ANIMAL ETHICS COMMITTEE GUIDELINE-
ADVERSE EVENTS IN ANIMAL RESEARCH

1 PURPOSE

To provide guidance to animal research personnel regarding adverse events affecting research animals and how these must be reported to the Animal Ethics Committee (AEC).

2 SCOPE

These guidelines apply to all animal research being carried out by Macquarie University animal research personnel under an Animal Research Authority issued by Macquarie University's Animal Ethics Committee.

3 DEFINITIONS

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

**Adverse event** means any event that has a negative impact on the wellbeing of an animal;

**Animal Ethics Committee (AEC)** means the Macquarie University Committee set up under New South Wales animal research legislation to consider applications for the use of animals for research or teaching;

**Animal Research Authority or ARA** means the authority issued by Macquarie University on the recommendation of the Animal Ethics Committee and which covers the experimental protocol as approved by the AEC;

**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, as well as animal care personnel.

**Post mortem** means examination of an animal after death in a manner designed to determine the cause of death. Carried out by a veterinarian or trained person (approved by the AEC);

**Unexpected adverse event** means an event that may have a negative impact on the wellbeing of animals and was not foreshadowed in the approved project or activity.
4 GUIDELINES

Overview

Reporting of adverse events involving research animals is both an ethical obligation and legally mandatory. The Australian code for the care and use of animals for scientific purposes (the “Code”) requires that:

- Institutions develop guidelines and documentation to ensure that appropriate action is taken when unexpected adverse events occur.
- That animal research personnel take prompt action to alleviate animal suffering in response to unexpected adverse events and that alleviating unanticipated pain and distress take precedence over planned endpoints.
- That animal research personnel ensure that the AEC is promptly notified of unexpected adverse events.

Reporting adverse events enables timely investigation of the cause/s of the event, and the establishment of prevention strategies to improve animal welfare and research activity outcomes. Adverse events involving animals can be distressing, and it is beneficial to staff to feel that they have handled and communicated a difficult situation properly and professionally.

Key messages

- The immediate welfare of animals is paramount. If you discover a problem that affects animal wellbeing beyond that planned for in the approved research protocol, act quickly to remove obvious causes.
- The reporting of such events is mandatory, not voluntary, in accordance with the legislation governing animal research within New South Wales.
- All unexpected adverse events involving animals must be reported via an “Adverse Event Report”.
- The nature of the reporting for events involving animals is outlined in the flow chart “Adverse or Unexpected Events – Decision Flowchart” (see appendix 1).
- Where animal health or welfare is at risk, the event must be reported urgently, so that appropriate action can be taken to remove or minimise the risk.

What events require reporting?

All unexpected adverse events involving animals are reportable. However, the manner of reporting is dependent upon the effect on animal health and welfare.

- Unexpected adverse events that may impact on animal wellbeing must be reported via an Adverse Event Report. Urgent reporting is required in circumstances where animal health or welfare is at risk.
- Adverse events that may impact on animal wellbeing, but are described in the approved protocol as expected to occur in a particular proportion of the animals used in the project, should be reported in the Annual Progress Report, provided that the proportion of animals affected does NOT exceed that documented in the approved protocol. Where the proportion of animals affected, or the severity of the effects, exceeds that documented in the...
approved protocol, the adverse event must be reported promptly via an Adverse Event Report.

- Unexpected events that may impact on research results or the progress of the project, but do not immediately impact on animal wellbeing, are usually reported via an Amendment Application or the Annual Progress Report. An example of such an event may be a freezer breakdown resulting in loss of stored tissues and a requirement to repeat particular animal research.

What is an unexpected adverse event?

Adverse events can be a single or cumulative event, and may involve unexpected (i.e. unplanned or higher rates of) mortality, morbidity, injury or abnormal behaviour. Examples include:

- Animal related:
  - Death (e.g. sudden death of an animal prior to any research procedure, after research procedures or under anaesthesia)
  - Sickness
  - Pain
  - Distress
  - Injury
  - Abnormal behavior

These are considered adverse events whether any of the above are as a result of the research protocol or an unrelated cause.

