TRAINING AND COMPETENCY ASSESSMENT OF ANIMAL RESEARCH PERSONNEL - GUIDELINE

1 PURPOSE

All personnel involved in the use and care of research animals must have the necessary skills and knowledge to carry out their duties in a manner that safeguards animal wellbeing as far as possible. This document sets out the training in animal research techniques provided by Macquarie University and the methods of achieving and determining competency in those techniques.

2 SCOPE

This Guideline applies to all University animal research personnel.

3 DEFINITIONS

Commonly defined terms are located in the University Glossary. The following definitions apply for the purpose of this Guideline:

**Animal research personnel** means all personnel involved in the care or use of animals for research or teaching purposes and includes researchers, research students, volunteers and collaborators on animal research projects and animal care personnel.

**Competent,** as defined in the Australian code for the care and use of animals for scientific purposes, means ‘the consistent application of knowledge and skill to the standard of performance required regarding the care and use of animals. It embodies the ability to transfer and apply knowledge and skill to new situations and environments.’

4 GUIDELINE

Introduction

The 8th edition of the Australian code for the care and use of animals for scientific purposes (“the Code”) requires that:

a. ‘People who care for and use animals must ensure that procedures are performed competently, and
   i. Be competent for the procedure they perform, or
   ii. Be under the direct supervision of a person who is competent to perform the procedure (Clauses 1.29, 2.4.18, 2.5.5);’

And that:

b. “Investigators undertake education, training, and competency assessment in accordance with institutional and AEC policies and procedures (clause 2.4.4).”
The Code also requires that an animal research institution:

a. Ensure that investigators are well informed of their responsibilities under the Code and their legal responsibilities;
b. Provides adequate resources for the education, training, and assessment of competence of investigators, and certification of such competence to the satisfaction of the AEC; and
c. Employs adequate numbers of competent people to care for animals (clause 2.1.8).

The current guidelines have been developed to ensure that, as far as possible:

a. All personnel involved in the use and care of research animals have the necessary skills and knowledge to carry out their duties in a manner that safeguards animal wellbeing.
b. Knowledge and skills of all personnel involved in the use and care of research animals are current.
c. Procedures are only carried out by personnel experienced and competent in those procedures, or under the direct supervision of personnel competent in those procedures.

Training

Induction of Animal Research Personnel

All new animal researchers and animal care staff will be given access to the following documents:

- University Animal Research Policy documents;
- Relevant Standard Operating Procedures approved by the AEC;
- Animal Facilities operating procedures and manuals;
- AEC application forms.

All animal research personnel are expected to read and familiarise themselves with the New South Wales Animal Research Act and Regulation.

Research Animal Care and Ethics (RACE) Training Program

Macquarie University, through the Office of the Deputy Vice Chancellor–Research, runs a training program for animal research personnel. The program consists of a combination of online modules, seminars and tutorials and practical sessions in animal research techniques.

Animal research personnel new to the University are expected to complete the introductory online component (Module 1) even if they have considerable experience with animal research at other institutions. Module 1 provides information that is specific to Macquarie University. All other modules relevant to their research must also be completed unless they can demonstrate that they are already competent in the techniques covered by the module.

- Module 1 - Introduction to animal research must be completed by all animal research personnel
- Module 2 - Research animal care, handling and basic research techniques covers basic animal care and handling; restraint, administration of substances;
blood collection; euthanasia and necropsy techniques. This module must be completed by all animal research personnel involved in the handling, restraint, administration of substances, blood collection or euthanasia of research animals.

- **Module 3 - Principles of anaesthesia in rodents** covers principles and techniques involved in rodent anaesthesia including gaseous and injectable anaesthesia; pre-anaesthetic assessment, monitoring and assessment of anaesthetic depth; and OHS issues associated with anaesthesia. This module must be completed by all animal research personnel involved with the anaesthesia of research rodents. Many of the principles are also useful for animal research personnel involved in the anaesthesia of other species.

- **Module 4 - Aseptic surgical techniques** covers instrument identification and use; aseptic technique; preparation of the animal; making incisions; handling tissues; haemostasis; choosing needles and suture material; and suturing techniques. This module must be completed by all animal research personnel involved in survival surgical procedures on research animals.

Where possible, completion of RACE Training will include an assessment of competency in the procedures covered by the modules. This will be documented by the instructor and the completed competency assessment documentation provided to the Animal Ethics Office. Records of assessment will be available to the Animal Ethics Committee (AEC).

**Advanced Training**

Macquarie University may organise seminars and workshops to provide advanced training for experienced animal research personnel. Animal research personnel are expected to demonstrate commitment to continuing education by attending these sessions.

**Responsibility of Principal Investigators**

It is the responsibility of the Principal Investigator to ensure that all persons working under an Animal Research Authority (ARA) are specifically named in the ARA and either competent in the procedures they are performing or are being trained to competency and fully supervised during training.

Where a research protocol includes procedures not covered by the RACE training programme the AEC requires the Principal Investigator to nominate a person who is competent in that technique to supervise personnel who are not yet competent. Nomination of an appropriate supervisor will be made during submission of the ARA application or addition of new personnel to the ARA.

The supervisor must maintain training documentation (e.g. a log book or notes in the laboratory notebook) and should notify the Animal Ethics Office when the person being supervised has achieved competency. Notification should be made when competency is achieved, or at the time of submission of the annual progress report for the relevant protocol. The Animal Ethics Office will maintain records of competency and will make this information available to the AEC. The AEC may request a copy of the training log or other training documentation at any time.

**Recognition of Prior Learning**

It is acknowledged that animal research personnel may have gained knowledge, experience and competency in animal research techniques at other institutions and this may obviate the need to undergo further training at Macquarie University (with the exception of Module 1 of the RACE Training programme).
Competency Assessment

Where the AEC is unfamiliar with a procedure, or with a person’s competency in that procedure, it may appoint a suitably qualified person or persons (such as the Animal Welfare Officer (AWO) or a person already competent in that technique) to observe the procedure being performed and to report back to the AEC.

5 RELEVANT LEGISLATION

- Animal Research Act NSW (1985)
- Animal Research Regulation NSW (2010)
- The Australian code for the care and use of animal for scientific purposes (8th Edition 2013)

6 ATTACHMENTS

- Pathways to Competency
- Observation Guide for RACE Training Competency Assessment- Example

7 NOTES

<table>
<thead>
<tr>
<th>7.1</th>
<th>Contact Officer</th>
<th>Animal Welfare Officer</th>
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<tbody>
<tr>
<td>7.2</td>
<td>Implementation Officer</td>
<td>Animal Welfare Officer</td>
</tr>
<tr>
<td>7.3</td>
<td>Approval Authority / Authorities</td>
<td>Animal Ethics Committee</td>
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<td>7.4</td>
<td>Date Approved</td>
<td>20/8/2015</td>
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<td>7.5</td>
<td>Date of Commencement</td>
<td>20/8/2015</td>
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<tr>
<td>7.6</td>
<td>Date for Review</td>
<td>The standard review period is 3 years. Indicate a shorter review period if required.</td>
</tr>
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<td>7.7</td>
<td>Documents Superseded by this Procedure</td>
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</tr>
<tr>
<td>7.8</td>
<td>Amendment History</td>
<td>NIL</td>
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</table>
Attachment 1: Pathways to Competency

New Animal Research Personnel

RACE Training- relevant modules
Completion include competency assessment and sign off

Competent in relevant procedure- self declared on AEC application

Animal Ethics Office maintains a record of competency accessible to AEC members

Supervision and training by nominated competent person.

Issues identified during AEC / AWO inspections

Competent in relevant procedure- assessed.

YES

NO

YES

NO
Attachment 2: Observation Guide for Competency Assessment- example.

Observation Guide- Perform Aseptic Surgery

This observation guide will be used by your assessor to gather evidence that you have gained sufficient skills and knowledge to be considered competent in aseptic surgery in animals.

Competencies

This guide gathers evidence for the following elements of competency:

1. Select suitable location for surgery
2. Prepare for equipment for surgery
3. Prepare room for surgery
4. Prepare animal for surgery
5. Prepare surgeon for surgery
6. Perform a surgical technique
7. Select and use suture material, surgical glue or wound clips to close the surgical wound.
8. Monitor animal during surgery
9. Recover animal from surgery
10. Monitor animal during recovery from surgery

Assessment Details

<table>
<thead>
<tr>
<th>Name of candidate:</th>
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</thead>
<tbody>
<tr>
<td>Name of assessor:</td>
</tr>
<tr>
<td>Venue for assessment:</td>
</tr>
<tr>
<td>Date of assessment:</td>
</tr>
</tbody>
</table>

Description of Assessment Activity

The candidate will perform a surgical technique on an animal. This assessment guide is written for recovery surgery on an animal, but can also be used for non-recovery surgery or practice surgery on a dead animal by striking through the sections that do not apply to such surgery.

Recovery surgery will be performed as part of a research protocol that has approval from the Animal Ethics Committee; hence the type of surgery performed will be determined by the approved protocol. A separate observation guide will be used to assess competence in particular surgical techniques.
The surgical procedure will be expected to be carried out in accordance with any Animal Ethics Committee approved Standard Operating Procedures covering the anaesthesia and surgery performed.

