, for example, those not working with rodents will not be allowed access to the Rodent Wing. Conversely, those whose primary responsibilities are in the rodent wing, should not be in other areas in the Animal Care Facility;

11. In order to avoid interfering with others research, noise must be kept to a minimum. No loud talking, shouting, whistling, door slamming, music, etc.;
12. All users must follow the provisions of their approved animal use protocol that governs their work with animals. Researchers must also follow the recommendations of the veterinarians in respect of all animal health and welfare-related matters;

Rodent wing Procedures

1. Personnel who will be entering the Rodent wing should change into appropriate attire:
 - a. Every person working in the Rodent should have dedicated lab coats which do not leave the Animal Care Facility. For regular users of the Rodent Wing, it is recommended that you own two lab coats so that laundering of one may occur at least once every two weeks;
 - b. Every person working in the Rodent wing should have dedicated footwear or use shoe covers. The ACF has a small stock of shoe covers for use by ACF staff and visitors. Regular uses of the Rodent wing should either purchase their own or purchase a separate set of footwear;
 - c. Gloves (preferable non-latex) should be used when handling animals where possible;
 - d. Instructors of classes using the Rodent wing or Surgery are asked to ensure their students bring a clean shirt or lab coat or use the disposable aprons available in the Animal Care Facility;
 - e. Lab coats and shoes or shoe covers worn in the Rodent wing must not be worn outside of the rodent wing except while changing;
2. Equipment bound for the Rodent Wing must be wiped down with a dilute Clorox solution (See SOP Sanitation of Equipment);
3. Upon leaving the Rodent wing, personnel must change their attire;
4. Personnel who will be working in the Rodent wing are strongly advised not to own rodents as pets

Using Restraint Equipment

For some procedures, such as intravenous injection in a rabbit, restraint devices or equipment are useful adjuncts to the handling, and help ensure that the procedure is done safely for both the animal and the person. Correct use of such restraint devices will help avoid unnecessary stress or injury to the animal during the procedure. Conditioning the animal to accept the restraint device is important to minimizing the risk of injury both to the animal and to the handler. Before using any form of restraint device, you must be properly trained in its usage. If your protocol requires frequent blood sampling, or other practice that requires handling or restraining an animal, this training should be pursued before the protocol begins.

Using Chemical Restraint

The safe handling of some species either in the laboratory, or in the field, may require the use of "chemical" restraint. Chemical restraint is the use of sedatives or anesthetics to control an animal's activity and thereby allow certain procedures to be done with minimal stress to the animal. Instruments of delivery such as needles and syringes must be handled carefully and disposed of immediately following administration of the medication, without re-capping

wherever feasible, and without creating additional hazard to the worker. Training to use chemical restraints must be completed before any research will be allowed to use them in the laboratory or the field.

Safe Waste Disposal Practices

Work in animal facilities commonly involves the generation of waste that is unsafe. A collection of the work that happens produce sharp water items, such as needles and syringes. These items should be handled safely and placed in designated sharps containers for disposal as per institutional policy. Needles should never be recapped and always disposed of immediately following use. Disposable hypodermic needles should never be re-used.

Procedure for the Disposal of Bio-Waste

Bio-Waste is defined as:

1. Animal waste.
 - a. This includes soiled litter from normal animal husbandry practices. Where an animal has had exposure to hazardous chemicals due to experimental protocol, the litter must be treated as either chemically treated bio-waste or biomedical waste. Please consult the Chemical Safety Officer and Manager of Animal Care with the appropriate MSDS when hazardous chemicals are a factor.
2. Bio-Waste Food Items.
 - a. Items that are deemed fit for consumption may bear this label and would likely be fed to animals within this facility or possibly the Peterborough zoo. An example may be fish that have gone through a dissection for gut contents but not treated with anything.
3. Non-recyclable Bio-Waste.
 - a. Any chemicals used to euthanize, store, or process tissue should be indicated on the label. Please refer to SOP ACF20 "Biohazards" to determine if this waste requires specific treatment separate from this SOP before leaving Trent. An example of non-recyclable bio-waste may be stuffed specimens used for observation over time but that have degraded to a state where they do not represent the animal well, dissected animals not exposed to fixatives, or spoiled untreated anatomical waste.

Collection of Bio-Waste

Waste containers are to be filled by those who generate the waste. In order to remain safe while working with bio-waste, please refer to specific MSDS sheets or lab safety manuals prior to working with any biohazardous materials. These instructions, as well as those by a supervisor in charge of a particular area, will detail how much protection is necessary. A lab coat, gloves, and eye protection are most often standard however personal respirators or use of a fume hood may be necessary.

All bio-waste coming into the Animal Care Facility must be labeled with the following designations:

1. The lab they came from
2. Date the materials were bagged

3. The contents and type of waste material

If labels are not available, please make sure to collect appropriate details from the lab dropping off the waste so that the container may be immediately labeled and dealt with appropriately.

Animal waste and bedding is collected into garbage bags in a stand-up chamber with ventilation to the outdoors. The ventilation is such that the air flow should pull fomites down and away from the worker. Use of a personal respirator, lab coat, and gloves is mandatory to minimize development of Lab Animal Allergies. Garbage bags should not be filled to an unsafe level for handling. Generally the bags will not handle a weight where the bag is half to three quarters full. Animal waste should not be left undisposed at any point with the exception of transferring cages to the bedding dumping station at the service entrance located at the rear of the facility. Under these circumstances, bedding and cages should not be left in that area more than two days without disposal of waste and recycling of the cages back into the system. A portion of the animal waste and bedding may be used to fill the yellow compost bins outdoors for PRD. No waste generated by animals exposed to chemical treatments for experimentation should enter the compost bin. That waste and any extra untreated waste after filling the compost bins is to be disposed of in the waste bins with regular trash going to a landfill.

Untreated food items may be frozen in either bags or boxes. Care should be taken to separate spoiled food items or dangerous items (e.g. boney fish) from items deemed fit for consumption by animals. It is preferred that materials are collected in numerous smaller bags rather than one large bag. This facilitates any separation that may be necessary due to a lack of freezer space or differing waste groups. These items are to remain stored within the freezer near the main entrance with excess waste being put out with regular waste on the Wednesday afternoon of every week. It is preferable to cover the anatomical waste with animal waste/bedding to keep the anatomical waste insulated and frozen as long as possible should the waste contractor not arrive that day.

