

## ANIMAL CARE AND USE STANDARD

The Animal Care & Use Standards are designed to provide guidance regarding good practice to institutional animal users and carers, as well as Animal Ethics Committees (AECs), on the care and use of animals for scientific purposes such as research and teaching. The Standards are evidence-based, reflecting current or accepted good practice and allow for the flexibility that is required in research and teaching activities using animals.

### TRAINING IN NON-SURGICAL PROCEDURES

*This standard has been developed by the University of Melbourne Animal Care & Use Standards Committee, and endorsed by the University of Melbourne Animal Welfare & Ethics Committee.*

<b>V1 Date of Approval:</b>	4 April 2016
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<b>Date of Review:</b>	4 April 2019
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#### 1. ASSOCIATED STANDARDS

This standard should be read in conjunction with the following University of Melbourne Animal Care & Use Standards:

- General anaesthesia of mice and rats
- Surgery and aseptic technique of mice and rats

#### 2. SUMMARY

People involved in the care and use of animals must be either competent or directly supervised by a competent person. Training involves both theory and practical components with assessment. The quality of training and assessment has a direct role in animal welfare and scientific outcomes. The three R's (replacement, reduction and refinement) apply when considering methods of training. Personnel skill level is an aspect of refinement which is considered when assessing justification for the use of animals. It is important to note that these principles apply to all animals.

#### 3. BENEFITS & RISKS

- 3.1 Appropriate training of staff and students minimises the welfare impact on animals undergoing procedures as well as reducing the risk of injury to staff and students.
- 3.2 If a person is allowed unsupervised access to animals prior to competency attainment then animals may receive inadequate monitoring, intervention or procedures.

#### 4. PROCEDURE/PROTOCOL

##### 4.1 Non-animal training and prerequisites

- 4.1.1 Background theory training must be obtained for new investigators on legislation, ethics and the 3Rs, biology and husbandry, physiological needs and welfare, animal handling, basic techniques (for example, injections, blood collection) and euthanasia, anaesthesia, and analgesia. The Animal Welfare & Ethics Introduction workshop or online assessment must be completed, preferably prior to the commencement of training or experimentation on live animals and no later than within 3 months of commencement. Experienced investigators from external institutes must undergo the same training although some recognised prior learning may be credited in exceptional circumstances.
- 4.1.2 Training prior to commencement of procedures on live animals should include theory, video observation, models/mannequins, anaesthetised non-recovery animals, and cadavers. Training

content should cover equipment, technique, safety, relevant anatomy, monitoring, potential adverse events and associated pathology, and interventions.

- 4.1.3 Personnel must ensure they have animal ethics approval prior to commencing training with live animals.
- 4.1.4 Permission must be obtained from the Animal Facility Manager (AFM) and Animal Welfare Officer for training using anaesthesia.

## **4.2 Live animal training**

- 4.2.1 All investigators must be named on an approved Animal Ethics Committee application which requires the procedure being trained prior to commencing training with live animals.
- 4.2.2 It is strongly recommended that training for procedures is done under general anaesthesia initially where possible.
- 4.2.3 All personnel working with animals must undertake a facility induction from a delegate of the facility manager or field work supervisor and should be assessed as competent in handling, restraint and euthanasia prior to being permitted unsupervised access to animal facilities or undertaking unsupervised field work.
- 4.2.4 Acceptable skill levels must be demonstrated on more than one occasion to ensure consistency. For more complex procedures, such as anaesthesia and surgery, competency must be demonstrated on more than two occasions.
- 4.2.5 Where a novel animal procedure is being performed, the Animal Welfare Officer or their delegate must observe the procedure when first performed to assess animal impact.
- 4.2.6 An animal must not be subjected to more than one training session per week. Each training procedure document must include a limit on the number of times a procedure can be performed on an individual animal within a training session and for the entire duration of an animal's life.
- 4.2.7 Where experimental animals are to be used for training, the animal ethics application must include a timeline with all experimental and training procedures to allow assessment of cumulative burden.
- 4.2.8 Trainers should consider adopting Peyton's Four-Step Approach: demonstrate, talk the trainee through, trainee talks trainer through, trainee does.
- 4.2.9 Training with live rodents
  - 4.2.9.1 The maintenance of a breeding colony will result in surplus animals, which can then be used for training purposes. Training with surplus animals requires the permission of the AFM. The number of surplus animals bred must be minimised. Excess rodents must only be used for the following routine procedure training unless an ethics application states otherwise: restraint/handling, oral gavage, blood sampling, parenteral injection (including intravenous, intraperitoneal, subcutaneous, intradermal and intramuscular), ear clipping, tail tipping, parasite testing, oestrus checking, vaginal plug checking, and organ manipulation on animals which have been humanely killed.

## **4.3 Assessment and continuing education**

- 4.3.1 For investigators needing training, accurate training records must be kept.
- 4.3.2 Assessment for procedures should include questions on theory in addition to Direct Observation of Procedural Skills (DOPS). DOPS assessment criteria must include a breakdown of important components in a procedure including preparation. Clearly defined outcomes must be set on competency assessment sheets to determine if ongoing supervision is required or whether the person is competent to perform the procedure unsupervised. Investigators requiring training must not perform procedures without supervision until deemed competent. The requirement to perform procedures unsupervised must be based on skill level rather than the number of times a procedure is performed. A template can be found in Appendix I.
- 4.3.3 Experienced investigators, animal carers and veterinarians should be encouraged to seek continuing education to advance their knowledge and skill of new and improved techniques. Where more than six months elapses between performing procedures, investigators and animal carers should revise theoretical aspects of a procedure and undertake supervised training.
- 4.3.4 Procedure techniques must be reviewed at least every three years to determine if improved methods can be implemented.

