**The University of North Carolina**

**at Greensboro**

****

**Animal Facility**

**Manual**

**Revised January 2014**

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**Preface**

This Manual is a set of policies and procedures for operation of the Animal Facility at the University of North Carolina at Greensboro (UNCG). It is intended to provide guidance to Animal Facility staff, investigators, and other teaching and research personnel who use the Facility. This Manual is designed to promote and sustain a safe, high-quality Animal Facility that supports the University’s teaching and research mission and ensures the humane care and use of laboratory animals in accordance with federal requirements. All personnel involved in animal research and teaching, care, and safety at UNCG are expected to become familiar with and follow the policies and procedures set forth in this Manual. The Animal Facility reserves the right to amend, modify, or update the Animal Facility Manual. Before changes are made, appropriate notification will be given to all persons using the Manual. The information in this Manual supersedes all earlier editions.

The Office of Research Integrity (ORI) is responsible for ensuring that all research and/or teaching involving the use of animals follows federal and institutional guidelines. Additionally, the ORI works collaboratively with the Institutional Animal Care and Use Committee (IACUC), which is responsible for reviewing, approving, and overseeing all research and or teaching that involves the use of vertebrate animals.

**Contact Information**

Animal Facilities Department: 681 Eberhart Building

336-334-5277

EMERGENCY CELL # 336-215-8923

Office of Research Integrity: 2718 HHRA Building

336-256-1482

<http://www.uncg.edu/orc/>

Office of Research and Economic 1704 HHRA Building

Development: 336-334-4623

<http://www.uncg.edu/rsh/>

**Definition of Terms**

APHIS………………………………………..Animal and Plant Health Inspection Service

AVMA……………………………..………….American Veterinary Medical Association

CITI…………………………………...……Collaborative Institutional Training Initiative

HSPUSTR….. ………UNCG Health and Safety Program for Personnel Using Animals in

Teaching and Research

HVAC…………………...………...………….Heating, Ventilation, and Air Conditioning

IACUC………………….…………………Institutional Animal Care and Use Committee

MSDS………………………………………..………………..Material Safety Data Sheets

NIH………………………………………...…………………..National Institute of Health

OLAW…………………...…………………………Office of Laboratory Animal Welfare

ORI………………………………...…………….……………Office of Research Integrity

ORPPSP……………………....Office of Research and Public/Private Sector Partnerships

PHS……………………………….…………………………………Public Health Service

PPE………………………………...………………………Personal Protective Equipment

UNCG………………….…………………… University of North Carolina at Greensboro

USDA……………………………………………United States Department of Agriculture

*Guide*……………… ……*The Guide for the Care and Use of Laboratory Animals,* 2011

Approved protocol…… ……………………………..A protocol that describes the use of

animals for teaching and research and has been reviewed and

approved by the IACUC.

**I. Organization and Administration**

**A. Organization and Purpose**

The UNCG Animal Facility provides housing and care for animals used in research and teaching at The University of North Carolina at Greensboro. The Facility is under the oversight of the Vice Chancellor for Research and Economic Development and is managed by the Research Operations Manager. It is operated in a manner consistent with federal regulatory requirements and good veterinary practice.

**B. Administration**

Vice Chancellor for Research and Economic Development

* + - * Has oversight of the overall operation of the Facility

Research Operations Manager

* + - * Supervises the staff of the Animal Facility
      * Coordinates all day-to-day matters including:
        + Animal Care
        + Budget Management
      * Reports to the Director of the Office of Research Integrity
      * Interacts with the Veterinarian to assure adequate health care of the animals

Veterinarian

* + - * Visits the Animal Facility bi-weekly to assure adequate health care of the animals and recommends necessary medical treatments
      * Ascertains that:
        + Animals are healthy and disease-free
        + Hygienic conditions are maintained in the facility
        + The animals have easy access to food and water
        + The animals have sufficient space
        + No unnecessary restraints are used on the animals
        + Temperature, humidity, illumination, and ventilation are adequate
        + Appropriate health records are maintained on the animals
        + Only approved euthanasia procedures are employed on the animals
        + Proper surgical methods are used on the animals
        + Post-surgical care is of the highest quality
      * Provides guidance to persons working with animals regarding handling, immobilization, anesthesia, analgesia, and euthanasia of laboratory animals
      * Voting member of the IACUC

**II. Standards for Animal Care**

**A. Federal Policies and Procedures**

The Animal Welfare Act of 1996 and its preceding Acts of 1970, 1976, 1985, and 1991 empower the USDA to require certain standards for humane care, use, and transportation of laboratory research animals. The regulations are contained in Title 9 of the Code of Federal Regulations, Chapter I, Subchapter A, parts 1, 2, and 3, and set forth administrative and institutional responsibilities. The APHIS of the USDA issues and enforces the regulations under authority of the Act.

In addition to the provisions of the Animal Welfare Act, the Health Research Extension Act of 1985 requires the Director of the NIH to maintain guidelines for the proper care and treatment of animals used in biomedical and behavioral research and for the organization and operation of animal care committees. These guidelines are contained in the *Public Health Service Policy on Humane Care and Use of Laboratory Animals*, revised September 1986, and are administered by the NIH OLAW. These guidelines can be found at <http://grants.nih.gov/grants/olaw/olaw.htm>.

