



Animal Ethics Committee Approved Document

This document has been developed by The Australian National University's (ANU) Research Ethics Office. It has been endorsed by the ANU Animal Ethics Committee (AEC). It is designed to provide guidance regarding current best practice to institutional animal users and carers on the care and use of animals for scientific purposes. It has been prepared in consultation with the Australian code for the care and use of animals for scientific purposes 8th edition 2013 (updated 2021).

Document 008: Surgery and Anaesthesia Monitoring Guidance V2.0

Background

NB Please delete this section when submitting your monitoring sheet for approval.

The use of surgery and anaesthesia monitoring sheets is to ensure that there is appropriate monitoring and record keeping of animals undergoing anaesthesia and/or surgical procedures. All animals must be monitored during anaesthesia and monitoring, and records kept.

The use of this monitoring sheet must form part of an approved animal ethics protocol. Any changes made must have support with the approval of the AEC. If an urgent change is required, the ANU Vets must be contacted immediately.

The following template is a guide only and may be adjusted to include parameters that would be specific to your experiments and species/strains.

If you have any queries or would like advice on tailoring this score sheet to your requirements please contact the ANU vets at vetservices.ris@anu.edu.au

Protocol and procedure details

Protocol		Date		Researcher and contact details	
Animal ID		Species/strain			
Weight		Health status			

Pre operative

Support

Anaesthetic/analgesics given (concentration)	Dose	Volume	Route	Time	Heat mat on		Notes
					Eye lubrication		
					Fluids		

Monitoring

Time													
	0	5	10	15	20	25	30	35	40	45	50	55	60
Start/Finish													
Pedal reflex													
Respiration													
Temperature													
Isoflurane %													

Post operative

Recovery

Time

Medications given (concentration)	Dose	Volume	Route	Time	Righting reflex		Notes
					Normothermic		
					Monitoring finish		

Notes/complications/improvements

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Suggested terms to use and further explanations

Pre-operative Information

Researcher contact details - please include contact details (phone number and email) of the person(s) responsible for the care of the animal during and after the procedure.

Health status - this refers to the fitness of animals to undergo anaesthesia or surgery. Suggested terms: healthy or fit for procedure, compromised or mild risk (with a reason why, eg. diabetic, pregnant, tumour present, geriatric or neonate), and significantly compromised or high risk (with a reason why, eg. fever, severe anaemia, severe dehydration).

Monitoring

Start/Finish - A field to allow the recording of events during procedures, including the start and finish times of anaesthesia when using inhalational anaesthesia, surgery start and finish times (eg. first incision, abdominal closure, skin closure), and the timing of any interventions (eg. experimental agent given, placement of implants, occlusion of vessels).

Pedal reflex - Appropriate for use in mice and rats, can be recorded as present/absent, or +/-.

Respiration - Ideally a respiration rate (recorded as breaths per minute) is recorded. If this is not possible, respiration may be assessed as normal, regular, shallow, deep or laboured.

Temperature - Ideally rectal temperature will be assessed every 10-15 minutes in rodents.

Additional monitoring parameters will depend on the protocol, but may include heart rate, colour of the mucous membranes, temperature of the heat pad, other reflexes appropriate to the species, oxygen levels (SpO₂), blood pressure, additional agents, medications or intervention points during anaesthesia and IV fluid rates.

Recovery

Righting reflex - refers to the time at which the recovering animal is able to move itself from dorsal recumbency (lying on their back) to ventral recumbency (lying on their chest/belly).

Normothermic - refers to the time at which the recovering animal returns to a normal temperature post anaesthesia.

Monitoring finish - refers to the time at which the animal is deemed to be fully recovered from the anaesthetic, and anaesthetic monitoring ceases. The animal will then be monitored as per the post-procedure monitoring sheet (if required).

References and Resources

ANU Training and Support

The Australian Phenomics Facility (APF) provides training for researchers using rodents. The ANU Veterinary Services Team are available to provide advice on the assessment of pain and methods of anaesthesia, analgesia and surgery in different species, and can help with developing monitoring sheets and protocols.

References

The Australian code for the care and use of animals for scientific purposes 8th edition. 2013 (updated 2021).