- Potential effect on animal welfare – Environmental/husbandry:
  - Air-conditioning problem
  - Lighting problem
  - Access to food/water affected in some manner
  - Flooding of cage

Unexpected adverse events MUST be reported to the AEC via the ‘Adverse Event Report’ form on the Animal Ethics website.

What is NOT an unexpected adverse event?

Events which are not regarded as unexpected adverse events, but which may still impact on the progress of the research project and require reporting to the AEC, include:

- Events which are adverse, but where the cause of the event is known and the level of incidence or severity of the problem (morbidity) is as expected, and as described in the approved protocol or supply unit procedures/standards/regular reports. Examples include:
  - Failure of uptake of inoculated virus into the required tissues in a rat meaning that the rat is no longer a viable research subject and is euthanased. The AEC approved protocol documents that this complication is expected to occur in 1% of total animals approved for this procedure in this project. The problem in this rat falls within this 1% expectation.
Pre-weaning mortality in a mouse breeding colony remains under the expected mortality rate as documented in regular 6-monthly reports from the supply unit to the AEC.

- Events which are unexpected that may impact on research results or the progress of the project, but not on animal wellbeing. Examples include:
  - Unexpected research results
  - Equipment failure (e.g. Freezer failure and loss of samples)
  - Genetic contamination

These events may be reported to the AEC via the Breeding/ Supply 6-monthly Report, ‘Annual Progress Report’, or through an “Amendment Application”.

**When is a post mortem examination required?**

A post mortem examination is required if the animal has died or has been euthanased because of its condition, AND

- The cause of the problem is not known, OR
- The incidence and severity of the problem is not as expected.

If the circumstances meet these criteria, and you think that a post mortem is not required, you must obtain advice from the Animal Welfare Officer.

The AEC expects that the post mortem would normally be conducted by a veterinarian, or a person approved as competent to do so by the AEC.

Where the gross examination does not reveal the cause of illness or death further pathological testing should be undertaken to maximise the chance of determining the cause of the unexpected adverse event.

**Reporting Procedure.**

*For unexpected adverse events affecting animals:*  
- Contact the AWO or Head, MARS immediately for veterinary advice if animal health or wellbeing is compromised.  
- Report the unexpected adverse event to the AWO by phone or email as soon as possible after the event, and always within 72 hours of the event.  
- Complete and submit the Adverse Event Report to the AWO by email as soon as all results of the post mortem examination and any pathological testing are known.

*For other events:*

- If repetition of experiments is required – Report via an Amendment Application for the use of additional animals.  
- If repetition of experiments is NOT required – Report via the Annual Progress Report

**Who should report?**

The person under whose ARA the animal was being held should submit the report.

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<tr>
<th>Situation</th>
<th>Responsibility</th>
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<tr>
<td>Breeding colony</td>
<td>Head, MARS or delegate</td>
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<tr>
<td>Stock animals prior to allocation to a protocol</td>
<td>Head, MARS or delegate</td>
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Research breeding colony | Principal Investigator or delegate
Animal supplied or allocated to a protocol, but experiments have not yet commenced | Principal Investigator or delegate
Animal supplied or allocated to a protocol, and experimental intervention has commenced | Principal Investigator or delegate

What to do if you are not satisfied that appropriate action has been taken?

Staff and students must be able to feel confident that their concerns regarding animals are being addressed. This includes action taken regarding adverse events. If you have reported an event to a senior person or supervisor and you are not satisfied with their response or the action taken, speak to that person’s supervisor. If, for some reason, you cannot or do not wish to speak with the person’s supervisor, contact the Animal Welfare Officer.

5 RELEVANT LEGISLATION

- Animal Research Act NSW (1985)
- Animal Research Regulation NSW (2010)
- Australian code for the care and use of animals for scientific purposes (2013)

6 KEY RELATED DOCUMENTS

- Animal Ethics Committee Terms of Reference and Procedures.

7 NOTES

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