CENTRALQUALIFICATIONS

Diploma in Veterinary Nursing SA

Qualification Handbook

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Amendment details from previous version 1	Section/Page number	Date
Unit 12 - Assessment criteria 3.3 moved from examination to CSL	Pages 8 and 127	June 2025
Text moved from antagonists to muscle relaxants ◦ Uses ◦ Monitoring procedure during neuromuscular blockade	VNSA9/25 Section 2.5 Page 92	July 2025

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Central Qualifications (CQ) reserves the right to issue content and assessment updates to Centres if any of the indicative content goes out-of-date with legislative and/or other changes during the life of the award.

QUALIFICATION OVERVIEW

The Diploma in Veterinary Nursing - SA aims to prepare and support learners for a career in veterinary nursing.

The key purposes of the qualification are:

- to give learners the ability to gain the knowledge and skills necessary to practice veterinary nursing, safely and competently.
- to allow learners to grow as individuals and give them the chance to learn life skills essential for professional development.

The programme will include a balance of practice-based learning and theoretical teaching and use a variety of strategies to ensure learners can undertake clinical tasks proficiently.

Clinical placements in relevant veterinary training practices will allow the acquisition of nursing skills and will enable learners to become competent and confident in a veterinary environment.

QUALIFICATION NUMBER

Ofqual: 610/5873/7

QiW: COO/5873/7

QUALIFICATION STRUCTURE

All units are mandatory

Unit Number	Title of Unit	Level	Credits
VNSA1/25	Operational requirements in small animal practice	3	9
VNSA2/25	Applied animal welfare, health and husbandry in small animal practice	3	31
VNSA3/25	Infection control in small animal practice	3	20
VNSA4/25	Communication and professional relationships in small animal practice	3	11
VNSA5/25	Veterinary nursing care for hospitalised small animals	3	18
VNSA6/25	Veterinary medicine supply in small animal practice	3	12
VNSA7/25	Understand and apply the principles of fluid therapy and intravenous cannulation	3	8
VNSA8/25	Introduction to professional practice, professionalism and ethics for small animal veterinary nurses	3	10
VNSA9/25	Principles of supporting anaesthesia for small animal veterinary nurses	3	36
VNSA10/25	Theatre practice for small animal veterinary nurses	3	25
VNSA11/25	Principles of small animal peri-operative veterinary nursing support	3	18
VNSA12/25	Diagnostic imaging in small animal practice	3	26
VNSA13/25	Laboratory diagnostics in small animal practice	3	20
VNSA14/25	Principles of small animal veterinary nursing support	3	36
VNSA15/25	Veterinary nursing support for emergency and critical care of small animal patients	3	14
VNSA16/25	Home care and convalescence	3	5

QUALIFICATION DELIVERY

This qualification is delivered by Centres approved by Central Qualifications (CQ).

All units are delivered in the context of small animal nursing.

Learners can undertake the qualification on a full or part-time basis and learn via a mixture of learning techniques.

Veterinary practice-based learning is a vital element in this qualification.

ENTRY REQUIREMENTS

Learners must evidence capability in numeracy, literacy and science, written and spoken English and mathematics. This would typically include GCSEs at grades 9 to 4 (or A* to C), including English, mathematics and a science subject or equivalent.

Centres will be required to apply to CQ for approval for learners without these qualifications. Testimonials and evidence of existing qualifications will be required to support the application. CQ will judge each application on an individual basis and its decision is final.

Learners must be able to undertake suitable work experience in a veterinary practice that has been approved for training by CQ.

No learner will be subjected to unfair discrimination on the grounds of gender, race, creed, age or special needs. Equal opportunity policies will be adhered to on all grounds.

PROGRESSION

This Diploma allows learners to progress onto further qualifications if they wish, including the RCVS Certificate in Advanced Veterinary Nursing.

RECOGNITION OF PRIOR LEARNING (RPL)

CQ may accept the evidence of recent and relevant experience and alternative qualifications if this has been achieved within ten years of registration. However, learners would be required to complete all CQ assessments.

SUPPORTING PROGRAMME DELIVERY

Learners are required to have access to a taught programme, which will support the qualification outcomes. This may be provided by means of an attended course or via a programme of blended learning that is delivered by an approved Centre.

Total Qualification Time (TQT)	2990 hours
Total Guided Learning Hours (GLH)	1190 hours
Classroom based - GLH	*618 hours*
Other activities - GLH	*572 hours*

TQT is an estimate of the total time that learners would typically complete to achieve and demonstrate the learning outcomes in this qualification; this includes Guided Learning Hours.

Guided learning is learning that takes place under the immediate guidance or supervision of a lecturer, supervisor, tutor or other appropriate provider of education or training. Examples of activities that can contribute to guided learning include:

- Classroom-based learning supervised by a teacher
- Work-based learning supervised by a teacher
- Live webinar or telephone tutorial with a teacher in real time
- E-learning supervised by a teacher in real-time
- All forms of assessment which takes place under the immediate guidance or supervision of a lecturer, supervisor, tutor or other appropriate provider of education or training, including where the assessment is competence-based and may be turned into a learning opportunity.

Course tutors should familiarise themselves with the qualification units and structure before designing a supporting course curriculum. On condition that the learning outcomes of the qualification are addressed and suitably assessed under CQ's guidance, Centres may deliver the award via methods that best focus on the needs of their learners.

Practical work-based learning outcomes are incorporated throughout the syllabus. Practical skills should also be supported by skills teaching within taught programmes and through teaching and supervised experience in a relevant clinical veterinary practice. Centres are also required to have in place suitable arrangements for the teaching of practical skills.

Achievement of this qualification can lead to professional registration. In order for the learner to register with the RCVS upon achievement of the qualification, they must have evidence to show that they have completed a **minimum of 94 weeks** and **not less than 2990 hours** in training as part of this qualification – *this includes both practical experience in an approved training practice and time attending college*. The training programme must include a **minimum of 1800 hours in an approved training practice** in addition to the taught course in the Centre.

ASSESSMENT AND ASSESSMENT STRATEGY

Knowledge and understanding will be assessed by:

- Assignments set by CQ and administered by Centres.
- Multiple choice examinations set and administered by CQ.
- Short answer question examination set and administered by CQ.

