



# Control of laboratory animal allergy

## Guidance Note EH76

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

## Introduction

1 This guidance note draws attention to health risks from exposure to laboratory animal allergens. It advises employers and managers of animal facilities on the precautions needed to prevent or adequately control exposure, as required by the Control of Substances Hazardous to Health Regulations 2002 (as amended) (COSHH). It also deals with duties under the Management of Health and Safety at Work Regulations 1999 (the Management Regulations), including the need to co-operate and co-ordinate where different employers share a workplace. However, it does not deal with other health and safety issues relating to work with laboratory animals, for example management of infection risks and risk of injury from working with primates and farm animals.

2 The protection of animals used in experimental work is the subject of specific legislation, ie the Animals (Scientific Procedures) Act 1986, which is enforced by the Home Office. This guidance takes account of the requirements of the Act and the welfare of animals, and has been produced in consultation with the Home Office.

3 This guidance note is aimed in particular at employers and managers. Other groups, such as employees and health and safety professionals, will also find it useful. It should be read in conjunction with the COSHH Approved Code of Practice (ACOP).<sup>1</sup>

Guidance Notes are published under five subject headings:

Medical  
Environmental Hygiene  
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Plant and Machinery  
General

## What is laboratory animal allergy?

4 Laboratory animal allergy (LAA) is an allergic hypersensitivity response which may develop as a result of exposure to animal allergens. Approximately 20% of people who work with laboratory animals experience some allergic symptoms due to contact with, or inhalation of, animal allergens.<sup>2</sup> These symptoms are typically rhinitis (runny or stuffy nose), conjunctivitis (watery or prickly eyes) and skin rashes. About 10% of all those who work with laboratory animals develop the serious symptoms of asthma. The main, but not the only, sources of animal allergens are urine, fur, hair, dander, saliva, droppings and serum. The majority of cases of allergic disease among laboratory animal workers are caused by rats and mice, probably because these are the animals most commonly used in experimental work. Other species such as guinea pigs, cats, insects and shellfish can also cause respiratory and skin allergies in some individuals.

5 More information about the mechanisms underlying the development of asthma can be found in *Standards of care for occupational asthma*.<sup>3</sup>

## Management of health and safety in animal facilities

6 The COSHH Regulations require employers to prevent or, if this is not reasonably practicable, adequately control exposure of employees to

hazardous substances, including animal allergens. This should be achieved by assessing the risk, providing suitable control measures, and monitoring to ensure that the control measures remain effective and are correctly used. Control measures may include safe working practices, room ventilation systems, local exhaust ventilation (LEV), personal protective equipment (PPE) and respiratory protective equipment (RPE). Information, instruction and training should also be provided to those working in animal facilities.

7 Employers will need to ensure that the day-to-day managers of an animal facility have sufficient competence and authority to ensure control measures are properly used. This is particularly important in some educational establishments where, for example, a senior technician may be in charge of facilities used by senior academic staff.

### Shared facilities and visitors

8 Employers also have a duty, so far as is reasonably practicable, to prevent or adequately control exposure to hazardous substances in respect of everyone on the premises. This includes employees but also includes students, temporary staff employed by agencies, contractors and other visitors. Table 1 sets out duties under the COSHH Regulations.

**Table 1**

Duty of employer under COSHH	For the protection of employees	For the protection of other people on the premises
Risk assessment (regulation 6)	Yes	So far as is reasonably practicable
Prevention or control of exposure (regulation 7)	Yes	So far as is reasonably practicable
Use of control measures and maintenance, examination and testing of control measures (regulations 8 and 9)	Yes	So far as is reasonably practicable
Monitoring of exposure (regulation 10)	No, but may be appropriate to monitor adequacy of controls	No
Health surveillance (regulation 11)	Yes	No
Information, instruction and training etc (regulation 12)	Yes	So far as is reasonably practicable

9 The Management Regulations also require employers who share a workplace to co-operate and co-ordinate so far as is necessary, to comply with relevant legislation.

10 Many animal facilities are used by different departments of the same organisation, or by two or more separate employers. Employers will therefore need to co-operate to ensure that any systems of work or safe working practices are followed by everyone using the facility.

