

Work with Laboratory Animals & Insects

This document describes the University's arrangements for ensuring exposure to animal/insect allergens is suitably controlled and the for providing health surveillance for potentially exposed workers.

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Form: [Reporting form for people potentially exposed to substances that can cause occupational asthma](#). (External Link)

Background Hazard Information

Individuals exposed to laboratory research animals during the course of their work may develop a condition known as Laboratory Animal Allergy (LAA). This is a hypersensitivity or allergic reaction which may develop as a response to repeated exposure to allergens. The common animal allergens are proteins from body tissue, excretions and secretions from mammals, and birds. Similarly, staff working with insects are at risk of developing allergic reactions to the insect frass and scales or hair particles. Insects with a scaly or hairy cuticle are a greater risk than insects with a soft cuticle.

Many of the symptoms of LAA are similar to those of hay fever. They include rhinitis (sneezing and running nose), conjunctivitis (sore and runny eyes), skin rashes such as urticaria (hives or nettle rash), weals on the skin around bites and scratches and asthma (tightness of the chest and wheezing). In rare cases, an anaphylactic shock (a severe form of shock and collapse) may also occur. The commonest symptom relating to animal exposure is running eyes and nose although the most important health problem it may cause is occupational asthma, as this may develop into a disabling condition with recurrent episodes of wheezing and breathing problems. For those individuals who develop occupational asthma, symptoms may occur during working hours or may be delayed until several hours after exposure has ceased when the employee is away from the workplace. A temporary improvement can occur following longer breaks from work, e.g. weekends and vacations.

LAA symptoms commonly develop within six months of first starting work with animals and in most cases within a two year period. Occasionally symptoms occur for the first time after many years of working with laboratory animals.

It is not possible to predict who will develop an allergic response although it is recognised that the risk of becoming sensitised to animal and insect proteins - the first stage in the development of allergy - is related to exposure: the greater the degree of exposure, the higher the likelihood of sensitivity developing. Once an allergic response is established this relationship no longer holds - serious allergic reactions can be provoked by even slight exposure to the relevant animal/insect.

Individuals who already have a respiratory condition, like asthma and those who smoke, are at a slightly greater risk of becoming sensitised.

Controlling Exposure

Work with animals is confined to purpose built facilities which must conform to specific requirements, both for the welfare of the worker and for the animal. The managers of these facilities have drawn up local rules which define the physical and procedural controls that should be employed in order to reduce risk of exposure to allergens to as low as is reasonably practicable. Similarly where there are small animal procedural laboratories located outside of the main facility there must be similar local rules in place. Individuals must be informed of the contents of local rules and procedures and be suitably trained and competent.

Work with insects is normally confined to special rooms [insectories] within or adjacent to a laboratory however similar control measures must be defined.

The physical and procedural controls that should be in place in order to prevent or minimise exposure should include:

- enclosure of the material to prevent its release e.g. use of individual ventilated cages or isolators.
- containment and exhausting releases of the material, e.g. by using of cage stage stations
- provision and use of respiratory protective equipment, Where tight fitting face pieces are used as a means of controlling exposure then it is the responsibility of the manager to ensure that they have been face fit tested.
- written methods that describe the control measures to be used.

Where there remains the potential for exposures that could cause sensitisation then those who may be affected should be referred to Occupational Health for health surveillance.

Health Surveillance

The Control of Substances Hazardous to Health Regulations Individuals requires that individuals who are required to work with animals/insects participate in a suitable health surveillance programme. The University's Occupational Health Provider has prescribed a health surveillance programme for health surveillance - see **Appendix I** for detail of what is involved. Authorisation for entry into the main animal facilities is conditional upon participation in this programme.

Health surveillance will be provided for all workers with laboratory animals and all staff who need to routinely enter animal houses, e.g. maintenance and cleaning. Students who are not employed but who are exposed to laboratory animals by way of their studies are not subject to the statutory provision but never the less may be required to undertake surveillance as a best practice measure, where risk assessment indicates this would be appropriate. [Typically where the student is working with animals for >6weeks]

In respect of visiting workers then liaison will be required with the home institution to ensure that their employer has made adequate arrangements to provide health surveillance.