Detailed guidelines and standards for animal care are contained in *The* *Guide for the Care and Use of Laboratory Animals*, published by the NIH. These standards are fully compatible with the Animal Welfare Act. The *Guide* can be accessed on-line at <http://grants.nih.gov/grants/olaw/Guide-for-the-care-and-use-of-laboratory-animals.pdf>.

The documents referred to above are available free to all animal users (faculty, staff, and students) from the Operations Manager or the Office of Research Integrity. Additional information regarding federal regulations is available on the ORI website at <http://compliance.uncg.edu/institutional-animal-care-and-use-committee/>.

USDA APHIS exercises additional oversight of the University’s program of animal care through on-site inspections of UNCG facilities and review of facility records, investigator protocols, and IACUC minutes.

**B. University Policies and Procedures**

The use of animals in research and teaching at the University is monitored by the IACUC. The IACUC reviews all research and teaching projects involving animals, whether or not supported by external funding. For any project in which animals are used, research and teaching staff must submit a protocol to the IACUC. All persons who will be involved in the project must be named in the protocol. Procedures for submission of new protocols, amendments to existing protocols, renewals of existing protocols, and annual reports required for active protocols can be found on the ORI webpage at <http://integrity.uncg.edu/wp-content/uploads/2012/08/IACUC2010SOPswebversion.pdf>.

The UNCG policy on the Protection of Animal Subjects can be found on the ORC website at <http://integrity.uncg.edu/wp-content/uploads/2012/08/ProtectionofAnimalSubjectsinResearchPolicy.pdf>.

In addition, the IACUC is required to conduct semiannual inspections of the Animal Facility, using the *Guide* as a basis for evaluation.

The IACUC has the authority to suspend any research or teaching activity involving animal subjects which does not adhere to the policies and procedures set forth in the PHS Policy or the Animal Welfare Act.

III. Overview of Animal Facility

1. Description of Facility

UNCG houses two state-of-the-art animal facilities. Both facilities have a single corridor floor plan. The one corridor serves as both the dirty and clean corridor. Each Facility has an emergency generator which provides limited electricity when normal power is lost. All animal rooms are equipped with day/night light cycles and appropriate HVAC systems.

Eberhart Facility

The Eberhart Facility has twelve animal housing rooms for active protocols, eight surgery/procedure rooms for temporary assignment to individual investigators, dirty and clean cage rooms connected by a cage washer, and a food and bedding storage room. The surgery/procedure rooms have several configurations and include a necropsy/euthanasia room, an autoclave room, minor procedure room with fume hood, and a surgical suite. Total square footage is 7,785 square feet.

Stone Facility

The Stone Facility has nine animal housing rooms for active protocols, two surgery/procedure rooms, dirty and clean cage rooms connected by a cage washer, and a food and bedding room. The surgery/procedure rooms have several configurations and include a room with fume hood, one with a walk- in refrigerator, and a euthanasia room. Total square footage is 3,981 square feet.

B. Per Diem Charges

The Facility is supported in part by a per diem charge back for all animals housed in the Facility. The per diem charges recover some of the costs of sanitation, disposal, food, bedding, equipment, maintenance, and security. The cost of purchasing animals or special equipment is not paid by the Animal Facility and is up to the Investigator. Current per diemrates can be obtained from the Research Operations Manager. On certain circumstances, per diem rates may be adjusted on an individual basis to meet any specialized needs. For example, if an Investigator is supplying a special food, the Operations Manager may adjust the rate accordingly. Per diem charges will periodically be adjusted to reflect increased costs. Users of the Animal Facility will be notified before the changes take effect.

Animal inventory is taken daily by the Animal Facility Staff and recorded on Monthly Census sheets located in each animal room. These sheets are used to calculate per diem totals on a per month, per room basis. The Animal Facility will send out monthly per diem statements to Investigators via Interdepartmental Invoices. The Investigator is responsible for submitting the invoice to the Accounting Department within 30 days of receipt to process payment. Warning notices will be sent by the Research Operations Manager if payment has not been processed within the 30 day period. After the initial warning is sent, the Investigator has an additional 30 days to process the payment. If the payment is not processed during that 30 day period, all research activity will be suspended and access to the Animal Facility will be denied. The Operations Manager will notify the Investigator, Vice Chancellor for Research and Economic Development, and the IACUC of this suspension. Per diem charges will continue to accrue during this period. After the suspension, the Investigator will have an additional 10 days to process the past due invoices. If payment is not received, the Operations Manager will work with the IACUC to terminate the protocol and euthanize or reallocate all animals involved in the study.

C. Visitors in the Facility

**The Animal Facility adheres to the Visitor Policy set forth by the UNCG IACUC and is outlined below. For access to the required forms mentioned below, please contact the Office of Research Integrity.**

All University animal facilities are open upon request to the IACUC, Office of Research Integrity, inspection agents from the United State Department of Agriculture, the Office of Laboratory Animal Welfare, and other federal agencies as required by law.

Access to Animal Facilities by other visitors is restricted and monitored to protect the health and safety of both the visitors and research animals and to avoid disruption of research activities. To achieve this goal all visitors will be apprised of the occupational health risks and program. Clearance to enter the facilities must be obtained through both the Office of Research Integrity and the Research Operations Manager. Additional requirements and documentation will be necessary prior to entrance in either Facility.

