

LABORATORY ANIMAL ALLERGIES



Laboratory animal allergies can pose a serious health concern for those who work with or near animals. EH&S has resources to help you understand the health risks and how to protect yourself.

WHAT ARE ANIMAL ALLERGENS?

Animal allergens are proteins found in the following substances:

- Urine
- Fur
- Saliva
- Feathers
- Blood
- Feces
- Dander (microscopic scales from hair, feathers, or skin)

When an individual predisposed to developing allergies comes into contact with these allergens, they may have an allergic reaction: an exaggerated response by the immune system to a foreign protein.

Allergies can take weeks, months or years to develop. More serious cases can lead to asthma or extreme allergic response to even a tiny exposure. Some employees may eventually have to leave their work with animals if their symptoms are severe.

Many animals produce allergens, including those used in laboratory research. Rat urine, cat saliva, rabbit fur, and dander from dogs, cats, ferrets, guinea pigs, hamsters, and other furry animals are particularly potent allergens and sensitizers.

ARE YOU EXPOSED?

You can be exposed to allergens if you inhale them, if they contact your skin or eyes, or if they enter your body through breaks in the skin such as from bites.

Inhalation is one of the most potent routes of exposure. Allergens can be released into the air when dander or fur is shed from the animals and when materials containing allergens are disturbed.

Tasks that may generate airborne exposures to allergens include cage changing, cage dumping and washing, and performing procedures on animals or animal tissue. For example, when cages containing urine, saliva or feces are dumped to dispose of bedding, allergens may become airborne.

You do not have to work directly with animals to be exposed to their allergens. If allergens are released into the air, anyone in the room can be exposed.

ARE YOU AT RISK?

All people who work with lab animals, around lab animals, or in rooms where lab animals are present are at increased risk for developing allergies to them.

Those with an even greater risk are people with:

- A history of allergies or hay fever
- Allergies to domestic animals, such as cats and dogs
- A history of working with animals or animal products (e.g., lab animal workers, animal husbandry staff, and livestock workers)
- Exposure to tobacco smoke

It's estimated that 11 to 44 percent of animal workers will develop allergic symptoms. Of those with symptoms, up to one in 10 will develop asthma, which may not go away even if exposure stops.

WHAT ARE THE SYMPTOMS?

A variety of symptoms may occur alone or in combination with each other.

- **Respiratory:** Nose, eye, and throat irritation, runny nose, sneezing, coughing, wheezing, chest tightness, shortness of breath
- **Skin:** Itchy, red rash and hives

A rare but severe reaction from sensitization is anaphylactic shock. This can include a sudden difficulty in breathing or swallowing.

HOW CAN YOU REDUCE EXPOSURE TO ALLERGENS?

Awareness

Understand the sources of allergens, your individual risk, ways you can be exposed through your work, and ways to control your exposure.

Complete an Animal Use Medical Screening (AUMS)

All persons working in rooms where animals and/or animal fluids are present and/or working directly with animal tissue, must complete the AUMS form prior to work. There is a link to the AUMS form on the [EH&S website](#).

Engineering controls

These are tools or equipment designed to capture the allergens before exposure can occur. Engineering controls are the most effective type of workplace controls. They include, but are not limited to, the following:

- Biological safety cabinets and chemical fume hoods. *Do not work with animals or animal tissues in laminar flow cabinets that blow unfiltered air at the worker.*
- Cages with filter tops
- Cage racks that filter the air before releasing it into the room or maintain the cages under negative pressure relative to the room

Work practice controls

Perform all tasks in a manner that minimizes aerosolization and cross contamination.

- Wash hands and exposed skin after handling animals, at breaks and at the end of work.
- When cage dumping and washing, saturate bedding completely with water and gently transfer contents.
- Keep work surfaces and animal areas clean by wet wiping or mopping.
- Shower and shampoo hair daily; allergens can cling to hair, exposing you at home.
- Leave work clothes and shoes at work so the allergens are not traveling home with you.
- Talk with your supervisor. Ask questions and offer ideas for reducing exposure.
- Use personal protective equipment (PPE) to cover skin and clothing, such as gloves, goggles, lab coats, hair bonnets and sleeve covers.
- Respirators, such as N95, are recommended to help prevent onset of animal allergies for sensitive individuals. See the guidance on N95 respirators for animal allergies on the [EHS& website](#).

DO YOU HAVE SYMPTOMS?

If you develop symptoms of lab animal allergy, contact the Employee Health Center immediately at 206.685.1026 or emphlth@uw.edu.

Even if you do not experience symptoms when you first start working around animals, they can develop over time.

Repeated exposure to allergens may result in sensitization. Sensitization may occur after a few months or as long as 10 years. Sensitization will cause symptoms to begin, increase or become severe; for allergic persons, symptoms often become worse with time.

Talk with your healthcare provider about your health risk and let them know you work with animals.

Further resources

- [EH&S Animal Use Medical Screening page](#)
- [NIOSH Preventing Asthma in Animal Handlers](#)
- Bush RJ, Stave GM. [Laboratory animal allergy: an update](#). ILAR J. 2003; 44(1): 28-51.