CMU CENTRAL MICHIGAN UNIVERSITY | Office of Laboratory & Field Safety

Title: Animal Handler Health and Safety Program: Risk Assessment Standard Operating Procedure
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I. PURPOSE

The purpose of this standard operating procedure is to provide general guidance on the objective assessment of risks associated with the exposure to, care of, and use of animals at Central Michigan University. A complete risk assessment should take into consideration all hazards that a worker might be exposed to including chemical hazards, biohazards, radiation and radioisotopes as well as hazards associated with animal contact (Ref. 1,2,3,5). Exposure to allergens is the most common risk associated with animal contact (Ref. 6,8). The main source of allergenic proteins is the urine of rats and mice, however allergens may also be found in dander, hair, saliva, serum, and bedding (Ref. 9,10).
Risk factors for developing allergic reactions include an allergic reaction to another animal species, the intensity of exposure, the duration of exposure and the route of exposure (Ref. 6,7). Duration of exposure may be a less significant factor than intensity or a personal history of allergy (atopy) although personal history alone is not a reliable predictor (Ref. 6,7,9). The most effective route of exposure (for the development of allergy or asthma) is respiratory (Ref. 6). Since animal allergens including proteins in urine can become aerosolized and remain airborne for extended periods of time, the use of engineering controls, the use of personal protective equipment (PPE), and using cage-changing stations and ventilated or barrier top cages can significantly reduce risk of exposure (Ref. 1,4,5,8).
Most animal care personnel will be exposed to moderate or high level of risk from allergens regardless of full or part time status of their position and as such must submit an Initial Medical Questionnaire for Individuals Who Work with Animals (IMQ). The exposure risks of research and instructional personnel including volunteers and students in classroom and directed research settings are highly variable and as such, a detailed risk assessment should take place.

II. Definitions:

a. **Animal:** Any live or dead vertebrate animal used or intended for use in research, research training, teaching, experimentation, demonstration, or biological testing or for related purposes.

b. **Animal Contact:** any contact with animals based on hazard identification and relative risk assessment. Animal contact may be direct or indirect. Indirect contact is contact with animal products or items that have been in contact with animals. Animal products include: unpreserved tissues, blood, excreta, body fluids or discharges, hair, dander etc. Items that could be contaminated include sharps, pens and cages, bedding, clothing, gloves etc. (Ref. 11,12).

c. **Animal Facility:** Any and all buildings, rooms, areas, or enclosures, including satellite facilities, used for animal confinement, maintenance, breeding, or experiments inclusive of surgical manipulation. A satellite facility is any containment outside of a core facility or centrally designated or managed area in which animals are housed for more than 12 hours.

d. **Animal Handler**: anyone who has animal contact related to classroom, teaching, research or outreach activities at CMU.

e. **Risk Assessment:** The process by which risks associated with working with animals (such as hazardous biological, chemical, or physical agents; allergens; or zoonosis) are identified.

f. **Risk Management:** The process by which identified risks are managed through such actions as education, training, personal protective equipment, zoonosis surveillance, or immunization.

g. **Risk Training and Education:** A program of training and education about areas of risk when working with animals in general or with specific species, conducting specific experiments, conducting specific experiments, or exposure to animal allergens.

h. **Supervisors:** Department chairs, faculty, and other CMU employees or affiliates who have oversight of University employees, students, or other individuals and who are involved with animals; those individuals who are not CMU employees but are affiliated through courtesy or adjunct appointments may serve as supervisors.

III. Procedures:

1. **Risk assessment must be completed prior to initiating work with animals.** Following risk assessment, individuals will have the option to either participate or not participate in the medical surveillance process**. If an individual elects to participate in medical surveillance by submitting an Initial Medical Questionnaire (IMQ) to the Occupational Health Physician (OHP), they must complete all medical appointments, and address any recommended medical restrictions or respirator fit testing (if applicable), prior to initiating work with animals.**

2. To facilitate risk assessment, supervisors will direct each **new** animal handler to contact the Office of Laboratory and Field Safety (989-774-4474) to obtain the **risk self-assessment document** and **animal allergen information sheet.** Supervisors will provide to the worker information regarding hazards specific to their laboratory and the level of risk associated with the tasks the individual will be performing.