### Safety representatives

11 The Safety Representatives and Safety Committees Regulations 1977 give recognised trade unions the right to appoint safety representatives to represent the employees, in consultation with their employer, about health and safety matters. Employers have a duty to consult safety representatives, in good time, on a range of matters, including the introduction of any measure that may substantially affect the health and safety of the employees represented.

12 The Health and Safety (Consultation with Employees) Regulations 1996 place similar duties on employers to consult with employees who are not represented by trade union safety representatives. The consultation should be with either the employees or their elected 'representative of employee safety'.

13 More information can be found in *Consulting employees on health and safety: A brief guide to the law*.<sup>4</sup>

### Assessment

14 COSHH requires employers to carry out an assessment of the risks to the health of employees which may be caused by hazardous substances present in the workplace. Employers will need to carry out a suitable and sufficient assessment wherever exposure to animal allergens is likely to occur.

15 To assess the risks to employees (and other workers and visitors), employers will have to identify:

- the specific hazards present;
- all potential sources of exposure;
- routes of exposure;
- those people who are likely to be exposed;
- how long they are exposed and how often; and
- which parts of the body are exposed.

16 Work activities which require special attention when assessing exposure include (in no particular order):

- handling animals;
- transporting animals;
- procedures on animals;
- cage cleaning;
- room cleaning;
- disposal of allergen-contaminated waste;
- changing filters on ventilation systems; and
- other maintenance activities.

17 People who may be exposed to allergens and who should be considered in the assessment include:

- animal technicians;
- scientific or academic staff and visitors;
- students;
- cleaning and maintenance staff (including contractors); and
- other visitors.

18 The assessment should include the steps which need to be taken to prevent or adequately control exposure of workers to animal allergens during tasks. Employers will need to select the correct balance and mix of control measures for each task. They will need to consider:

- the need for animals, the type of animal and numbers required;
- the use of ventilation systems including supply and extract systems and, where necessary, LEV for cage cleaning, for example;
- methods of containing animal allergens within the animal facility;
- methods of animal husbandry, including stocking densities and choice of animal bedding;
- appropriate animal handling and design of scientific and technical procedures;
- ways of restricting access to the animal facility;
- use of appropriate PPE, including RPE;
- maintenance, examination and testing of ventilation systems, LEV and RPE (including face-fit testing when appropriate);
- health surveillance; and
- information, instruction and training.

## **Measuring exposure**

19 There is no standardised method for the measurement of animal allergens. However, validated immunoassay methods have been developed to quantify exposure to rat and mouse allergens in urine. These methods are commercially available and are used by some organisations to help monitor the effectiveness of allergen control measures. There is no occupational exposure limit (OEL) designated for animal allergens but, as sensitising substances under COSHH, exposure to them should be reduced to as low a level as is reasonably practicable.

20 It is good practice to use the assessment to formulate 'local rules' which set out in writing the safe working practices which should be adopted for each task. Many organisations also incorporate animal welfare matters in their local rules.

## **Prevention and control of exposure**

21 Where work with laboratory animals is to be carried out, it may not be possible to prevent employee exposure to animal allergens. Employers will need to use a safe system of work and appropriate ventilation systems (including LEV) to control exposure. PPE, including RPE, will be required when exposure to animal allergens cannot be adequately controlled by other means.

### **Animal house ventilation**

22 For most laboratory animals, the approach to animal husbandry is determined by the status and/or needs of the animal. Usually this involves keeping animals in standard cages in a ventilated room. For some animals, such as rodents, the use of individually ventilated cages (IVCs) or isolator units is increasing. This type of unit can provide better control of exposure to animal allergens while in operation, but exposure can occur when cleaning out these units. However, an IVC or isolator unit must be carefully selected to ensure it is appropriate and the welfare of the animal is not adversely affected.

23 Where the health status of the animal needs to be protected, the IVCs or isolators may be kept at a slight positive pressure. Where the animal is deliberately infected with a biological agent,\* for example the causative agent of tuberculosis or other pathogen with the potential for airborne transmission, the normal approach is to use negative pressure containment, for

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\* A biological agent is defined in COSHH as: 'a micro-organism, cell culture or human endoparasite, whether or not genetically modified, which may cause infection, allergy, toxicity or otherwise create a hazard to human health'.

example an isolator. If ventilated cage systems are being considered for housing animals which have been deliberately infected with biological agents, a full risk assessment and testing for appropriate containment should be carried out. Further information can be found in *Working safely with research animals: Management of infection risks*,<sup>5</sup> and in *Guidance on the use, testing and maintenance of laboratory and animal isolators for the containment of biological agents*.<sup>6</sup>

### Standard cages in ventilated rooms

24 Ventilated rooms can be, and are designed to provide, a comfortable environment for all animal species while providing a degree of control of exposure to animal allergens for the staff.

