# Allergy from Animal Contact

**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); allergic conjunctivitis (irritation and tearing of the eyes); asthma (characterized by wheezing and shortness of breath), contact dermatitis (a red, bumpy rash that may appear where skin touches the animal), or anaphylaxis (symptoms may include itching/hives, throat tightness, eye or lip swelling, difficulty in swallowing, hoarseness, shortness of breath, dizziness, fainting, nausea, vomiting, diarrhea). 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. If you develop suspicious symptoms whenever you are exposed to a certain species, then you are very likely to have an animal allergy.

**Biology**
The allergens are proteins that are excreted in the animals' saliva, urine, and from various glands associated with the skin. The proteins tend to be sticky and become associated with the animal's hair and with particles of dander. The allergens are unique to each species of animal, so it is possible to be allergic to mice and not to rats and vice versa. It is also possible to be allergic to multiple species; in fact a person who is already allergic to one allergen (animal or otherwise) has a greater chance of becoming allergic to a new allergen than a person who has no allergies at all.

The animals most commonly associated with workplace allergies are mice and rats. Other animals to which allergies are seen include rabbits, gerbils, cats, guinea pigs, dogs, horses, birds, and even cattle, pigs, and non-mammals (e.g., frogs). An individual could potentially be allergic to almost any animal.

**Relative Risk**
Various studies have shown that the incidence of animal allergies among animal handlers may be as low as 10% or as high as 30%. While this means that the majority of animal handlers **don't** suffer from allergies to the animals under their care, it also means that animal handlers have an incidence of allergy and asthma about three times as high as that seen in workers who do not work with animals. Allergy is clearly an important risk associated with animals.

Most animal allergies are of the allergic rhinitis and allergic conjunctivitis type. People who have a prior personal history or family history of hay fever or eczema will be more likely to develop asthma after contact with animals(but apparently not more likely to develop rhinitis and conjunctivitis). Symptoms can develop from months to years after a person begins working with animals. However, a majority of the individuals who are going to develop symptoms will do so within the first year of animal contact.

**Prevention and Treatment**

Allergy can often be managed by a combination of medical management and workplace strategies. It is 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 exposure to animal allergens:

- When possible, perform animal manipulations in a ventilated hood or a biosafety cabinet.
- When you are 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. Animal rooms should deliver 10-15 air changes per hour.
- Do not wear your street clothes when working with animals. Wear dedicated, protective clothing.
- Launder your protective clothing at work.
- Wash your hands frequently. Avoid touching your hands to your face while working with animals.
- Keep animal enclosures and the work area clean.
- Use beddings that are not dusty.
- Reduce 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 workplace hygiene.

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.

**References**

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