



Animal Allergens guidance to accompany the Code of Practice BioCoP001

Introduction

This guidance document should be read in conjunction with the Code of Practice BioCoP001 Animal Allergens which details the responsibilities and organisation around the management of control when working with or potentially being exposed to animal allergens.

This document gives practical advice on control measures, which should be implemented locally.

Risk Assessment

A COSHH risk assessment must be undertaken to assess the risks of the possible exposure to AAs. This can be incorporated into other COSHH risk assessments, or be a standalone risk assessment, depending upon the circumstances. This includes laboratory animals but also animals within veterinary areas. The final risk assessment should produce a Safe Scheme of work (SSW)/Safe Operating Procedures (SOP) which must be shared with all those who may be exposed.

Guidance to managing potential exposure to specific tasks involving laboratory animals is listed in section 'Task specific control measures', of this document and must be used and adapted by all Research Groups or users when working in an area which could result in exposure to animal allergens.

Local rules and procedures must also be added as this list only identifies the most common tasks. Local rules may demand a higher level of protection than identified in the control guidance document and these then supersede the controls suggested in this document.

Under no circumstances should a lower level of protection be implemented locally.

This risk assessment should be reviewed at regular intervals and must be reviewed if any researchers are identified as requiring a higher level of control following health surveillance.

Control measures

Eliminate

Can the work be done in any other way not involving live animals?

Reduce

- Less allergenic mice – female generally less allergenic than males, young less than adult



- Less stock – both in general and when working on animals, only bring in one at a time
- Only access animal facility if required, then for as short a time as possible
- Cage liners – non-contact absorbent pads instead of wood shavings, 'dust free' bedding can reduce airborne allergens

Engineering controls

- Appropriate ventilation in animal facilities – ensure that extracts, usually near the floor level, are not obscured by equipment, or storage, or animal doors wedged open.
- Ensure ventilation is correctly balanced and checked on a regular basis
- IVCs – keep in IVC cages, use isolators to handle animals (if possible), cage change stations for changing cages
- Undertake as many tasks as possible using local extraction, for example:
 - Safe change stations
 - Laminar flow booths
 - Fume cupboards
 - Cage wash dump stations
 - Draught tables during surgery
 - Isolators
 - Transfer isolators
 - Microbiological safety cabinets

General guidance for working with fume cupboards and microbiological safety cabinets is available at

https://www.docs.csg.ed.ac.uk/Safety/Policy/Chem/CS_CoP004Fume_cupboards.pdf and

http://www.docs.csg.ed.ac.uk/Safety/bio/guidance/containment_controls/safety_cabs.pdf

Safe systems of work/administrative controls

- Wear PPE – facility scrubs/boiler suits, overcoat/lab coat, shoes, mop cap, gloves and change when leaving again – follow instructions in each specific area
- Handling – good handling technique to reduce moving AAs around, only handle when necessary
- Transfer – use secondary containment, IVC caging or covers for conventional caging
- Shaving – must use engineering controls (see above) or RPE (see below)
- Surgery – cover animal up with film or cover during surgery, dampen down with ethanol (or other suitable liquid), handle animal as little as possible during procedure (pin to board and move board instead of animal)



- Post-surgery recovery – limit handling as much as possible, replace in cage as soon as possible
- Cleanliness – ensure all areas are cleaned appropriately and spillages vacuumed up with a class H vacuum (no dry sweeping)
- Consider removing some items such as pin boards, where animal allergens could land and gather
- General hygiene – ensure you wash your hands regularly and when you leave the facility

Personal protective equipment (PPE) including respiratory protective equipment (RPE)

Laboratory animals

The following items of personal protective equipment are a selection of what may be required when working in an area which could result in exposure to laboratory animal allergens but must be based upon a robust risk assessment:

- Eye protection
- Laboratory coat or scrubs
- Nitrile gloves
- Mobcap

Check local areas for any mandatory requirements.

Other animal settings, such as veterinary areas

Ensure you check locally if there are any mandatory PPE requirements.

Respiratory protective equipment (RPE)

RPE should only be required if there is still a residual risk after implementing above controls, as detailed in the COSHH LAA risk assessment.

If RPE is required, this must be at least a P3 (protection level) respirator.

All tight fitting face masks (this includes re-usable and disposable masks) must be facefit tested (apart from day visitors to the facilities), see <https://www.ed.ac.uk/health-safety/guidance/ppe/facefit> for details on how to book. The University's policy on RPE has the following hierarchy for half-masks:

- Re-usable half-masks; either the 3M 7500 or Sundstrom SR100
- Disposable half-mask, if no suitable fit is achieved with the re-usable half mask or for very short term work and visitors; either the Alpha Solway 3030V or S-series

Training in use, cleaning, examination, maintenance, storage of half-masks is given during facefit testing for negative pressure masks.