* It is preferred that visitors complete all necessary paperwork two weeks prior to their arrival. However, it is understood that this is not always possible; therefore, the IACUC and Operations Manager will work with individuals in time frames shorter than two weeks.
* All non-institutional or federal visitors will need to complete both the “Agreement for Non-Employees” and “Animal Exposure Questionnaire”.
* Visitors that will have direct contact with animals will need to enroll in the Occupational Health Program or sign the appropriate waiver.
* During visit(s), every effort must be made to avoid disturbing laboratory animals and settings. To avoid personal injury, visitors must follow all posted facility rules and refrain from unauthorized contact with animals.
* Use of cameras or sound recording devices is not permitted in either Facility unless approval is obtained from the Operations Manager and the PI of the animal room prior to the visit.
* Persons receiving permission to visit the Facilities agree to observe all rules and conditions established for the visit. Permission to visit campus Animal Facilities may be revoked at any time by the Operations Manager, PI whose animal room is being visited, or a representative of the campus administration.

D. Storage

Storage space in the Animal Facility is very limited and is for the use of the Facility staff for Facility equipment and materials. The Animal Facility staff and the University assume no liability for items left in the Facility by investigators and members of research/teaching teams. Only items on an approved, active protocol can be stored in the Facility. All items are to be properly labeled with the investigator’s name, protocol number, and date, as well as the appropriate Office of Safety labeling requirements. Any items found that are unidentifiable because of improper labeling will be properly disposed of by the Animal Facility Staff and/or Office of Safety. Upon completion of a project, the items must be removed from the Facility in a timely manner. Items left beyond sixty days of a completed project, expired protocol, or having animals actively housed will be surplused by the Operations Manager.

E. Sanitation of Facility

Facility employees will sanitize the Facilities on a regular basis. This includes routine animal room maintenance as well as cage wash and storage areas. Researchers are responsible for insuring that procedure rooms are clean after use. Sanitation materials are provided by the Facility.

F. Vermin Control

Vermin control is regularly scheduled with the University’s contracted exterminator. Any sighting or evidence of pests or vermin should be immediately reported to the Operations Manager.

G. Cameras in the Facility

The use of cameras in the Facility is prohibited unless it is on an approved protocol or prior approval is obtained from the Operations Manager.

H. Noise in the Facility

Noise levels in the Facility should always be kept to a minimum. Radios, televisions, and portable electronics are prohibited throughout the entire Facility, unless headphones are used and turned down so that the noise cannot be heard during their use.

I. Facility Maintenance

Instances will arise where a member from Facility Operations or a contracted repair service will need access to the Facility. This will always be arranged by the Operations Manager and the repairman will be escorted by a member of the Animal Facility Staff. Investigators will be notified prior to any work that may interfere with research procedures in order to determine a work schedule convenient to all parties.

IV. Space Assignment Guidelines

The primary purpose of temporary space allocation within the Animal Facility is to promote and enhance research and teaching involving animal subjects at UNCG. Space for conducting and housing animal research is assigned after IACUC protocol approval. Investigators who wish to schedule space in the Animal Facility must complete the Application Form for Space Assignment for Animal Facility found at <http://compliance.uncg.edu/institutional-animal-care-and-use-committee/>. They may discuss their space needs either with the Research Operations Manager or the Vice Chancellor for Research and Economic Development prior to completing this form, if desired. Once completed, the form should be submitted to the Operations Manager. The request must include the following information:

* A brief justification of the need for the space
* The anticipated species and number of animals to be used
* Surgery/procedure space and equipment needed (fume hood, surgery suite, etc.) with anticipated dates needed
* Requested date to begin occupancy of the space
* Anticipated date that the space will be vacated. If it is anticipated that a project will be on-going subject to funding, please indicate this.
* Listing of faculty, staff, and students expected to utilize the space
* The funding agency, amount of funding, and inclusive dates of funding

Space will be assigned for the minimum time needed to complete the project unless arrangements have been made to accommodate on-going projects. The Operations Manager and Vice Chancellor for Research and Economic Development will assign the requested space on a first come, first served basis with externally-funded projects having highest priority. Scheduling will take into consideration the time between projects required for cleaning and decontamination as well as any repairs or preventative maintenance that may be required in the space prior to the next occupancy.

When Space Requests cannot be accommodated readily by the Operations Manager and Vice Chancellor for Research and Economic Development due to limitations of space, caging or staff, the situation will be evaluated and a course of action will be determined in consultation with the Investigator making the request. Factors that the Operations Manager and Vice Chancellor for Research and Economic Development may take into consideration when reviewing outstanding space requests include:

* Date that initial request form was submitted. First come, first served is the general rule
* If project is externally funded
* Experimental requirements such as behavior testing needs, light cycles, etc.
* Incompatibility of experiments or species
* Preference or convenience

All space allocation agreements will be reviewed on an annual basis. Changes in funding or animal use may result in increases (as availability permits) or decreases in allocated areas.

1. Animal Room Space Allocation

Animal housing rooms are available for temporary assignment. Once the Application Form for Space Assignment for Animal Facility has been submitted and approved, the Operations Manager and Vice Chancellor for Research and Economic Development will assign the needed animal housing room/s in either the Stone or Eberhart Animal Facility.

