

SOP #: 108.02Title: **SOP -** Occupational Health and Safety Program of Personnel with Laboratory Animal Contact

Approvals:

Attending Veterinarian

Date:

02/18/16

IACUC Chairman

Date:

08.18.16

1. Purpose

- 1.1 An occupational health program (OHSP) is mandatory for personnel who work in laboratory animal facilities. The Guide for the Care and Use of Laboratory Animals (NRC, 2011) define the requirements for the establishment of an occupational health and safety program as part of the animal care and use program at research institutions. Centers For Disease Control (CDC); National Institute of Health (NIH) 1993; Code of Federal Regulations (CFR) 1984 a,b,c; Public Health & Safety Policy (PHS).
- 1.2 The primary goal of the program is to identify, evaluate, and if necessary, manage, control or eliminate potential health risks that are associated with the use of animals in the research environment. This is accomplished through the management of risk by the giving of relevant health and safety information related to the use of animals in research and the clinical evaluation and treatment for animal-related injuries and illnesses.

2. Responsibility

- 2.1 It is the responsibility of ACF personnel, FIU research staff, and FIU support personnel to follow this procedure. It is the responsibility of ACF supervisory personnel to train their staff and ensure compliance with this procedure. FIU research staff and FIU support personnel will receive training prior to being given access to ACF facilities.

2.2 Definitions

- 2.2.1 ACF – Animal Care Facility

- 2.2.2 Biohazards are defined as biological agents and materials which are potentially hazardous to humans, animals and other forms of life. They include known pathogens and infectious agents, including bacteria, viruses, fungi, mycoplasmas, parasites, cell lines, animal remains and laboratory animals. Also included are potentially bio-hazardous organisms used in procedures such as DNA, rDNA, RNA, nanoparticles, and chemicals.
- 2.2.3 BMBL Manual: Biosafety in Microbiological and Biomedical Laboratories (5th Edition)
- 2.2.4 EH&S – Environmental, Health and Safety.
- 2.2.5 IACUC: Institutional Animal care and Use Committee
- 2.2.6 IBC: Institutional Biosafety Committee
- 2.2.7 MHQ – Medical Health Questionnaire.
- 2.2.8 SPF Animals: Specific Pathogen Free Animals, ordered from an approved vendor.
- 2.2.9 Zoonosis is infectious disease transmitted from animals to humans (or vice versa).

3. Guidelines

3.1 The FIU Occupational Health and Safety of Personnel Program cover the following aspects:

- 3.1.1 Hazard Identification and Risk Assessment
- 3.1.2 Acceptable techniques for hazard identification/risk assessment include:
 - 3.1.2.1 The application and documentation of expert knowledge, experience and objective judgment by the EHS, Attending Veterinarian and Animal Facility staff;
 - 3.1.2.2 The use of data or experience with similar systems/changes undertaken by other respected Animal Facilities;
 - 3.1.2.3 Trial implementation of the proposed change under surveillance and with sufficient backup facility to revert to the existing system before the change, if risks cannot be mitigated;
 - 3.1.2.4 A formal analysis in accordance with an accepted standard or text on risk analysis/system safety;

3.2 FIU is committed to providing a safe work environment. The IACUC, IBC and EH&S will review and approve all potentially bio-hazardous research projects prior to the work being undertaken. All work shall comply with all relevant standards including the guidelines set by The Occupational Health and Safety Administration (OSHA).