Practical skills will be assessed by:

- An electronic work-based progress log (Central Skills Log). Practical skills are recorded by learners using the Central Skills Log. Clinical coaches/practical tutors confirm competency and Centres internally verify progress.
- Practical examination of essential clinical skills (OSCE - Objective Structured Clinical Examination) set and administered by CQ, and delivered in CQ approved OSCE Centres.

Assignments are marked by the Centre according to the marking criteria set by CQ. Centres internally verify completed assignments.

ASSESSMENT TABLE

Unit Number	Theory tested by assignment	Practical tested by CSL	CQ administered examination	OSCE
VNSA1/25	No assignment	1.3, 1.4, 1.5, 2.1, 2.2, 2,3, 3.1, 3.2	1.1,1.2, 4.1	Y
VNSA2/25	No assignment	2.3, 2.4, 3.4, 3.5, 4.3, 4.5, 4.6, 7.1, 7.2	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 4.1,4.2, 4.4, 5.1, 5.2, 5.3, 5.4,5.5 6.1, 6.2, 7.3, 7.4	Y
VNSA3/25	No assignment	1.2, 2.5, 2.7, 2.8, 2.10, 3.2, 3.5, 3.6, 4.1, 4.2, 5.2, 5.3	1.1, 1.3, 2.1, 2.2, 2.3, 2.4, 2.6, 2.9, 3.1, 3.3, 3.4, 5.1, 6.1, 6.2	Y
VNSA4/25	1.1, 1.2, 1.3, 1.4, 3.1, 3.2, 3.3, 4.1, 4.4 5.1, 5.2, 5.3	2.1, 2.2, 2.3, 3.4, 4.2, 4.3	No examination	Y
VNSA5/25	No assignment	1.3, 2.3, 3.2	1.1, 1.2, 2.1, 2.2, 2.4,2.5, 3.1	Y
VNSA6/25	No assignment	1.2, 4.1,4.2,4.3 ,5.2, 5.3, 5.4, 5.5, 6.1, 6.2	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 5.1	Y
VNSA7/25	No assignment	3.6, 4.2, 4.3	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 5.1	Y
VNSA8/25	2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3	1.3	1.1, 1.2, 2.1, 6.1, 6.2	Y
VNSA9/25	No assignment	3.6, 3.7, 4.2 ,4.4, 4.6, 4.8, 4.9, 5.2, 5.4, 5.8	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1,4.3, 4.5, 4.7, 5.1, 5.3, 5.5, 5.6, 5.7, 6.1, 6.2	Y
VNSA10/25	No assignment	1.2, 3.1, 3.2, 3.3, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3	1.1, 1.3, 2.1, 2.2, 2.3,4.1, 4.2, 4.3, 4.4	Y
VNSA11/25	No assignment	1.3,1.6, 2.2, 2.5, 3.2, 3.4	1.1, 1.2, 1.4, 1.5, 2.1, 2.3, 2.4, 2.6, 2.7 3.1, 3.3	Y
VNSA12/25	No assignment	1.3, 3.1, 3.4, 4.4, 5.3	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5,3.2,3.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4, 5.5	Y
VNSA13/25	No assignment	2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2	1.1, 1.2	Y
VNSA14/25	No assignment	3.1, 3.2, 3.4, 3.5, 3.6, 3.7, 4.6, 4.7,4.8, 4.9	1.1,1.2,1.3,1.4, 2.1, 2.2, 2.3, 2.4, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5	Y
VNSA15/25	No assignment	2.3, 2.6	1.1, 1.2, 1.3 1.4, 2.1, 2.2, 2.4,2.5	Y
VNSA16/25	No assignment	1.1, 1.2, 1.3, 2.1, 2.2, 2.3	No examination	Y

THEORY EXAMINATION STRUCTURE

Paper	Components	Number of questions	Time Allowed
1	VNSA1/25	70 MCQ	70
	VNSA2/25		
	VNSA3/25		
2	VNSA5/25	50 MCQ	50
	VNSA6/25		
	VNSA7/25		
3	VNSA8/25	10 (SAQ)	60
4	VNSA9/25	88 MCQ	90
	VNSA10/25		
	VNSA11/25		
5	VNSA12/25	98 MCQ	100
	VNSA13/25		
	VNSA14/25		
	VNSA15/25		

QUALIFICATION GRADING

Distinction	First time pass of 80% and above in all components of each theory examination First time pass of 12/12 in OSCE Pass in all assignments Completion of CSL
Merit	First time pass in all components of each theory examination First time pass of 8/12 in OSCE Pass in all assignments Completion of CSL
Pass	Pass in each theory examination Pass in OSCE Pass in all assignments Completion of CSL

Assignments	All criteria must be addressed to obtain a pass
Theory examinations	All components within an examination paper must be achieved in order to obtain a pass. The pass mark for each paper is an overall mark of 65% (moderated), together with no less than 50% in any one component in papers 1, 2, 4 and 5.
Central Skills Log	All practical skills must be achieved
OSCE	8 out of 12 OSCE tasks must be achieved to obtain a pass

NUMBER OF ASSESSMENT ATTEMPTS

Any learner who fails a theory examination paper will be required to re-sit the entire paper.

If a learner is registered for an examination, but does not show up at an exam and is recorded as 'absent', then this would count as an attempt.

Learners will be entitled to a maximum of four attempts of any assessment. Learners who fail on three occasions will be required to carry out a programme of study, considered acceptable by CQ, of no less than four months under the appropriate supervision of their approved Centre before undertaking the assessment for a final attempt.

Any learner who should fail an assessment on four occasions will have their enrolment on the award terminated. These learners may enrol again but will need to provide satisfactory evidence to CQ that they have taken active steps to address their former difficulties and are in a reasonable position to achieve the qualification. Centres should contact CQ for advice.

COMPETENCE OF ASSESSORS, MODERATORS AND CLINICAL COACHES

Programme tutors, assessors and moderators must be occupationally competent, in addition to holding appropriate educational qualifications and/or significant experience. Demonstrable and current experience of working in veterinary practice or related career is a requirement.

Clinical coaches/practical tutors must be suitably experienced and qualified and must be veterinary nurses or surgeons. Centres are required to ensure clinical coaches/practical tutors are suitably trained and supported in their role.