1. Surgery/Procedure Room Space Allocation

Surgery and procedure rooms within the Animal Facility are available for use by investigators using animals in research and teaching. The use of these rooms will be provided as space to work for the duration of a specific protocol and are not permanently assigned to facility investigators under any circumstances. These rooms may not be used as office or storage space.

Short-term use

Rooms such as surgical suites and necropsy rooms are available for short-term, daily use. If an Investigator would like to use one of these rooms, a request should be made in writing to the Operations Manager. These requests should include which room is being requested, the date needed, and the time duration. The Operations Manager will approve and monthly, post a calendar on the back of the procedure room door that contains the Investigator schedule.

Long-term use

When available, rooms are available for long-term use, not lasting longer than the duration of the protocol. These rooms are used to conduct IACUC approved procedures that are not permitted to be performed in animal housing rooms. Approved equipment may be stored in these rooms and must be removed upon completion of the project. Requests for these rooms must be made on the Application Form for Space Assignment for Animal Facility.

V. Entering/Exiting Animal Facility

In order to protect the health of laboratory animals, it is necessary to have strict rules for entering and exiting the Facility.

A. Rules for Entering the Facility

All faculty and students entering the Animal Facilities will be part of an IACUC approved protocol in order to work in the Facilities. Everyone, including approved visitors and members of Facility Operations, entering the Facilities must wear shoe covers to prevent any contamination from outside the Facility or other labs. Shoe covers, gloves, and lab coats are required when animals and/or husbandry related supplies are being handled. Masks should be worn when warranted.

1. Rules for Exiting the Facility

When exiting the Facility, everyone must dispose of masks, gloves, and shoe covers in the receptacles provided. Lab coats should be left at the appropriate PPE station. Lab coats worn inside the Facility cannot be taken outside of the Facility or worn in other labs. Hand washing upon exiting is highly recommended for protection from contamination. Hand washing stations are located in the office/lounge areas of each facility.

1. Security System

Both facilities are equipped with a security system which uses key fob access. Key fobs are assigned to faculty investigators with approved protocols, graduate students and/or staff working with faculty investigators on approved protocols, and Facility staff. Fobs are obtained from the Operations Manager; requests should be made in writing and must come from the PI. They are individually issued and in cases where more than one student on a project uses a single fob, that fob must be under the control of a faculty member, not a student. Once a project is completed or the protocol closed, the key fobs must be returned to the Operations Manager. Fobs not returned 30 days after protocol closure will be issued a $25 fee. Immediately report lost fobs to the Operations Manager.

1. Animal/Procedure Room Locks

All animal rooms are equipped individual key fob access. Investigators and their research team will only have access to their assigned animal room. The Operations Manager will program fobs to coordinate to assigned animal rooms.

When using a long-term procedure room, investigators have the option of locking their assigned long-term procedure room. A request should be made to the Operations Manager and one key per room will be assigned to the research team. It is the Investigator’s responsibility to keep up with the key and return to the Operations Manager upon project completion. The Investigator will be charged a $25 security deposit upon issuance of keys, which will be refunded when the keys are returned.

VI. Animal Care Training Program Plan

UNCG is committed to a high-quality program of animal care that meets both the spirit and the letter of the regulations and policies of the USDA and PHS for the humane care and use of animals in research and teaching. The Animal Welfare Regulations and PHS policies require that people caring for or using animals are qualified to do so. Library sources on animal care are available from ORI, the Operations Manager, or by going to <http://compliance.uncg.edu/institutional-animal-care-and-use-committee/>. .

UNCG has set up a relationship with a qualified trainer from Wake Forest University to conduct training sessions on UNCG’s campus. These sessions include, but are not limited to: Basic Rodent Handling Techniques, Rodent Surgery, and Euthanasia. The Operations Manager is responsible for arranging these sessions and will send out emails to notify research teams of upcoming opportunities.

Training records are maintained with the Operations Manager and/or in ORI.

1. **Requirements for Training of Animal Care Staff**

Animal care staff are required to complete the on-line training module provided by the Collaborative Institutional Training Initiative (CITI). Directions for accessing the on-line module can be obtained from ORI or the Operations Manager.

Technicians, graduate assistants, or other students employed by the Animal Facility will be trained by the Operations Manager in the proper handling, care, and use of animals and in other necessary procedures appropriate to their employment.

Animal Facility Staff, including the Operations Manager are strongly encouraged to attend webinars, off-site training, etc. to enhance their knowledge of laboratory animal procedures. Opportunities for laboratory animal technician certification through the American Association of Laboratory Animal Science are also available and strongly encouraged.

1. **Requirements for Training of Research Personnel**

While ORI and the Animal Facility will provide resources for training and education, instruction of research personnel is the responsibility of faculty investigators. All persons named on a protocol must complete the on-line CITI training modules.

Investigators may make a request to ORI or the Operations Manager for additional training. If available, arrangements will be made for training requested. This may include webinars, off-site training, and/or bringing in a consultant/trainer

**VII. Health and Safety Tips for Working in the Animal Facility**

1. **Wash Your Hands**

The most common way to contract a zoonotic infection is to place the infectious materials in your mouth. Washing hands is mandatory upon entering and exiting the Facility.

