

<p>Johns Hopkins University</p> <hr/> <p>Johns Hopkins Hospital</p>	<p>The Johns Hopkins University/The Johns Hopkins Hospital Health, Safety and Environment Manual Laboratory Safety</p>	<i>Policy Number</i>	HSE806
		<i>Last Review Date</i>	10/19/2018
	<i>Subject</i>	Health and Safety Information for Animal Users	<i>Page</i>

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I. SAFETY RESPONSIBILITIES

All faculty, staff, students and fellows are responsible for compliance with appropriate safety and health standards as issued by Johns Hopkins. Faculty, staff, students and fellows are to follow safe work practices and report all unsafe conditions.

Supervisors and faculty are the keystone of the Johns Hopkins Safety Program. Supervisors and faculty train employees to develop and maintain safe work practices. Supervisors and faculty must frequently inspect the workplace to ascertain unsafe conditions. Supervisors and faculty should be aware that Johns Hopkins has policies addressing disciplinary action for failure to comply with safety policies.

The Department of Health, Safety and Environment is responsible for providing guidance and direction in all phases of the Johns Hopkins Safety Program. Health, Safety and Environment conducts safety inspections, and advises management of unsafe conditions or noncompliance with policy, regulations and standards. Health, Safety and Environment reports all of its activities to the Joint Committee for Health, Safety and Environment.

The Joint Committee on Health, Safety and Environment was established by the President of The Johns Hopkins University and the President of The Johns Hopkins Hospital to develop and enforce policies related to health, safety and the environment, and to ensure compliance with all applicable safety and environmental regulations. The Chairman of the Joint Committee on Health, Safety and Environment is Edward J. Bernacki, MD, MPH. The Joint Committee on Health, Safety and Environment monitors the activities of the Animal Care and Use Committee.

II. ANIMAL EXPOSURE SURVEILLANCE PROGRAM

All faculty, staff, postdoctoral fellows and students who work with (handle) animals and/or their body fluids, fresh tissues, bedding or caging must be enrolled in the Animal Exposure Surveillance Program. This program is managed by the

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Occupational Health Services, 98 N. Broadway (phone x5-6211). The Animal Exposure Surveillance Program allows Johns Hopkins to monitor your level of risk in using animals, offer you appropriate prophylactic protection from diseases associated with animal use, assess your current health status, and monitor your health during employment at Johns Hopkins.

Upon enrollment in the Animal Exposure Surveillance Program, you will be offered rabies vaccination. This vaccination is not mandatory. After an assessment of your level of exposure to rabies by a clinician in the Occupational Health Services, the vaccination and risk level will be discussed with you.

Upon enrollment in the Animal Exposure Surveillance Program, your risk of developing active tuberculosis will be assessed. The clinical staff member performing this assessment in the Occupational Health Services will determine the necessity for tuberculin screening. The screening will enable Johns Hopkins to identify any past exposures to tuberculosis and develop a regimen of prophylaxis.

During enrollment in the Animal Exposure Surveillance Program your level of risk for exposure to other pathogens such as Herpes B virus, Coxiella burnetti (Q Fever) and vaccinia virus will also be assessed.

III. INCIDENT AND INJURY REPORTING

It is the policy of Johns Hopkins that all incidents which result in an injury to faculty, staff or students be appropriately documented and reported.

In the event of a work-related incident

1. Promptly report to your supervisor.
2. Fill out a Report of Incident form.
3. Proceed to the Occupational Injury Clinic for your campus:
 - East Baltimore Campus - Blalock 139, x5-6433
 - Homewood Campus - Employees - 6th Floor Wyman Park Building, x6-0450; Students - Student Health Services AMR II, x6-8270

IV. MEDICAL EMERGENCY

If the accident or injury is life threatening, or if the injured individual believes his or her injury is of an emergent nature, call the emergency number for your campus:

- East Baltimore Campus - x5-4444
- Bayview Campus - x0-2424
- Homewood Campus - 911
- Other Johns Hopkins Buildings - 911

V. PHYSICAL HAZARDS FOR ANIMAL USERS

Musculoskeletal disorders are syndromes characterized by discomfort, impairment, disability or persistent pain in joints, muscle tendons or other soft tissues with or without physical manifestations. If you experience any of these conditions while performing your job, please report to the Occupational Injury Clinic for your campus. If you would like a proactive ergonomic assessment of your work site, ask your supervisor to contact the Department of Health, Safety and Environment.

If you receive an animal bite, scratch or splash, stop work. Wash the site with soap and water. Report all bites, scratches and splashes to your supervisor and proceed to the Occupational Injury Clinic.