REASONABLE ADJUSTMENTS, SPECIAL CONSIDERATION AND APPEALS

CQ recognises that reasonable adjustment or special consideration may be required at the time of assessment where:

- Learners have a permanent disability or specific learning needs
- Learners have a temporary disability, medical condition or learning needs
- Learners are indisposed at the time of assessment

The provision for reasonable adjustments and special consideration arrangements is made to ensure learners receive recognition of their achievement so long as the equity, validity and reliability of the assessments can be assured. Such arrangements are not concessions to make assessment easier for learners, nor advantages to give learners a head start.
There are 2 ways in which access to fair assessment can be maintained:

1. Reasonable adjustments, where arrangements are made for an assessment in advance, for example a request for extra time
2. Special considerations, where arrangements are made after the assessment has already taken place where unforeseen circumstances have arisen

Learners with reasonable adjustment needs will be given appropriate guidance and support. Requests for special consideration will be addressed if the Centre and the learner provide suitable evidence supporting their case.

Centres should have in place an appeals procedure and be able to address learners' concerns and these should all be documented and made available to CQ. A review of the process will take place to ensure an appropriate outcome if the learner is dissatisfied.

Appeals will all be conducted in accordance with the procedures set out by CQ.
Centres and learners are advised to consult CQ for current guidance and recommendations.

CENTRE APPROVAL AND QUALITY ASSURANCE

Centres must be approved by CQ before being able to deliver the programme. Every new Centre will be subject to a visit before approval is granted. Full details about this process are available from CQ.

Centres will have at least one Education Consultant visit annually. These visits will include assessing administrative systems, programme delivery, availability of learner support, the quality of the facilities, programme assessment methods and training practices.

ENROLMENT AND CERTIFICATION

Learners must enrol on the course and be registered for the qualification before commencement of the programme.

Diploma certificates will be provided to learners, via their Centre, once the Diploma is completed and a valid claim has been received from the Centre. All specified units and assessments must be completed and passed before certification.

RCVS REGISTRATION

Please follow this link for guidance to registration with the RCVS.

UK-qualified veterinary nurses - Professionals (rcvs.org.uk)

Unit Title	**VNSA1/25 Operational requirements in small animal practice**		
Level	3	**Credit value**	9
Guided Learning Hours		Classroom-based Other activities	9 27

UNIT AIM

This unit facilitates an understanding of working practices and the essential operation of a veterinary practice. This is to ensure that an employee may work effectively and safely within such an environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **four** learning outcomes to this unit. The learner will:

1. Understand the aims of effective health and safety within a veterinary practice
2. Understand how to use and maintain equipment in a veterinary practice
3. Understand how to maintain stocks of veterinary consumables and pharmaceuticals
4. Know the principles of record-keeping

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1,1.2, 4.1
Central Skills Log	1.3, 1.4, 1.5, 2.1, 2.2, 2,3, 3.1, 3.2

RCVS Day One Skills and Competences mapping

DOS	**LO1**: 1.1,1.2,1.3,1.4, 2.10, 2.11, 3.1, 3.2, 3.3, 3.4, 8.3,8.4 **LO2:** 1.1, 1.2, 1.3, 2.1, 2.2, 9.1,10.2 **LO3:** 1.1, 1.2, 2.1, 2.2, 2.3, 7.1, 7.3, 8.3 **LO4:** 2.1, 2.2, 2.3, 2.8, 4.4, 5.9
DOC	**LO1**: 1, 2, 3, 4, 11, 23, 29, 35 **LO2:** 1, 2, 3, 4, 23, 29, 30, 32 **LO3:** 2, 3, 25 **LO4:** 1, 2, 3, 5, 7, 22

OUTCOME 1 UNDERSTAND THE AIMS OF EFFECTIVE HEALTH AND SAFETY WITHIN A VETERINARY PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Explain the aims of effective health and safety within a veterinary practice
2. Explain the principal risks in a veterinary practice, mentioning the environment, working hours, chemical and biological hazards
3. Demonstrate how to move and handle animals and equipment safely, identifying risk factors and writing a risk assessment to include appropriate action
4. Apply the principles of handling and disposal of hazardous substances, to include sharps, biological and chemical materials
5. Demonstrate the importance of wellbeing in a practice environment

Context

Dogs, cats, rabbits, birds and reptiles

UNIT CONTENT

1.1 Explain the aims of effective health and safety within a veterinary practice, to include:

- Reduction of risks including utilising assessments, controls and quality improvement
- Identification of animals, including their temperament and history
- Clients and staff at special risk, considering issues such as:
    - Asthma
    - Visual or hearing impediments
    - Impaired literacy
    - Pregnancy
    - Age
    - Disabilities
- Consequence of poor health and safety, including human, economic and reputational costs
- Individual and employer accountability
- Provision of Health and Safety at Work Act 1974 (HASWA)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)
- Provision of first aid in the workplace following The Health and Safety (First Aid) Regulations 1981 including designated first aid person and completion of accident book
- Fire safety with reference to The Regulatory Reform (Fire safety) Order 2005(England and Wales)
- Practice protocols and Standard Operating Procedures (SOP's)
- Personal Protective Equipment (PPE)

1.2 Explain the principal risks in a veterinary practice, mentioning the environment, working hours, chemical and biological hazards to include:

- Practice design and layout including furnishings, equipment and security
- Shift patterns and working hours in relation to Working Time Regulations 1998 including ability to opt out
- Hazards including trip, slip, electrical, substances, biohazards, gases, radiation, clients and animals
- Infection – inter-animal, nosocomial, zoonoses
- Infestation
- Radiation safety

- Risk of injury to self or others; appropriate reporting procedure
- Risk of injury to self or others; appropriate reporting procedure

1.3 Demonstrate how to move and handle animals and equipment safely, identifying risk factors and writing a risk assessment to include appropriate action

- Risk factors, to include:
    - Animal temperament, sedation, muzzles and PPE
    - Positioning of loads, including weight, stability, shape and handler factors (size, experience, physical condition)
    - Avoiding risk, including unnecessary moves, appropriate storage and use of aids (slides, stretchers, trolleys and mechanical lifting equipment as applicable)
    - Safe techniques for manually moving loads
    - Provisions of Manual Handling Operations Regulations 2002
    - Risk of injury to self or others; appropriate reporting procedure including legislative guidance
- Critically evaluate risk assessments to ensure they are current and valid

