NU–IACUC POLICY

Northeastern University Institutional Animal Care and Use Committee

### Medical Surveillance Program for Persons Working with Research Animals in the Laboratory, Classroom, and Field Studies

(for use at Mount Auburn Hospital Occupational Medical Center and Northeastern University Health Center)

*Re-Approved: 01/26/2022*

This program has been developed as a collaborative effort between the Northeastern University Institutional Animal Care and Use Committee (NU-IACUC), Mount Auburn Hospital Occupational Medical Center (MAH), Northeastern University Health & Counseling Services(UHCS), and the Division of Laboratory Animal Medicine (DLAM).

I. **PURPOSE/OBJECTIVES:**

The purpose of the *Northeastern University Medical Surveillance Program* is to:

1. Provide a defined procedure for monitoring participants who have direct contact with animals used in research, teaching, and field studies. Direct contact is defined as any contact with animals, their viable tissues, blood and/or body fluids, and wastes.

2. Educate participants regarding their occupational exposure to laboratory animals, appropriate monitoring and exposure follow-up procedures, and obligation to report communicable diseases. For students and staff working in field studies, risks of working in the field environment as well the risks of working with wild animals will be discussed. The field study instructor or PI will be responsible for discussing these risks with their students. To each participant, medical service that may be classified as first aid as such participant shall require and refer for follow-up as appropriate will be provided.

3. Provide immediate medical care and follow-up for those participants sustaining exposure due to a bite, scratch, or contact with body fluids from an animal.

4. Establish a database of participants with research animal contact and working in field studies

1. Comply with the *U.S. Public Health Service Policy: Animal Welfare Assurance,* and standards of the *Institute of Laboratory Animal Research of the National Research Council*.
2. Provide guidelines and training for using potentially hazardous agents in animals (in a classroom setting, the instructor is responsible for this)

II. **GENERAL BACKGROUND:**

Participant contact with laboratory animals and animals in the field has the potential for exposure to a variety of infectious diseases secondary to routine handling and accidental contact. The risk of exposure can be minimized through routine surveillance of participant’s immunization status, use of personal protective equipment, compliance with laboratory protocols regarding animal handling and husbandry techniques, and education regarding first aid and the reporting of exposure.

Lastly, participants with communicable disease may potentially transmit these diseases to the research animals they have contact with. When this has occurred in other institutions, entire colonies of animals have been infected resulting in loss of animals and delays in research.

A medical surveillance program addresses these concerns and decreases the risks to both participants and research animals.

Participants working in field studies have similar risks as well as the environmental risks in the field such as injury from wild animals, and exposure to biohazards in the field environment.

III. **PROGRAM COMPONENTS:**

 The key program components are as follows:

 A. Identification of Involved Participants

 B. Initial Evaluation/Survey

 C. Triennial Surveillance

 D. Exposure Protocols

 E. Reportable Disease Evaluations

 F. Education and Counseling

 G. Record keeping

 H. Considerations of Participants Working on Field Studies

IV A. **IDENTIFICATION OF INVOLVED PARTICIPANTS:**

1. The NU-IACUC/DLAM Administrative Office will identify participants (faculty, staff, graduate students, and undergraduate students) for enrollment in the Occupational Health and Safety program by being listed on research protocols and through enrollment in specific classes. Additionally, all DLAM personnel will participate in the program. The level of participation in the program will be determined by the results of the Animal Contact Questionnaire, which will be filled out by all that participate. For faculty, staff, and Post-Doctoral Staff, these forms will be faxed to Mount Auburn Hospital’s Occupational Medicine Group.  Undergraduate and graduate students will be evaluated by UHCS. The information provided on the forms by the participants will be used for evaluation by medical professionals. Medical records may be needed if requested by MAH or UHCS. A clearance form will be provided to DLAM/IACUC prior to participants starting work with animals. Copies of the medical clearance form and documentation of training will be kept on record in the NU-IACUC/DLAM Administrative Office.
2. The MAH and UHCS will maintain medical records of all personnel seen by provider staff.

 B. **INITIAL EVALUATION:**

1. MAH and UHCS will obtain a history for each identified participant through completion by the participant of the Animal Contact Questionnaire, which will include:

a. Animal contact category based on routine activities. In the event there is a question concerning the participant’s animal contact category, the NU-IACUC/DLAM Administrative Office will be contacted for clarification.

b. Allergy history

c. Immunization history

d. Current vaccination status including date of last Tetanus/diphtheria (Td) booster

f. The information provided on the forms by the participants will be used for evaluation by MAH. Medical records from the participant may be required if requested by MAH.

For Field Studies (live animals only):

a. Animal contact category based on routine activities. In the event there is a question concerning the participant’s animal contact category, the NU-IACUC/DLAM Administrative Office and the instructor will be contacted for clarification.

b. Allergy history

c. Immunization history

d. Current vaccination status including date of last Tetanus/diphtheria (Td) booster).

e. For those participants having contact with animals with risk of Rabies, then Rabies vaccination for the participant would be required to work with those animals.

f. The information provided on the forms by the participants will be used for evaluation by MAH or UHCS. Medical records from the participant may be required if requested by MAH or UHCS.

2. The immunization status of each participant will be updated at the time of the initial evaluation (If deemed necessary by MAH or UHCS):

3. Any participant identified as having allergies to animals or animal products may receive further evaluation by respiratory assessment and pulmonary function testing. If appropriate, a participant may be referred for skin testing of allergens and desensitization.

4. All identified participants will receive training/information from the NU-IACUC/DLAM Administrative Office and/or the Office Environmental Health and Safety and the respective investigator or class instructor regarding the following:

1. Potential health effects of occupational exposure to research animals
2. Procedures to follow after an animal bite.
3. Procedures to follow after a needle stick or prick.

b. Use of appropriate personal protective equipment

c. Reporting and immediate first aid of an accidental exposure

1. Reportable conditions to the MAH or UHCS or other authorities (i.e., Local, State, Federal)

e. Contraindications of toxoplasmosis and inhalant anesthesia (i.e. Isoflurane, or other inhalational anesthetics) exposure and pregnancy in female participants

f. Periodic surveillance requirements

g. Need to promptly report any pertinent medical conditions at the time of entering the program and thereafter that could compromise your health because of working with research animals.

1. The potential health effects of handling and/or secondary exposure to potentially hazardous substances which might be used in animals for purposes of research, teaching, or testing.

For Field Studies:

1. Potential health effects of occupational exposure to wild animals
2. Potential exposure to ectoparasites, i.e. ticks
3. Use of appropriate personal protective equipment, as applicable.
4. Reporting to the instructor and immediate first aid of an accidental exposure. Instructor and student will then fill out an NU incident report.
5. Procedures to follow after an animal bite.
6. Procedures to follow after a needle stick or prick.
7. Reportable conditions to the MAH or UHCS or other authorities (i.e., Local, State, Federal)
8. Contraindications of toxoplasmosis and inhalant anesthesia (i.e. Isoflurane, or other inhalational anesthetics) exposure and pregnancy in female participants
9. Periodic surveillance requirements
10. Need to promptly report any pertinent medical conditions at the time of entering the program and thereafter that could compromise your health because of working with research animals.
11. The potential health effects of handling and/or secondary exposure to potentially hazardous substances which might be used in animals for purposes of research, teaching, or testing or any zoonotic disease the wild animal could potentially carry.

 C. **SURVEILLANCE:**

* 1. All participants with research animal contact will be required to fill out a new Animal Contact Questionnaire after each protocol renewal or every three years. Participants failing to fill out the questionnaire will not be allowed to work with animals. At surveillance update, the participant will be retrained on the health risks of working with research animals.
	2. It will be the responsibility of the NU-IACUC/DLAM Administrative Office to notify participants for the need to fill out an animal contact form and attend training. Undergraduate and graduate students will need approval from UHCS prior to starting a class using live vertebrate animals.
	3. The participant’s history will be updated regarding:
1. Changes in his/her medical and immunization status
2. Changes in research animal contacts/categories
	1. All participants having contact with cats, dogs, farm reared animals, and wild animals that could be a rabies host and who have completed their primary Rabies vaccination series will be provided with rabies titer testing 6-8 weeks, two years after initial titer, yearly thereafter and, if indicated based on titer results, a booster dose of Rabies vaccine.All participants must have a current Td booster (every 10 years).

Medical surveillance needs are summarized in the table on the next page:

Criteria for MAH/UHCS Approval Prior to Working with Research Animals:

The Animal Contact Questionnaire is a form that will be used as a mechanism for medical evaluation/intervention by the staff of MAH & UHCS.

The MAH/UHCS will review each completed Animal Contact Questionnaire and refer any participant to MAH/UHCS or the participant’s primary care physician, for clearance prior to starting work with research animals if:

* Their required immunizations are not complete
* They have significant allergies to research animals
* They have a history of medical conditions potentially exacerbated by animal exposure
* They have an acute illness or condition as a result of animal exposure (i.e. bite, allergic reaction to animals, scratch, or body fluid splash)

D. EXPOSURE PROTOCOL SUMMARY TABLE DLAM SURVEILLANCE PROGRAM

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Animal Category** | **Type of Animal Contact\*\*** | **Rabies Vaccine** | **Rabies Booster** | **Td** | **Stool Testing** | **Other** |
| 1\*\*\*\*Ω | Nonhuman primates (NHP’s) | Encourage | Only when indicated | q 10 years | When clinicallyindicated | Hepatitis B - Apes/monkeys and baboons or research dealing with human tissue or fluids |
| 2Ω | Large animals (cats, dogs, livestock) | Pre-empl. If clinically indicated by species and animal source | Only when indicated | q 10 years | When clinically indicated | Q-fever titer q year if working with sheep/goats or any animal housed with sheep/goats  |
| 3 | Small animals (rodents/rabbits) | N/A | N/A | q 10 years | When clinically indicated | N/A |
| 4 | Wild/Unusual Animals\*\*\* | If working with animals that could be a host. | Only when indicated | q 10 years | When clinically indicated | Other tests may be required |

\* Adapted from Rivera, et al. Journal of Occupational Medicine, 1983.

\*\* May Include Viable Cells or Tissues from Species

\*\*\* Will Be Reviewed on a Case-By-Case Basis by MAH in collaboration with DLAM

\*\*\*\* PPD testing and hepatitis B vaccination will be required for all personnel working with NHP’s. Education on the risk of Herpes B-Virus ( Macacine alphaherpesvirus 1; McHV-1) will be discussed as well if species of concern are used.

Ω As of December 2001, no protocols are active for Animal Categories 1 & 2. If and when one becomes active, the NU-IACUC will notify MAH. They will also provide MAH a list of personnel participating in the protocol and all those that could potentially be exposed to animals in these categories.

 E. **EXPOSURE PROTOCOLS:**

1. In the event of an acute exposure, the following exposure protocols have been developed:

1. Accidental Bite
2. Needle stick or prick

 F. **RECORDKEEPING:**

1. The MAH/UHCS will maintain records of all participant interactions under this program through their medical records system.
2. Copies of the medical approval form and documentation of training will be kept on record in the NU-IACUC/DLAM Administrative Office and this will be utilized to identify and notify participants of a protocol change or who are due for surveillance update. Undergraduate students will need approval from UHCS prior to starting a class using live vertebrate animals.

 G. **MEDICAL EMERGENCIES:**

All medical emergencies (during working hours and after hours) will be directed by Northeastern University Police Department (NUPD), based on severity. When an emergency occurs, participants are to contact NUPD by calling x3333. NUPD will respond and assess the participant. They will contact an occupational medical professional and treat, recommend treatment, or coordinate transport to a local emergency room. The recommended emergency room is Beth Israel Hospital.

H. **REPORTING:**

All exposures, including animal bites, scratches, needle sticks/pricks, exposure to hazards, are to be reported to the PI, OARS (Office of Academic Research Safety, formerly EH&S), and the DLAM Director.

1. **NON-MASSACHUSETTS CAMPUSES:**

All animal work done by Northeastern campuses not in Massachusetts fall under the same guidelines. Faculty, staff, and students will enter the Animal Occupational Health Program and participate in Animal Occupational Health training. Medical clearance will be given by either that institution’s Health Services, by MAH, or by their personal physician. This will be established and approved by the IACUC when those campuses begin animal work under an NU-IACUC approved protocol.

**CONSIDERATIONS FOR STUDENTS IN FIELD STUDIES**

1. Are there known zoonotic hazards associated with the animal species being studied or with other species in the vicinity?
2. Are there known environmental hazards in the area of the field studies. i.e. ticks, poisonous snakes, dangerous wildlife?
3. Is there a plan in place in case of injury in the field, i.e. location of nearest hospital?
4. The frequency, intensity, and duration of exposure
5. The handling precautions

**References:**

Guide for the Care and Use of Laboratory Animals, 8th Edition, Public Health Service, 2011.

Riviera, J.C., Bayer, R.A., and Johnson, D.K. 1984. The National Institutes of Health Animal Handlers Surveillance Program. Journal of Occupational Medicine. 26(2): 115-117.

Occupational Health and Safety in the Care and Use of Research Animals, National Research Council, 1997.