OCCUPATIONAL HEALTH PROGRAM

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<td>Written By</td>
<td>Keh Lee Hwei</td>
<td>Senior Asst Manager, Animal Research Facilities, NTU</td>
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<td>31/5/17</td>
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1.0 PURPOSE

To provide a reference to all the staff, IACUC members, users, visitors and service providers on Occupational Health and Safety aspects in NTU-LKCMedicine Animal Research Facilities.

2.0 SCOPE

This procedure is applicable to animal care staff, scientist, researchers, students, visiting scholars, contractors and volunteers who have direct contact with animals housed within the LKC Animal facilities, or indirect contact through exposure to unfixed animal tissues, fluids or wastes. The Program also covers personnel who provide service support for animal-related equipment or carry out maintenance on building fixtures within the LKCMedicine animal facility. The NTU OHS team has oversight of the LKCMedicine OHS Program. Due to the difference in risk associated with fish and frog, this procedure does not cover the staff and users of Fish and Frog facilities.

3.0 DEFINITIONS

3.1 NTU-LKCMedicine ARF - Nanyang Technological University - Lee Kong Chian School of Medicine Animal Research Facilities

3.2 OHS - Occupational Health and Safety

3.3 PPE - Personal Protective Equipment

3.4 LAI - Laboratory Acquired Infections

3.5 LAA - Laboratory Acquired Allergies

3.6 NHP - Non-Human Primates

4.0 REFERENCES

4.1 WHO Laboratory Biosafety Manual, Third Edition

4.2 Biosafety in Microbiological and Biomedical Laboratories, 5th Edition, CDC & NIH

5.0 PREPLACEMENT MEDICAL CHECKUP

5.1 Before employment, all staff must undergo medical examination to identify any existing medical conditions.

5.2 If allergy is confirmed or suspected, symptoms can be prevented through the adherence to the practices of PPE usages, or mitigated through the use of antihistamines, steroids, decongestants or desensitization as prescribed or advised by physician.

5.3 Those with existing allergy history will be monitored more closely to prevent their conditions worsening upon commencement of work in NTU-LKCMedicine ARF.
6.0 IMMUNO-COMPROMISED PERSONNEL

6.1 Staff or users who are immune-compromised due to medical condition, pregnancy, medical treatment (i.e.: radiation or chemo-therapy) or medication (i.e.: steroids) shall inform their immediate supervisors.

6.2 Supervisors shall make all necessary arrangement to avoid deployment of such personnel to work related to:

- NHP program
- Infectious materials – ABSL2 clusters
- Other procedures as identified through risk assessment.

7.0 ANNUAL MEDICAL ASSESSMENT

7.1 NTU-LKCMedicine ARF Staff

- All staff will undergo annual health screening by NTU-LKCMedicine ARF assigned medical providers.
- Records of annual health screening will be held by NTU-LKCMedicine ARF assigned medical provider.
- Fitness to Work Certificate will be issued by the assigned medical provider. Records will be kept by Human Resource Department and copy of the certificates will be issued to individual staff.
- The Annual Health Screening will include but not limited to the following:
  - Health Assessment Questionnaire
  - Audiometry
  - Lung Function Test
  - Physical Examination
  - Vaccination Booster (if applicable)
  - Additional test and vaccinations – pending the staff involvement in infectious disease projects or species

- For NHP program staff Occupational Health programme implemented to include:
  - Annual health screening
  - Annual health questionnaire
  - TB Screening

7.2 IACUC Members

- All IACUC members (who are not NTU-LKCMedicine ARF staff) will undergo annual health screening by NTU-LKCMedicine ARF assigned medical providers unless they opt out of the program using the NTU-LKCMedicine ARF Occupational Health Program Opt-Out Letter (Appendix II)
- Records of annual health screening will be held by NTU-LKCMedicine ARF assigned medical provider.
- Fitness to Work Certificate will be issued by the assigned medical provider. Records will be kept by Human Resource Department and copy of the certificates will be issued to respective IACUC member.
- The Annual Health Screening will include but not limited to the following:
  - Health Assessment Questionnaire
  - Audiometry
  - Lung Function Test
  - Physical Examination
  - Vaccination Booster (if applicable)