1.4 Apply the principles of handling and disposal of hazardous substances, to include sharps, biological and chemical materials

- Disposal of waste, to include:
    - Disposal systems for household and commercial waste with reference to promoting environmental sustainability in line with BVA environmental policy 2023
    - Principles of disposal of offensive, hazardous waste, sharps and special waste, including identification, appropriate bags, bins, collection arrangements as per BVA good practice guide
    - Control of Substances Hazardous to Health Regulations 2002 (COSHH)
    - Storage and disposal of animal tissue and cadavers – fridges and freezers, identification, appropriate bags or wrapping, collection arrangements
    - Hazardous Waste (England and Wales) Regulations 2005 and Hazardous Waste (England and Wales) (Amendment) Regulations 2009
- Principles of safe handling of hazardous substances, to include:
    - Blood and body fluids
    - Animal tissue
    - Pharmaceuticals
    - Anaesthetic agents
    - Scavenging system
    - Sharps

1.5 Demonstrate compliance with practice protocols regarding health and wellbeing of personnel

- Discussion of health and wellbeing concerns which may be experienced by any member of the veterinary team, and the protocols in place to prevent and mitigate them. These should include reference to mental and emotional health concerns, as well as those relating to physical or psychological health which may result from:
    - Work place stress
    - General stress
    - Burnout
    - Compassion fatigue
- Knowledge of resources to signpost members of the veterinary team to, such as:
    - Vetlife
    - Mind Matters
    - Employee Assistance Programmes (EAP)

- BVNA
- Mental Health First Aiders
- CoPC supporting guidance 15 Health Protocol
- Other relevant resources or initiatives

OUTCOME 2 UNDERSTAND HOW TO USE AND MAINTAIN EQUIPMENT IN A VETERINARY PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Demonstrate the use of veterinary practice equipment, to include clinical furniture, powered and manual instrumentation, diagnostic imaging, laboratory and anaesthetic equipment
2. Apply practice protocols in line with manufacturer guidelines for routine checking and maintenance of equipment to include frequency
3. Identify equipment faults, to include action that should be taken in the event of malfunction
*professional discussion is an acceptable assessment method

Context

Dogs and cats

UNIT CONTENT

2.1 Demonstrate the use of veterinary practice equipment, to include clinical furniture, powered and manual instrumentation, diagnostic imaging, laboratory and anaesthetic equipment

- Safe use of common equipment, to include:
    - Adjustable tables, trolleys, stools
    - Clippers, powered tools and instruments, laboratory diagnostic machine, autoclave
    - Anaesthetic machines, scavenging equipment, monitoring equipment
    - X-ray machine, endoscope, ultrasound equipment
    - Syringes, needles, catheters, blades, glass slides
- Recognition of faults and unsafe equipment – reporting procedure

2.2 Apply practice protocols in line with manufacturer guidelines for routine checking and maintenance of equipment to include frequency

- Equipment found in examination and consultation rooms, including ophthalmoscope, otoscope, thermometers, stethoscope
- Powered surgical equipment, including diathermy, drill, suction
- Manual surgical equipment and instruments
- Laboratory diagnostic machines
- Imaging, including X-ray machine, endoscope, ultrasound equipment
- Equipment used for rehabilitation and wound healing such as Laser (Light Amplification by the Stimulated Emission of Radiation), hydrotherapy units, treadmills, hoists
- Theatre equipment, including lighting, heating aids, anaesthetic machine, adjustable table, trolleys, stools
- Protocols for routine checking and maintenance of equipment including daily, weekly and monthly parameters to check
- Follow maintenance protocols and manufacturer's instructions
- Portable appliance testing (PAT)

2.3 Identify equipment faults, including action that should be taken in the event of malfunction, to include:

- Types of faults
    - Chemical and biological spills
    - Glass breakages
    - Infection or infestation
    - Electrical faults
    - Equipment fault
    - Fire
    - Gaseous leak
- Possible equipment faults that may affect safety and reliability and what action should be taken
- Reporting procedure for equipment faults and failure, risks and incidents including RIDDOR

OUTCOME 3 UNDERSTAND HOW TO MAINTAIN STOCKS OF VETERINARY CONSUMABLES AND PHARMACEUTICALS

ASSESSMENT CRITERIA

The learner can:

1. Demonstrate the principles of stock control, mentioning record-keeping, storage conditions, stock rotation
2. Demonstrate how to dispose of surplus and outdated materials, mentioning relevant legal requirements

Context

Dogs and cats

UNIT CONTENT

3.1 Demonstrate the principles of stock control, to include record-keeping, storage conditions, stock rotation

- Pharmaceutical stock
  - Oral
  - Topical
  - Injectable medications
  - Requirements for storage
- Schedules of controlled drugs and requirements for ordering, recording, delivery, usage and storage
- Legal requirements for record-keeping of pharmacy stock, including sale, supply, use, batch numbers
- Methods of placing an order in a veterinary practice
- Requirements for safe handling and storage of materials following delivery to maintain condition and safety, to include:
  - Vaccines
  - Sterile supplies such as gloves, blades, needles, syringes, catheters, gowns
  - Controlled drugs
  - Food such as tinned, dry, prescription, non-prescription
  - Consumables such as disinfectant, antiseptic, paper towel, cotton wool, gauze, aprons, gloves, masks
- Damaged stock and discrepancies between order and stock delivery
- Keeping stock in optimum condition for use, including stock rotation, expiry dates, storage temperatures and conditions
- Stock and equipment maintenance in consulting rooms, prep areas, kennels/cattery and operating theatre

3.2 Demonstrate how to safely dispose of surplus and outdated materials, mentioning relevant legal requirements to include:

- Unopened and unfinished medications and medicines
- Knowledge of disposal of controlled drugs
- Record-keeping, including batch numbers and quantity
- Equipment and materials
- Legal requirements such as:
  - Hazardous Waste (England and Wales) Regulations 2005
  - Hazardous Waste (England and Wales) (Amendment) Regulations 2009

- Misuse of Drugs Act 1971
- Control Of Substances Hazardous to Health 2002

OUTCOME 4 KNOW THE PRINCIPLES OF RECORD-KEEPING

ASSESSMENT CRITERIA

The learner can:

1. Explain the principles of veterinary record-keeping, mentioning client and patient records, to include confidentiality, data protection, RCVS Codes of Professional Conduct

