## ACMVET5X29 Apply advanced knowledge of anaesthesia in veterinary nursing practice

#### Application

This unit describes the skills and knowledge required to apply advanced knowledge of anaesthesia in veterinary nursing practice.

It involves planning for anaesthesia, inducing and maintaining anaesthesia including administering anaesthetic agents, performing local anaesthetic and regional nerve block techniques within scope of practice, interpreting advanced monitoring technology, and responding to anaesthetic complications and emergencies under veterinary supervision and direction.

The unit applies to experienced veterinary nurses who use advanced technical knowledge and clinical reasoning and judgement to support safe and effective anaesthesia. Graduates will induce anaesthesia, administer general and local anaesthetic agents, monitor complex anaesthetic cases, adapt plans during procedures and respond to unpredictable patient needs.

Work is performed with substantial autonomy and accountability for clinical decisions made within the limits of legislation and the nurse’s defined scope of practice.

**Licensing, legislative, regulatory requirements**

Legislative and regulatory requirements apply to the permitted scope of veterinary nursing practice and specifically the administration of anaesthetic agents and processes and vary according to state/territory jurisdictions. Users of this unit must confirm current requirements with the relevant regulatory authority before delivery.

#### Pre-requisite unit Nil

#### Unit sector

Veterinary Nursing (VET)

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| **Elements** *Elements describe the essential outcomes.* | **Performance criteria**  *Performance criteria describe the performance needed to demonstrate achievement of the element.* |
| 1. Plan and prepare for anaesthesia | 1.1 Review patient history, diagnostic tests and identified risk factors to determine anaesthesia needs and patients requiring additional precautions  1.2 Conduct comprehensive pre-anaesthetic physical assessment and contribute to determination of health status classification  1.3 Develop or contribute to an anaesthetic plan in consultation with the veterinarian  1.4 Prepare and test anaesthetic machine, breathing circuits, ventilators, monitoring equipment and emergency equipment to ensure correct function and safety  1.5 Prepare, calculate and draw up anaesthetic, analgesic and adjunct drugs required for induction, maintenance, local anaesthetic techniques and regional nerve blocks according to veterinary direction  1.6 Apply work health and safety (WHS) and infection prevention and control (IPC) procedures during preparation of anaesthetic equipment, agents and the environment |
| 2. Administer anaesthetic agents and induce anaesthesia | 2.1 Administer pre-medication and induction agents under veterinary direction  2.2 Induce anaesthesia safely and effectively, assessing patient responses and confirming progression through induction stages using clinical and monitoring indicators  2.3 Assist with airway management, including endotracheal intubation and securing the airway  2.4 Implement local anaesthetic techniques using correct anatomical landmarks and aseptic techniques  2.5 Administer peripheral nerve blocks using approved procedural techniques as directed by the veterinarian |
| 3. Maintain and monitor anaesthesia | 3.1 Maintain anaesthesia by adjusting anaesthetic depth and agent delivery in response to clinical parameters and patient status  3.2 Operate and troubleshoot anaesthetic machines, breathing circuits and ventilators according to procedure requirements  3.3 Monitor and interpret cardiovascular, respiratory, neurological and thermoregulation parameters using advanced monitoring technology  3.4 Interpret end-tidal carbon dioxide values and waveform patterns to identify changes in ventilation, perfusion or anaesthetic depth  3.5 Identify abnormal trends or deteriorating patient status and implement corrective actions within scope or escalate to the veterinarian as required  3.6 Maintain complete and accurate anaesthetic records, including drug administration, physiological parameters, interventions and adverse events |
| 4. Respond to anaesthetic complications and emergencies | 4.1 Recognise early indicators of anaesthetic complications  4.2 Initiate emergency responses within scope of practice, including airway management, manual or mechanical ventilation, fluid therapy and administration of emergency drugs under veterinary direction  4.3 Assist with or initiate cardiopulmonary resuscitation (CPR) according to established protocols and practice procedures  4.4 Modify anaesthetic plans appropriately in response to patient deterioration and communicate changes to the veterinary team  4.5 Document anaesthetic complications and emergency interventions in patient records using industry-standard terminology |
| 5. Provide post-anaesthetic care | 5.1 Monitor patients during recovery for airway patency, cardiovascular stability, temperature regulation, pain and return of protective reflexes  5.2 Provide or administer analgesia under veterinary direction and evaluate patient comfort using recognised pain scoring tools  5.3 Deliver supportive therapies during recovery, including oxygen supplementation, thermal support, assisted ventilation or fluid therapy when indicated  5.4 Identify delayed recovery or emerging post-anaesthetic complications and implement appropriate responses or escalate to the veterinarian  5.5 Handover patients to relevant personnel with accurate documentation of the anaesthetic event, recovery status and ongoing care needs |