Non-recyclable bio-waste is treated bio-waste that may be frozen in either bags or boxes and immediately labeled as not fit for consumption if not already labeled. Long term storage is to be in the chest freezer located in the large storage room at the service (rear) entrance of the facility. A small amount of non-recyclable bio-waste may be kept short term in the freezer at the main entrance to the Animal Care Facility to facilitate collection but must be clearly labeled. Before disposal Please refer to SOP "Biohazards" to determine if this waste requires specific treatment before leaving Trent. If not, may be put out with regular waste on the Wednesday afternoon of every week.

Procedure for the Disposal of Hazardous Waste Chemicals

1. Choose the proper containment to match volume and type of waste. Tighten lids where applicable. Do not completely fill bottles.
2. Do not mix incompatible waste chemicals (See section 19 of Trent University Laboratory Safety Handbook).
3. Keep halogenated and non-halogenated wastes separate. (>0.05% halogens constitutes halogenated waste).
4. Keep record of waste in container.

5. Fill out Waste Label completely and assure proper attachment on container. The contents of each container must be identified in detail and categorized to the most appropriate category. Label are available in the drop off room with waste categories printed on them for your use.
6. Every container must be clearly labeled.
7. Transport waste using safety containers to the proper storage rooms in the facility that you are currently working within. This room is kept locked, one technician in each science department has been issued a key, and you may ask one of the people to give you access to the room or you may sign out a key for a short time.
 - a. The departmental key holders are listed on the door to these rooms.
8. When leaving the containers of waste within the room, leave them on the bench (or floor for large containers) with the Waste Label visible and legible.
9. Fully document all waste in the logbook (red binder) that is left in room
 - a. The following waste materials should not be left in this room:
 - i. Radioactive Waste (Contact the Radiation Safety Officer or Science Facilities Manager)
 - ii. Compressed Gases (return to supplier)
 - iii. Biohazardous Waste (See Below)

If you have any questions or concerns contact either a member of the ACF staff or one of the names listed upon the door.

Procedure for the Disposal of Biohazardous Waste.

Waste containers are to be filled by those who generate the waste. In order to remain safe while working with bio-waste, please refer to specific MSDS sheets or lab safety manuals prior to working with any biohazardous materials. These instructions as well as those by a supervisor in charge of a particular area will detail how much protection is necessary. A lab coat, gloves, and eye protection are most often standard however personal respirators or use of a fume hood may also be necessary.

Biohazardous Waste is defined as: waste that poses significant health risks to handlers and may include the following: anatomical waste (body parts or organs) potentially exposed to items in Schedule 5A of the Ministry of Environment Management of Biomedical Waste policies (see section 5.3 of this document), non-anatomical waste (which includes sharps which have contacted animal or human blood), tissue or microbial cultures, and material contaminated by such cultures, live vaccines, containers or materials saturated with blood products. Examples include: cultured animal cells and the potential harmful agents cells may contain or be exposed to; micro-organisms including bacteria, viruses, fungi, rickettsia and chlamydia; parasites; allergens; plant viruses, bacteria, and fungi; cytotoxins (e.g. NMDA); or pathological waste (both lab and wild animals in whole or in part)

This does not include waste generated by animal husbandry, waste generated in food production, domestic waste, or waste under the control of the Dead Animal Disposal Act.

Waste should be divided into categories, and separate containers should be used to store each category. For example, sharps should not be mixed with anatomical waste. Proper containers for

sharps may be obtained through the Science Facilities Manager. These containers are yellow and clearly bear the biohazard symbol as well as other pertinent health and safety info. Other materials must be packed in such a way that they are leak-proof, puncture-proof, and that the total amount of waste in one container should be approximately 3 inches from the top of the waste container or a distance at which the risk of materials coming close to the lid and in contact with a handler is low, unless specific instructions are stated upon the container. Waste containers MUST be labelled with the biohazard warning sign and user ID completely legible. Furthermore, every label must include: the lab the waste came from, the date the materials were bagged and the World Health Organization (WHO) Risk Group. If labels are not available, please make sure to relate the appropriate details to ACF staff so that the waste may be labeled and dealt with appropriately.

There are four different WHO risk groups. Each of these four groups have a different risk factor to both the worker and the community. Below these groups are listed with their risk factors, a description what would fall under each group and specific examples:

1. Group 1:
 - a. This group present a low risk to both the individual working with the waste, and the larger community at whole.
 - b. A microorganism that is unlikely to cause significant human disease.
 - c. Non-toxigenic strains of bacillus.
2. Group 2:
 - a. This group presents a moderate risk to the worker, but provided proper treatment, it is limited in the risk to the community.
 - b. A pathogen that can cause human disease but is unlikely to be a serious hazard to workers or the community. Workplace exposures may cause serious infection, but effective treatment and preventive measures are available and the risk of spread of the pathogen is limited.
 - c. Mumps virus; salmonella; trichinella, spiralis.
3. Group 3:
 - a. This group has a high individual risk, which means that the individual working with it is in a high risk, but the larger community has a low risk.
 - b. A pathogen that usually produces serious disease but where the pathogen does not ordinarily spread by casual contact from one infected individual to another.
 - c. Hantavirus; HIV; mycobacterium tuberculosis
4. Group 4:
 - a. This group presents a high risk to both the worker and the community at large.
 - b. A pathogen that usually produces very serious disease in humans, is often untreatable, and the pathogen may be readily transmitted from one individual to another directly or indirectly.
 - c. Ebola virus; Lassa virus; Marburg virus

All waste must be properly store in order to assist in the prevention of transmitting disease, to both animals and individuals working within the facility. Anatomical waste should be stored within a refrigeration unit at 4°C or lower. Most often, this is the chest freezer in the large rear storage room (room 24). The labels should always be easily accessible, legible and visible. Sharps

containers ready for disposal (lids closed) are to be bagged and boxed with the appropriate biohazard labels and stored low to the ground.

All waste that is deemed hazardous, should be dealt with promptly. This form of waste materials are not to enter other ACF waste streams unless written approval is given. Written approval must detail what the waste materials are, the procedures that have been done (or not done) to render the hazard innocuous, the date the procedures were performed, and the signature of the Biosafety Officer and Animal Care Facility Manager. This document is to be kept on file within the Animal Care Facility for three years in case anyone questions our actions with a specific waste product.