25 Careful attention needs to be given to the design and position of air inlets and outlets, to provide the correct animal welfare conditions without compromising worker safety and to avoid draughts and noise nuisance. Generally air is brought in at a high level, at or near the ceiling, and taken out at a lower level (for example near the floor) to avoid airflows being brought up past worker breathing zones. If animals are kept in standard cages in a ventilated room, the *Home Office Code of practice for the housing and care of animals used in scientific procedures* and *Code of practice for the housing and care of animals in designated breeding and supplying establishments*<sup>7</sup> advise that between 10 to 20 air changes per hour (depending on the type of animals kept) will provide suitable air quality for the animals.

26 Containment of animal allergens is best achieved if animal holding rooms are at a negative pressure to corridors, and the animal unit itself is at a negative pressure to the outside. However, this does not apply to infected animal work if, on animal welfare grounds, there is a need for positive pressurisation of animal rooms. In this case animal allergen control needs to be achieved by ensuring that the unit is overall at a negative pressure. Appropriate methods to achieve this include restricting access through corridors, lobbies and changing rooms with varying ventilation pressure gradients.

27 The air distribution system within the animal room should be designed so that airflows that may contain airborne allergens are directed away from workers. In practice, the systems are designed to draw allergens away from workers, but the open structure of the cages means that the level of airborne allergens in the room will be higher than in a room with more enclosed ventilation systems, such as individually ventilated cages. It is likely that staff working in any animal facility using standard cages in ventilated rooms will also need to wear suitable RPE/PPE, even when the animals are not being handled (see paragraphs 48–55).

28 If room ventilation systems are correctly designed, installed, used and maintained they can help control worker exposure to laboratory animal allergens. The advice of the manufacturer and the installation, use and maintenance instructions should be included in the training and supervision of both animal-handling staff and maintenance staff.

### Individually ventilated cages (IVCs) and isolator systems

29 IVCs have their own enclosed ventilation systems. These systems may be stand-alone, recirculating filtered air extracted from the cage back to the animal room through a fan and high-efficiency particulate air (HEPA) filter system. Alternatively, the system may be connected via ducting to the main building extraction system or extracted directly to the outside, also through HEPA filters. HEPA filter systems can include a pre-filter to capture larger particles and help maintain the life of the HEPA filter. The HEPA filter should be changed as necessary, according to the manufacturer's instructions, and disposed of as hazardous waste.

30 IVC air change rates are higher than for standard cage rooms, for example 20 to 30 or more air changes per hour. The small total volume of all the cages compared with the large volume of the room means that a lower total room-air change rate may be acceptable, compared to that required for a standard caged room. When using IVCs, the actual room-air change rate selected needs to take account of the layout and size of the room, the animal species, the stocking density and the configuration of the ventilation system. If the air extracted from the cages is to be returned to the room, a filtration system suitable for the removal of particulate, gaseous and vapour contaminants will be required. Similarly, the extracted air should only be returned to the room if the room ventilation is capable of removing the excess heat generated by the animals.

31 While IVCs and isolators may be more expensive to purchase than standard cages and racks, they can be an effective way of reducing exposure to animal allergens while the animals are not being handled. There is also the potential benefit of reduced ventilation costs for the building. The ventilated cage systems may require smaller amounts of air to be extracted and filtered from the room, and so less air needs to be filtered, heated and supplied.

32 RPE may not normally be required if animals are kept in IVCs, unless they are being handled or dirty bedding is being removed from the cages. Enclosed cages such as IVCs reduce the likelihood of any transfer of allergen-containing material from the cage into the room. This in turn reduces the level of room contamination and consequent cleaning.

33 Where the use of IVCs is proposed, the design and selection process needs to balance the requirements of the animal and the worker. The type of animal, cage population, and its welfare needs – in particular the microclimate, levels of noise and vibration, the need for environmental enrichment and the type of bedding material – should all be considered as part of the process.

