



## Higher National Unit specification: general information

**Unit title:** Veterinary Nursing: Anaesthesia

**Unit code:** H0YJ 35

**Superclass:** SN

**Publication date:** March 2012

**Source:** Scottish Qualifications Authority

**Version:** 01

### Unit purpose

This Unit is designed to provide candidates with the knowledge and understanding of the agents and techniques used in anaesthesia and the skills involved in monitoring patients effectively. It will enable candidates to assist in providing anaesthesia to small animals in veterinary practice. The Unit is intended for candidates wishing to work in the veterinary nursing field.

On completion of the Unit the candidate should be able to:

- 1 Explain the principles and practices of small animal anaesthesia.
- 2 Compare and contrast the effects and safe use of drugs used in small animal anaesthesia and analgesia.
- 3 Evaluate the effective use of anaesthetic equipment.

### Recommended prior knowledge and skills

Candidates should have achieved passes in relevant level 7 Units in the HNC/D Veterinary Nursing framework, or equivalent. Achievement of *Veterinary Nursing: Canine and Feline Anatomy and Physiology* and *Veterinary Nursing: Pharmacology* would be particularly beneficial. Candidates should also have achieved the Units *Veterinary Practice: Operational Requirements* and *Veterinary Nursing: Supervised Practice 1*. The Unit *Veterinary Nursing: Supervised Practice 3* should be undertaken in the practice placement, concurrently with this Unit.

## **General information (cont)**

### **Credit points and level**

1 Higher National Unit credit at SCQF level 8: (8 SCQF credit points at SCQF level 8\*)

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### **Core Skills**

There are opportunities to develop the Core Skill of *Problem Solving* at level 5 and the Using Number component of *Numeracy* at level 5 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

### **Context for delivery**

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes. It is included in the framework of the HND in Veterinary Nursing.

## Higher National Unit specification: statement of standards

**Unit title:** Veterinary Nursing: Anaesthesia

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

### Outcome 1

Explain the principles and practices of small animal anaesthesia.

#### Knowledge and/or Skills

- ◆ Reasons for anaesthetic provision, including humanitarian, practical and legal.
- ◆ Communication with owners pre and post-anaesthesia.
- ◆ Informed consent.
- ◆ Aims of anaesthetic provision.
- ◆ Types of anaesthesia, including general, epidural, regional, local and topical.
- ◆ Central control of vital body systems, including heart, circulation and respiration.
- ◆ Effects of anaesthesia on vital body systems.
- ◆ Stages, planes and level of anaesthesia.
- ◆ Patient risk status.
- ◆ Preparation and induction of the patient.
- ◆ Techniques for monitoring the anaesthetised patient.
- ◆ Recovery from anaesthesia.
- ◆ Types, causes and signs of anaesthetic emergency.
- ◆ Principles of, and procedures for, emergency treatment.

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ describe three types of anaesthesia
- ◆ explain the importance of effective communication with the owner in respect of consent for anaesthesia
- ◆ explain the effects of anaesthesia on the body (including stages, planes and levels) and how this affects patient risk status
- ◆ explain the reasons for using anaesthetics
- ◆ describe the correct preparation and induction procedure to be followed in a given scenario
- ◆ describe two anaesthetic monitoring techniques
- ◆ explain the actions to be taken in one anaesthetic emergency
- ◆ describe the equipment and drugs that may be required during one anaesthetic emergency and the action to be taken to assess the recovery of the patient.

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Veterinary Nursing: Anaesthesia

### Outcome 2

Compare and contrast the effects and safe use of drugs used in small animal anaesthesia and analgesia.