Powered hoods do not require to be facefit tested but all users must be trained in their use and must be suitably maintained (guidance at <https://www.ed.ac.uk/health-safety/guidance/ppe/rpe>). Training should be organised by the local area or School and can usually be purchased from suppliers of this equipment, such as ARCO.

The following powered respirators are recommended:

- 3M Jupiter Powered Air Turbo Unit for both particulate (AAs) and chemical protection (if required)
- 3M Versaflo TR-300 Powered Air Respirator for particulate (AAs) only

Powered hood training can be provided by various companies, for example ARCO, and should be arranged by individual Schools/Research groups as required.

Refresher training for both reusable half /full and powered hoods is available from the Health and Safety department on LEARN, <https://www.ed.ac.uk/health-safety/training/e-learning/learn-courses/tight-fitting-rpe> and <https://www.ed.ac.uk/health-safety/training/e-learning/learn-courses/powered-hood>.

Spit/surgical masks must never be used for personal protection.

Task specific control measures

This guidance has been formulated to look at the most common situations where exposure to animal allergens is likely to occur in a laboratory setting. It has also been presumed that the hierarchy of controls has already been followed and implemented and there remains a residual risk of exposure. It is possible not all avenues of exposure or tasks have been identified - if this is the case, these will need to be identified and assessed locally.

This guidance is also based on workplace exposure monitoring of animal allergens undertaken in all BVS managed animal facilities by the University Occupational Hygienist, which will be repeated for each unit every 3 years.

Common tasks which have the potential to create in exposure to AAs

WITHIN BVS MANAGED ANIMAL FACILITY	
Cleaning of cages	Use appropriate ventilated equipment for disposing of waste. Powered hoods at all times Never, under normal circumstances, empty into open waste bins or bags in holding rooms – if this is required due to a



	short term break down, powered hoods must be worn
Changing cages	<p>IVC cages – always change cages within a cage change station</p> <p>Conventional cages – use cage change station if available.</p> <p>For both types of caging, suitable RPE (at least P3 half mask) to be worn at all times</p>
Feeding animals	P3 half mask as a minimum
Cleaning of animal holding rooms with animals in situ	<p>P3 half mask as a minimum</p> <p>No dry sweeping/vacuum with HEPA filter</p>
Cleaning of animal holding room which is empty	No extra precautions necessary
Handling for sexing/health checks	<p>If possible, undertake task in a fume hood or safe change station.</p> <p>If this is not possible, P3 half mask as a minimum</p>
Handling for maze/general behaviour work	<p>P3 half mask as a minimum</p> <p>RPE can be removed if observing from another room but must be put back on for removal of the animal from the maze.</p>
Handling for shaving	P3 half mask as a minimum during the whole procedure from taking animal out of cage until shaving is complete and animal is anaesthetised
Surgery – anaesthetised	Downdraught table is the preferred method of control or fume cupboard/biological safety cabinet, but draping or wetting/dampening of the animal can also be used if suitable to the procedure



	P3 half mask as a minimum if no other controls in place, such as downdraught table or draping
Surgery – culled	<p>Suitable RPE (P3 half mask as a minimum) must be worn when culling</p> <p>Downdraught table is the preferred method of control or fume cupboard/biological safety cabinet, but draping or wetting/dampening of the animal can also be used if suitable to the procedure</p> <p>P3 half mask as a minimum if no other controls in place, such as downdraught table or draping</p>
Surgery – handling post-surgery health checks	P3 half mask as a minimum
Experimental or procedure rooms – animals in cages	Cover conventional cages with tissue or similar to reduce likelihood of LAAs in the atmosphere
Working with animal tissues or small samples as per research risk assessment	No extra precautions required
Specialist equipment – such as microscopy	<p>Downdraught table is the preferred method of control, but draping or wetting/dampening of the animal can also be used if suitable to the procedure</p> <p>P3 half mask as a minimum if no other controls in place, such as downdraught table or draping</p> <p>If engineering controls/RPE is not practical with the microscopy procedure then minimize risk of LAA by limiting contact time and numbers of animals</p>



	completed – specialist advice may be required
Transport of animals – within unit to another room or to a room outwith the unit	Animal must be held in a suitable container in the following preferred order: <ul style="list-style-type: none"> • IVC cage • specific animal transport cage/box • conventional cages – must add a covering to the top of the cage
Any other tasks not mentioned above	Follow hierarchy of control as appropriate
OUTWITH ANIMAL FACILITY – SCHOOL MANAGED PROCEDURE ROOMS	
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