Contact a member of the ACF staff for waste pickup that is due to be incinerated. They will either arrange the pickup, or provide you with the needed contact. Sharps containers will be picked up by Physical Resources by calling Wes Todd.

NOTE: Waste that has, or potentially has, been in contact with a virus or disease that could be spread across species, such as rabies, must be communicated to the staff in order to make sure that other animals are not at risk of infection.

End Points

Experimentation with animals is a constant balancing act between scientific concerns and ethical ones. The best practice to alleviate a research from the balancing act is by choosing an endpoint. Selection of an endpoint by the investigator is important because he/she has defined the scientific objectives, and if those are not met because an experiment was terminated too early, then the study and the animals' lives are wasted. The endpoint should not change the outcome or invalidate the results. The objective should be to have a scientifically valid experiment, while at the same time holding any pain and distress to a minimum.

Which observations of behaviour and physiology are best for selecting the endpoint?

There is no single answer for this question. Each research project where an endpoint is defined to minimize animal pain and distress will probably have a distinct set of observations needed to accurately identify the animal whose condition has progressed to the endpoint. A study of the pain of castration in lambs will use different observations than a study of bacterial infection in mice. Nevertheless the approach to making (and recording) the observations will be much the same.

For most studies, there are five areas in which observations of the animal should be made:

1. External physical appearance
2. Changes in behaviour (both when the animal is at rest and when it is stimulated)
3. Changes in body weight (and related changes in food and water intake)
4. Body temperature
5. Changes in clinical signs (e.g., heart rate, respiratory rate, etc.).

Of these, measuring and recording body weight and body temperature should be considered for almost every endpoints assessment.

A scale can be set up for each observation (for parametric signs) with increasing changes from normal identified, and tracked by using a checklist to record the observations. That way the changing condition of the animal can be followed from one observation time to the next. This approach also helps ensure that the observations are as objective as possible. An endpoint can then be pre-set; that point when the scoring of the animal's condition has reached the endpoint.

Using observational checklists to track the condition of patients has been used in human medicine for some time. The APACHE II scoring system (Acute Physiology and Chronic Health Evaluation) for evaluating seriously ill people in critical care has a scale from "0" being normal to "+4" indicating an observation that is significantly changed from normal. The evaluation is made for more than ten parameters. Eventually checking endpoints on a regular basis becomes secondary and a person does it without even consciously thinking about it. However it is important to write down your observations on a regular basis for captive animals. If something does go wrong, the vet and others will want to see the records or "patient history" to see when the problem started and try to correlate it with any routine changes.

The underlying cause for problems may be due to the experimental treatment (a drug side effect, surgical procedures, extensive physical trials), however problems can also occur from other external stimuli. Perhaps ventilation for removing heat, ammonia, dust, or carbon dioxide is inadequate? Perhaps the lighting schedule is not correct for the animal, or diet complete? These are some problems that can be prevented by educating yourself about the specific animal prior to beginning work. Further to that, it never hurts to do a preliminary check on the facilities you will be working in to make sure they can provide for all of your animal needs. Talk with experienced individuals, do some reading, and see how other related studies are carrying out their work as well. Perhaps your handling technique is too rough? This is something that can only be remedied through practice and a guiding hand from an experienced individual. At this point, all we can offer are general points to consider for your safety and the safety of the animal. Here are some general points to keep in mind when you're working with an animal:

1. It is often best to keep a small animal at your waist or higher. Do not place them or their cage on the floor! You are likely larger and will appear to be a predator. The more you tower over them, the more insecure they will feel.
2. Be deliberate. It is somewhat cliché, but if you are hesitant they can sense your fear, and it will cause them to be anxious as well. Know how you are going to pick the animal up properly and do not be afraid. Some people are more afraid of getting the animal hurt more than themselves. In that instance, consider whether the animal has more chance of getting hurt if it can move, as opposed to when the animal is subdued in a firm but comfortable position.
3. Approach from the rear. Rarely would you approach any animal head on. With your hand (or equally appropriate tool) coming from the rear, your chances of restraining the animal on the first try are much improved.
4. Use tools as aids where appropriate. There will be times when some animals are best handled with tools. An example is a snake handling stick. Professionals are more impressed by someone who can handle an animal safely than a wrangler who wants to show off.

There are four basic responses for when an animal reaches an endpoint. These are:

1. Light Mediation:
 - a. Prescribed intervention is applied in an attempt to address the area of concern but the animal is not removed from the study group on a trial basis.
2. Moderate Mediation:
 - a. The animal is temporarily removed from the study to halt the escalation of pain or advancement of illness and eventually eliminate the cause of concern.
3. Heavy Mediation:
 - a. The animal is permanently removed from the study but remains under care with hopes to use the individual animal with a future purpose in mind provided concerns are fully remedied.
4. Euthanasia:
 - a. The animal is euthanized with the understanding that the concern had progressed to a point beyond intervention, remedy, and to a level causing significant distress to the animal.

For more guidance on endpoints, please refer to the SOP on them.

Euthanasia and Carcass Disposal

Appropriate records must be kept of euthanasia, method/drug and personnel involved.

The CCAC Guide to the Care and Use of Experimental Animals states: "In the use of animals in research, teaching, and testing it is essential that the scientific community take on the mantle of responsibility for applying scientific judgement and new knowledge to ensure that, when the life of an animal is taken, it is assured of a "good death"." Experimental animals are euthanized for various reasons. Some reasons include: to provide cells or tissues for in vitro research; to collect blood, tissues or other samples at the end of a study; to do veterinary pathology or diagnostics; to prevent unnecessary pain and suffering when the approved endpoint is reached and when they are no longer needed or are culled from a breeding program. No matter what the reason is though, the method used must be "humane": that is, it must be painless, reliable, reproducible, irreversible, simple, safe, rapid, and must minimize fear and anxiety.

In order to perform a humane euthanasia, personnel must be adequately trained to ensure that is carried out in the most humane manner. Training should include: recognizing pain and distress in the behaviour of an animal, proper methods of handling and restraining the animal, proper application of the method and use of equipment, recognizing and assessing unconsciousness, methods of ensuring the death of the animal, and recognizing and confirming death. Competence and knowledge of agents and procedures are mandatory requirements for all personnel conducting euthanasia.

The core staff members of the Trent Animal Care Facilities can help train with most lab animals and have contacts which can help with training for larger species that may be encountered in field work.

There are many methods available for humanely killing an experimental animal. Before any method is used, it must be considered by the animal care committee during protocol review.

The approval of the proposed euthanasia method should always include consultation with a veterinarian.

[The CCAC Guide – Appendix XIV: Methods for Euthanasia by Species \(Methods in Order of Acceptability\)](#) – is provided for reference within Appendix B for the species that Trent University houses within its facilities. This should be consulted during experimental planning stages.

Any other means, that are not listed within Appendix B, of killing an experimental animal, must not be undertaken without prior review and approval by an Animal Care Committee (ACC), and should only be done in expert hands.

Carcass disposal is covered by either the Bio-waste or the Biohazardous Waste SOP, depending upon the animal. If the animal was associated with a protocol that involved chemical injections or a form of radiation (I.e. a rat that was used in chemotherapy testing), the carcass would fall under the Biohazardous Waste SOP. Any other carcass is covered by the Bio-waste SOP and should be handled as such.

Project Tear Down

Following the completion of an individual's protocol, they are responsible for several aspects of the "clean-up" process. First, researchers should make the ACF staff aware, in the days leading up to completion, that they will shortly be completing their work, and that they will be leaving their assigned space. This gives the ACF staff time to schedule sanitization and preparation of the space for the next approved protocol. Secondly, researchers must make sure the room looks either the same, or better, than it was when they were allowed to use it. Any equipment that was brought in for the completion of the protocol must be brought out. For example, if 30 tanks were brought into a space for a particular protocol, the researchers must remove 30 tanks from that space. Finally, make sure that all documentation is up to date and has recorded on it: Any treatments given, any surgeries, any medication, and all milestones that were reached within the duration of the protocol.

Occupational Health and Safety

Many animal care courses start by teaching health and safety with respect to experimental or teaching animals. However it's important to note before you begin work with any animal that your own health and safety is also critically important. There are several questions you need to ask yourself to enjoy the work. The more you educate yourself on a particular subject, the more familiar and relaxed you will be. Here are some questions you need to ask:

1. Are there particular allergies I have that need to be addressed? (Animal, latex, etc.)
2. Are there any zoonosis associated with this species I need to be aware of?
3. Do I have all the appropriate personal animal handling equipment? (gloves, personal respirator, long sleeve shirt, proper footwear)
4. Do I know where the first aid kit is and who to contact in case of personal injury?
5. Do I know where facility Standard Operating Procedures and Material Safety Data Sheets are located?

While these may seem like trivial matters since you have likely been exposed to such principles and concerns in other areas of life, they remain important and should be on the forefront of your routine.

Allergens in the Laboratory

One of the biggest risks that are facing animal researchers, is the development of an allergy to one or more of the animals that are housed within the laboratory. Surveys have revealed that more than 44% of people working with laboratory animals develop allergies to one or more species, and that they usually become allergic within 3 years of first exposure. Those who already suffer from allergies have a tendency to develop an allergy to one of the animals. Generally, the allergies developed to the laboratory animals tend to be concentrated within the upper respiratory systems (itchy eyes, runny nose, etc.), however people are still at risk at developing worse symptoms (asthma, anaphylactic shock, hives, etc.) Almost all species of common laboratory animals can trigger an allergic reaction. Animal or animal products such as dander, hair, scales, fur, saliva and body waste, and urine in particular, all contain powerful allergens that could cause a reaction in an individual.

Factors that Affect Allergen Levels

There are several different factors that could worsen someone's reaction while in the facility. A description of them are below. All researchers working within the facility can take some simple steps to alleviate the amount of allergens in the air, which will not only help themselves out, but will make the lives of other researchers easier as well. The first steps in protecting oneself within the facility is to make sure that you are wearing the proper protective equipment. A good quality particulate masks and gloves can significantly reduce exposure to animal allergens. A high level of personal hygiene, frequently showering and washing of hands, should be practiced. In order to help keep the level of allergens down, researchers should be practicing general cleanliness as well. Housing rodents in filtered cages and ventilated cage racks, use of ventilated waste dumping stations and laminar flow hoods for animal manipulations, will all help minimize exposure to laboratory animal allergens. It is also recommended that when choosing a bedding material, researchers choose a bedding that has a low level of aerosol dust particle production, as this will also assist in lowering the airborne allergen levels.

Ventilation and Relative Humidity

Directional room ventilation, negative flow laminar ventilated cage racks, or ventilated racks assist in reducing particles in room air. Low relative humidity results in higher dust and allergen levels. A relative humidity of 50-65% significantly reduces the quantity of allergens being aerosolized.

Type of Bedding

Sawdust and wood chip bedding results in higher levels of aerosolized allergen in rodent rooms than corncob bedding. Use of processed paper products and absorbent pads decrease the levels of aerosolized allergens.

Cleaning and Sanitation Practices

A high level of cleanliness results in reduced levels of allergens circulating in laboratory animal rooms.

Animal Room Tasks Associated with Exposure to Allergens

All commonly performed animal room tasks result in exposure to airborne allergens and dust.

1. Cage cleaning (and waste dumping)
2. Feeding and watering
3. Handling, injections
4. General room cleaning

Biological hazards

Biological hazards arise from living organisms and can cause illness or disease in humans, animals or plants. They include pathogenic microorganisms such as bacteria, viruses, and fungi and larger organisms such as insects, parasites, and plants. Persons who are working in close proximity to animals and are involved in their direct care are at risk from biohazards. Indirect transmission may occur when infectious agents attach to surface material or objects placing persons who handle food products or animal waste and other animal by-products at risk.

Zoonosis and Diseases

A zoonosis is a disease that can be spread from direct animal to a human interaction. While humans are usually relatively safe from contract a disease from an animal, it is a risk that come into play when you are working with them. The risks are lessened when working with common laboratory animals, such as mice and other rodents, due to the fact that these animals are usually bred to avoid specific diseases. Those who work with animals within the facility are less at risk due to the continual surveillance care that is performed by the Primary Investigator, the Veterinarian, and the facilities staff. Researchers who primarily work with animals have a much larger opportunity to contract one of these diseases. Some diseases that can be contracted, for example, are:

1. Rabies by bite wounds;
2. Ringworm (any species) by skin contact;
3. Hantavirus (rats) causing hemorrhagic fever;
4. Leptospira (bacterial kidney disease from rats);
5. Salmonella (various species) causing gastrointestinal disease,
6. Various other bacterial infections.