If bitten, scratched or splashed by a monkey, notify Animal Services of the identification number for the animal and its location so that the veterinarian may examine the animal and take appropriate steps to determine the potential hazard. Notify your

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supervisor and immediately call 5-STIX (410-955-7849). Please familiarize yourself with these instructions prior to working with monkeys.

If your eyes, nose or mouth have been splashed/exposed to potentially infectious material, flush the site with water for fifteen minutes; and proceed to the Occupational Injury Clinic for your campus.

Wet floors are a prominent physical hazard in animal areas. Do your part in promptly reporting or abating wet floor surfaces. If it is necessary to transverse wet floors, use extreme caution. Proper non-slip shoes or protective boots are recommended for environments that consistently have wet floor surfaces. When possible, post wet floor signage to alert coworkers and visitors of this hazard.

High Pressure Water and Steam are physical hazards for animal handlers who utilize autoclaves, power washers and other equipment. Avoid skin contact with high pressure water and steam. When unloading an autoclave, verify that the pressure is near zero prior to opening the door. Slowly crack open the door and allow the steam to gradually escape. Allow materials in the autoclave to cool for 10 minutes prior to removal and use heat resistant gloves as necessary.

Electricity is another physical hazard for animal handlers. Extension cords are prohibited by Johns Hopkins Policy, unless an emergency situation is declared by administration. Use caution with power equipment, radios and other electrical devices, particularly in areas with wet floors, and water or steam sources.

All individuals using radioactive materials and/or animals containing radioactive materials must be registered with the appropriate Radiation Control Unit for your campus.

1. Animal handlers must wear gloves when handling a cage or animal marked as radioactive.
2. Cages containing radioactive animals must be labeled with a CAUTION, "Radioactive Materials" label. If the exposure rates outside the cage exceed 2 millirem/hour, the cage must be shielded or moved to an area so that staff will not be exposed to a radiation level above 2 millirem/hr.
3. It is the responsibility of the researcher to collect any material from the animal or cage (e.g., bedding, waste, etc.) that may be contaminated, and place these materials in a radioactive materials drum.
4. It is the responsibility of the researcher to monitor the cage and associated equipment for radioactive contamination, and to clean all contamination before the cage and associated equipment is returned to Animal Services.

Disposal of animal carcasses

East Baltimore, x5-3710

- Any radioactive animal carcass with a completed disposal tag should be taken to the cold room in the Ross penthouse and placed in the yellow barrels.

Bayview, x0-2423

- Radioactive animal carcasses cannot be transported to the East Baltimore Campus. Researchers must have an approved disposal plan for radioactive animal carcasses before radioactive material use.

Homewood, x6-7308

- Radioactive animal carcasses cannot be transported to the East Baltimore Campus.

VI. CHEMICAL HAZARDS FOR ANIMAL USERS

The Johns Hopkins Hazard Communication Program gives employees a means to find information about the hazards associated with any material in their workplace. Material Safety Data Sheets (MSDS) are fact sheets which summarize information about the hazards, handling procedures, emergency first aid and required protective equipment regarding each substance. If you have

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a concern about any substance in your workplace, discuss the situation with your supervisor. If the supervisor is unable to answer your questions, contact Health, Safety and Environment.

Labeling is an important aspect of the Hazard Communication Program. All containers must have a label of the common name in English to identify the contents.

Cleaning agents are a common form of chemical utilized by animal handlers. All cleaning agents must be stored in labeled and tightly capped containers at all times. Consult the product label or the MSDS for appropriate protective equipment when handling cleaning agents. Always wear a face shield and gloves when handling and dispensing concentrated cleaners.

Anesthetic agents have long been associated with health hazards. Chronic exposure to these agents have possible effects on the liver, kidney, nervous system and reproductive system. Engineering controls, such as systems that scavenge waste gases from the source, are the best methods to control these hazards.

Excess chemicals should be disposed through the Johns Hopkins Hazardous Material Disposal Program. Never place chemicals in the standard waste stream or in the biohazardous waste stream. The determination of hazardous waste is made by representatives of the Department of Health, Safety and Environment.