7.3 NTU-LKCMedicine ARF Users
- NTU-LKCMedicine ARF will inform all NTU-LKCMedicine ARF users about its Occupational Health Policy (Appendix I)
- All NTU-LKCMedicine ARF Users will have to declare in Health Assessment Questionnaire as part of NTU-LKCMedicine ARF’s Occupational Health Program.
- Should there be any concern highlighted in the Health Assessment Questionnaire; users will be requested to present a letter from a medical practitioner to advice if the user is recommended to work with animal or in an animal research environment.
- The Health Assessment Questionnaire will be carried out annually.
- Additional test and vaccinations – pending the staff involvement in infectious disease projects and requirement identified by risk assessment
- Records of the Annual Health Questionnaires will be kept by Medical Service Provider
- Users may choose to opt out from participating in NTU-LKCMedicine ARF’s Occupational Health Program. If so, one will have to declare their intention using NTU-LKCMedicine ARF Occupational Health Program Opt-Out Letter (Appendix II)

7.4 NTU-LKCMedicine ARF Contractors and Visitors

- NTU-LKCMedicine ARF will inform all contractors and visitors of NTU-LKCMedicine ARF’s vaccination recommendations before commencement of work.

8.0 PERSONAL PROTECTIVE EQUIPMENTS

8.1 To minimise laboratory acquired allergies and chronic exposure to animal dander, bedding dust and such, always adhere to NTU-LKCMedicine ARF gowning procedure.

8.2 Animal holding area air is not re-circulated to prevent accumulation of allergens in the air.

8.3 NTU-LKCMedicine ARF gowning procedure includes but not limited to the following:
   i. Scrub suits
   ii. Working Shoes
   iii. Shoe covers
   iv. Surgical gowns
   v. Latex gloves or nitrile gloves if allergic to latex
   vi. Surgical masks

8.4 For NHP work, the following gowning procedure will be enforced:
   i. Scrub suits
   ii. Covered shoes (in animal holding rooms)
   iii. Bouffant cap
   iv. Surgical masks
   v. Face shield
   vi. Gloves
   vii. Kevlar sleeves if handling non-sedated animals / risk of being scratched by NHP

8.5 More PPE may be required if job specific risk assessment identified such needs.
9.0 SAFE WORK PRACTICE AFTER WORKING HOURS, ON WEEKENDS OR PUBLIC HOLIDAYS

9.1 Staff working after office hours, on weekends and public holidays, have to complete the Lone Working Form and submitted it to the NTU-LKCMedicine ARF and the Health and Safety Office.

9.2 Once approval has been given by the Health and Safety Office, staff may proceed to register/sign in and out on the logbook placed with the security guards stationed on the main passenger entrance to the Clinical Sciences Building (not the same side as the service lifts to the 19th floor ARF) prior to entering the NTU-LKCMedicine ARF. The amount of time that the staff plan to spend at the NTU-LKCMedicine ARF have to be indicated on the logbook.

9.3 If the staff have to work longer than planned, he/she has to call the Security desk and update the security guards about the extension of work period.

9.4 The staff will also be required to sign in and out on the log book at the Reception Counter at the ARF as well.

9.5 Only staff are allowed to apply for work after office hours, on weekends and public holidays. The approved validity is for 6 months.

9.6 All visitors students on attachments/internship, undergraduate and collaborators must be accompanied by staff/authorized users at all times.

10.0 IMMUNISATION REQUIREMENTS

10.1 NTU-LKCMedicine ARF staffs and users are advised to be immunized against Hepatitis B and Tetanus prior to working in NTU-LKCMedicine ARF.

10.2 NTU-LKCMedicine ARF staff and users of NHP are required to be immunized against Hepatitis A, Hepatitis B and Measles.

10.3 Visitors and contractors are advised to be immunised against Hepatitis B and Tetanus before working in NTU-LKCMedicine ARF.

10.4 Additional immunization may be recommended based on project basis and if recommended by NTU-LKCMedicine ARF’s Occupational Health Specialist.