Most animals that people work with are rather innocuous, and by keeping good hygiene practices you will keep yourself and the animals safe. If you feel safe and secure, your cues will help the animal feel safe and secure. Basic good hygiene will also help prevent infection to the animals as well.

The spectra of disease in the animal facility sends shivers down the backs of facility managers, veterinarians and investigators who have experienced outbreaks previously. This is partly because they understand the devastating effects some diseases have on the research program, and the huge amount of work and cost involved in cleaning up after a disease outbreak.

Facility managers and veterinarians are not alone in their efforts to prevent infectious organisms from gaining entry to the animal facility. All people who regularly work in the animal facility (e.g., technicians, researchers, research staff, and graduate students) must understand how diseases may be introduced and spread. Facility guidelines and standard operating procedures (SOPs) designed to limit the risk of introducing or spreading disease must be followed by everyone. Mechanical systems must work as expected (e.g., to sterilize cages, to maintain air pressure gradients) so even the facility maintenance staff is involved.

Diseases may be broadly classified as infectious or non-infectious. This module concentrates on infectious disease. Infectious diseases are caused by a variety of organisms, such as viruses, bacteria, yeast, fungi, and parasites.

Laboratory animals, like people, are regularly exposed to potentially infectious microorganisms; however, not all such exposures result in infection. Whether a laboratory animal becomes infected depends on a number of factors related to the infectious organism, and the animal host. For example, microorganisms vary in virulence, or the animal may be exposed to only a small number of infective particles. The animal, species, or strain may be partially or entirely resistant to infection, or more susceptible because it has a deficient immune system, is stressed, or poorly nourished.

If an organism does infect an animal, there are several possible outcomes. The infection may be silent or latent, in which case the animal displays no outward evidence of infection; or the infection may cause overt disease with the animal showing a variety of clinical signs depending upon the organs or systems affected. The disease may run its course with complete recovery with or without treatment, leave some damage (residual pathology from the disease), or even lead to the death of the animal. Any animal that recovers from the disease and those animals that have had a latent infection may become carriers of the infectious organism.

Infectious diseases pose a threat to animal colonies through a wide variety of mechanisms. Clinically ill animals are poor research animals because of the disruption to their normal physiology and biochemistry. Recovery may be prolonged and recovered animals often continue to carry and shed the organisms that caused the disease, acting as potential sources of infection for healthy animals. Latent or silent infections may also adversely affect the results of an experiment due to changes in the animals' biochemistry or immune system.

In thinking of means of controlling infectious diseases, it is important to know how diseases spread, the routes of infection and the routes of excretion of the organism from an infected animal. There are just a few portals of entry into an animal for infectious agents. The two most common are by inhalation into the lungs and by ingestion through the mouth into the gastrointestinal tract. Inoculation through the skin represents a special case (e.g., insects or needles). In these cases, the disease may spread beyond the skin. Some diseases are sexually transmitted. Occasionally, infection of the skin, eyes or ears may result in disease spreading beyond these organs. There are only a few ways for disease to spread between animals (or between people and animals). Diseases spread:

1. Direct contact:

- a. Animals must be in direct contact with each other for the disease to spread. This applies particularly to skin diseases (e.g., ringworm) but could also include sexually transmitted diseases.
- 2. Indirect contact through the environment:
 - a. The environment is important for disease transmission. Respiratory disease is a prime example of this form of transport where the infectious organisms are in the air before they are inhaled. Water and bedding may also be considered part of the environment and so contamination of these by one animal may result in transmission to others.
- 3. Fomites:
 - a. Fomites are inanimate objects that have inadvertently become carriers of infectious organisms. Contaminated cages or food, or the utensils for delivering them, are examples but there are a variety of objects which animals come in contact with which may help transmit the infectious organisms.

It's also important to remember that contact through these means may not be direct while handling an animal. Exposure to infection can occur through contact with cells, tissues, fluids that may be collected purposefully during the experiment or incidental through contact with soiled equipment. Besides infectious disease, you may notice an animal that is otherwise sick or injured. Research scientists, research technicians, graduate students, animal care staff all have a role to play in minimizing the impact of disease in an animal facility. Important elements in health monitoring are the identification of sick animals and the implementation of procedures for dealing with the animals. Animals may be ill because of something unrelated to the experimental protocol. It is important that sick animals are promptly reported to the Animal Care Facility staff or associated vet for diagnosis. The earlier we can catch potential problems, the easier it is to mediate and help the animal recover if possible.

Throughout basic animal care chores, the transmission of disease should be a concern in everything done. Here are some examples of how that line of thinking plays out within an animal lab:

- 1. Do Not:
 - a. Prop open doors; it interferes with the ventilation system
 - b. Lift the lids of micro-isolators for any reason unless they are in a properly ventilated changing station
 - c. Refill water bottles (replace with a new bottle instead)
 - d. Put animals that have jumped onto the floor back in their cages with other animals
 - e. Move from contaminated areas to uncontaminated areas
 - f. Use the same needle to inject two different animals
 - g. Use the same instruments for surgery on two different animals without sterilizing them
 - h. Swap enrichment devices between cages
 - i. Save food from the hoppers when the whole cage is being changed
- 2. Do:
 - a. Follow all facility SOPs

- b. Clean and disinfect common equipment and areas after each use (e.g., procedure tables, anesthetic machines)
- c. Wear protective clothing, gloves, masks, caps, gowns, shoe covers, etc. as required by facility guidelines
- d. Change protective clothing between individual or groups of animals as required
- e. Ensure that equipment for cleaning and sterilizing is working up to standard
- f. Ensure that a health monitoring program is in place (the design of a health monitoring program is specific to a facility, and is beyond the scope of this module; however readers should be aware that such a program is required).
- g. Report any signs of illness or injury to appropriate authorities

Should there be any concern about an illness that occurs during or after a period of animal handling, it is important to mention to your family physician that you had been exposed to lab animals.

Staff Immunization

To minimize the risks associated with infections arising from any penetrating wounds such as animal bites or needle sticks, all persons working in laboratory animal facilities should maintain their tetanus vaccination status.