## 5. MONITORING & INTERVENTION

- 5.1 Training procedures for live animals must include monitoring and intervention criteria specific to the procedure. The intervention criteria must define humane endpoints clearly.
- 5.2 Records must be kept and stored by personnel and/or supervisors who undertake training. These must include dates, trainer and trainee names, numbers and identification of animals, sub-criteria assessments and an overall assessment.
- 5.3 Records of training must be kept by the principal investigator of a project and provided to the relevant AFM. Training records must be available at all times for AEC inspection or external audit.
- 5.4 Where unexpected adverse events occur in relation to a procedure during training or experiments, the AWO must be contacted immediately and a report submitted to the AEC. Review of unexpected adverse events must include reassessment of training records and trainer protocols.

## 6. ADDITIONAL INFORMATION

Not applicable

## 7. ENFORCEABLE REQUIREMENTS

- 7.1 Completion of Animal Welfare & Ethics training within 3 months of commencement.
- 7.2 Achievement of competency in handling, restraint and euthanasia prior to unsupervised animal facility access or fieldwork with animals.
- 7.3 Supervision by a competent trainer until competency is attained.
- 7.4 Acceptable skill level demonstrated on more than one occasion to assess competency.
- 7.5 Permission from AWO and AFM for anaesthesia training.
- 7.6 Novel procedures observed by AWO or their delegate.
- 7.7 Maximum number of training sessions and procedures performed on an individual animal must be recorded.
- 7.8 Maximum of one training session per week on an individual animal.
- 7.9 Procedures reviewed every three years.
- 7.10 Training records as indicated above.

## 8. EXEMPTIONS

Where adherence to this Standard conflicts with proposed work, the University's AECs may grant exemptions to all or part of the Standard. To seek exemption, applications should clearly outline how the proposed work deviates from the Standard, and justify the need for this. Before seeking exemption, it is recommended that you consult with the University's AWO.

## 9. UNEXPECTED ADVERSE INCIDENTS

An unexpected adverse event is any event, which impacts negatively on the wellbeing of animals, and which was not anticipated, or has occurred at a frequency or severity in excess of what was anticipated in line with the AEC approval. This can be a single or cumulative event, and will normally involve unexpected mortality, morbidity or injury. Anyone identifying an unexpected adverse event must act to remove and/or minimise any immediate risk to animals. Immediately thereafter, the University's AWO and relevant Animal Facility Manager must be notified of the event. The AWO will advise researchers of the appropriate response.

## 10. GLOSSARY

Scientific Term	Lay Description
3Rs	Replacement, Reduction and Refinement
Non-surgical procedures	Refers to animal scientific or husbandry procedures that may cause pain or distress and which don't involve surgery. The relevant surgical Standard can be consulted for the definition of surgical procedures.

## 11. REFERENCES & RESOURCES

The following source material contributed to the development of this standard:

- Australian code for the care and use of animals for scientific purposes 8<sup>th</sup> edition. 2013
- Guillen, J. 2012. FELASA Guidelines and recommendations. JAALAS 51(3): 311-321
- Krautter, M., Weyrich, P., Schultz, JH., Buss, SJ., Maatouk, I., Jünger, J., Nikendei, C. 2011. Effects of Peyton's Four-Step Approach on objective performance measures in technical skills training: A controlled trial. *Applied Research* 23(3): 244-250
- NHMRC. 2008. Guidelines to promote the wellbeing of animals used for scientific purposes.

## APPENDIX I: Direct Observation of Procedural Skills – Template

### ***[Insert Procedure Name]: Training session 1***

Trainee name:

Assessor name:

Date:

Animal ethics number:

Identification of animals used in training:

	<b>Not observed (N) / Development required (D)</b>	<b>Satisfactory (S)</b>
Read procedure detail in ethics application and associated documents (may require a test).		
<i>[insert equipment]</i> prepared		
<i>[insert first component of procedure]</i>		
<i>[insert second component of procedure]</i>		
...		
Monitored animal for <i>[insert monitoring criteria]</i>		
Recorded procedure and monitoring on AEC approved sheets		

Summary of feedback given:

## **[Insert Procedure Name]: Training session [number]**

Trainee name:

Assessor name:

Date:

Animal ethics number:

Identification of animals used in training:

	<b>Not observed (N) / Development required (D)</b>	<b>Satisfactory (S)</b>
Read procedure detail in ethics application and associated documents (may require a test).		
[insert equipment] prepared		
[insert first component of procedure]		
[insert second component of procedure]		
...		
Monitored animal for [insert monitoring criteria]		
Recorded procedure and monitoring on AEC approved sheets		

Overall ranking (circle):

Competent

Further Supervision Required

Competent = All components must be a 'S'. Competency must not be certified unless the procedure has been performed to an appropriate rating on more than one consecutive occasion.

On rare occasions where a criteria does not significantly impact on the animal welfare outcome or where a criteria relates to an event that is not a routine occurrence (eg. complications), the criteria may be shaded green and a 'N' for that criteria can still allow competency certification. Animal Welfare Officer advice should be sought on criteria where this may be suitable.

Summary of feedback given: