



Respiratory Protection Program for Laboratory Animal Workers

1. Purpose:

The University of Hong Kong is committed to provide a healthy working environment for all personnel, including those handling laboratory animals. An occupational health program, aiming at laboratory animal allergies and zoonotic disease prevention has been established for all animal workers. Animal workers are staff and students, both full time and part-time, working in the animal facility and whose works involve contacting or handling animals and / or their excreta or contaminated plant or equipment.

The following is extracted from the occupational health program for laboratory animal workers http://www.uhs.hku.hk/he/animal_workers/ohp.shtml and includes the following:

1. Pre-placement Medical Surveillance for Laboratory Animal Workers
2. Periodic Medical Surveillance for Laboratory Animal Workers
3. Vaccinations
4. Medical Review
5. Management of Bites, Scratches, Splashes & Needlestick Injuries
6. Recording and Reporting System
7. Personal Protective Equipment
8. Advice on Manual Handling

2. Periodic Medical Surveillance

The purpose of annual medical surveillance is to detect any early signs of occupational diseases so that any corrective actions can be started early to stop the progression.

It is **mandatory** for all laboratory animal workers to undergo the annual medical surveillance:

- Surveillance is by questionnaire.
- All animal workers are reminded to report to UHS whenever symptoms of allergy develop.
- UHS will send out the questionnaires and screen the replies. Those with symptoms of allergy will be called for further assessment.
- Symptoms of allergy will be treated by the UHS with advice, medication and further investigations such as lung function test or skin tests as appropriate.
- If occupational asthma develops, besides giving medical treatment, prevention of further exposure by the appropriate use of Respiratory Protective Equipment or job redeployment will be recommended.

The Centre for Comparative Medicine Research (CCMR) will keep and update the list of animal workers and send a copy to UHS annually. The annual surveillance questionnaires and educational pamphlet will be distributed to each animal worker yearly via the Department Heads. It is the Department Head's responsibility to ensure that these questionnaires and pamphlets are given to animal workers and that the questionnaires are completed and returned to UHS.

Personnel who have pre-existing rodent allergies (Allergies to Laboratory Animals, or ALA) are much more likely to worsen with continued exposure to these allergens. Engineering controls are the first line of defence in areas where there may be exposure to animal allergens. However, particularly where engineering controls have not feasible, the use of powered air purifying respirators (PAPR) along with other required personal protective equipment (PPE) are necessary to protect the health of those personnel with pre-existing ALA, or those with increased risks, e.g. when dumping soiled cages without engineering controls.

3. Responsibility

The HKU University Health Service (UHS) and University Safety Office (USO) are responsible for administering the occupational health program for laboratory animal workers and will:

Identify individuals via the use of the Pre-placement and Periodic Medical Surveillance for Laboratory Animal Workers, who have pre-existing or are developing animal allergies.

Identify risks where animal workers may be exposed to animal allergens

Provide targeted medical evaluation and advise further medical evaluation when indicated.

Provide training regarding prevention of ALA.

4. Selection of Respirators

PAPR are provided for respiratory protection for those staff members with pre-existing ALA or at higher risk of acquiring a ALA due to the job nature.

The filter type is selected based on the type of work encountered. HEPA filter cartridges are used for work with animals or animal bedding

N95 or other respirators are not generally used in within animal facilities for the purpose of allergy prevention. Should N95 wearing be needed (e.g. to reduce risks during pandemic), fit testing and medical evaluation will be provided.

5. Use of PAPR

Personnel who are strongly recommended by UHS or USO to wear a PAPR to prevent worsening ALA, or when at high risk e.g. soiled bedding dumping without use of engineering controls shall have training prior to initial use.

Personnel may opt out of wearing a PAPR to prevent worsening ALA and this shall be documented in their record.

Personnel must wear the PAPR in the manner in which they were trained and in accordance with manufacturer recommendations.

Personnel must inform UHS of the need for medical re-evaluation if they are having worsening allergy symptoms, significant changes in health status, significant weight gain or loss.

6. Personnel Training on PAPR

All personnel will be individually trained on how to use and check the PAPR. Maintenance and storage of PAPR will also be reviewed.

Training will be provided by a competent person to each staff member. This shall include, but not be limited to:

Reasons for respiratory protection and why a particular type of respirator is being used

Explanation of operation, capabilities and limitation of the PAPR chosen for personnel

Training on donning, doffing, wearing, checking the PAPR

7. Maintenance of PAPR

Proper maintenance of PAPR is the responsibility of each personnel issued a PAPR

PAPR should be maintained and cleaned properly; personnel are trained according to manufacturer recommendations. PAPR head covers are generally assigned to one individual and the blower can be used by multiple people. PAPR must be cleaned and disinfected after each use.

PAPR should be inspected prior to use to make sure that all parts are working properly; any defective pieces should be replaced and if not possible to be replaced, a new PAPR should be used.

PAPR use, maintenance and cleaning should be accomplished according to the manufacturer instructions.

8. References

1. University Health Service Occupational Health Program for Laboratory Animal Workers http://www.uhs.hku.hk/he/animal_workers/rrs.shtml
2. University of Colorado Boulder <https://ehs.colorado.edu/resources/respiratory-protection-program-for-animal-researchers-and-support-staff/>

Reviewed and Approved by the CCMR Safety Committee on:

25/11/2020
Date:


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25/11/2020
Date:


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