1. **Wear Personal Protective Equipment (PPE)**

Protective clothing and equipment must be worn when working with animals. Required PPE is provided by the Animal Facility and is located at the entrances to both Facilities. Protective clothing should never be taken home and must be laundered in the Animal Facility.

Masks should be worn when there is a potential for cross-contamination of upper respiratory tract diseases.

In the event that an individual needs to wear a respirator, the Office of Safety should be contacted at 334-4357.

1. **Be Aware of Hazardous Materials**

UNCG’s *Safety and Health Policy and Procedures Manual* canbe found at <http://www.uncg.edu/sft/mntabcon.htm>l. Persons who use hazardous chemicals must be familiar with this plan and adhere to its requirements.

Investigators are required to complete a Lab Safety Plan through the Office of Safety. This should be completed upon protocol approval and prior to animals being ordered. Contact ORI for details.

1. **Animal Bites and Scratches**

Bites and scratches can expose animal technicians and research personnel to biological hazards transmitted through contaminated saliva, secretions, or blood. Everyone working with animals should be aware of the Animal Facility’s Animal Bites and Scratches Guidelines found at <http://integrity.uncg.edu/wp-content/uploads/2012/08/AnimalBitesGuidelines.pdf>. These guidelines are also posted in each Facility.

1. **Seek Medical Attention Promptly**

Anyone injured in the Facility should take immediate steps to contain the situation. The individual should notify his or her immediate supervisor. If the injury requires professional medical care, then the person must complete the appropriate forms HRS301 found at <http://www.uncg.edu/hrs/form301.pdf> and NCIC Form No. 19 found at <http://www.uncg.edu/hrs/form19.pdf>. Completed forms should be returned to the supervisor for completion and distribution. If the injury does not require professional medical care, then only form HRS301 should be completed.

Details of this policy are outlined at http://www.uncg.edu/sft/pdfs/safety\_manual/section0090.pdf

The University’s Workers’ Compensation Handbook and forms can be found at <http://web.uncg.edu/hrs/workerscomp/>.

Injured students should report immediately to the Student Health Center to receive evaluation and treatment.

E. Use These Facility Safety Tips

Everyone should approach work in the Facility with safety in mind. The following safety rules apply within the Facility:

* + - * Eating, smoking, drinking, or carrying food for human consumption is prohibited in the animal rooms and labs. Eating and drinking are permitted in Rooms 681 and 683 of the Eberhart Facility and Room 102 of the Stone Facility.
      * Anyone wearing potentially contaminated laboratory clothing must dispose of this clothing before exiting the Facility..
      * Anyone handling animals should wear gloves, shoe covers, and lab coats and keep their hands away from their face and hair.
      * Caution should be exercised in lifting heavy objects; everyone should know their limitations.
      * Animal handling should be carried out in a secure area.
      * Facility employees should be familiar with washing and cleaning equipment, including detergents used. MSDS are available in the Operations Manager’s office, and in Stone 102..
      * Employees who are ill should avoid working with animals, especially if the illness involves the upper respiratory system.
      * Individuals who are immunosuppressed should consult Student Health Services or Battleground Urgent Care (Facility Employees) regarding the risks of exposure to zoonotic diseases
      * Individuals allergic to animals should take steps to limit exposure to dander, urine, and saliva. People with allergies should consult Student Health Services or Battleground Urgent Care (Facility employees) concerning the risks of exposure to animals.
      * Sharps containers should be used for proper needle disposal.

VIII. Occupational Health and Safety Program

The University of North Carolina at Greensboro is committed to ensuring the health and safety of individuals working with animals in their professional activities, both on and off campus. There are two programs for preventing occupational injury and illness while working with animals at UNCG. One is for personnel hired by the Animal Facility and one is for individuals that work with animals but who are not hired by the Animal Facility. Animal Facility personnel include individuals who work in the Animal Facility on a full or part-time basis. Individuals who work with animals but are not hired by the Animal Facility include faculty, staff, and students engaged in funded or unfunded research projects or teaching in a class or field setting.

All personnel who work with animals should have had a tetanus booster within the last 10 years to protect against tetanus contracted from bites and scratches. Staff and students employed by the Facility will be provided necessary inoculations. Students who work with animals as part of their studies may obtain a tetanus booster at the University Student Health Service at nominal cost.

A. Facility Staff

All Animal Facility employees will obtain a pre-employment physical in order to develop a baseline against which subsequent changes can be measured, and employees should obtain regular physicals thereafter in order to monitor employee health status.

UNCG Animal Facilities has a corporate account set up with Battleground Urgent Care to provide required inoculations and physicals for Facility Staff. Necessary forms can be obtained through the Operations Manager and are kept on file in the Animal Facility.

B. Research/Teaching Teams

The Office of Research Integrity oversees UNCG’s Health and Safety Program for Personnel Using Animals in Teaching and Research (HSPUSTR) program. The goal of this program is to prevent occupational injury and illness while working with animals by avoiding, controlling or eliminating hazards on campus and, to the extent possible, off campus. The emphasis of such a program is the prevention of illness and injury, but this program also includes provisions for early diagnosis and treatment when necessary.