#### Knowledge and/or Skills

- ◆ Premedicant drugs
- ◆ Analgesics
- ◆ Sedatives
- ◆ Intramuscular anaesthetics
- ◆ Intravenous anaesthetics
- ◆ Inhalation anaesthetics and associated carrier gases
- ◆ Muscle relaxants
- ◆ Drug calculations
- ◆ Induction routes
- ◆ Hazards and side effects
- ◆ Storage of drugs
- ◆ Species variations

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can compare and contrast:

- ◆ the effects of one intramuscular and one intravenous anaesthetic drug
- ◆ the effects of two premedicant drugs
- ◆ the effects of one muscle relaxant and one sedative
- ◆ the hazards and side effects of two inhalational drugs
- ◆ two anaesthetic induction routes in one small animal species
- ◆ the safe storage of one analgesic and one anaesthetic drug

Candidates will also need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ perform two anaesthetic drug calculations correctly

## Higher National Unit specification: statement of standards (cont)

**Unit title:** Veterinary Nursing: Anaesthesia

### Outcome 3

Evaluate the effective use and maintenance of anaesthetic equipment.

#### Knowledge and/or Skills

- ◆ Preparation, monitoring and use of anaesthetic equipment:
  - anaesthetic machine
  - vapourisers
  - gas cylinders
  - endotracheal tubes and masks
  - anaesthetic rebreathing systems
  - anaesthetic non-rebreathing systems
  - advantages and disadvantages of anaesthetic breathing systems
  - anaesthetic chambers
  - flow rates
  - pollution control systems
  - ventilator
  - laryngoscope
  - patient monitoring equipment
- ◆ Equipment maintenance
- ◆ Pre and post-use safety checks

#### Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can evaluate:

- ◆ the preparation, monitoring and use of anaesthetic equipment in three given scenarios.
- ◆ equipment maintenance and safety checks one given scenario

## Higher National Unit specification: support notes

### Unit title: Veterinary Nursing: Anaesthesia

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

### Guidance on the content and context for this Unit

Although this Unit may be taken by candidates in employment wishing to develop and/or enhance their knowledge and skills, it is primarily intended for candidates who are studying towards the HND in Veterinary Nursing and the teaching and learning should be delivered in this context.

The Unit is specifically related to the theory and application of skills required to assist veterinary surgeons in the provision of anaesthesia to patients in a veterinary practice. Although general health and safety legislation will be covered in other Units, its particular importance with respect to anaesthesia should be emphasised throughout.

Additional information relating to each Outcome is given below.

- 1 This Outcome covers the principles of anaesthesia and how this affects the choice of anaesthetic drugs for different patients. The ethical reasons for using general anaesthesia should be discussed. The occasions when a range of local anaesthetic techniques may be used should be considered. This should include peri-neural and intra-articular anaesthesia. When considering the types of anaesthesia, delivery should include the concept of balanced anaesthesia.

This Outcome should also deal with the specific care of the patient pre, during and post-anaesthesia. As part of the introduction to this Outcome and the Unit in general, mention should be made of commonly used anaesthetic terminology including minute volume, tidal volume and dead space. Coverage of anaesthetic emergencies, should include the theory and practice of resuscitation techniques, so that in an event of an emergency in the workplace candidates can be of assistance. How to recognise and respond promptly to anaesthetic emergencies should be emphasised. This should include patient intubation, IPPV, cardiac massage, and emergency drug administration.

