



Australian Government

Department of Education, Employment and Workplace Relations

ACMATE503A Carry out post-mortem examination of a research animal

Revision Number: 1

ACMATE503A Carry out post-mortem examination of a research animal

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the process of conducting a post-mortem examination of a research animal for scientific purposes. Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore, it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.
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Application of the Unit

Application of the unit	This unit has been specifically developed for animal technicians working with and caring for animals (all live non-human vertebrates) used within scientific establishments for scientific purposes and teaching. Work is likely to be performed independently according to the institution's standard operating procedures but may also be undertaken as part of a team that includes other staff, researchers, veterinarians and specialist analysts. All work practices must be undertaken in accordance with the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes and the institution's standard operating procedures. In addition to legal and ethical responsibilities, all units of competency in the ACM10 Animal Care and Management Training Package have the requirement for animals to be handled gently and calmly. The individual is required to exhibit appropriate care for animals so that stress and discomfort is minimised. <i>Note: Scientific purposes refers to 'all those activities that require approval from an Animal Ethics Committee (AEC) and are performed to acquire, develop or demonstrate knowledge of techniques in any scientific discipline, including activities for the purposes of teaching, field trips, environmental studies, research, diagnosis, product testing and the production of biological products'.</i> <i>Note: This unit does not cover the analysis and/or diagnosis of preliminary information or samples taken during the post-mortem.</i>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to conduct the post-mortem examination	1.1. The site for the post-mortem is selected and prepared. 1.2. Containment issues are identified and appropriate action is taken. 1.3. Correct clothing, equipment and resources are obtained and prepared for use. 1.4. The animal to be examined is moved to the post-mortem area using appropriate manual lifting techniques and/or equipment. 1.5. Death of the animal is confirmed by checking its vital signs. 1.6. All relevant preliminary information about the animal to be examined is obtained and collated. 1.7. Abnormal characteristics that may indicate the presence of notifiable and potentially hazardous conditions or diseases are identified and appropriate action is taken. 1.8. Occupational health and safety (OHS) hazards associated with the procedure are identified and appropriate action is taken to protect self and others. 1.9. Expert assistance is sought as appropriate.
2. Carry out the post-mortem examination	2.1. External assessment of the animal is carried out and outward signs of abnormalities or injury are noted. 2.2. Animal is dissected using appropriate techniques and equipment to avoid cutting into organs or stomach cavity. 2.3. Nominated organs, tissues and structures are examined. 2.4. Samples of organs, other tissues and fluid samples are taken, where appropriate, and prepared in accordance with institutional and laboratory requirements.
3. Complete the post-mortem examination	3.1. Carcass is disposed of using appropriate equipment in accordance with institutional quarantine requirements and other procedures. 3.2. Correctly labelled and packaged samples are sent for analysis. 3.3. All information about the animal examined and the records of observations made during the post-mortem are collated and forwarded to the relevant persons for

ELEMENT	PERFORMANCE CRITERIA
	analysis and diagnosis 3.4. Post mortem area and equipment used are cleaned and disinfected. 3.5. <i>Personal biosecurity clean-up</i> is completed in accordance with the institution's policies and procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- calculate solutions, dilutions, percentages, concentrations, proportions, ratios, molarity and weights and measures conversions
- collect, prepare and label samples according to post-mortem techniques and workplace protocols
- evaluate sample suitability and viability in line with project protocols or workplace standards
- identify common indicators of the presence of disease and infection processes visually
- identify potential hazards to self and others (including animals) in conducting post-mortem examinations and prepare risk management plans
- maintain the highest standards of hygiene and infection control at all times to reduce the risk of infection and cross-infection
- prepare and use equipment and materials correctly in accordance with manufacturers' specifications
- prepare and maintain appropriate records, including animal care and ethics register using relevant institutional electronic and/or manual systems
- use chemicals and cleaning agents in accordance with state or territory legislation and organisational policies and procedures
- literacy skills to read, interpret and apply facility policies and procedures, including OHS, infection control, containment and exclusion and waste management; follow sequenced written instructions; record accurately and legibly information collected; and select and apply procedures to a range of defined tasks
- oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and consulting with or seeking advice from research group team members, senior or more experienced staff or other relevant persons
- numeracy skills to estimate, calculate and record routine and more complex workplace measures
- problem-solving skills to use available information and resources and prioritise daily tasks
- use personal protective clothing and equipment correctly
- use safe manual handling techniques and/or equipment
- use safe waste handling and disposal procedures.

Required knowledge

- animal biology, anatomy and physiology of the range of species in the institution's research program, including the position, features and appearance of major organs in healthy animals of the species being examined