Context

Dogs and cats

UNIT CONTENT

4.1 Explain the principles of veterinary record-keeping, mentioning client and patient records, to include confidentiality, data protection, RCVS Codes of Professional Conduct

- Confidentiality
- Principles of data protection including UK GDPR, time limits and disposal
- Client feedback data
- Sharing of information
- RCVS Codes of Professional Conduct
- Client and animal patient records
- History taking and recording
- Recording of observations
- Use of abbreviations, abbreviations in common use and the potential risks if used
- Receiving records from and supplying records to another veterinary professional
- Supplying information from legal requests
- Principles of certification, for example Animal Health Certificates, exemption certificates
- Creating, updating and maintaining basic records of financial transactions
- Use of client or patient records for training or assessment

Unit title	**VNSA2/25 Applied animal welfare, health and husbandry in small animal practice**		
Level	3	**Credit value**	31
Guided Learning Hours		Classroom based Other activities	74 50

UNIT AIM

This unit facilitates an understanding of the principles of animal welfare and husbandry in relation to work in a veterinary practice. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse

LEARNING OUTCOMES

There are **seven** learning outcomes to this unit. The learner will:

1. Understand the principles of animal welfare in relation to dogs, cats and rabbits
2. Understand the use and maintenance of different types of accommodation for hospitalised animals
3. Understand the essential factors for maintaining animal health for a range of species
4. Know the nutritional requirements of animals
5. Understand the reproduction and breeding of animals
6. Know methods of animal identification
7. Be able to handle and restrain animals safely

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 4.1,4.2, 4.4, 5.1, 5.2, 5.3, 5.4,5.5 6.1, 6.2, 7.3, 7.4
Central Skills Log	2.3, 2.4, 3.4, 3.5, 4.3, 4.5, 4.6, 7.1, 7.2

RCVS Day One Skills and Competences mapping

DOS	**LO2:** 1.1, 1.2, 2.5,4.3, 4.5, 8.2 **LO3**: 2.1, 2.2, 2.3, 2.5, 2.6 4.3, 4.4, 4.5, 4.6, 4.13 **LO4**: 4.1, 4.5 **LO5**: 2.1, 2.5, 4.4, 4.5, 4.6 **LO6:** 2.2 **LO7**: 1.1, 1.2, 3.1, 3.2, 3.3, 3.4, 3.5
DOC	**LO1:** 1, 2, 3, 8, 10, 18, 19, **LO2**: 1, 4, 18 **LO3:** 1, 2, 3, 5, 7, 8, 11, 12, 18, 19, 34, 35, 37 **LO4:** 12, 18 **LO5:** 1, 2, 5, 37 **LO6:** 1, 3, 5, 7, 37 **LO7:** 1, 4, 17, 35

OUTCOME 1 UNDERSTAND THE PRINCIPLES OF ANIMAL WELFARE IN RELATION TO DOGS, CATS AND RABBITS

ASSESSMENT CRITERIA

The learner can:

1. Summarise the legislation and codes of practice in place to protect animal interests and welfare in relation to dogs, cats and rabbits

Context

Dogs, cats and rabbits

UNIT CONTENT

1.1 Summarise the UK legislation and codes of practice in place to protect animals' interests and welfare in relation to dogs, cats and rabbits

- Summarise the legislation and codes of practice in place to protect animals' interests, to include:
  - Animal Welfare Act 2006
  - Department for Environment, Food and Rural Affairs (DEFRA)
  - Animal and Plant Health Agency (APHA)
  - Pet Travel amended since 2021 (EU Animal Health Certificate)
  - Veterinary Surgeons Act 1966
- Define the 'Five Welfare Needs' in relation to the Animal Welfare Act 2006
- Understand the role of animal welfare and conservation organisations, to include:
  - Royal Society for the Prevention of Cruelty to Animals (RSPCA)
  - British Veterinary Association (BVA)
  - International Cat Care (ICC)
  - Rabbit Welfare Association and Fund (RWAF)
  - BSAVA (British Small Animal Veterinary Association)

OUTCOME 2 UNDERSTAND THE USE AND MAINTAINENCE OF DIFFERENT TYPES OF ACCOMMODATION FOR HOSPITALISED ANIMALS

ASSESSMENT CRITERIA

The learner can:

1. Explain the requirements of hospital accommodation for dogs, cats and rabbits to include layout and access to facilities, size, design and construction materials, maintaining temperature and ventilation and bedding and substrates
2. Summarise safety considerations in relation to the use of accommodation and associated equipment, to include design, state of repair, fitness for purpose
3. Provide an appropriate nursing environment
4. Clean, prepare and maintain accommodation for in-patients

Context

Dogs, cats and rabbits

UNIT CONTENT

2.1 Explain the requirements of hospital accommodation for dogs, cats and rabbits, to include:

- Layout and access to facilities, to include:
  - Ease of use
  - Essential equipment and furniture
- Size, design and construction materials, to include:
  - Structure, space and size to allow normal behaviour and fulfil legislative requirements
  - Design aspects to aid access to patient and cleaning
  - Properties of construction materials, for example insulation, reflection, noise levels, ease of cleaning, absorbency
  - Maintenance of accommodation
- Environmental considerations to include:
  - Location of services to include electricity and water
  - Predator/prey contact, noise levels, security, social needs of animal
  - Density and mix of animals according to species
- Minimising stress-use of hides, covering kennel door, pheromones, items from home, companion
- Condition of patient
- Maintaining temperature and ventilation, to include:
  - Provision of additional heat
  - Air conditioning units
  - Control of individual units of accommodation
- Bedding and substrates, to include:
  - Properties of a range of bedding and substrate materials, for example warm, dust free, absorbent, antimicrobial, appropriate type for species
  - Disposal
  - Re usable such as vet bed

2.2 Summarise safety considerations in relation to the use of accommodation and associated equipment, to include design, state of repair, and fitness for purpose

- Safe use of accommodation and equipment
- Maintenance protocols
- Reporting and managing unsafe accommodation and equipment

- Appropriate accommodation for requirements of animal and personnel
- PPE

2.3 Provide an appropriate nursing environment, taking into account the patient's species, age, condition and normal routines, to include:

- Position, layout, size and access
- Light, temperature, humidity and ventilation
- Isolation or barrier nursing
- Bedding and substrates
- Size and position of kennel furniture and enrichments

2.4 Clean, prepare and maintain accommodation for in-patients, to include:

- Differing requirements of species
- Nature of clinical condition
- Adherence to relevant risk assessments, practice procedures and/or protocols
- Cleaning preparation and the use of PPE
- Appropriate selection of cleaning equipment, solutions and disinfectant
- Appropriate use of holding cages and baskets
- Cleaning routines – spot clean, full clean, isolation, barrier nursing
- The safe and effective use of cleaning equipment, solutions and disinfectant, including dilution rates and contact time
- Cleaning fixtures and fittings and the replenishment of bedding or substrate and furniture, for example bowls, litter trays

OUTCOME 3 UNDERSTAND THE ESSENTIAL FACTORS FOR MAINTAINING ANIMAL HEALTH FOR A RANGE OF SPECIES

ASSESSMENT CRITERIA

The learner can:

1. Explain the importance of key factors in maintaining animal health within a practice environment
2. Distinguish normal and abnormal presentations, mentioning behaviour, appearance, mobility, excretions
3. Outline the importance of responsible pet ownership and the role of the veterinary nurse
4. Conduct effective nursing clinics
5. Be able to implant a microchip and complete the relevant paperwork

Context

Dogs, cats and rabbits

UNIT CONTENT

3.1 Explain the importance of key factors in maintaining animal health and address the psychological needs of in-patients in a practice environment, to include:

- Feeding – amount, frequency, type and method to meet nutritional requirements of the species at particular life stages
- Exercise – amount, space, type and frequency dependent on species, age, condition and life stage
- Grooming – frequency, method, equipment dependent on species
- Addressing stress, boredom – enrichment opportunities according to species and condition
- Adapting nursing techniques for patients with sensory impairment
- Systematic and ongoing assessment of the patient's health and condition to monitor general health status, including:
    - Demeanour, behaviour and activity levels
    - Posture and movement
    - Bodyweight
    - Condition of coat, skin, eyes, ears, genital area
    - Appetite
    - Excretions

3.2 Distinguish normal and abnormal presentations dependent on species, condition and life stage, to include:

- Behaviour and temperament
    - Dependent on the species
    - Previous history
- Appearance
    - Eyes
    - Ears
    - Mouth
    - Mucous membranes
    - Teeth
    - Nose
    - Genitalia
    - Overall condition, including coat or skin covering
- Mobility
    - Posture

    - Ability to move
    - Signs of pain when moving
- Excretions
    - Faeces
    - Urine
    - Waste output dependent on the species
- Weight
    - Fluctuations
    - Body condition scoring following WSAVA guidelines
- Food and water intake
    - Reduced or increased
    - Normal or abnormal for species
- Temperature, pulse and respiration (TPR), according to normal parameters for the species

3.3 Outline the importance of responsible pet ownership and the role of the veterinary nurse

- Lifetime commitment including time, financial responsibilities including insurance and end of life care
- Selection of appropriate species and breed
- Provision of appropriate environment for species and number of animals to include:
- Suitable accommodation
- Appropriate exercise
- Mental stimulation
- Provision of appropriate preventative healthcare to include:
    - Dental care – to meet requirements of species
    - Principles of vaccination regimen in line with current recommendations
    - Parasite control – endoparasites and ectoparasites, frequency of treating, risk banding, route of administration, condition of animal, animal life stage, assessing and monitoring for adverse reactions and treatment records
    - Weight management advice
- Responsible breeding including:
    - Appropriate health tests to reduce incidence of inherited diseases
    - Temperament of breeding animals
    - Neutering programs
- Microchipping as per current legislation:
    - The Microchipping of Dogs (England) Regulations 2015
    - The Microchipping of Dogs (Wales) Regulations 2015
    - The Microchipping of Dogs (Scotland) Regulations 2016
    - The Microchipping of Cats and Dogs (England) Regulations 2023
- Animals are kept in accordance with relevant legislation with reference to:
    - The Dangerous Dogs Act 1991
    - The Dangerous Dogs (Designated Types) (England and Wales) order 2023

3.4 Conduct effective nursing clinics, to include:

- History taking, examination and advice as appropriate for:
    - Preventative care, for example parasite treatment
    - Weight management
    - Post-operative care, for example post-dental treatment
- Identify cases for referral to veterinary surgeon
- Record-keeping in line with the purpose of the visit, examination and treatment provided

3.5 Be able to implant a microchip and complete the relevant paperwork, to include:

- Legislation in relation to the implantation of microchips
- Selection of appropriate patient to microchip and obtaining and recording informed consent for the

procedure, to include financial information
- Checking patient is healthy enough to be microchipped
- Thoroughly checking if patient already microchipped and if so, following correct procedure
- Selection of appropriate size of microchip, where different sizes are used, and other necessary equipment
- Checking microchip is functional and matches barcode before implantation
- Subcutaneous implantation of microchip in correct position, maintaining asepsis and following manufacturer recommendations, and checking it reads following implantation
- Completion of relevant practice records, microchip paperwork and instructions to client regarding their responsibilities and post-implantation care, including adverse reactions and practice contact details
- Disposal of equipment and materials safely and in line with legislation and practice protocols
- Cleaning and maintenance of equipment
- Knowing when to refer to a veterinary surgeon either before or following the implantation of a microchip

OUTCOME 4 KNOW THE NUTRITIONAL REQUIREMENTS OF ANIMALS

ASSESSMENT CRITERIA

The learner can:

1. Compare and contrast mammalian digestive tracts and modes of digestion
2. Explain the roles of essential nutrients, minerals and vitamins in dogs, cats and rabbits
3. Calculate nutritional requirements and provide food to animals, to include different species and life stages
4. Explain the effects of illness and injury on nutritional requirements
5. Prepare appropriate food for patients
6. Monitor and record dietary intake