34 The cage microclimate should ensure that the animal does not suffer excessive cooling from draughts, that airborne pollutants such as ammonia and carbon dioxide are removed, and that the environment is comfortable. Where possible, animals should be housed in pairs or groups, with cage furniture and the use of transparent cages to allow observation with minimal disturbance. Frequency of cleaning should not be compromised because of IVC containment.

35 The advice of the supplier should be sought to confirm the cage design is suitable for the proposed use. Such cages will only contribute to the control of exposure to animal allergens if they are correctly designed, installed, used and maintained. The advice of the manufacturer and the installation, use and maintenance instructions should be incorporated in the training and supervision of both animal-handling staff and maintenance staff.

### **Systems of work**

36 Appropriate safe systems of work in animal husbandry can significantly reduce exposure to animal allergens, and the following should be considered as part of the COSHH assessment:

#### ***Cage cleaning***

37 Significant exposure to animal allergens can occur:

- when transferring animals from dirty to clean cages or to procedure rooms;
- when removing dirty bedding and cleaning cages; and
- when carrying out procedures on animals.

While effective ventilation systems should be used to help control these 'high-risk' activities, RPE will normally be required. Appropriate disposable gloves should also be worn.

38 Cage emptying and cleaning should ideally be done in a separate room away from animal holding rooms, using a properly designed and operated cage-cleaning station which incorporates suitable extraction arrangements. The cleaning station needs to be sited carefully to avoid interference from draughts. The users of the station need to be trained and supervised in the correct procedures to control exposure to

animal allergens. Dust and therefore animal allergens are best captured by the inward airflow of the cleaning station but PPE and RPE will also be required. The design of the station should ensure an inward air velocity sufficient to draw the airborne dust produced by the cleaning operation away from the user and into the extraction system. Generally, a face velocity of at least one metre per second will be required.

39 Control of exposure to animal allergens during cage cleaning is particularly dependent on how the task is carried out. Ventilated cage-cleaning stations can contribute to the control of exposure to animal allergens, providing they are correctly designed, installed, used and maintained. The manufacturer's instructions on installation, use and maintenance should be incorporated into the training and supervision of animal-handling staff and maintenance staff. Appropriate training and supervision of users during cage cleaning is especially important to help control exposure.

40 HEPA filter vacuum cleaning systems, with appropriate cleaning tools, can also be used. This may be, for example, by a separate centralised vacuum cleaning system or, for smaller facilities, a Class H vacuum cleaner. Cleaning of bedding from cages can produce large amounts of debris and therefore cleaners will need to have sufficient waste-handling capacity. Tools that can effectively scrape up and collect the bedding from the cage will be needed. An open-ended vacuum hose will not provide effective cage cleaning or control of exposure.

41 Where a separate room is not provided for the cage emptying and cleaning and so this needs to be carried out in the animal rooms, the use of HEPA filtered vacuum cleaning systems with appropriate cleaning tools is again recommended. However, if the noise from such a system is judged to compromise animal welfare, remote cleaners with extended hoses or vacuum cleaners fitted with silencers may be more appropriate. Where such methods of dust control at source are not possible, employees will need to wear suitable RPE/PPE.

#### ***Procedures on animals***

42 Animal procedures such as shaving can lead to significant exposure to animal allergens. The use of self-contained ventilated booths, mobile safety cabinets and flexible film isolators may then be appropriate. If not practicable, RPE/PPE is required.

43 Procedure rooms should be ventilated, following the same principles applied to animal holding rooms.

#### ***Stock levels***

44 A linear relationship has been shown between rat allergen concentration and stock density. To reduce animal allergen levels, stock densities should be kept

as low as practicable, which in any case should be at or below that set out in the Home Office codes of practice.<sup>7</sup> In some species (rats, mice, ferrets and cats), female and young animals have been shown to contain lower concentrations of the allergens compared to adult males.

### **Cleaning of rooms**

45 Animal facilities require regular cleaning. Dry sweeping generates significant airborne animal allergen concentrations and so must not be used. HEPA filtered vacuum cleaners are a more effective way of preventing airborne allergen release. In some circumstances, damping down of surfaces or a wet cleaning method may be acceptable.

