

LABORATORY ANIMAL ALLERGIES

Introduction

Allergic reactions to animals are among the most common conditions affecting the health of workers involved in the care and use of research animals. An estimated 10 to 40% or all personnel who work with animal will develop allergies to animals. Notable sources of allergens from laboratory animals are from the proteins found in or on hair, dander, urine, saliva, and serum. These proteins are sufficiently foreign to the human immune system leading to potential immune reactions. It is therefore of great importance that personnel who work with laboratory animals understand the symptoms, the routes of exposure, the risk factors, and the preventative measures to be taken as they relate to laboratory animal allergy (LAA).



Symptoms



Allergic individuals may display any of a number of symptoms; allergic rhinitis (a condition characterized by runny nose and sneezing similar to hay fever); by allergic conjunctivitis (irritation and tearing of the eyes); by asthma (characterized by wheezing and shortness of breath), or by contact dermatitis (a red, bumpy rash that may appear where your skin touches the animal). If you have a stuffy nose or other respiratory signs, and if it seems to last longer than a common cold (weeks instead of days) then you may very well be suffering from an allergy

Routes of Exposure

Personnel may be exposed to animal allergens through inhalation, and contact between skin, eyes, and mucous membranes with materials from the animal. These materials include animal bedding, animal hair, animal urine, animal saliva and animal serum. In addition, direct contact between skin and the animal may produce an allergic response.

Risk Factors

Risk factors for developing laboratory animal allergies include history of previous allergies to animals and other environmental materials. A history of previous allergies (i.e., atopy) is not a guarantee that animal-related problems will develop, but some studies have found a correlation between pre-existing atopy and LAA.

Preventative Measures

Laboratory Animal Allergies can often be managed by a combination of medical management and work place strategies. It's important to consult with a physician to determine the cause of your allergy in order to manage it effectively.

The most effective way to control and prevent allergies is to minimize exposure to the allergens. If you work in an animal facility, or if you work with animals in a laboratory setting, the following practices may help reduce your exposure to animal allergens:

- When possible, perform animal manipulations in an annually certified ventilated hood or a bio-safety cabinet.
- When you're not working in a hood or cabinet, make sure that the animal room or other work area is adequately ventilated and that all the air handling equipment in the room is in good order. If there is doubt, please contact Facilities Management Systems (FMS) to measure the number of air changes in the room. Animal rooms should deliver at least 10 air changes per hour.
- Don't wear your street clothes when working with animals. Wear dedicated, protective clothing.
- Launder your protective clothing at work, or have it cleaned by a professional service. Don't take your protective clothing home with you. Lab coat laundering is available through the University's Housing Services. Contact Andrew Lawson at (412)268-8405 to obtain further information.
- Wash your hands frequently. Avoid touching your hands to your face while working in the laboratory.
- Keep cages and your work area clean.
- Use beddings that are not dusty such as corncob bedding and non-contact absorbent pads. Wood shavings may be dusty or not depending on their source and quality.
- Reduce your skin contact with animals by wearing gloves and long-sleeved lab coats.
- If you suffer from allergies to a species you must work with, consider wearing an approved, NIOSH certified N95 respirator when in the animal facility. Respirators are, in general, less effective than the other methods shown above and should not be used as a substitute for good work place hygiene. Note: **You must be enrolled in Carnegie Mellon University's Respiratory Protection Program before wearing respiratory protection! To enroll in the program contact Mark Banister at 8-1493 or Andrew Lawson at 8-8405.**

If your job requires you to be exposed to something to which you are allergic, you should discuss with your physician what effect the allergy may have on your future health. Some workers are so severely affected that only a change in career will control their allergies.



Our Mission:

Environmental Health & Safety (EH&S) is committed to providing health and safety services that protect the University community and the environment.