## Higher National Unit specification: support notes (cont)

### Unit title: Veterinary Nursing: Anaesthesia

- 2 Candidates should be given a clear account of the drugs commonly used at each stage of the anaesthetic process. Premedication may include Acepromazine, Alpha 2 Agonists, opioids and benzodiazepines. Principles of analgesia should include the advantages of pre-emptive analgesia and the use of non-steroidal anti-inflammatories, opioids and local anaesthetic techniques. Induction should take account of the specific agents or combination of agents and the variation in routes including intravenous, inhalation and chamber. Coverage of muscle relaxants should specifically relate to those used in equine practice. In addition to this, candidates should develop knowledge of the correct procedures associated with the storage, administration and use of each drug and an awareness of the hazards associated with these substances. Factors affecting the selection of drugs according to species and patient status should also be covered. Candidates should be reminded of the relevant legislation dealing with drugs and their uses. Emphasis must be placed on the importance of analgesia and its role in surgical procedures.
- 3 When dealing with this Outcome, candidates must be given a clear account of the use of all items of anaesthetic and monitoring equipment. This should include an understanding of the implications of equipment faults or failure and how to maintain and service equipment to avoid these Outcomes. Monitoring equipment should cover a range of items from including oesophageal stethoscopes, pulse oximeters, and respiratory monitors, capnographs and electro-cardiographs as a minimum requirement. Anaesthetic breathing systems should include all the commonly used rebreathing and non-rebreathing systems including the Humphrey ADE system. The role and use of anaesthetic chambers in small exotic anaesthesia should be included. Of particular importance is coverage of equipment safety checks including patency and integrity of endotracheal tubes and systems and pre-use checks of the anaesthetic machine and pollution control systems.

### Guidance on the delivery of this Unit

This Unit has been devised with the intention that it forms part of the framework of the HND in Veterinary Nursing and should be delivered with that in mind.

It is envisaged that the delivery of this Unit will be a combination of classroom-based lectures covering the principles of anaesthesia and other aspects, supported by practical sessions introducing students to various items of anaesthetic and monitoring equipment. Overall, there should be a focus on the theoretical concepts underpinning the practical work, which will form part of the candidate's normal duties at the practice placement.

### Guidance on the assessment of this Unit

Centres should feel free to adopt an appropriate assessment strategy provided that it meets the specifications given in the Statement of Standards for this Unit.

## Higher National Unit specification: support notes (cont)

**Unit title:** Veterinary Nursing: Anaesthesia

### Assessment Guidelines

#### Outcome 1

The assessment of this Outcome can be combined with Outcome 2, details of which are given under Outcome 2.

#### Outcome 2

The assessment of this Outcome can be combined with Outcome 1. This could be conducted as a holistic closed-book test consisting of structured questions undertaken in controlled conditions and lasting two hours. Some questions could present scenario situations requiring problem solving skills.

#### Outcome 3

This Outcome could be assessed by a scenario-based open-book written test, undertaken in controlled conditions and lasting one and half hours.

### Online and Distance Learning

If this Unit is delivered by open or distance learning methods, additional resources will be required for candidate support, assessment and quality assurance. For further information and advice, please refer to the SQA guide: *Assessment and Quality Assurance for Open and Distance Learning* ([www.sqa.org.uk](http://www.sqa.org.uk)).

### Opportunities for developing Core Skills

There are limited opportunities to develop Core Skills other than the Using Number component of *Numeracy* at level 5 in Outcomes 1-3. Drug calculations in Outcome 2 offer good opportunities for working confidently to solve numerical problems. If a problem solving approach is taken for the delivery of Outcomes 2 and 3, there may be opportunities for the development of *Problem Solving* at level 5. There is no automatic certification of Core Skills or Core Skills components associated with this Unit.

### Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)

## History of changes to Unit

Version	Description of change	Date

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## General information for candidates

### Unit title: Veterinary Nursing: Anaesthesia

This Unit will provide you with a knowledge and understanding of all aspects of small animal anaesthesia. This includes the principles of anaesthesia, drugs used in anaesthesia and analgesia and the equipment used to administer and monitor anaesthesia.

The Unit is organised into three Outcomes, covering the following topics:

- ◆ the principles of anaesthesia and response to anaesthetic emergencies
- ◆ drugs used in anaesthesia and analgesia.
- ◆ the use and maintenance of anaesthetic equipment.

Outcomes 1–3 will be delivered in college and will complement the completion of *Veterinary Nursing: Supervised Practice 3*, which you will carry out at your practice placement.

Assessment for the Unit will consist of one closed-book test and one open-book test taken in controlled conditions and covering all the knowledge and understanding.