Context

Dogs, cats and rabbits

UNIT CONTENT

4.1 Compare and contrast mammalian digestive tracts and modes of digestion

- Structure and function of the alimentary tract, to include:
  - Oral cavity – skull, tongue, salivary glands
  - Teeth – dentition of dog, cat and rabbit; eruption times and dental formulae; tooth types and adaptations; anatomy of the generic tooth
  - Pharynx – mechanism of swallowing
  - Oesophagus – peristalsis
  - Stomach – production of gastric juices, gastric emptying, vomiting
  - Small intestine – duodenum, jejunum and ileum, intestinal wall, digestion and absorption, Brunner's glands
  - Pancreas
  - Gall bladder
  - Large intestine – caecum, colon, rectum, anus, defecation, composition of faeces
  - Liver – function, including carbohydrate, protein and fat metabolism
- Process of digestion – digestive juices and enzymes and their action on food
- Comparative digestion in different species, to include dogs, cats and rabbits
- Terminology associated with the digestive tract – prehension, ingestion, mastication, deglutition, peristalsis, digestion, bolus, chyme, absorption

4.2 Explain the role of essential nutrients, minerals and vitamins in diets of dogs, cats and rabbits, to include:

- Carbohydrates (monosaccharides, disaccharides and polysaccharides)
- Proteins (amino acids, peptides and polypeptides)
- Fats/lipids (fatty acids)
- Vitamins (fat and water-soluble forms)
- Minerals (macro and micro classes)
- Water
- Explain the effects of balanced nutrition on bodily function, to include:
  - Energy production
  - Temperature regulation
  - Structure
  - Storage
  - Waterproofing
  - Insulation

    - Growth and repair
    - Reproduction
    - Anabolism and catabolism
- Factors that stimulate appetite, to include palatability of food, availability of food, behavioural conditioning, activity levels and physiological factors, for example hormonal influences
- Differentiate between the diet and feeding habits of monogastric carnivores, for example dog and cat, and the monogastric hindgut fermenters, for example rabbits

4.3. Calculate nutritional requirements and provide food to animals, to include:

- Neonatal, newly weaned and juvenile
- Adult
- Geriatric
- Breeding and lactating
- Performance or working animals
- Critically ill animals
- Define the terms Maintenance Energy Requirement (MER), gross energy (GE), digestible energy (DE) and resting energy requirement (RER)
- Determine the nutritional and basic fluid needs of a range of animals, to include:
    - Calculation/determination of the energy density of a range of foods (kcal)
    - Calculation/determination of maintenance energy requirement (MER) using accepted formulae appropriate to the individual situation
    - Calculate ongoing fluid requirements of a healthy animal according to an accepted formula
- Explain the use and administration of parenteral nutrition to include:
    - Nutritional requirements of a critically ill animal with reference to Protein Energy Malnutrition (PEM)
    - Use of Total Parenteral Nutrition (TPN) and Partial Parenteral Nutrition (PPN) with advantages and disadvantages of both
    - Use of sterile procedure in administration
    - Refrigeration and date, checking of nutritional solutions
- Select appropriate food taking into consideration the features of a range of available foodstuff types, to include:
    - Dried
    - Wet/moist
    - Raw/fresh
- Interpret the statutory statement and terminology associated with pet food labels, including:
    - Complementary, complete
    - Typical analysis, guaranteed analysis
    - ‘As fed’ basis, dry matter basis (DMB)

4.4 Explain the effects of illness and injury on nutritional requirements, to include:

- Metabolic rate
- Feeding pattern
- Altered diet according to condition, disease or injury
- Altered digestion
- Bodily function
- Hospitalisation, stress, change in exercise pattern

4.5 Prepare appropriate food for patients in relation to

- Medical dietary requirements
- Type and size of animal
- Known likes, dislikes and normal feeding regimens and diet
    - The assessment of nutritional requirements, using WSAVA guidelines, considering feeding according to type and size of animal and life stage
    - Consideration of the metabolic rate

- The provision of nutritional support and appetite stimulants
- Preparing food – fresh, frozen, dried, tinned, prescription, quality, frequency according to condition, species and veterinary instructions

4.6 Monitor and record dietary intake

- Design and use of feeding charts
- Weighing and measuring food
  - Solid food
  - Liquid food
- Measuring water intake through oral route

OUTCOME 5 UNDERSTAND THE REPRODUCTION AND BREEDING OF ANIMALS

ASSESSMENT CRITERIA

The learner can:

1. Explain key principles of genetic inheritance and define terms, including phenotype, genotype, allele
2. Explain reproductive physiology in the male and female; describe comparative reproductive tracts
3. Describe the breeding cycles of a range of species, to include dogs, cats and rabbits, mentioning natural mating, artificial insemination and pseudocyesis
4. Explain the essentials of ante- and post-partum care, to include preparations, normal parturition, identification of complications and post-partum care
5. Explain the nursing and management of neonates, to include recognition of abnormalities and complications

Context

Dogs, cats and rabbits

UNIT CONTENT

5.1 Explain key principles of genetic inheritance and define terms

- Genetic terms, to include gene, allele, homozygous, heterozygous, genotype, phenotype, dominant, recessive, mutation, sex-linked gene, lethal gene
- Mendel's First and Second Laws of Inheritance
- Monohybrid cross

5.2 Explain reproductive physiology in the male and female and describe comparative reproductive tracts

- Location, structure and function of the male reproductive system, to include:
  - Testis
  - Epididymis
  - Deferent duct/vas deferens
  - Urethra
  - Penis
  - Accessory male sex organs, including a brief description of their purpose and the differences between dog and cat – prostate gland, bulbourethral gland
  - Testicular descent
  - Structure of a spermatozoon
- Location, structure and function of the female reproductive system, to include:
  - Ovary
  - Uterine tube, fallopian tube or oviduct
  - Uterus
  - Cervix
  - Vagina
  - Vestibule
  - Vulva
  - Structure of the mammary glands
  - Hormones controlling and produced by the male and female gonad

5.3 Describe the breeding cycles of a range of species to include dogs, cats and rabbits, mentioning:

- Natural mating
- Artificial insemination
- Pseudocyesis or pseudopregnancy
- Physiological needs of pregnant animals
- The regulation of breeding cycles, to include:
    - Drugs
    - Day length cycles
    - Temperatures
    - Other cycling females
- Optimum age of animals used for breeding and gestation periods for a range of animals
- Signs of oestrus and pregnancy