In the event of a spill of a hazardous material which is chemical in nature:

1. Evaluate the spill. Are the materials corrosive, flammable, toxic or explosive?
 - a. Identify all materials by common name.
 - b. Estimate how much is spilled.
 - c. Evaluate the degree of danger to patients, staff or visitors.
 - d. Evaluate the degree of danger to equipment or property.
2. Contain the spill.
3. If the spill cannot be contained, evacuate the area. Also evacuate the area if the spill is likely to produce irritating odors, or flammable or explosive vapors.
4. Spills of innocuous material or small amounts of acids, bases and flammable material can be cleaned up by lab personnel or properly equipped staff in the area.
5. All spills of toxic or explosive materials and large spills of corrosive or flammable material will be cleaned by Health, Safety and Environment. Immediately call the emergency number for your campus.
 - East Baltimore Campus - x5-4444
 - Bayview Campus - x0-2424
 - Homewood Campus - 911
 - Other Johns Hopkins Buildings - 911

If your skin or eyes are exposed to a chemical, flush the affected area with large amounts of running water. After rinsing for 10-15 minutes, proceed to the Occupational Injury Clinic for your campus.

VII. BIOLOGICAL HAZARDS FOR ANIMAL USERS

Common exposure routes for infectious agents are inhalation of aerosolized agents, splash of infectious materials to the skin or mucous membranes, or exposure via needlesticks, cuts and other sharps injuries.

Any exposure to potentially infectious materials should be reported via the incident reporting protocol previously outlined. Exposure to the mucous membranes should receive flushing with copious amounts of running water. Exposure to the skin should receive washing the affected area with soap and water. After washing or rinsing, proceed to the Occupational Injury Clinic for your campus:

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- East Baltimore Campus - Blalock 139, x5-6433
- Homewood Campus - Employees - 6th Floor Wyman Park Building, x6-0450; Students - Student Health Services AMR II, x6-8270

Exposure to human bloodborne pathogens should be promptly reported by calling 410-955-STIX. The Johns Hopkins STIX Hotline is a 24-hour hotline staffed by an infectious disease specialist. If your exposure is high risk for bloodborne pathogen infection, post exposure prophylaxis may be recommended. These medications have been shown to be effective in reducing the risk of HIV infection if initiated within 1-2 hours of exposure.

All faculty and staff with exposure to human bloodborne pathogens will be entered in the Johns Hopkins Bloodborne Pathogen Exposure Control Program upon hire or upon initiating work with bloodborne pathogen containing materials. All persons entered in this Program are offered the hepatitis B vaccination at no charge. The vaccination is obtained from the Occupational Health Services for your campus. Annual training is required.

The basis of Standard Precautions is to treat all human specimens and primate specimens as infectious. Also treat all human subjects and non-human primates as infectious.

The highest risk of infection from bloodborne pathogens occurs from needles and sharps. Sharps are defined as any item which can puncture human skin or a red trash bag. Needles and sharps are never to be discarded directly into the general waste stream or red trash bags. All needles and sharps must be discarded directly into approved sharps containers. Approved sharps containers must be placed in all areas where sharps may be utilized or generated. Filled sharps containers must be properly secured prior to disposal, and are disposed in red bags or biohazard boxes lined with red bags, as appropriate for your building.

All macaque monkeys are potential carriers of herpes virus-B, also called herpes simiae. While human infection with herpes virus-B is rare, the unfortunate consequences may be death or severe neurological disease. Humans typically become infected with herpes virus-b by receiving a bite or scratch from an infected non-human primate, from contact with tissues or splashes with body fluids from an infected non-human primate, or by injury from a cage or sharp that has been contaminated with material from an infected non-human primate. Treat all macaque monkeys as though they are infected with this virus. Prevent infection by always wearing a face mask, long sleeve lab coat or other protective clothing, and gloves when working with monkeys. Use the provided implements to restrain or capture these animals.

If any individual incurs a bite or a scratch from a non-human primate, immediately call 410-955-STIX. If possible, note the animal's identification number and provide to Animal Services or to the Occupational Injury Clinic for your campus.

To prevent infections from biological hazards, always wear gloves and face protection when there is the potential for splash or exposure to infectious agents. Gloves should be used for all cleaning tasks and for handling animals. Laboratory coats, scrubs and/or uniforms should also be worn to prevent skin exposure to biological hazards.

Handwashing is the most effective way to prevent infections to yourself and to coworkers. All animal handling areas should be equipped with a hand sink that is stocked with liquid soap and paper towels. Wash hands often.

All infectious materials and all contaminated equipment or apparatus should be decontaminated before being washed, stored or discarded. Autoclaving is the preferred method for decontamination and disinfection. All areas and equipment involving any contact with sheep or goats or products of conception from sheep or goats shall be cleaned and disinfected on a regular basis and immediately after each operation. Transport carts shall be decontaminated after use.

The containment of infectious agents is performed according to the applicable biosafety level. Biosafety Level I generally involves agents of no known or minimal potential hazard to laboratory personnel and the environment. Biosafety Level II includes all Biosafety Level I practices plus partial containment equipment such as biological safety cabinets, protective barriers such as lab coats, gloves, and face protection, and limited access to the laboratory. Work involves agents of moderate

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potential hazard to personnel and the environment. Biosafety Level III is designated for research utilizing indigenous or exotic agents which may cause serious or potentially lethal disease as a result of exposure by the aerosol route.

