

Personnel

Item 2 – Occupational Health Policy for Individuals with Animal Contact

Subsection 2.5 – Occupational Risks of Working with Mice

Allergies

Background: This is the most significant health risk associated with the handling of specific pathogen-free mice bred for research. The major mouse allergen is a urinary protein, *Mus m 1*, which is produced in the liver and salivary glands. Male mice excrete 4x as much as females. The amount of allergens in the air is directly proportional to the number of animals in the room and the amount of work activity. Disturbing bedding (such as dumping cages) releases the highest level of allergens.

Diagnosis: Skin testing can be performed, but is not administered routinely. History of previous sensitivities to other allergens might indicate increased risk of developing sensitivity to mice. Allergic symptoms include sneezing, nasal congestion, itchy eyes, cough, wheezing, shortness of breath, or hives.

Prevention: Opening cages and manipulating animals in a HEPA-filtered, laminar flow hood is probably the best method of decreasing aerosol exposure. Dedicated clothing (lab coat) and gloves worn only when working with animals is also effective in decreasing exposure. Good personal hygiene is important, especially frequent hand washing. Surgical masks are probably not very effective in preventing exposure. For those with known sensitivity, an OSHA-approved dust-mist respirator should be worn, but these require specific fitting to the user.

Bites and Scratches

Background: Bites and scratches are almost inevitable if one handles many mice over long periods of time. There are no known pathogenic organisms associated with bites and scratches from specific pathogen free mice. Usually, scratches do not break the skin. Bite wounds are usually not severe due to the small size of the incisors.

Prevention: Good handling techniques are most important. Thicker protective gloves are available, but these often make handling mice very awkward and can put the animal at risk of injury. With good training and confident handling, bites and scratches can be minimized.

Treatment: Wash thoroughly with an antibacterial soap and water. Complete an incident report. Seek medical attention if there is excessive bleeding, pain or joint involvement. If swelling, discoloration, chronic pain or any discharge develops, seek medical attention immediately.

Other Risks

Wild-caught Mice: There are a number of infectious diseases that can be carried by wild rodents and passed to humans. Lymphocytic choriomeningitis, Leptospirosis, Salmonellosis and Ringworm are just a few examples. The Department of Laboratory Animal Resources should be notified if wild rodents are to be utilized and can provide further information on any of these diseases.

Additional Information

Books:

Occupational Health and Safety in the Care and Use of Research Animals, Institute for Laboratory Animal Resources, National Research Council. National Academy Press, 1997.

Viral and Mycoplasmal Infections of Laboratory Rodents: Effects on Biomedical Research, Bhatt, Jacoby, Morse III, and New, eds. Academic Press, 1986.

Infectious Diseases of Mice and Rats, Institute for Laboratory Animal Resources, National Research Council. National Academy Press, 1991.

The Mouse in Biomedical Research, Vol. III, Foster, Small and Fox, eds. Academic Press, 1983.

Videos:

The Humane Care and Use of The Mouse, Rat and Hamster, Laboratory Animal Training Association, 1991.

Internet:

<http://clueless.ucdavis.edu/> - This is the laboratory animal occupational health information provided by the University of California – Davis; compiled by Dr. Phil Tillman.

If you have any questions or would like additional information, please contact Dr. Robert Quinn, Director of the Department of Laboratory Animal Resources at 4-6563.

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