11.0 CONTINUOUS MONITORING OF POSSIBLE LABORATORY ACQUIRED ALLERGIES (LAA)

11.1 All activities inclusive but not limited to, which may result in contact of personnel with allergens such as; inclusive but not limited to; live animals, carcasses, animal wastes, animal tissues; latex, bedding materials, diet dusts and other forms of potential allergens, the hierarchy of hazard control is to be adopted with preference in the order of listed control below:

- Elimination of hazard
- Substitution of hazard to something less hazardous
- Engineering control such as isolation or enclosure
• Administrative control such as procedural control or manpower deployment to reduce exposure time
• Personal protective equipment such as gowns and procedure

11.2 All staffs and users are to monitor for any symptoms related to Laboratory Acquired Allergies:-

• Eyes: Itching; watering; redness; swollen eyelids
• Nose: Itching; runny nose; sneezing episodes
• Skin: Itching; cracked skin; small blisters; nettle rash (urticaria); a ‘weal & flare’ reaction (swelling & inflammation) if scratched
• Lungs: Coughing/wheezing; chest tightness; shortness of breath

11.3 Users and staffs are to immediately report any such occurrences to the NTU-LKCMedicine ARF Safety Officer.

11.4 Safety Officer will refer the affected individual to the NTU-LKCMedicine ARF assigned medical service provider.

12.0 CONTINUOUS MONITORING OF POSSIBLE LABORATORY ACQUIRED INFECTION (LAI)

12.1 Biohazard Warning Signage will be placed on the doors of rooms where infectious biological agents are present.

12.2 Users and staffs are to immediately report suspicion of LAI to NTU-LKCMedicine ARF Safety Officer using the Incident Reporting Form.

13.0 INCIDENT INVESTIGATION

13.1 Refer to NTU-LKC Incident Reporting and Investigation SOP

14.0 APPENDICES

14.1 Appendix I: Occupational Health Policy for Researchers in NTU-LKCMedicine ARF

14.2 Appendix II: Sample of NTU-LKCMedicine ARF Occupational Health Program Opt-Out Letter
Appendix I

Occupational Health Policy for Researchers in NTU-LKCMedicine Animal Research Facilities

NTU-LKCMedicine Animal Research Facilities places a strong emphasis on the occupational health and safety of its staff and researchers working within our facility.

For Researchers working with laboratory animals, the following requirements would need to be adhered to:

1. Current for tetanus and Hepatitis B vaccinations
2. Certification by their Occupational Health Physician that they are fit to work with animals and associated work risks (such as human cell lines, tumor cells, carcinogens, radiation, biological agents etc.) OR
3. Completion of Animal Work Medical Questionnaire and evaluation by NTU-LKCMedicine Animal Research Facilities. Further investigations and vaccinations may be requested accordingly depending on the protocol risks involved.
Sample of NTU-LKCMedicine ARF Occupational Health Program Opt-Out Letter

To Whom It May Concern

RE: NTU-LKCMedicine Animal Research Facilities Occupational Health Program

In an effort to extend the coverage of NTU-LKCMedicine ARF’s Occupational Health Program all our users and contractors, NTU-LKCMedicine ARF will be implementing the following requirements:

- Annual Health Assessment Questionnaire
- Recommended vaccination program inclusive of Hepatitis B and Tetanus
- Additional vaccination and health tests may be required based on project specific work and Occupational Health Specialist’s recommendation.

The Health Assessment Questionnaire result will be kept confidential.

Please be informed that there are risks associated with working with animals or working in an animal facility. Everyone who has access to NTU-LKCMedicine ARF or work with animals is highly encouraged to participate in the program to enable continuous assessment of your health status.

You may choose on a yearly basis, NOT to be opting out of the program.

If you choose NOT to be included in NTU-LKCMedicine ARF’s Occupational Health Program, please sign the form below and return it with the questionnaire form issued to you to NTU-LKCMedicine ARF’s Safety Officer.

Please detach and return with the Attached Annual Health Assessment Questionnaire to NTU-LKCMedicine ARF’s Safety Officer within the next two weeks if you choose NOT to be included in NTU-LKCMedicine ARF’s Occupational Health Program.

Name: ____________________________
School/Department: ____________________________
IACUC Project Number (if applicable): ____________________________

I, the above named individual choose NOT to be included in NTU-LKCMedicine ARF’s Occupational Health Program. I understand that working with animals or having access into an animal facility such as NTU-LKCMedicine ARF has associated health risk. With that, I WILL NOT:

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<td>Complete the Annual Health Assessment Questionnaire</td>
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<td>Adhere to Hepatitis B vaccination recommendation</td>
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<td>Adhere to Tetanus vaccination recommendation</td>
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<td>Adopt any additional vaccination and health tests which may be required based on project specific work and Occupational Health Specialist’s recommendation</td>
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Signature of Witness (NTU-LKCMedicine ARF Safety Officer): ____________________________ Date: ____________________________
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