All persons at risks of exposure to rabies from any animals that may be infected, should consider vaccination for rabies. Any animals brought into an animal facility that might have been exposed to rabies should be considered at risk.

Physical hazards

No matter what you are researching, or where, you will be always at risk of a physical hazard. Within the facility, there are several different ways that one could be injured. Animals can bite or scratch if they are startled, fingers can be caught in the movement of machinery, or a spill that was improperly clean could cause someone to fall. More examples are:

1. Noise and vibrations
2. Lifts and loads
3. Getting stepped on, pushed or squished
4. Sharps and needles
5. Compressed gas tanks
6. Electrical hazards
7. Radiation - X rays, sun rays
8. Cold and heat

While caution must be implemented no matter the task that an individual is doing, one of the best ways to avoid injuries is to understand normal animal behaviour. Skilled animal technical personnel have the right attitude and approach towards handling the animals and have the practical skills to do so safely and humanely. To work closely with these individuals will limit risks of injury to an inexperienced person. In order to work safely with the animals, researchers should:

1. Understand basic animal behaviour and the ways animals react, or defend themselves, if a procedure causes pain, or they perceive their safety to be threatened
2. Appreciate the "flight zones" typical of a species
3. Understand how to communicate with the animal
4. Use appropriate restraint techniques and equipment
5. Identify animals that may be unpredictable
6. Wear appropriate protective clothing and equipment
7. Maintain an appropriate vaccination status for worker and for animal or herd
8. Be familiar with diseases carried by animals with risk to people

Animal Behaviour

While animals might not be able to communicate verbally in the same way that humans can, they do communicate their feelings through posture and other behavioural warning signs. For a researcher, these signs are clues about the state of the animal (if it's apprehensive, aggressive, defensive, scared, etc.) and its possible intentions. In mammals, the warning postures include a lowered head, ears down or back, and in smaller animals, mouth open in a snarl. In Birds, the animal may hold their crest flat while crouching and hissing or a fanning of the tail feathers. A researcher might be presented with these signs if the animal is in a bad mood and the researcher enters their flight zone. The flight zone is the animal's personal space, and it is determined by several factors, such as the tameness of the animals, their species, or her instinct. An animal will begin to move away when the person enters the edge of the flight zone. When the person is outside the flight zone, an animal or group of animals in a herd, will turn and face the person while maintaining a safe distance. When animals are in small cages or pens, all human "intrusions" are inside the animal's flight zone. Therefore, it is very important to condition the animals to regular handling to reduce the apprehension and stress imposed by human presence.

Part of this conditioning is done through communication with the animal. Establishing a two-way familiarity with the animal before the research project starts, through the researchers' voice, touch and smells, will help the animal get used to who will be handling or restraining it for the duration of the project. The conditioning period after transport to the animal facility (usually one or two weeks) is an excellent time to begin. Consistency in handling each animal is important. Most animals learn very quickly who their regular handlers or caretakers are, and accept the handling without undue stress.

Problem Animals

All animals that are known to be apprehensive or defensive to all, or most, interactions with humans should be identified so that all people who might be working with it, and the staff of the facility, are aware of the risk. Cage cards and tags are the ideal method of communication, but it should also be noted in the animal's record.

Chemical hazards

Chemical hazards take the form of solids, liquids, vapors, gases, dusts, fumes or mists. They can be inhaled, ingested or absorbed into the body. In case of accidents of a chemical nature, please refer to the MSDS binder which is located on the shelf with the SOPs.

In Case of a Fire

Exit the nearest door. All internal doors should be closed before you exit. If you are involved in surgery when the alarm goes off, the operation site should be covered and the animal left on the gas, if possible. If that is not possible, the site should be closed and the animal placed in recovery as quickly and safely as can be managed.

In Case of an Injury within the Facility

In case of minor injury, there is a first aid kit by the restroom of the ESB Facility and within the restroom in the LHS facility. The Animal Care Facility Manager has had basic first aid training. All injuries that happen within the facility should be reported to your immediate supervisor and the facility Manager:

Jason Allen

Manager of Animal Care

Work: (705) 748-1011 x 7267

<mailto:JAllen@trentu.ca>

If there is an emergency outside of staff hours, you can find staff home numbers and Trent's emergency numbers by the phone at the main entrance.

End Note

This handbook has been assembled as an additional resource for students, faculty and other researchers that have been approved for research with animals. It is in the universities, and the researchers, interest to maintain the best ethical and humane practices when it comes to working with animals. Researchers are held to a high standard in order to accomplish this. As a final reminder, working with animals is a right, not a privilege.

Appendix A: Biodata

Within this appendix, the users will find the Biodata of the animals that are housed within the facilities at Trent University.

Mice Biodata

Adult body weight - male	20 - 40 g
Adult body weight – female	25 - 40 g
Birth weight	0.75 - 2.0 g
Rectal temperature	36.5 - 38°C
Karyotype – diploid number	40
Life span	1 - 3 yr.
Food consumption	12 - 18 g/day
Water consumption	15 ml/day
GI transit time	8 - 14 h
Breeding onset: male	50 days
Breeding onset: female	50 - 60 days
Cycle length	4 - 5 days
Gestation period	19 - 21 days
Postpartum estrus	Fertile
Litter size	10 - 12
Weaning age	21 - 28 days
Breeding duration	210 - 279 days
Commercial	6 – 10 litters
Young production	8/month
Milk composition	12.1% fat, 9.0% protein, 3.2% lactose

Rat Biodata

Adult body weight - male	450 - 520 g
Adult body weight – female	250 - 300 g
Birth weight	5 - 6 g
Rectal temperature	35.9 – 37.5°C
Karyotype – diploid number	42
Life span	2.5 – 3.5 yr.
Food consumption	5 - 6 g/100 g/day
Water consumption	10 – 12 ml/100 g/day or more
GI transit time	12 - 24 h
Breeding onset: male	65 - 110 days
Breeding onset: female	65 - 110 days
Cycle length	4 - 5 days
Gestation period	21-23 days
Postpartum estrus	Fertile
Litter size	6 - 12
Weaning age	21 days
Breeding duration	350 - 440 days
Commercial	7 – 10 litters

Young production	4 - 5/month
Milk composition	12.1% fat, 9.0% protein, 3.2% lactose