Details of this program can be obtained at <http://compliance.uncg.edu/institutional-animal-care-and-use-committee/>

C. Hantavirus Caution to Field Workers

Researchers proposing to do fieldwork with wild rodents should provide evidence in their IACUC protocol that they are aware of the health risks associated with trapping and handling animals potentially infected with zoonotic diseases. The protocol should include a description of the potential hazards and precautionary measures taken to protect personnel. An example of an infectious agent of concern is Hantavirus, which is transmitted via aerosols from wild rodents and their excretions. Current information on Hantavirus can be found on the internet at: <http://www.cdc.gov/ncidod/diseases/hanta/hps/index.htm>.

IX. Animal Husbandry

All animals in the Facility must be on an IACUC approved protocol.

The information in this section describes the normal, routine animal care procedures. Any changes that may affect these procedures will be communicated to Investigators prior to changes made.

Any Investigator requesting deviations from the normal procedures must first have the procedures approved on the corresponding IACUC protocol and should discuss all deviations with the Operations Manager.

A. General Care of Animals

Daily Observation of Animals

Federal guidelines require daily observation of all animals used in teaching and research. The Facility staff will provide daily room checks which include checking and maintaining food and water levels, monitoring animal health, recording minimum and maximum temperature and humidity levels, recording daily census levels, and monitoring day/night light cycles. Persons responsible for observation of the animals will be trained by their supervisors to identify illness and abnormal behaviors exhibited by the species used.

Weekend, Holiday, and Emergency Care

The Facility Staff also provides daily observation of animals on weekends and holidays. If an emergency occurs after hours, a Facility staff member is accessible around the clock via cell phone. Emergency numbers are posted throughout the Facility. The Operations Manager will contact the Veterinarian if needed.

Cage Changing/Animal Husbandry Supplies

The Animal Facility provides standard shoebox cages, lids, water bottles, food, enrichment products, and bedding for animals housed in the Facility. The Facility Staff provides cage and water bottle changing for all animals in the Facility. Typically, single-housed animals are changed weekly and multi-housed animals are changed twice a week. Water bottles are changed weekly. Specifics about these products and procedures can be obtained from the Operations Manager. The faculty investigator is responsible for providing any special housing, bedding, and food products.

Carts located in the Facility are for use by the Facility Staff. Investigators who need a cart in the Facility must provide their own.

Procedure for Providing Veterinary Medical Care

The UNCG Veterinarian will provide bi-weekly routine checks on all animals. Physical findings will be documented on the veterinarian form. Any problems found will be reported to the faculty investigator and recommendations will be made.

Sick or injured animals should be reported immediately to the Operations Manager and the cage should be clearly marked with a colored index card indicating the date and finding. The Operations manager will make suggestions and/or arrange to have the animal examined by the Veterinarian. If laboratory tests or medications are recommended, the expenses will be the responsibility of the PI. Whenever possible, the Veterinarian or the Operations Manager will contact the faculty investigator prior to initiation of treatment to discuss an animal’s diagnosis and treatment options. However, in life threatening situations or in situations where the faculty investigator or designee cannot be contacted following reasonable attempts, the Veterinarian has the authority to initiate treatment without prior consent of the investigator and to perform euthanasia or authorize the Operations Manager to perform euthanasia or treatment procedures. In accordance with federal guidelines, the UNCG Veterinarian has final authority in situations where differences of opinion exist regarding an animal’s health status.

**B. Animal Records**

Each cage will have a cage card provided by the Facility stating the species, date of birth, sex, investigator’s name and contact number, protocol number, and date of arrival in the Facility. It is up to the Investigator to assign each animal its own unique identification, if needed. Acceptable methods of identification are cage cards, tail marks, , ear notches, ear tags, or tattoos. Identification method must be listed on approved protocol. A description of approved methods can be found at:

<http://compliance.uncg.edu/institutional-animal-care-and-use-committee/>.

Health records on all animals, daily room check sheets, animal census sheets, temperature/humidity sheets, and monthly event sheets are kept by Facility staff. Investigators may request copies of any of the above documents from the Operations Manager.

**C. Sentinel Program**

The Facility has an established Sentinel Program to monitor the health status of mice and rats in an effort to prevent, detect, and control the presence of specific infectious pathogens which may adversely affect animal health and/or influence research protocols. Sentinel animals are placed in various rooms and laboratory testing is performed on a routine basis, depending on the current census.. Investigators will be notified prior to sentinel animals being added to their animal room and are not responsible for any of the care or costs related to the sentinel animals.

Investigators may request copies of Sentinel reports from the Operations Manager.

**X. Animal Procurement**

The Operations Manager places **all** animal orders for protocols approved by the IACUC. The investigator must submit all animal orders through ACAP: <https://uncg.myresearchonline.org/acap>. Orders can only be submitted once the protocol is approved.

It is highly encouraged that animals be purchased from approved vendors. A list of approved vendors is available from the Operations Manager.

The Operations Manager will supervise the receipt of new animal shipments. The Facility Staff will be responsible for unpacking and setting up all animals delivered and for placing identification cards (provided by the Animal Facility) on each cage. It is the responsibility of the investigator to assign each animal a unique identification number, if needed. This number should be recorded on the cage card.

The investigator will be responsible for all procurement charges including the cost of the animals, shipping, diagnostic tests, and treatment (if necessary).