3. **Supervisors are prohibited from directing the decision of an animal handler regarding completion of their risk assessment or the decision to submit an IMQ.** Questions are to be directed to the Office of Laboratory and Field Safety (989-774-4474).

4. Following the instructions provided and using the tables in the self-assessment document and any protocol specific considerations, each individual involved in animal care, research or classroom settings will assess their risk. **Exceptions may apply to centrally scheduled courses.**

5. The tables in the self-assessment document will guide each individual to consider their exposure level and individual susceptibility to animal allergens and other hazards based on their medical history. Individuals with allergies, asthma or other pre-existing conditions should be considered as moderate or high risk regardless of the level of exposure and should submit an IMQ (Ref. 6,7,9).

6. If an individual is uncertain about personal medical risks, they should consult a medical professional for assistance in making this determination. The Office of Laboratory and Field Safety cannot give any advice related to medical risks.

7. CMU Students should consult Student Disability Services to determine if accommodations are available prior to submitting an Initial Medical Questionnaire.

8. To conduct a complete assessment, each individual will enter an occupational exposure score and their personal susceptibility.

    - The resulting scores will generate a risk assessment level of low, moderate or high.
    - The form will generate a recommendation for medical surveillance based on the risk assessment score.

9. If an individual is determined to be at high risk, it is **strongly recommended** that they obtain an IMQ from the Office of Laboratory and Field Safety (989-774-4474) and submit it to the CMU consulting Occupational Health Physician via email or using the fax number provided on the form.

10. If an individual is determined to have low or moderate risks associated with their animal contact, they should still consider submitting an IMQ.

11. If their risks change to a lower level, individuals may choose to stop participating in medical surveillance by obtaining and submitting a signed declination statement to the Office of Laboratory and Field Safety or by redoing their risk assessment and choosing not to submit an IMQ.

12. Under CMU Policy 13-6 sections 8-9, CMU reserves the right to require participation in preventative medicine programs. An individual, who was previously enrolled in medical surveillance and was **approved with restrictions** by the Occupational Health Physician (OHP), **cannot stop participating in medical surveillance without the OHP removing those restrictions.**

13. Individuals are advised that they are required to report any work related illness or injury including the onset or worsening of symptoms of allergy associated with exposure to animals. If they develop symptoms of allergy associated with animal care and use, they should conduct a new risk self-assessment and submit an IMQ.

14. Risk level must be re-assessed after any change in tasks that results in a change in the duration or intensity of exposure.

15. Risk assessment must be reviewed periodically. At a minimum, any time exposure level or susceptibility changes risk should be re-assessed.

16. Any questions regarding risk assessment procedures or submitting risk assessment or IMQ forms are to be directed to the Office of Laboratory and Field Safety. **Failure to return the risk assessment submission form within 30 days of notice may result in loss of access to the vivarium.**

IV. References:

1. Occupational Health and Safety in the Care and Use of Research Animals (NAS, 1997)
2. The Guide for the Care and Use of Laboratory Animals 8th Edition (NAS, 2011)
3. Institutional Animal Care and Use Committee Guidebook (OLAW 2008)
4. The National Institutes of Health Laboratory Animal Allergy Prevention Program (2014)
5. Preventing Asthma in Animal Handlers (CDC/NIOSH, 1998)
6. Allergies to Laboratory Animals A Significant Health Risk (2014)
7. Prevention of Laboratory Animal Allergy (Occupational Medicine, 2003)
8. Guidelines for Personnel Protection in Animal Facilities (NIH, 2014)
9. Exposure of Laboratory Animal Care Workers to Airborne Mouse and Rat Allergens (JAALAS, 2012)
10. Influence of 5 Different Caging Types and the Use of Cage-Changing Stations on Mouse Allergen Exposure (JAALAS, 2014)
11. Occupational Health Programs for Animal Workers, University of Michigan, Michigan State University, University of Massachusetts, Vanderbilt University and National Institutes of Health.
12. Central Michigan University Policy 13-6: Animal Handler Occupational Health and Safety Program.

V. Related Documents:

Health and Risk Assessment for Animal Care and Use Personnel
Initial Medical Questionnaire for Individuals Who Work with Animals
Laboratory Animal Allergens Information
Medical Surveillance Declination Statement