



What are the symptoms of allergic reactions to laboratory animals and when do they occur?

The earliest symptoms include nasal stuffiness, a “runny” nose, sneezing, red irritated eyes, and hives. Symptoms that are particularly troubling are those that suggest the worker is developing asthma. These include coughing, wheezing, and shortness of breath. Asthma resulting from allergic reactions to laboratory animals can result in severe and occasionally disabling breathing problems. Very rarely an employee with allergic symptoms will develop a potentially life-threatening reaction following an animal bite.

Most workers who develop allergic reactions to laboratory animals will do so within the first twelve months of working with them. Infrequently, reactions only occur after working with animals for several years. Initially, the symptoms are present within minutes of the worker’s exposure to the animals. Approximately half of allergic workers will develop symptoms three or four hours following the exposure.



What laboratory animals are associated with allergic reactions?

Most animals used in research have been identified as the source of workers’ allergic symptoms. Because mice and rats are the animals most frequently used in research studies, there are more reports of allergies to rodents than other laboratory animals.



What are the chances that a worker will develop an allergic reaction to laboratory animals?

It has been reported that one out of every three to five individuals who works with laboratory animals will develop allergic symptoms. Further, one in twenty workers with allergies to animal proteins will develop asthma as a result of their contact with laboratory animals.



Are there factors that are associated with an increased risk for developing an allergic reaction to laboratory animals?

Yes, a history of allergy to other animals, typically cats and dogs, is the best predictor for who will develop an allergy to animals found in research laboratories. Other factors associated with allergic reactions to laboratory animals include the individual’s intensity, frequency, and route of the exposure to the animals. Activities such as handling animals and cleaning their cages may be associated with an increased risk of exposure to the animal proteins and thereby place the worker at greater risk of developing an allergic reaction. Although workers who have a personal, or family, history for asthma, seasonal allergies, and dermatitis are also at increased risk, individuals with no prior history of allergies and only brief work exposures can also develop allergic reactions to laboratory animals.



What can be done to reduce the chance that a worker will develop an allergic reaction to laboratory animals?

The best approach for reducing the likelihood that a worker will develop an allergic reaction is to eliminate or minimize their exposure to the proteins found in animal urine, saliva, and dander. Ideally, this is accomplished by limiting the chances that workers will inhale or have skin contact with animal proteins. In addition to using well-designed air handling and waste management systems in research areas, workers can reduce their risk of exposure by routinely using properly selected respiratory protection, gloves, and gowns as directed by their supervisors.



What should you do if you are concerned that you may have some of the symptoms that suggest an allergy to laboratory animals?

Call UVa-WorkMed (or Student Health) to schedule an appointment for evaluation. A clinician will review your medical and work history and perform a targeted physical exam. Based upon the clinical findings, additional testing may be performed. With early identification of allergic reactions to animals and appropriate treatment, there is the possibility that further injury, including the development of asthma, can be avoided. Personnel may also choose to consult with their personal physician.

The University of Virginia's Occupational Health Program is a three-part program: Health Surveillance, Education, and Risk Assessment. This brochure has been prepared to educate you about the allergy risks associated with the care and use of laboratory animals.



Important Contacts for the Occupational Health Program

- UVa-WorkMed:* 243-0075
- Student Health:* 924-5362
- Environmental Health & Safety:* 982-4911
- Animal Care & Use Committee:* 924-0405
- Center for Comparative Medicine:* 924-2741
- University Human Resources:* 924-4598

The Occupational Health Program is jointly administered by UVa-WorkMed and Student Health, in consultation with representatives of University Human Resources, Comparative Medicine, the ACUC, and Environmental Health and Safety. For more information about the Program, visit our website: <http://www.virginia.edu/vpr/iacuc/>

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ALLERGIES TO LABORATORY ANIMALS: A Significant Health Risk



What is an allergy?

An allergy is an exaggerated reaction by the body's immune system to proteins. In the case of allergies to laboratory animals, the proteins most frequently associated with the allergic reaction are found in the animal's urine, saliva, and dander.



OCCUPATIONAL HEALTH PROGRAM