Japanese Quail

Adult body weight - male	100–140 g
Adult body weight – female	120–160 g
Birth weight	6–7 g
Internal Temperature	40.2 – 42.2°C
Karyotype – diploid number	78
Life span	2 – 2.5 yr.
Food consumption	17.5 – 19 g/day
Water consumption	100 – 149 ml/day
GI transit time	2 – 3.5 h
Egg Weight	9 – 10 g
Egg number/ 100 bird days	80 - 90
Age of Sexual Maturity	38 – 42 days

Yellow Spotted Salamanders¹

Adult body weight - male	11 – 13 g
Adult body weight – female	11 – 13 g
Internal Temperature	16 – 18°C
Life span	25 – 30 yr.
Breeding onset: male	730 days
Breeding onset: female	1,095 days
Clutch Size	200 eggs
Length of Larval Stage	6 – 52 weeks

Rainbow Trout

Average Adult Weight	12 – 14 kg
Life Span	4 - 11 yr.
Male Sexual Maturity	912 days
Female Sexual Maturity	912 days
Clutch Size	3500 eggs
Prenatal Development Duration	18 days

Brooke Trout

Average Adult Weight	3 – 6 kg
Life Span	3 – 10 yr.
Male Sexual Maturity	730 days
Female Sexual Maturity	730
Incubation Period	30-165 days
Clutch Size	100 – 1000 eggs

Bluegill

Average Adult Weight	1 – 2 kg
Life Span	5 – 8 yr.
Male Sexual Maturity	2 – 3 yr.
Female Sexual Maturity	3 - 4 yr.

Axolotl¹

Average Adult Weight	60 – 227 g
Life Span	10 – 15 yr.
Male Sexual Maturity	548 days
Female Sexual Maturity	548 days
Clutch Size	400 eggs
Prenatal Development Duration	18 days

Medaka

Average Adult Weight	230 – 300 mg
Life Span	4 yr.
Incubation Period	10 – 12 days

¹ The information provided for these two animals is what is readily available. These animals can experience a tremendous difference week to week depending on what growth stage they are in, or experimental treatment they are receiving. Researchers need to pay attention to the context of each life stage, learn the norm, and work to keep to it in tandem with achieving research goals.

Appendix B – CCAC Approved Euthanasia Methods

METHODS FOR EUTHANASIA BY SPECIES

(Methods in order of Acceptability)

Species	Most Acceptable	Acceptable
AMPHIBIANS	<ul style="list-style-type: none"> • Barbiturates • Inhalant anesthetics • Tricaine methanesulfonate MS-222 • Benzocaine 	<ul style="list-style-type: none"> • Double pithing • Decapitation and pithing • Stunning and pithing • CO₂ + O₂ mixture
AVIAN SPECIES (birds)	<ul style="list-style-type: none"> • Barbiturates • Inhalant anesthetics 	<ul style="list-style-type: none"> • Electrocution stunning followed by exsanguination • CO₂ + O₂ mixture • Physical stunning followed by exsanguination or decapitation
FISH	<ul style="list-style-type: none"> • Tricaine methanesulfonate MS-222 • Benzocaine 	<ul style="list-style-type: none"> • Stunning followed by cervical dislocation or decapitation
INVERTEBRATES (cephalopods, crustacea)	<ul style="list-style-type: none"> • Tricaine methanesulfonate MS-222 • Benzocaine 	<ul style="list-style-type: none"> • CO₂ bubbling through water
RABBITS	<ul style="list-style-type: none"> • Barbiturates • Inhalant anesthetics 	<ul style="list-style-type: none"> • CO₂ + O₂ mixture
REPTILES	<ul style="list-style-type: none"> • Inhalant anesthetics in special chamber • Barbiturates 	<ul style="list-style-type: none"> • CO₂ + O₂ mixture
RODENTS (and similar small species)	<ul style="list-style-type: none"> • Inhalant anesthetics in special chambers • Barbiturates • Microwave irradiation in specially designed units 	<ul style="list-style-type: none"> • CO₂ + O₂ mixture • CO
WILD ANIMALS	<ul style="list-style-type: none"> • Shooting by expert marksman • Immobilization followed by barbiturates 	<ul style="list-style-type: none"> • Sedation followed by penetrating captive bolt

Appendix C: Training resources

Within this appendix, you will find a list of websites that offer a larger variety of education of the species housed within Trent's Facilities. It has been organized into sections relating to the animals that are currently housed within Trent University's facilities.

- [CCAC Standards and Policies](#)
- [OMAFRA Animals for Research Act](#)
- [CCAC Training Modules](#)
- [CCAC Fish Training Modules](#)
- [CCAC Wildlife Training Modules](#)
- [CCAC Guide to the Care and Use of Wildlife](#)
 - Appendix A of this document provides a list of contacts where permits can be obtained.
 - Appendix E of this document provides a list of Federal and Provincial laws that may relate to this work.
- [Norway's National Consensus Platform for the advancement of "the 3 Rs" \(NORECOPA\)](#)
 - This website contains both training and educational resources
- [Procedures with Care](#)
 - This website contains tutorials on various procedures that researchers might perform on mice or rats, such as an injection or an oral gavage
- [Canadian Federation of Humane Societies](#)
- [Amphibians: Guidelines for the Breeding, Care and Management of Laboratory Animals](#)
 - This is an incredibly detailed guide on amphibians
- [Ontario Dead Animal Disposal Act](#)
- [Veterinarian's Act](#)
 - Regulations and bylaws of the College of Veterinarians in Ontario - covers the conduct of veterinarians, license in their execution of duties i.e. prescription of drug use and records, treatment of animal disease, humane euthanasia
 - Minimum standards for Veterinary Facilities in Ontario
- [European Resource Centre for Alternatives \(EURCA\)](#)
- [The US National Institute of Health Office of Animal Care and Use](#)

Appendix D: Forms

Researchers should feel free to make these forms species specific

Trent University Animal Care Facility
Individual Subject Data Sheet

Investigator: _____ Protocol Number _____

Title or Keywords:

Subject No. _____ Species/Strain: _____

DOB: _____ Acquisition Date: _____ Termination Date _____

Date	Weight	Comments	Init.