Procurement and Quarantine of Animals from Non-Approved Sources

Investigators requesting animals from non-approved sources such as other institutions or research facilities must contact the Operations Manager. The investigator should arrange for the Operations Manager and the Veterinarian to obtain a necropsy report which is less than one year old from the originating colony and/or a health surveillance report taken within the last six months from the outside source. Information on husbandry specifics for the species should also be provided. After the disease status of the colony has been reviewed and approved by the Veterinarian, the source will get clearance to ship the animals to the Animal Facility by an approved carrier. Upon arrival, the animals will be quarantined immediately. The duration of quarantine is determined by the Veterinarian and Operations Manager. During this quarantine period, no research can be performed on the animals. It will be determined by the Veterinarian if serology testing is required before releasing the animals from quarantine. The investigator will be responsible for these charges.

**XI. Breeding Colonies**

The Facility staff will perform daily checks as well as all standard husbandry practices, in rooms housing rodents used in breeding protocols. Special housing/husbandry requirements should be communicated to the Operations Manager in writing (memo or email). It is the investigator’s responsibility to pair mice for breeding, monitor and record new births, determine wean dates, and wean animals. All breeding cages, including pregnant dams, should be identified with a blue index card (provided by the Facility). This breeding card should be completely filled out by the research team. In order to avoid overcrowded cages, weaning must take place as outlined below. If cages are needed for weaning, the investigator can set up the cages or request the Facility staff have them placed in the animal room.

It is the investigator’s responsibility to ensure that management of a colony complies with guidelines. To ensure compliance, the Facility staff will place a card on cages that exceed cage densities described below signifying that the investigator has two days to take corrective action. If there is no action within this time, the Facility staff will correct the cage density and assess a service charge on a per cage basis. The Facility staff assumes no liability whatsoever in the maintenance of research data on the affected animals’ cage card. Animal Facilities will notify the IACUC of any breeding colonies with inordinate numbers of cages requiring Facility staff action.

**A. Mice**

The standard mouse cages used at UNCG provide approximately 67 square inches of floor space and are permitted to contain no more than the following numbers of animals:

* + - * When a litter is born, there can be no more than 3 adults in the cage.
      * The following variations are allowed when the litter is 14 days old:
        + a maximum of 3 adults (2 females and 1 male or 3 females) and up to a total of nine pups (less than or equal to 10 grams each),
        + two adults (1 female and 1 male or 2 females) and up to a total of 11 pups (less than or equal to 10 grams each), or
        + one adult (one female) and no more than 14 pups (less than or equal to 10 grams each).
      * When pups attain a weight of 10 grams or more or reach 21 days of age, they must be weaned promptly. All weaned animals must be housed in compliance with the *Guide* space requirements, as outlined on the following page.

**The *Guide’s* Requirement of Mice Post Weaning**

Standard mouse cage: 7½”W x 11½”D x 5”H

67 square inches of floor space

Weight # per cage Floor Area Per Animal

< 10 grams 11 6 sq. in space required

Up to15 grams 8 8 sq. in space required

Up to 25 grams 5 12 sq. in space required

> 25 grams 4 >15 sq. in space required

**B. Rats**

The standard rat cages used at UNCG provide ~143 square inches of floor space and are permitted to house one breeding pair per cage. Litters are to be weaned at 21 days of age.

**The *Guide’s* Requirement of Rats Post Weaning**

Standard Rat Cage: 10½”W x 19”D x 8”H

143 square inches of floor space

Weight # per cage Floor Area Per Animal

< 100 grams 8 17 sq. in. space required

Up to 200 grams 6 23 sq. in space required

Up to 300 grams 4 29 sq. in space required

Up to 400 grams 3 40 sq. in. space required

Up to 500 grams 2 60 sq. in. space required

> 500 grams 1 >70 sq. in. space required

**Under no circumstances are two or more females of either species allowed to occupy the same cage with their litters or have a new litter before the previous litter has been weaned.**

**XII. Guidelines for Reporting of Non-Compliance**

Investigators are responsible for making sure every member or their research team is aware of both Federal and University rules and regulations while working with animals. Non-compliance issues can fall under two categories:

Non-compliance with Federal Regulations:

The Public Health Service Policy on Humane Care and Use of Laboratory Animals (revised August, 2002) “PHS Policy” categorizes non-compliant conduct into two categories: “minor” and “significant.” As defined by PHS Policy, a “significant deficiency is one which, consistent with this Policy, and, in the judgment of the IACUC and the Institutional Official, is or may be a threat to the health or safety of the animals.” Significant deficiencies (non-compliances) determined by the IACUC and the Institutional Official to have been a threat to the health or safety of the animals must be reported promptly to OLAW, and the USDA if applicable.

In addition, serious or continuing noncompliance with the PHS Policy and/or the *Guide*, and any suspension of an activity by the IACUC may also constitute a significant deficiency even though the health and safety of the animals may not have been threatened. The IACUC, through the Institutional Official, is responsible for reporting all such deficiencies.

Non-compliance not posing a threat to the health and safety of the animals still requires prompt attention and resolution, but does not require reporting to the agencies cited above.