### **Animal bedding etc**

46 The level of airborne animal allergen can be reduced when non-contact absorbent pads are used as cage liners instead of wood-based contact litter. In addition, various types of 'dust-free' bedding are available and can help reduce the level of airborne allergen. There are several types available including dry tray liners, paper chips, graded wood chips and sawdust. While marketed as 'dust free', animals may break it down and dust will be generated. Different animals require different types of bedding and some animals will need to be able to nest. The type of bedding required should be carefully considered, and a type selected in relation to the animals' behavioural needs, as well as one which helps to reduce animal allergen levels.

### **Access to animal facilities**

47 Access to animal facilities should be restricted to authorised personnel. Limiting the numbers allowed into an animal facility will mean fewer people potentially exposed to animal allergens, fewer people to monitor, less RPE/PPE required and fewer people requiring health surveillance. Restricting access to an animal facility can also help reduce the spread of animal allergens to other areas outside the facility because of the reduced people-traffic movements.

### **Personal protective equipment**

48 Although engineering controls including local exhaust ventilation systems can be effective in reducing exposure to animal allergens, airborne levels generated on direct contact can still be significant. RPE/PPE will therefore often be required to ensure adequate control of exposure.

49 When selecting RPE/PPE, care must be taken to ensure that the quality, construction and maintenance provide the level of protection that is required. However, RPE/PPE:

- only protects the wearer;
- must be selected carefully;
- has to be put on, worn and taken off properly;

- may limit the wearer's mobility or ability to communicate;
- should not restrict the wearer's ability to work safely; and
- its effectiveness will depend on proper storage, cleaning, maintenance, training and adherence to good working practices.

### **Respiratory protective equipment**

50 Selection of RPE for work in animal facilities requires careful assessment. To reduce exposure to animal allergens, RPE needs to be suitable and fitted correctly. Different types – for example disposable dust respirators, full-face mask dust respirators, half-mask dust respirators and ventilated visors or helmets – may all be appropriate for different situations. The use of tight face fitting negative pressure respirators should be limited to short tasks, of generally less than an hour's duration. When tight fitting respirators are selected, fit testing should be carried out to ensure that the respirator is suitable for the wearer. Further guidance is available in *Fit testing of respiratory protective equipment facepieces*.<sup>8</sup> Pre-use checks should be carried out prior to each use of the respirator. As a minimum, FFP3 (Filtering face piece type 3) disposable respirators with appropriate CE marking conforming to BS EN 149: 2001<sup>9</sup> should be provided. 'Surgical masks' and 'nuisance' dust masks offer no protection against animal allergens and should not be worn.

51 Effective protection is dependent on proper fitting and correct use. In particular, tight fitting negative pressure respirators – such as the disposable respirator, the full-face mask and half-mask dust respirators – rely on a good seal between the mask and the face. As with other types of clothing, one size will not necessarily fit all and achieving a good face fit can be a particular problem for people with smaller faces. Employers may need to trial and purchase a number of different types of mask to ensure suitable types are selected for all employees. Tight fitting masks are not suitable for employees with beards or facial hair in the area of the seal, and alternative types of RPE such as ventilated visors will be required. Powered respirators incorporating hoods and helmets may be appropriate for employees who cannot wear disposable respirators, full-face masks or half-mask respirators with disposable filters. Similarly, powered equipment may be more suitable if work procedures require significant amounts of manual effort, as reliance on a tight fit can be uncomfortable to the wearer. This type of equipment can provide higher levels of protection and can sometimes be used by people who suffer from LAA (see paragraphs 68–69). Further guidance on the selection of RPE can be found in *Respiratory protective equipment at work: A practical guide*<sup>10</sup> and more information on approval and suitability can be obtained from RPE manufacturers.

### **Other protective equipment**

52 Protective clothing for work in animal units should be selected on the basis of protecting workers from skin contact with animal allergens and also reducing the spread of them. The choice of workwear will depend upon the level and duration of exposure, ie the risk associated with the task. Often this will involve a complete change of outer clothing including shoes. As a minimum requirement, laboratory coats (for use only in the animal units) and overshoes or alternative shoes, should be worn. These coats should have side or back closure with quick-release studs/stoppers or Velcro fasteners to the neck, and be fitted with close-fitting or elasticated cuffs on long sleeves. Disposable coats may be preferable to avoid the accumulation of allergen on laboratory clothing that is used several times between cleaning.