VIII. RESEARCH REGISTRATION PROGRAMS

In order to control and monitor biological hazards in the work environment, Johns Hopkins has established research registration programs in accordance with federal guidelines. All research involving biological agents or materials, sheep, goats, non-human primates, recombinant or synthetic nucleic acid molecules, or animals must be properly registered with designees of Johns Hopkins Administration.

It is the responsibility of the principal investigator to assure that individuals working with the registered agents and materials are appropriately trained and that the protocols are conducted in compliance with Johns Hopkins policies.

Registration of Research with HBV, HIV or SIV

Experimental animal studies involving the use of human HBV or HIV, suspected HIV, AIDS associated retroviruses or SIV are not to be initiated without prior approval from the Animal Care and Use Committee and the Department of Health, Safety and Environment.

Registration of Research with Animals

All research involving laboratory animals must be reviewed and approved by the Johns Hopkins Animal Care and Use Committee prior to initiation of the research.

Registration of Research with Pathogenic and/or Oncogenic Material

It is the responsibility of each principal investigator to register with Health, Safety and Environment all biohazardous agents and materials presently in use for investigative research and for all agents maintained in stock culture collections for research and/or teaching purposes.

Registration of Research with Recombinant or Synthetic Nucleic Acid Molecules

All principal investigators conducting research using recombinant or synthetic nucleic acid molecules are required to register such protocols with the Department of Health, Safety and Environment and the Institutional Biosafety Committee. Research involving these materials requires strict adherence to the most current NIH guidelines.

IX. ALLERGIES

Allergy is an important risk associated with animals. If you have a stuffy nose or other respiratory symptoms that seem to last longer than a common cold (weeks instead of days), or if you develop hives or redness and itching of the skin, you may be suffering from an allergy. If you develop these symptoms when exposed to a certain animal species, then you are likely to have an animal allergy. The majority of animal handlers do not suffer from allergies to the animals under their care; However, animal handlers have a higher incidence of allergy and asthma than workers who do not work with animals.

If you feel you may suffer from an allergy to the animals you work with, report to your supervisor and to the Occupational Health Services for your campus to obtain appropriate treatment.

Allergy can usually be managed by a combination of medical management and workplace strategies. It is important to consult with Occupational Health Services to determine the cause of your allergy in order to manage it effectively.

The following practices may help reduce your exposure to animal allergens:

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- When possible, perform animal manipulations in a ventilated hood or a biosafety cabinet. If this is not possible, a dust mask or surgical mask may be helpful.
- When you are not working in a hood or cabinet, make sure that the animal room or other work area is adequately ventilated and that all the air handling equipment in the room is in good order. If there is doubt, your supervisor can ask Facilities to measure the number of air changes in the room. Animal rooms should deliver at least 10 air changes per hour.
- Do not wear your street clothes when working with animals. Wear protective clothing.
- Reduce your skin contact with animals by wearing gloves and long-sleeved lab coats.
- Wash your hands frequently. Wash hands, face and neck before leaving the work area.
- Avoid touching your hands to your face while working with animals and animal equipment.
- Keep cages and your work area clean.

X. EMERGENCIES

All faculty, staff and students should be aware of the emergency protocols for their campus. In the event of fire or other emergency:

1. Remove anyone from immediate danger.
2. Close the door to confine smoke, fire or hazardous conditions.
3. Pull the nearest fire alarm box.
4. Call the emergency number for your building.
 - East Baltimore Campus - x5-4444
 - Bayview Campus - x0-2424
 - Homewood Campus - 911
 - Other Johns Hopkins Buildings - 911

Part of the emergency response protocols for Johns Hopkins includes hazard warning signage. This yellow placard is required to be posted at the entrances to all laboratories and research areas to indicate the hazards contained therein. These yellow warning placards must contain the names and emergency telephone numbers of two individuals who are familiar with the hazards contained within the area. (Emergency responders may refuse to enter a placarded area prior to discussing the hazards contained therein with the emergency contact individuals.) It is the responsibility of the principal investigator or the area supervisor to include the emergency contact information on the yellow placards. If your area does not have the proper warning signage at its entrances, contact Health, Safety and Environment.

If you have any questions regarding this information, contact Health, Safety and Environment,

- Telephone: 410-955-5918
- Address: 2024 E. Monument St. Room B-200, Baltimore, MD 21287

XI. REVIEW CYCLE

Annually