REQUIRED SKILLS AND KNOWLEDGE

- anatomical and physiological terminology, and glossary of terms and nomenclature related to the species being examined
- animal care and ethics protocols related to the conduct of post-mortems
- biosecurity issues (for animals and humans) relating to the collection of samples from animals
- classification system used to categorise animal care and treatment by AECs
- industry terminology used to describe and document findings in post-mortem
- methods and equipment used to collect and prepare tissue and fluid samples for transport to testing area
- organisational policies and safe work procedures, including OHS and emergency procedures
- relevant codes of practice, including the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes
- relevant state or territory legislation and regulations relating to the practice of veterinary science, OHS, animal welfare, waste disposal and animal research practices
- relevant state or territory legislation covering the use of therapeutic and controlled substances
- requirements for the correct preparation, labeling and packaging of biological and potentially hazardous samples
- sequence of actions in conducting a post-mortem
- specific post-mortem clean-up techniques, equipment and materials
- terminology used to describe findings in post mortem
- type of information that can be provided in pathology tests
- types of information that has to be reported and recorded in animal care workplaces
- workplace hygiene standards, disinfectants, cleaning agents, cleaning techniques and cleaning equipment and materials.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competence in this unit must be relevant to workplace operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit. Assessors should ensure that candidates can: • collect and obtain information about animals to be examined • carry out external and internal assessments of animals and take samples and tissues as required in accordance with OHS and organisation policies and procedures • clean and disinfect equipment, materials and area upon completion of post-mortem examination • handle, move and dispose of animal carcasses • prepare a brief for the veterinarian and/or supervisor to enable an accurate analysis and/or diagnosis of the cause of death and/or to provide data required for the research program. The skills and knowledge required to carry out post-mortem examination of research animals must be transferable to a range of work environments and contexts and include the ability to deal with unplanned events.
Context of and specific resources for assessment	Assessment of this unit is to be practical in nature and will be most appropriately be assessed in an animal research facility or an environment that reproduces normal work conditions that has a scientific establishment licence and access to an approved AEC. There must also be access to a range of dead research animals and the relevant information, materials and documentation to enable one to demonstrate competence.

EVIDENCE GUIDE	
Method of assessment	To ensure consistency in one's performance, competency should be demonstrated, to industry defined standards, on more than two occasions over a period of time in order to cover a variety of circumstances and over a number of assessment activities. The assessment strategy must include practical skills assessment. Suggested strategies for this unit are: • written and/or oral assessment of candidate's required knowledge • observed, documented and first-hand testimonial evidence of candidate's application of practical tasks • simulation exercises that reproduce normal work conditions • third-party evidence • workplace documentation (e.g. post-mortem brief) • portfolio. This unit may be assessed in a holistic way with other units of competency relevant to the industry sector, workplace and job role.
Guidance information for assessment	Assessment methods should reflect workplace demands (e.g. literacy and numeracy demands) and the needs of particular target groups (e.g. people with disabilities, Aboriginal and Torres Strait Islander people, women, people with a language background other than English, youth and people from low socioeconomic backgrounds).

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Considerations for a ***site suitable for post-mortem*** may include:

- a suitable laboratory
- a post-mortem site that:
 - can be cleaned both before and after the examination
 - is located away from other animals to avoid stress to live animals
- blood and fluids not being able to contaminate surrounding areas or facilities.

Correct clothing, equipment and resources may include:

- an autopsy kit containing:
 - a knife
 - a steel or sharpening stone
 - bucket, scrubbing brush and disinfectant
 - plastic bags or containers to collect specimens
 - plastic or rubber disposable gloves
 - scissors and forceps or tweezers
 - swabs
- clothing:
 - surgical gowns, caps, masks, boots and gloves
- other equipment:
 - optical aids
 - pen and notebook
 - wheelbarrow or trolley for disposal of the carcass.

Animals that may be included are:

- on most occasions the animal species will be common laboratory animals:
 - guinea pigs
 - mice
 - rabbits
 - rats
- on some occasions animal species may

RANGE STATEMENT	
	include: • amphibians, fish and reptiles • dogs and cats • fish • invertebrates • livestock (e.g. sheep, cattle and pigs) • native wildlife (e.g. marsupials and birds) • primates • poultry.
<i>Vitals signs</i> to be checked will include:	• pulse, respiration and papillary light reflex.
<i>Preliminary information</i> that should be collected before conducting the post-mortem examination should include:	• date of death or the date animal was found dead • identification number and age of animal • location of animal (e.g. pen, shed or paddock number) • weight • body condition • previous health problems • period of ill health if any (e.g. when first noted as being sick or off feed) • health of other animals in the same institution • specific information relating to the experimental program • other details required by the AEC and institutional policies and procedures.
<i>Abnormal characteristics</i> to be considered may include:	• abnormal characteristics might be anything that cannot be diagnosed or explained from previous experience • where abnormal characteristics appear to be present, they should be referred immediately to a veterinary laboratory.
<i>OHS hazards</i> associated with animal technician procedures include:	• animal bites, kicks or scratches • biological hazardous waste and sharps disposal • handling of anaesthetic agents, chemicals and scavenging systems • gas leakage • inhalation of aerosol particles • intraocular contamination • manual handling, including carrying, lifting

RANGE STATEMENT	
	and shifting • needle pricks and cuts from other sharps • release of infective agents (animal and human) • zoonoses.
<i>Expert assistance</i> that may be needed includes:	• a veterinarian where unusual symptoms are detected: • the presence of notifiable and potentially hazardous conditions or diseases, such as anthrax or other zoonoses • large or small organs • excessive fluid and swellings.
<i>Personal biosecurity clean-up</i> may include:	• clothing changed and placed in appropriate bin for laundering • disposable gloves are disinfected before being disposed • footwear disinfected if appropriate • hands thoroughly washed and dried.

Unit Sector(s)

Unit sector	Animal technology
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		

