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EDUCATION AND TRAINING FOR THE HUMANE CARE AND USE OF ANIMALS

1. Policy statement

The intent of this policy is to describe the requirements for education and training for personnel involved in the care and use of animals for research, training, and teaching at National University of Singapore (NUS), and for Institutional Animal Care and Use Committee (IACUC) members.

2 Definitions

Nil

3 Scope

This policy applies to all NUS personnel utilizing and/or handling animals at NUS, as well as IACUC members.

4 Policy and Training Requirements

All personnel utilizing and/or handling animals at NUS must be adequately trained, educated and qualified in the principles of laboratory animal science and safety, the specific procedures that they are expected to perform with the species of animals being used, their roles and responsibilities in ensuring the humane care and use of animals, and the ethical principles and University policies and procedures governing the use of animals.

Training requirements for personnel involved in animal care and use are determined by the IACUC. The IACUC is responsible for providing oversight, developing clear objectives, and evaluating the effectiveness of the training programme. Comparative Medicine (CM) is responsible for providing the training and education to the animal users at NUS.

Refresher sessions for didactic component (especially with regard to updates on regulations, guidelines and/or ethics) should be completed every 5 years. These sessions refer to Part 1A (for individuals who perform biomedical research and training), Part 1B (for individuals who are listed on biodiversity protocols), and Part 1C (for individuals listed on fish protocols).

4.1 Training Requirements

The training requirements set by the IACUC are based on:

1. The procedures the individual will perform,
2. The species that will be used, and
3. Special considerations related to the role of the person in the animal care and use program.

All personnel working with animals must complete the assigned mandatory training before they can begin work with animals.

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4.1.1 Personnel using or caring for animals**Section 1:**

Mandatory for anyone using or caring for animals in research, including Principal Investigators who do not work with the animals, e.g. **Supervision Only**

One (or more) of the following online modules depending on the type of research to be conducted. Each module covers essential information related to animal care and use policies and procedures. Completion of relevant Part 1 is a pre-requisite for all other training.

1. Part 1A - Biomedical Research and Teaching
2. Part 1B - Wildlife/Field Studies (for Biodiversity protocols)
3. Part 1C - Fish for Scientific Purposes (RCUF) (for fish protocols)

Section 2:

Mandatory for anyone using, caring, or working with animals.

1. Laboratory Animal Allergy (online module)
2. Species-specific training (online modules and hands-on training)
3. Part 2A – Nonhuman Primate (NHP) Safety Training. For anyone working with NHPs (online module and classroom training)

Section 3:

Protocol-specific training. Mandatory when applicable including those performing rodent breeding, or surgery.

1. Part 3A – Principles of Rodent aseptic surgery. For anyone conducting rodent surgery (online modules and hands-on training).
2. Large Animal aseptic surgery. For anyone conducting large animal surgery (classroom lecture and hands-on training).
3. Part 2B – Rodent Breeding and Record keeping. For anyone involved in the breeding and record keeping of rodents (online module).

ABSL2/3 practices and procedures. For anyone working in ABSL2 or ABSL3 animal facilities (online module).

Section 4:

Additional training that may be recommended include:

1. Isoflurane anaesthesia (hands-on training)
2. Specialized procedures or advanced techniques (hands-on training)
3. Animal Ethics (online module)

Section 5:

Facility Specific Orientation – mandatory for the specific NUS animal facilities where animal work will be conducted. This will be given by the animal facility supervisor or designate before giving access to the animal facility(ies) where the research will be conducted.

4.1.2 IACUC Members and Secretariat

1. Within 6 months of being appointed to the IACUC, new members must complete modules 1A, 1B, 1C and Laboratory Animal Allergy. Without which they are not to conduct facility inspections nor be assigned protocols for Expedited Review. IACUC members will be trained on facility inspection and program review by shadowing, prior to their assignment to conduct facility inspections or a program review.

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New IACUC secretariat must complete modules 1A, 1B and 1C before personnel undertake protocol processing or facilitate IACUC inspections. Laboratory Animal Allergy must be completed within 6 months of appointment or before entering any area where animals may be present.

2. IACUC members and secretariat are provided information on current Rules for the Care and Use of Animals for Scientific Purposes and NACLAR Guidelines, AVMA Guidelines for the Euthanasia of Animals (2020) and University and IACUC policies and procedures. All are provided with a copy of the *Guide for the Care and Use of Laboratory Animals* (8th edition). The latest NUS AAALAC programme description is also available to IACUC members.
3. New IACUC members and secretariat meet with the IACUC Chair, Attending Veterinarian or designate, and others if required, to learn about regulatory requirements, university and IACUC policies, role of the IACUC, responsibilities as IACUC members, and tactical information on how to perform the functions required of them as IACUC members electronically.
4. Continuing education on relevant topics such as new or updated regulatory requirements and guidance, contemporary issues in animal care and use, etc. is provided at IACUC meetings or otherwise distributed to the members and secretariat.
5. The Basic IACUC Training Course organized by Singapore Association for Laboratory Animal Science (SALAS) is available annually for new IACUC members and it is expected that IACUC members will try their best to attend. According to NACLAR, at least 50% of IACUC members must receive formal training in their respective roles and responsibilities.