### **Skincare**

53 Animal allergens can cause harmful health effects following skin exposure. Wearing gloves during animal-handling work (carefully selected according to the task) can reduce the risk of harm occurring. Powdered latex gloves should be avoided as these themselves can cause skin allergies and asthma.<sup>11</sup> Unpowdered, low-protein latex gloves can be used but only if shown by risk assessment to be the best for the task, when the potential for sensitisation has been considered. Irrespective of whether gloves are worn, or cannot be worn (eg for animal welfare reasons) the importance of regular correct hand washing and the use of suitable moisturisers and emollient creams should be emphasised. Wearing gloves, including their correct donning and doffing,<sup>12</sup> and/or regular correct hand washing will also help reduce the spread of animal allergens outside the animal unit. Gloves should be disposed of once a task is completed to avoid spreading allergen contamination to other work surfaces.

### **Management of personal protective equipment**

54 COSHH requires employees to make full and proper use of any control measure provided, including RPE/PPE. Management systems need to ensure that all workers wear RPE/PPE wherever and whenever it is required. Such systems should include formal monitoring of safe working practices and use of RPE/PPE, coupled with investigations of incidences where workers fail to use RPE/PPE provided. Employees should be made aware of their duties under COSHH and under sections 7 and 8 of the Health and Safety at Work etc Act 1974. Further guidance can be found in *Management of health and safety at work*<sup>13</sup> and *Successful health and safety management*.<sup>14</sup>

### **Pathogen-free units**

55 Workers in pathogen-free units will be required to adopt standards of hygiene and wear clothing which prevents them transmitting infectious agents to

animals in their care. The selection of RPE/PPE in these units should not compromise the health of staff, and so suitable protection for workers against exposure to animal allergens will still be required.

### **Welfare facilities**

56 The Workplace (Health, Safety and Welfare) Regulations 1992 set out welfare requirements for workplaces. Suitable facilities (which are not contaminated with animal allergens) should be provided to enable employees to take breaks. If staff are expected to take meals regularly on the premises then adequate facilities should be provided. Washing and changing facilities are needed to help reduce the spread of animal allergens.

### **Maintenance, examination and testing of control measures**

57 COSHH requires that equipment used to control hazardous substances should be properly maintained and periodically subject to a thorough examination and test to ensure it remains in good working order.

### **Ventilation systems**

58 General ventilation systems and room supply and extract systems should be maintained in good working order and should be periodically examined and tested.

59 LEV should be thoroughly examined and tested by a competent person at least once in every 14 months. The tester, especially if not familiar with the hazards of animal allergens, should be given sufficient instruction and training, a suitable system of work, appropriate RPE/PPE and effective means of decontamination, as working with contaminated LEV could result in very high exposures. The owner of the LEV and the employer of the tester both have a responsibility to ensure the tester's safety. A record of the tests must be kept for at least five years after the test date. In addition, frequent visual and other checks may be appropriate for some equipment to ensure its efficiency is being maintained. Further information on the testing of LEV is contained in *Controlling airborne contaminants at work: A guide to local exhaust ventilation (LEV)*.<sup>15</sup>

### **Respiratory protective equipment**

60 RPE (excluding disposable masks) should be thoroughly examined, tested and maintained at suitable intervals (at least once a month). Records of the tests should be kept for at least five years after the test date. Records of fit testing carried out on tight fitting respirators should also be retained.

61 All RPE should be suitably stored to prevent accidental damage and contamination from allergens.

## Health surveillance

62 Health surveillance is appropriate for all employees who are likely to be exposed to animal allergens, its purpose being to detect any early signs of ill health among employees. The health surveillance programme should be carried out under the overall supervision of an occupational health physician.

63 Health surveillance for employees exposed to animal allergens would, in most cases, include:

- completion of suitable questionnaires for successful candidates before taking up duty to find out about past or present respiratory symptoms, so as to establish a baseline;
- measurement of lung function at the start of employment and at subsequent intervals;
- a self-reporting system for relevant symptoms; and
- the completion and review of health records.

Occasionally a lower level of health surveillance may be acceptable if exposure to animal allergens is limited or infrequent, for example for maintenance engineers. The level of health surveillance should always be risk-based.