**Critical Aspects of the activity**

Animal welfare obligations and the requirements of the Animal Research Act and Work Health and Safety legislation mean that the assessment will be halted if:

- The animal is put at risk of harm over and above that approved by the Animal Ethics Committee,
- If the actions of the candidate are likely to expose the candidate or assessor to harmful conditions.

**Resources Required**

The following resources are required. These will generally be supplied by the candidate when the surgery performed is part of an approved research protocol. In the case of surgery training performed on a dead animal, the resources may be provided by the trainer/assessor:

- **Room**- operating theatre preferably with adjustable height table, light, air-conditioning
- **Surgical Preparation area**- including a hand wash sink
- **Animals**- a properly labelled cage containing the species that is the subject of the surgical procedure.
- **Anaesthetic Equipment**- type determined by type of anaesthetic used
- **Surgical support equipment**- such as heat mat, pulse oximeter, rectal thermometer, and specialised equipment required (eg stereotaxic apparatus)
- **Clippers**
- **Antiseptic and disinfectant**
- **Surgical instruments and equipment**- in presterilised packs
- **Sterile surgical gloves and gown**
- **Cap and mask**
- **Surgical sutures, glue, wound clips**- as appropriate for the surgical technique
- **Drugs, syringes, needles, drugs**- as required for the procedure, including analgesia and antibiotic cover

The candidate should contact the assessor well before the assessment date if there are any others items they require for the assessment.
<table>
<thead>
<tr>
<th>Element of Competency</th>
<th>Performance Criteria</th>
<th>Observed/discussed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select suitable location for surgery</td>
<td>• A suitable location is selected for surgery and the candidate correctly identifies the reasons why a facility may be unsuitable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare for equipment for surgery</td>
<td>• Equipment required for the particular surgery is correctly selected and prepared.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare room for surgery</td>
<td>• Surgery location correctly prepared</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Prepare animal for surgery                         | • A healthy animal is correctly selected.  
• The candidate can describe signs of ill health that would preclude continuing with surgery  
• Animal is correctly anaesthetised  
• Support equipment to maintain the animal is set up correctly and switched on.  
• Animal is placed in the correct posture for the surgery to be undertaken.  
• The surgical site is aseptically prepared |                    |          |
| Prepare surgeon for surgery                        | • Surgeon performs a surgical scrub correctly  
• Surgeon dons cap, mask, sterile gown and gloves in the correct order  
• Surgeon maintains sterility at all times.                                                                                                                 |                    |          |
| Perform a surgical technique (see specific observation guide for particular surgical technique) | • Surgical technique performed correctly  
• Aseptic surgical techniques maintained at all times  
• Instruments handled correctly  
• Animal Tissues handled correctly  
• Implants handled correctly, inserted correctly and fixed appropriately into place.  
• Animal monitoring and support equipment used correctly (eg heat pads, pulse oximeter, rectal thermometer)  
• Drugs used correctly  
• Accessory equipment used correctly (eg operating microscope, stereotaxic apparatus) |
| --- | --- |
| Select and use suture material, surgical glue or wound clips to close surgical wound. | • Suitable method of wound closure selected and used.  
• Sutures:  
  o Suitable size and composition of suture material selected for site and tissue type  
  o Suitable suture needle selected.  
  o Suture material handled correctly  
  o Correct suture pattern for site used  
  o Correct knot tying technique used.  
• Wound clips:  
  o Applicator handled correctly  
  o Suitable size and type selected and used correctly  
• Surgical Glue:  
  o Suitable type selected and used correctly  
• Aseptic technique maintained during wound closure |
| Monitor animal during surgery | • Correct identification of the monitoring requirements for animals undergoing surgery  
• Correct use of monitoring equipment  
• Monitoring checklist correctly completed |
| --- | --- |
| Recover animal from surgery | • The animal is recovered from the surgical procedure in a manner that prevents harm to the animal.  
• Appropriate use of drugs such as analgesics and antibiotics. |
| Monitor animal during recovery from surgery | • The monitoring criteria used for determining the well being of an animal after surgery are correctly identified  
• The signs of pain due to surgery are correctly identified  
• The monitoring record is correctly completed. |

General comments and feedback to the candidate:
<table>
<thead>
<tr>
<th>Assessment decision:</th>
<th>Competent</th>
<th>Not Yet Competent</th>
</tr>
</thead>
</table>

Agreed further actions:

This document is an accurate record of the assessment procedure:

Assessor: Signed:………………………………………… Date:…………………………

Candidate: Signed:………………………………………… Date:…………………………