- 3.3 Bio-hazardous materials may not be used for any purpose or in any other location, other than that originally approved. Project changes will require a IACUC approved amendment to the application.
- 3.4 A biohazard sign signifies the presence of a biohazard in Risk Group 2 and should be posted as required. Any work/location involving Risk Group 2 agents must be approved by the EH&S Biosafety Office. Work can commence once the approved location obtains Animal Biosafety Level 2 (ABSL2) designation. Any work involving Risk Group 3 or above agents is not permitted at FIU.
- 3.5 Other potential hazards in the animal facility vary with different research projects and usually include bites, other traumatic injuries, and allergies. Institutional data sources that may contain hazard information may include Safety Data Sheets, chemical inventories, manufacturers' safety bulletins and drug inserts, group and individual medical assessment, accident reports and reviews of study protocols and protocol amendments. Injuries from animal bites and scratches present a significant risk to research animal users as many pathogens are found on the oral mucosa or in the saliva of research animals.
- 3.6 Acknowledgement, education, control and possible elimination of various hazards will reduce the inherent risks involved in procedures involving animals (eg surgery, blood sampling), use of personal protective equipment, use of equipment (eg fume hood, centrifuge), use of various chemicals (eg cleaning agents, solvents), use of various medications (eg insulin, gas anesthesia).
- 3.7 Orientation and training is required for all personnel using bio-hazardous materials. Principal Investigators are responsible for being cognizant of all hazards associated with the animal protocols and for ensuring that personnel reporting to them are properly trained in safe laboratory practices, and understand the hazards. Training and understanding cannot be assumed for employees transferring from another laboratory.
- 3.8 Specific training programs given to all employees within the animal facility includes:
- 3.8.1 Required
 - 3.8.1.1 PPE Training
 - 3.8.1.2 Animal Care Safety.
 - 3.8.2 Required based on type of hazard - Additional information on required training can be found on the EH&S Training webpage at <http://ehs.fiu.edu/Training/Pages/Lab-Safety-Training.aspx> :
 - 3.8.2.1 Blood Borne Pathogens Exposure Control
 - 3.8.2.2 Safe Handling of Biomedical Waste

3.8.2.3 Safe Use of Biosafety Cabinets

3.8.2.4 HAZCOM: In-Sync with GHS:

3.8.2.5 Laboratory Hazard Awareness

- 3.9 Training and/or experience with new procedures to be employed within the animal facility. If new procedures involving the care, testing and/or treatment of the animals in the research animal facility are to be employed, the technicians will receive training prior to employing new diagnostics and/or procedures for an animal study.

3.10 Personal Hygiene:

- 3.10.1 All personnel are required to maintain a high standard of personal hygiene. After handling animals or their secretions or excretions, individuals shall wash their hands with disinfectant soap and water and then dry their hands.
- 3.10.2 As a general rule, never eat, drink, smoke, handle contact lenses, apply cosmetics, or take or apply medicine in areas where research animals are kept.
- 3.10.3 Outer garments worn in the animal rooms shall not be worn outside the animal facility.

3.11 Facilities, Procedures, and Monitoring

- 3.11.1 Animal facility inspections will be performed semi-annually by IACUC. These inspections are designed to verify that all laws and regulations outlined by state and federal organizations are followed. This includes the use of adequate facilities and proper maintenance of these facilities. Training records, waste disposal records and other documentation will be reviewed at this time.
- 3.11.2 Facilities and equipment will be regularly assessed and monitored by the Assistant Director. Biosafety cabinets and all HEPA (High Efficiency Particulate Air) filtered equipment must have a valid performance certificate attached in a conspicuous location to verify current testing. Certification of biosafety cabinets is coordinated through EH&S. For more information or to schedule certification, contact the Biosafety Office at 348-3387. Testing is required:

- 3.11.2.1 Prior to use.
- 3.11.2.2 Annually thereafter.
- 3.11.2.3 After relocation.
- 3.11.2.4 After HEPA filter replacement.
- 3.11.2.5 After servicing.