64 Health surveillance is best conducted as follows:

- for successful candidates prior to taking up duty to provide a baseline for evaluating the results of health surveillance;
- for newly exposed workers at additional periods, ideally at six weeks and then twelve weeks after the employee has started work, to find out if they are showing any symptoms of sensitisation; then
- annually, while exposure continues; and
- additionally at the discretion of the supervising occupational health physician.

65 Employers need to make sure that employees understand the risks to their health from being exposed to animal allergens and are aware of the early symptoms of LAA. They should be encouraged to report any symptoms to a suitable manager. The manager should not make judgements about the symptoms but refer individuals to an occupational health nurse or doctor. Further guidance can be found in *Standards of care for occupational asthma and Respiratory sensitisers and COSHH: breathe freely. An employers' leaflet on preventing occupational asthma*.<sup>16</sup>

### Health surveillance for students

66 Students are not normally employees, though they may spend some time in an animal unit as part of their studies. There is no legal requirement for health surveillance for non-employees under the COSHH Regulations. However, it is good practice to ensure that all students who work with animals are:

- aware of the risk of LAA;
- trained to minimise the risks of exposure;
- aware of the symptoms of LAA; and
- encouraged to report any symptoms to a responsible person.

67 If risk assessments indicate that a student is expected to spend a considerable amount of time working with animals (for example on a research project), it is good practice to carry out health surveillance in the same way as that required for employees.

### Procedures for people suffering from LAA

68 Ideally, people who are diagnosed as suffering from LAA should avoid all exposure to animals and should, if possible, be deployed elsewhere in the organisation. Employers should set out procedures for responding to a confirmed new case of LAA. These should include measures to:

- protect the person/people while the cause of the symptoms is investigated;
- review the assessment and control measures; and
- report the case to the enforcing authority if a doctor has notified the employer of it in writing. This is required by the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR).

69 If an affected person needs to continue to work with animals even on a temporary basis (for example to complete a research project) then this should only be considered after consultation with the individual concerned and an occupational physician. A review of the use of all process controls and engineering controls, including the use of RPE/PPE, should be carried out and the person will almost certainly require more frequent health surveillance.

### Information, instruction and training for employees

70 All workers who are, or may be exposed to animal allergens must receive sufficient information, instruction and training to understand the risks and the precautions they need to take to adequately control that exposure, for example the correct use of LEV systems for cage cleaning. This should be part of the induction programme for new employees and other users of the facility. Training should include details of how control measures are to be used. Proper supervision, particularly of new or inexperienced workers, is essential.

71 People who may be exposed to animal allergens while doing infrequent tasks should also have received the necessary information, instruction and training to

ensure they are competent to do the work. Examples are those who carry out risk assessments, do thorough examination and testing of ventilation systems, monitor RPE/PPE usage and review work methods.

72 Where RPE is used, workers should be trained to check that it fits properly. They need to be given clear instructions on:

- when it is to be used;
- how and when to remove it; and
- how it is to be maintained, stored and/or disposed of, as appropriate.

### Notification of reportable disease

73 In accordance with RIDDOR, HSE must be notified if:

- a written statement is received from a registered medical practitioner (for example the employee's GP), stating that an employee suffers from occupational asthma; and
- the employee is currently carrying out work involving exposure to animals, including insects and other arthropods (whether in their larval form or not) for the purposes of research, or education, or in laboratories.

Further guidance can be found in *A guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995*.<sup>17</sup>

### References

1 *Control of substances hazardous to health (Fifth edition). The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved Code of Practice and guidance L5 (Fifth edition)* HSE Books 2005 ISBN 978 0 7176 2981 7  
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2 Hunskaar S and Fosse RT 'Allergy to laboratory mice and rats: A review of the pathophysiology epidemiology and clinical aspects' *Laboratory Animals* 1990 34 358–374

3 Fishwick D, Barber CM, Bradshaw LM et al 'Standards of care for occupational asthma' British Thoracic Society Standards of Care Subcommittee Guidelines on Occupational Asthma *Thorax* 2008 63 240–250 [www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/Occupational%20Lung%20Disease/stdsofcare\\_occupationalasthma.pdf](http://www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/Occupational%20Lung%20Disease/stdsofcare_occupationalasthma.pdf)

4 *Consulting employees on health and safety: A brief guide to the law* INDG232(rev1) HSE Books 2008 (priced packs of 15 ISBN 978 0 7176 6312 5)  
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