For the purpose of this guidance laboratory animals are those kept in relatively confined conditions, i.e. within cages, isolators or pens within the animal research facility/laboratory. Hence work with farm animals would be included when kept in a facility for research but not when on the farm or as part of veterinary medicine practicals. (Health surveillance tailored towards workers with farm animals will be provided). Similarly aquatic animals are excluded unless exposure to laboratory animal allergens is likely as a result of the location of the aquatic facility, for example within a general animal house.

The types of insect normally associated with allergic reaction are those which have hairs or scales such as crickets, locusts, cockroaches etc. Work with this type of insect will fall under this guidance.

Health surveillance will comprise both pre-employment and early employment screening, periodic surveillance and termination of employment screening in accordance with the OH Providers Policy. Health surveillance is normally undertaken in the OH Department unless an alternative location is agreed with and arranged by the referring manager.

Pre-employment and early employment health screening

The purpose of this screening is to:

- Identify those who have already developed occupational ill-health and for whom special precautions may be necessary;
- Identify individuals who may have a predisposition to developing an allergic response;
- Identify people who would be more vulnerable if they developed occupational ill-health;
- Provide a baseline measurement for later periodic health surveillance;
- Raise awareness of occupational ill-health and inform individuals where confidential medical advice can be sought if symptoms develop.

Should pre-employment screening reveal that the health of an individual would be at increased risk from the proposed work, then Occupational Health will inform the relevant School/Division in order that suitable adjustments can be considered.

Periodic health surveillance will be undertaken on an annual basis by arrangements with the OH Provider. The relevant manager/nominated person will be responsible for

ensuring suitable arrangements are in place in order that the OH Provider is aware of the individuals that are required to undertake annual health surveillance

Termination of employment screening

The responsible manager/nominated person will ensure that any employee who has been exposed to laboratory animals and is ceasing employment with the University of Nottingham, is directed to OH for a termination of employment screening.

Feedback from health surveillance

The responsible manager will receive a written report of the outcome of the health surveillance plus an electronic copy. The manager will also be advised of any individuals who do not attend for their appointment. Any medical information about an individual's health will of course remain confidential.

When there is an unsatisfactory outcome from surveillance which does not simply require an OH review this will always trigger an Occupational Physician opinion. The outcome of this opinion will provide the following information for the Manager and the University Safety Office

Diagnosis

Whether the condition is considered to be work or non work related.

Management of the individual

Whether there is a requirement to report under RIDDOR

Any related equality issues

Resultant fitness status

The University Safety Office will be provided with a comprehensive year end report summarising the entire year's surveillance activity and outcomes.

Management of individuals who become sensitised

If, in between health surveillance appointments, a manager becomes aware that an individual may be sensitized they will make an immediate referral to Occupational Health. If it is not possible to arrange an immediate appointment the individual will be removed from the area/activity pending attendance. Thereafter the manager will follow the advice given by the Occupational Health Physician on how the individual should be managed.

Management referral forms are available on the [HR website](#).

Where OH have advised that the individual must cease to have contact with animals the manager will develop and implement control measures to protect the worker from further exposure. These measures could include ensuring that co-workers that enter the animal facility do not present a risk to the sensitised individual (highly sensitised people can be affected by allergens brought back into the general working environment on hair and clothing etc of colleagues).

APPENDIX 1

University Of Nottingham Occupational Health Provider, IDC Health Surveillance Policy for Respiratory and Dermatological Sensitisers:

1. All candidates taking up duties with laboratory animals either for the first time or after a break in exposure will undertake baseline COSHH Respiratory Surveillance prior to the first episode of exposure. Such candidates should be referred to OH as soon as exposure is expected to occur for a baseline assessment either by their responsible manager or tutor. Any candidate with an unsatisfactory finding (spirometric or symptomatic) will be referred to an Occupational Physician for further advice. These candidates should not be further exposed until this advice is given.
2. Candidates who are deemed fit for exposure then actually become exposed are seen at 6 and 12 weeks and then at 12 month intervals thereafter (to find out if they are showing any symptoms to indicate that they may be developing sensitisation). Any adverse symptoms or abnormal findings suggestive of this are referred to the Occupational Physician for opinion regarding ongoing fitness.
3. In addition, all exposed individual must have a reporting line (using [this form](#)) in order for them to report any adverse respiratory or URT symptoms. Any such individual making a report of adverse symptoms must be immediately referred to OH by their responsible manager or tutor.

Form: [Reporting form for people potentially exposed to substances that can cause occupational asthma](#). (External Link)