4.1.3 Exemption from hands-on training

Trained and qualified individuals, based on relevant credentials, qualifications, documented training and prior experience, may request exemption from relevant species-specific or protocol-specific training. Exemption from hands-on training will not be considered if it has been more than 2 years since performing similar animal work.

To request for exemption, the IACUC Exemption Form is to be completed and submitted to the IACUC Office. The following information must be included in the exemption request:

1. Reason for requesting an exemption; and
2. A list of relevant training previously completed by the individual.

The IACUC exemption request will be forwarded to the CM Training Coordinators who will provide a recommendation whether the exemption should be granted and may provide other recommendations based on consultation with CM Veterinarians regarding procedures and/or species.

No exemption for aseptic surgery hands-on training will be granted for personnel to be involved in survival or prolonged (i.e. more than 8 hrs) terminal surgery. This includes medical and veterinary medical professionals.

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The IACUC makes the final decision on exemption requests, and may attach conditions, such as observation of animal handling or procedures or proficiency checks by CM veterinary staff to ensure proficiency and competency.

5. Procedures and Documentation

1. All new animal users must complete the Training Registration form located on the IACUC website <https://www.nus.edu.sg/research/iacuc/training>
2. Online courses can be accessed at any time using NUS Staff or Student ID.
3. Training records will be maintained by the CM Training Coordinators.

6. References

1. Animals and Birds Act (Chapter 7) Animals and Birds (Care and Use of Animals for Scientific Purposes) Rules 2004
2. National Advisory Committee on Laboratory Animal Research Guidelines 2004
3. IACUC website <http://nus.edu.sg/research/iacuc>
4. CM website <https://cm.nus.edu.sg/login.php>

Revision	Author	IACUC approval date
Created	Mr Shawn Tay	18 March 2015
Revisions:	Mr Shawn Tay	18 December 2017
1. Additional 2 trainings for IACUC member: training module 1C mandatory for IACUC member, IACUC member training on facility inspection and program review; and to add wording per NAACLR on 50% requirement of committee member training.		
2. To add consideration for training exemption based on qualification, credential, documented training, and prior experience.		
Revisions:	Mr Shawn Tay	18 May 2020
1. General: Reformatted to use current policy template	Dr Yasmina Paramastri	
2. Title: changed to "Education and Training for the Humane Care and Use of Animals";	Dr Leslie Retnam	
3. Para 4: Included '(i.e. those who perform husbandry, support services and veterinary care, provide supervision and instruct for teaching)' for clarity		
4. Para 4: Deleted 'lab' because safety should include aspects of handling animals		
5. Para 4: Inserted 'Refresher sessions for didactic component (especially with regard to updates on regulations, guidelines and/or ethics) should be completed every 5 years. And individuals with hands-on practice lapse of 2 or more years should attend hands-on refresher training, or assessment of competency.'		
6. Para 4.1.1: Re-formatted and re-phrased certain points to adopt NAACLR description and improve flow of document;		
7. Para 4.1.1: Added 'Part 2A – NHP Safety Training. For anyone working with NHP (online module and class room training)'		
8. Para 4.1.1.: Separate Aseptic Surgery modules for rodents and large animals		
9. Para 4.1.1.: Added 'and Record keeping' to Rodent Breeding module		
10. Para 4.1.2: Added '... before conducting first facility inspection / entering animal facility' and re-arranged sequence		
11. Para 4.1.3: Added '... from hands-on training' and changed '10 years' to '3 years'.		
12. Para 4.1.3 (3): Added 'and may provide other recommendations based on consultation with CM Veterinarian regarding procedures/ species.'		
13. Para 4.1.3 (4): Added 'No exemption for aseptic surgery hands-on training will be granted for personnel to be involved in survival or prolonged (i.e. more than 8 hrs) terminal surgery. This includes medical or veterinary medical professionals.' And 'or proficiency checks'.		
14. Para 6: Removed Cornell IACUC URL		
Revisions:	Dr Yasmina Paramastri	21-March 2022
1. Para 4: Removed 'And individuals with hands-on practice lapse of 2 or more years should attend hands-on refresher training, or assessment of competency.'		
Revisions to:	IACUC	20 March 2023
1. ensure policies are in compliance with the NAACLR Guidelines 2022 and the updated Animals and Birds (Care and Use of Animals for Scientific Purposes) Rules 2004;	Dr Lois Zitzow	
2. up-to-date with current practices; and		

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Changes made under section 4.1.2 to:

1. update to IACUC members "and secretariat";
2. add "New IACUC secretariat must complete modules 1A, 1B and 1C before entering any area where animals may be present." to point 1; and
3. update to "must receive formal training" for point 5.

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Approved