#### Foundation skills

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| **Learning** | **Reading** | **Writing** | **Oral communication** | **Numeracy** |
| 4 | 5 | 5 | 5 | 5 |

**Assessment Requirements**

**Performance evidence**

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

* managed anaesthetic procedures for **a minimum of five animals**, including **at least two high-risk patients and has, for each**

calculated, prepared and administered anaesthetic induction agents and maintenance agents, under supervision

used monitoring technology to interpret patient status and anaesthetic depth

* administered at least one local anaesthetic technique or nerve block
* identified and responded to at least one anaesthetic complication
* participated in an emergency response, including a simulated or real CPR scenario.

Performance must be demonstrated in a veterinary practice or an environment that accurately reflects a veterinary practice where anaesthesia is carried out on real animals.

**Knowledge evidence**

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

* the physiological effects of anaesthetic drugs on major body systems
* pharmacology of induction agents, maintenance agents, adjunct medications, local anaesthetics and emergency drugs
* anaesthesia risk considerations:

species-specific

breed-specific

health condition

life-stage

* American Society of Anaesthesiologists’ (ASA) classifications and high-risk patient assessment
* mechanisms of action for local anaesthetics
* local or regional anaesthetic techniques, including:

infiltration around surgical site, teeth or tissue planes

ring blocks

line blocks

epidural

peripheral

dental nerve blocks

* anatomical landmarks for peripheral nerve blocks
* nerve pathways
* use of advanced monitoring equipment, including capnography, electrocardiograph and blood pressure devices and interpretation of outputs, including:

end-tidal carbon dioxide values and capnograph waveforms

electrocardiograph patterns

* recognition of presenting signs and management of anaesthetic complications, including:

airway obstruction

respiratory depression

hypotension

arrhythmia

hypothermia

hyperthermia

* emergency response procedures, including:

airway management

manual or mechanical ventilation

fluid therapy

CPR

emergency drugs

* supportive recovery therapies and procedures, including:

oxygen supplementation

thermal support

assisted ventilation

fluid therapy

* legal and ethical responsibilities related to anaesthesia administered by veterinary nurses under veterinary direction
* WHS, IPC and environmental safety requirements related to anaesthesia
* documentation and record-keeping standards for anaesthetic procedures.

**Assessment conditions**

Skills must be demonstrated in a veterinary practice or an environment that accurately reflects a veterinary practice where anaesthesia is carried out on real animals.

Assessment must ensure access to:

* real animals requiring anaesthesia
* equipment, instruments and resources typically available in a veterinary practice including anaesthetic machine, breathing circuits, ventilators and scavenging systems and capnography, ECG and multi-parameter monitoring equipment
* organisational policies and procedures relating to veterinary nursing procedures, including IPC and aseptic techniques
* current legislation and regulations relating to acts of veterinary science/medicine, drugs and poisons and WHS
* anaesthetic agents, analgesics, adjunct and emergency drugs

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

#### Unit mapping information

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| **Code and title current version** | **Code and title previous version** | **Equivalence status** | **Comments** |
| ACMVET5X29 Apply advanced knowledge of anaesthesia in veterinary nursing practice | Not applicable | Newly created | This unit has been created to address a skill or task required by industry that is not covered by an existing unit.  Industry and training provider stakeholders have identified a need for veterinary nurses to acquire a deeper level of knowledge and more advanced skills in anaesthesia to support contemporary veterinary practice. Recent legislative changes in one jurisdiction have expanded the permissible scope of practice for veterinary nurses to include the administration of general and local anaesthetic agents and peripheral nerve blocks. This expanded scope requires training to ensure veterinary nurses are appropriately equipped with the specialised knowledge, technical skills and clinical judgement necessary to undertake these responsibilities safely and competently |

### Overview information

#### Modification History

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| **Release** | **Comments** |
| 1 | This unit of competency was first released in ACM Animal Care and Management Training Package Release 7.0. |

**Mandatory workplace requirements:**

Mandatory workplace requirements apply to this unit of competency and are specified in the Performance Evidence and Assessment Conditions of the Assessment Requirements.