- 3.11.3 All bio-hazardous waste must be properly treated before disposal or before being collected, treated and disposed of by an approved medical waste company. Waste disposal (including radioactive and chemical) is coordinated through EH&S. For more information or to request a disposal services, contact EH&S at 348-2621 or ehs@fiu.edu.
- 3.11.4 Autoclave tape or other indicators must be placed on each bag prior to treatment. The autoclave tape or other indicator on each container must be checked to verify color change before disposal.
- 3.11.5 Biological indicators and controls for each load will be retrieved from the load and incubated for 48 hours at the proper temperature. Test indicators must be negative (no Growth) and control indicators must be positive (growth) for load to be acceptable.
- 3.11.6 The autoclave log must be completed by each user for each autoclave cycle. All parameters must be noted as listed on the log for each autoclave load.
- 3.11.7 Sharps waste handling and disposal is as follows:
 - 3.11.7.1 Sharps must be placed into rigid, puncture- and leak-resistant sharps containers that cannot be opened without great difficulty. Needles and syringes should be placed directly in these containers after use without modification. Needles should not be clipped, bent, recapped or removed from disposable syringes before disposal. In addition, do not fill above the level indicated on the container.
 - 3.11.7.2 Sharps containers must be collected by a registered medical waste hauler. Sharps containers must not be placed in regular solid waste containers.
- 3.11.8 Animal Experimentation Involving Hazards
 - 3.11.8.1 In experiments involving physical or chemical hazards the experimenter should give full consideration not only to ensuring human safety but also to avoiding stress or injury to the animals. The comfort of the animals shall be a prime concern.
 - 3.11.8.2 No research using live vertebrate animals shall be attempted unless the animals are obtained from a reliable source and the following conditions can be assured: appropriate, comfortable quarters; adequate food and water; humane treatment and gentle handling. Care must be provided at all times, including weekends and vacation periods.
 - 3.11.8.3 All areas in which experimental animals are kept are restricted areas and are not to be entered by unauthorized persons.

3.11.8.4 Cages and animal rooms in which toxic chemicals or agents are employed must be appropriately labeled.

3.11.9 Personal Protection

3.11.9.1 Protective clothing (lab coats, shoe covers, scrubs and if needed surgical attire) and other safety devices (such as latex gloves, face masks) are provided by ACF. Additional PPE may be required based on the type of hazard used in the experiment.

3.12 Personnel Risk Assessment, Medical Evaluation and Preventive Medicine for Personnel

3.12.1 Risk assessment and medical evaluation is the process of evaluating the health of individuals as it relates to their exposure to those agents determined by FIU EH&S to place an individual at some risk. In general this involves:

3.12.1.1 Work history.

3.12.1.2 Medical history.

3.12.1.3 Medical examination by a licensed physician.

3.12.2 This initial work up establishes a baseline of an individual's health and is used to monitor future health as it relates to potential occupational exposures to risk-prone agents.

3.12.3 Zoonotic surveillance is also a part of the occupational health program. The surveillance shall include record keeping of work assignment, bite wounds, and unusual illnesses and suspected health hazards.

3.12.4 It is the Institutes policy that all bite wounds and scratches be reported to a supervisor and documented on an accident report form. Wounds must be cleaned immediately in the work area. Proper cleansing of wounds shall be an integral part of the training program. Shortly after cleaning the wound, the employee shall report to a licensed physician for further evaluation.

3.12.5 Individuals should avoid working with animals if they are ill, especially with respiratory problems. Individuals that have open wounds should also take additional care when working with animals.

3.12.6 Other considerations women who know or suspect that they are pregnant must take special precautions when working with animals and animal products. There are certain pathogens that pose a serious risk to the fetus and can result in birth defects. Other individuals because of their health history or medications need to be aware of hazards when working with certain species of animals.

- 3.12.7 All personnel with animal contact or that work in areas where animals are used are required to enroll in the FIU Occupational Health & Surveillance Program (OHSP). For more information, visit the EH&S OHSP webpage at: <http://ehs.fiu.edu/Programs/BioSafety/Pages/Occupational-Health-Safety.aspx> or contact the Biosafety Office at 348-3387.

4. References

- 4.1 The Guide for the Care and Use of Laboratory Animals 8th Edition (p.17-23)
- 4.2 Biosafety in Microbiological and Biomedical Laboratories (5th Edition)
- 4.3 FIU Environmental Health and Safety (<http://ehs.fiu.edu>)
- 4.4 Occupational Health and Safety in the Care and Use of Research Animals (1997)
- 4.5 NIH Guidelines for Research Involving Recombinant DNA Molecules

5. Revision

- 5.1 Revision 02: 2016 IACUC Review. Document streamlined by EHS.
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