What is a laboratory animal allergy?

An allergy is an exaggerated reaction by the body’s immune system, most frequently to proteins. In the case of a laboratory animal allergy, the proteins most commonly associated with allergic reactions are found in the animal’s urine, saliva, and dander. Workers with regular contact with laboratory animals often develop allergies to them.

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 sometimes rashes. Symptoms that are particularly troubling are those that suggest the worker is developing asthma. These symptoms include coughing, wheezing, and shortness of breath. Asthma resulting from allergic reactions to laboratory animals can result in severe and occasionally disabling breathing problems. Rarely, an employee with allergic symptoms will develop a potentially life-threatening reaction following an animal bite or contaminated needlestick.

Most workers who develop allergic reactions to laboratory animals will do so within one to two years of working with them. Infrequently, reactions occur after working with animals for many years. Once sensitization has occurred, the symptoms may be present within minutes of the worker’s exposure to the animals. Some allergic workers will have their initial symptoms subside and then recur three or four hours following the exposure.

What laboratory animals are associated with allergic reactions?

Most species of animals used in research have been identified as the source of 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 10–44 percent of individuals who work with laboratory animals will develop allergic symptoms. Further, an estimated ten percent of laboratory workers may develop occupational-related asthma.
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 history for asthma, seasonal allergies, and dermatitis are at increased risk, even 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; thus, 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 following PPE requirements, washing hands frequently and decreasing time with animals. It is important to remember that surgical masks and dust masks do not provide protection against animal allergens. If additional respiratory protection is needed for animal allergy concerns, please contact Occupational Health Services at (415) 885-7580.

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

Notify your supervisor of your concern and call Occupational Health at (415) 885-7580 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, most people can avoid further sensitization or the development of asthma.