Treatment Medication-Dosage Frequency-Route	Month:																		
	Day																		

Post-Approval Monitoring Check Form

Protocol Number:	Project Dates:	Review Date:
Title (or keywords):		
Principal Investigator and signature of person met with:		Species:
		Animal Number Approved:

To be completed by PI or animal researchers in contact with the animals:

Are animal holding facilities in good order?	Good <input type="radio"/> Needs work <input type="radio"/> Poor <input type="radio"/>	Notes:
Are the animals in good health? (i.e. good health, weights, survivorship where appropriate)	Good <input type="radio"/> Needs work <input type="radio"/> Poor <input type="radio"/>	Notes:
Are procedures outlined in the protocol being adhered to? (i.e. # of animals, invasiveness, technique, testing methods)	Good <input type="radio"/> Needs work <input type="radio"/> Poor <input type="radio"/>	Notes:

Please answer the following to the best of your abilities and make any further comments known to the PAM coordinator if necessary. The form can be returned to the Animal Care mailbox if not completed at the time of meeting.

Do you have a soft or hardcopy of the protocol you are working on?

Yes No

Was the protocol submission process clear? Comments for ACC improvement are welcome.

Yes No If no, please expand: _____

Was access to information resources for your project made known to you at the start of the project?

Yes No If no, please expand: _____

Did you feel your health and safety was unnecessarily in question at any time?

Yes No If yes, please expand: _____

Did you feel the animal health and safety was unnecessarily in question at any time?

Yes No If yes, please expand: _____

Do you feel you had adequate knowledge of working with animals to be able to start this project?

Yes No If no, please expand: _____

Did you feel you had adequate access to information and training where necessary?

Yes No If no, please expand: _____

Thank you for taking the time to complete this form. Please be reminded that for projects involving vertebrates, an annual report for the number of animals used is required as terms of agreement for using animals in research at Trent.

Emergency Animal Incident Report

Note: ACF Personnel are to be notified of animals in distress asap in person, or by phone (x7267). This form must also be completed within 24 hours of identification of the incident and delivered or faxed to Animal Care. Fax no. 705-748-1095

Room Number or Location:

Individuals Name or Lab:

Date of incident:

Time of Incident:

Incident Reported by:

Date Incident Reported (DD/MM/YYYY):

DETAILS OF INCIDENT

1. Describe the incident in detail including what lead up to the incident, if known; location, conditions contributing to incident, persons or lab involved etc. Attach another sheet, if required.

2. Was any immediate corrective action taken? **Yes** **No**
If **Yes**, what was done and by whom?

3. Is further follow-up action required? **Yes** **No**

4. Animal Care Personnel Follow up and Report:

5. Report to ACC? **Yes** **No**
If Yes, what action will be taken?

Signature of person reporting incident: _____

Date: _____

Signature of person to whom incident was reported to: _____

Date: _____

Trent Rodent Order Form

Date Submitted (Minimum 1 week prior to shipment):	Delivery Date (Generally Tuesday before 2pm):
Trent Researcher:	Trent Protocol Number:
Supplier	Special considerations (e.g. Special diet, abnormal mortality rate):
CRL <input type="checkbox"/> Jackson <input type="checkbox"/> Other: _____	
Food or water deprivation:	Cage requirements:
Food <input type="checkbox"/> Water <input type="checkbox"/> Neither <input type="checkbox"/>	Individual <input type="checkbox"/> Group <input type="checkbox"/> No preference <input type="checkbox"/>
Account Number:	Authorizing Signature

Rodent Details:

Rat: Long-Evans <input type="checkbox"/> Sprague-Dawley <input type="checkbox"/>	Mouse: BalbC <input type="checkbox"/> CD-1 <input type="checkbox"/> Other <input type="checkbox"/>
Other species:	Other species strain:
Males ♂ <input type="checkbox"/> Quantity:	Age in days:
Males ♂ <input type="checkbox"/> Quantity:	Age in days:
Females ♀ <input type="checkbox"/> Quantity:	Age in days:
Females ♀ <input type="checkbox"/> Quantity:	Age in days:

Accounting:

No Males ♂	X Unit Cost	Total Males	
No Males ♂	X Unit Cost	Total Males	
No Females ♀	X Unit Cost	Total Females	
No Females ♀	X Unit Cost	Total Females	
No. Shipping Crates	X Unit Cost	Total Crates	
		Shipping	
		Taxes	
		Total Amount	

Funds Transfer:

Finance Office, Accounting. Attention: Marlene Davis	
Please debit researcher:	Account Number:
the sum of:	and credit this sum to Animal Care Account 10-61740-58991.

Room Status Form

(For Door)

TRENT UNIVERSITY ANIMAL CARE FACILITY							
C-cage/bedding changed		W-water bottles changed			Room Number:		
F-exhaust filters changed		P-papers changed on rack					
Q-quarantine		©-do not change bedding					
Checked:	Mon	Tues	Wed	Thurs	Fri	Sat	Sun

Food and Water Instructions for this room.

Protocol No. _____

Invst. _____

Rats are:

Food Restricted Ad lib

Food restricted rats get: 17-20 g food/animal/day (approx. 4-5 large pellets/animal/day)
or _____ pellets/animal/day as per investigators instructions.

Water Restricted Ad lib

Mon-Fri Instructions:

Investigator will Feed Water

Animal Care Staff will Feed Water

Food restricted rats get: 17-20 g food/animal/day (approx. 4-5 large pellets/animal/day)

Weekend instructions:

Applies to: Sat & Sun Sat only Sun only

Investigator will Feed Water

Animal Care Staff will Feed Water

Food restricted rats get: 17-20 g food/animal/day (approx. 4-5 large pellets/animal/day)

Other instructions: _____

Weekend Instructions apply to dates listed below:

Husbandry Check List – [Link to fillable document](#)

ROOM #	PROTOCOL #	SPECIES:	PI RESPONSIBLE:						
NAME, CONTACT INFO OF PERSON(S) RESPONSIBLE FOR ANIMAL CARE		FOOD REQUIREMENTS (type/quantity/frequency)							
Animal Husbandry Schedule (month/YY) _____ #OF ANIMALS AT START OF MONTH _____									
Weekday	Date: (MM/DD)	Mortality (#)	Water (✓)	Feeding (✓)	Cleaning (✓)	Tank Temp	Tank humidity	Notes: Note population # at the start of each month. Note euthanasias, incidents, and events of significance (e.g. marking, sampling, dosing...)	INITIALS
Sunday									
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