Non-compliance with University/Animal Facility Regulations:

Non-compliance issues that violate the policies set forth in this Manual that do not pose a threat to the health and safety of the animals, still require prompt attention and resolution, but do not require reporting to the agencies cited above. The Research Operations Manager will send out a notification to the involved person, as well as their responsible Investigator, regarding any violations of rules set forth in this Manual. It is expected that the non-compliance issues will cease immediately. After the third non-compliance notification, for the same or different violations, the Research Operations Manager has the right to permanently deny access to the involved person.

Reporting the Mistreatment of Research Animals:

If at any time, anyone using the Facilities feels that an animal has been mistreated, they can make an anonymous tip to the Office of Research Integrity at 334-4231.

**XIII. Surgery, Anesthesia, and Euthanasia/Disposal**

**Procedures**

**A. Types of Anesthetics**

Investigators proposing to do potentially painful procedures on live animals must administer appropriate anesthetics and analgesics unless there is a scientific justification to do otherwise and should consult with the Veterinarian when there are questions concerning anesthesia/analgesia in laboratory animals. Any anesthetic used, must be first approved on the IACUC protocol.

A guide to using Anesthestics can be found at:

<http://integrity.uncg.edu/institutional-animal-care-and-use-committee/>.

**B. Surgery Room Procedures**

A surgery room is available in each facility for investigators and students to use for procedures contained in IACUC approved protocols. These are clean areas and require the wearing of clean shoe covers, gloves, and lab coats. Aseptic surgery techniques should be practiced at all times. The surgery room should be cleaned by the user upon completion of a procedure. Investigators and students needing to use the surgery room should reserve it through the Operations Manager at least 24 hours in advance. Any surgery room request should be made in writing.

The Animal Facility provides one anesthesia machine in each Facility, which uses isoflurane gas anesthetic. Investigators using the anesthesia machine are responsible for providing their own Isoflurane. The Facility will provide oxygen.

**C. Animal Euthanasia Techniques**

Only trained personnel using acceptable techniques in accordance with applicable laws should carry out euthanasia in the Animal Facility. Techniques should follow current guidelines established by the AVMA Guidelines on Euthanasia. Personnel should perform euthanasia in the necropsy, surgery, or minor procedures room out of view of other animals. Death of the animal must be ascertained before disposal. See the current AVMA Recommendations for euthanasia guidelines at: <https://www.avma.org/kb/policies/documents/euthanasia.pdf>

The Facility provides carbon dioxide for euthanasia procedures. It is the responsibility of the investigator or approved personnel on the protocol to euthanize animals. Euthanasia is not the responsibility of the Facility staff unless the staff finds the animal sick. If the staff is asked to carry out this procedure, there will be a charge.

**D. Disposal**

Animal carcasses held for disposal should be stored in the freezer located in the storage rooms in the Eberhart and Stone Facilities. A biomedical waste disposal contractor will pick up the carcasses. The Animal Facilities Department will handle all necessary procedures for medical waste pick up.

**XIV. Surgery/Procedure Room Use**

**A. Equipment**

Equipment moved into the Facility must have a sealed, nonporous surface. Items that encourage vermin breeding (e.g. file cabinets, cardboard boxes) are prohibited in the Facility. If telephone and/or computer hookups are needed, the investigator will be responsible for the costs of connections.

**B. Modifications**

Investigators may not make permanent changes or modifications to procedure/surgery rooms without written prior approval from the Operations Manager and Vice Chancellor for Research and Economic Development Any permanent changes allowed to these rooms will remain as part of the lab structure after the investigator vacates the lab.

**C.** **Sanitation**

No daily janitorial services are provided to the surgery/procedure rooms, so investigators are responsible for maintaining the sanitation of surgery/procedure rooms assigned to them, whether for short- or long-term use. This includes such things as keeping the room free of clutter, carrying trash daily to the dirty room in either Facility for disposal, and keeping the floors free of debris. If surgery or procedure rooms are not cleaned after use, the Investigator using the room will be notified by the Operations Manager. The Investigator has 24 hours to clean the room, and if the room is not cleaned within this time frame, the Animal Facility Staff will clean the room and assess a charge. Absolutely no eating, drinking, or smoking is allowed in these rooms or the Animal Facility.

**D. Completed Projects**

On the end date requested for a specific project, the investigator will vacate the room unless an extension has been requested in writing and acknowledged by the Operations Manager. It is the responsibility of investigators to remove all equipment and ensure that the room is in its original condition.

XIV. Services Provided by Animal Facility

For current per diem and service charge rates, please contact the Operations Manager.

1. Services provided by Facility and covered under per diems:
   * + - Daily Room Checks
         * Monitoring animal health
         * Maintaining appropriate food and water levels
         * Recording minimum and maximum temperature and humidity levels
         * Recording daily census levels
         * Monitoring day/night light cycles
       - Weekend, Holiday, and Emergency Care
       - Animal Room Maintenance
         * Sweeping, mopping, trash removal, etc.
       - Animal Husbandry
         * Cage, water bottle, cage rack, and lid changing
       - Veterinarian Care
         * Routine observation of animals
         * Diagnosis and treatment recommendations
       - Animal Disposal
2. Services provided and charged separately:
   * + - Mouse euthanasia
       - Rat euthanasia
       - Reptile euthanasia
       - Vole euthanasia
       - Avian euthanasia
       - Vet services above and beyond normal responsibilities
       - Separation of overcrowded cages
       - Any lab services or medications needed or requested will be charged to the investigator.