

Allergies to Laboratory Animals

Preventing Asthma in Animal Handlers (in the Workplace): a NIOSH [link](https://www.cdc.gov/niosh/docs/97-116/).
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Allergy to animals is a significant occupational health concern for individuals who work with the common laboratory animal species. Cats, rabbits, mice, rats and guinea pigs are the most frequently implicated species. Materials from animals that have been traditionally implicated in the development of allergy include fur, hair, dander, and urinary proteins. Individuals come into contact with such allergenic material from animals in many ways. Handling animals, performing techniques such as injections, blood sampling, testing, euthanasia, feeding and cleaning cages are examples of procedures where a person might be exposed to allergens. Exposure may occur by inhaling contaminated dust from the bottom of a cage or by direct contact with the material. It is virtually impossible to be in contact with animals without having contact with allergenic material.

Allergy can be manifested by a number of symptoms to include rhinitis (condition characterized by runny nose and sneezing similar to hay fever) conjunctivitis (irritation and tearing of the eyes), asthma, and/or dermatitis (skin reactions caused by contact with an allergenic substance).

Various studies indicate that between 10-20% of individuals exposed to animals in a laboratory setting will develop some symptoms of allergy. While most individuals who will develop allergy to animals will do so within the first two years of exposure, certain sensitive individuals may experience almost immediate reactions. Individuals with a prior personal or family history of allergy, asthma, or hay fever may have an increased the risk for developing allergy to animals.

Most of the individuals who develop reactions to animal contact experience symptoms such as allergic rhinitis and conjunctivitis. However, more severe reactions with chest symptoms such as asthma with shortness of breath, wheezing or coughing may also be associated with exposure. Individuals with a prior personal or family history of allergy or asthma may be more likely to develop asthma after contact with animals. Skin manifestations, such as a general or localized rash/wheals, may also be associated with animal contact.

The *University of Idaho Administrative Procedures Manual section 35.71* “Reporting Injuries or Illnesses Related to University Employment or Activities,” requires that personnel report all illnesses which result from job-related activities to their immediate supervisor for evaluation/investigation. Allergy to Laboratory Animals should be considered such an illness. Individuals experiencing symptoms would also be advised to contact their physician for diagnosis and treatment.

Certain procedures should be routinely followed in order to minimize the risk of development of allergy to animals. Animals should be worked with in well ventilated areas to decrease the buildup of various particles in the air. Exposure can be further reduced by using good hygiene practices (e.g. hand washing) and personal protective equipment such as gloves, particulate or fine dust masks and laboratory coats. It needs to be emphasized that if the use of such personal protective equipment or a respirator is contemplated to minimize risk, the use of such items for protection should first be evaluated by a trained professional (*UI Administrative Procedures Manual: Environmental Health and Safety, Respirator*

Protection and Use 35.51). Specialized equipment, work areas and work routines may also be available/practiced in the facility where an individual works with animals to further decrease exposure.

Care should also be taken in moving animals from one room to another via corridors or elevators. To decrease exposure to individuals located along the transport route, cages should be covered with a material such as a filter top or drape while being transported to a laboratory or procedure area.

For additional information:

- Guilloud, Robin. “Common Sense Approach to Animal Allergy”. AALAS Bulletin: 30(6), 1991.
- Hunskaar, Steinar and R. Fosse. “Allergy to Laboratory Mice and Rats: A Review of its Prevention, Management and Treatment”. Laboratory Animals: 27, 1993.
- Olfert, Ernest. “Allergies to Laboratory Animals – Aspects of Monitoring and Control”. Lab Animal: 22(2), 1993.

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