5.4 Explain the essentials of ante- and post-partum care, to include:

- Stages of fetal development
- Feeding requirements during pregnancy and lactation of the female
- Hormonal controls
- Supporting owners to prepare for parturition and immediate aftercare of dam and offspring
- Preparations for parturition
- Parturition
    - Normal parturition
    - Stages of labour
    - Complications of labour and delivery
    - Post-partum care
    - Recognition of maternal post-partum complications
- Identification of complications
- Post-partum care
- Health, safety and welfare considerations
- Hygiene considerations including waste disposal

5.5 Explain the nursing and management of neonates, to include:

- Care of newborn
    - Establishing a clear airway
    - Ensuring adequate body temperature is maintained
    - Care of the umbilicus
    - Initial examination, including weighing, sexing, health status and checking for abnormalities
- Neonatal care – nursing and management
    - Environmental temperature requirements
    - Reducing the risk of infection to neonates
    - Normal feeding patterns
    - The importance of colostrum
    - The consequences of disturbance and handling
    - Ongoing examinations, including weighing, checking health status, recognition of neonatal post-partum complications and conditions

OUTCOME 6 KNOW METHODS OF ANIMAL IDENTIFICATION

ASSESSMENT CRITERIA

The learner can:

1. Explain methods of identifying a range of species, including dogs, cats and rabbits to include breed, markings, colours and distinguishing features, owner registration (tattooing, microchips, tags), blood typing and DNA testing
2. Describe the requirements for transporting animals to and from the UK including record-keeping in relation to animal movements and medicine use

Context

Dogs, cats, and rabbits

UNIT CONTENT

6.1 Explain methods of identification for dogs, cats and rabbits:

- Visual differences, to include:
  - Dogs, cats and rabbits – breed and colours
- Owner records and registration, to include:
  - Microchips, including legislation regarding microchipping of dogs and cats
  - Tattooing
  - Bands and tags
  - Blood typing
  - DNA testing

6.2 Describe the requirements for transporting animals from to and from the UK including record-keeping in relation to animal movements and medicine use, to include:

- Animal movements – Welfare of Animals (Transport)(England) Order 2006
- Medicine use, for example rabies vaccination and parasiticides
- EU Animal Health Certificate
- Arrangements for refugee pets

OUTCOME 7 BE ABLE TO HANDLE AND RESTRAIN ANIMALS SAFELY

ASSESSMENT CRITERIA

The learner can:

1. Demonstrate correct techniques for catching, holding and restraining dogs, cats, rabbits, rodents, birds, reptiles and wildlife
2. Demonstrate the correct use of personal protective equipment when handling animals
3. Explain how to recognise and deal with aggressive behaviour
4. Explain how to transport a range of species safely, to include dogs, cats, rabbits, rodents, birds, reptiles and wildlife

Context

Dogs, cats, rabbits, rodents, birds, reptiles and wildlife

UNIT CONTENT

7.1 Demonstrate correct techniques for catching, holding and restraining dogs, cats, rabbits, rodents, birds, reptiles and wildlife

- Catching for examination, medicating, basic procedure or moving
- Holding for examination, medicating, basic procedure or treatment
- Restraining for examination, basic procedure, medicating or treatment
- Demonstrate checks prior to use, including health and safety considerations and safe usage of equipment, to include:
    - Carriers
    - Collars
    - Leads
    - Crush cages
    - Bags
    - Nets
    - Catchers
    - Hooks
    - Graspers
    - Gloves
    - Muzzles
    - Personal protective equipment (PPE) for task
- Identify visual signs to indicate the following behavioural states:
    - Friendly
    - Painful
    - Fearful/anxious
    - Aggressive
    - Depressed
- Identify how to minimise stress when handling, holding and restraining
- Use the correct techniques and suitable PPE for handling and restraining animals for health and wellbeing purposes
- Identify visual signs of stress and practice procedure to follow if problems encountered
- Demonstrate how to ensure the health and wellbeing of handler, animal and others in the vicinity

7.2 Demonstrate the correct use of personal protective equipment when handling animals

- Select and demonstrate use of PPE for task 6.1, taking into account species and task, to include:
    - Gloves
    - Gauntlets
    - Towel
    - Goggles
    - Aprons
    - PPE as applicable for task

7.3 Explain how to recognise and deal with aggressive behaviour

- Explain signs of aggression different species may exhibit
- Methods of approach and safe restraint as applicable to species
- Methods of handling as applicable to species
- Explain how to use catchers, muzzles, crush cages, nets, gauntlets or gloves
- Health and safety considerations

7.4 Explain how to transport dogs, cats, rabbits, rodents, birds, reptiles and wildlife safely

- Differentiate the methods and equipment used for transporting the above species
- Health and safety considerations, including PPE

Unit title	**VNSA3/25 Infection control in small animal practice**		
Level	3	**Credit Value**	20
Guided Learning Hours		Classroom based Other activities	45 39

UNIT AIM

This unit facilitates an understanding of the essentials of control of infection in clinical veterinary practice. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **six** learning outcomes to this unit. The learner will:

1. Understand the role of infection in animal and human health
2. Understand the principles of disease transmission and isolation nursing in veterinary practice
3. Understand the principles of disinfection and sterilisation
4. Understand how to maintain a clean clinical environment
5. Understand how to maintain personal hygiene in relation to cross-infection
6. Understand the principles of infection monitoring

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.3, 2.1, 2.2, 2.3, 2.4, 2.6, 2.9, 3.1, 3.3, 3.4, 5.1, 6.1, 6.2
Central Skills Log	1.2, 2.5, 2.7, 2.8, 2.10, 3.2, 3.5, 3.6, 4.1, 4.2, 5.2, 5.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 2.1, 2.2, 2.10, 8.1 **LO2:** 1.2, 2.9**,** 4.1, 4.5, 4.6, 8.1, 8.2, 8.3, 8.4, 8.5 **LO3:** 1.2, 2.10, 8.2, 9.1, 9.2 **LO4:** 1.1, 1.2, 8.2, 8.3, 8.4 **LO5:** 2.9, 2.10, 8.4, **LO6:** 2.1, 2.2, 2.9, 2.10, 2.11, 8.1
DOC	**LO1:** 1, 2, 3, 4, 5, 24, 29 **LO2:** 1, 2, 4**,** 5, 18, 19, 29 **LO3:** 2, 4, 29, 30 **LO4:** 1, 3, 29, 30 **LO5:** 1, 2, 4, 8, 29 **LO6:** 1, 2, 5, 13, 16, 29

OUTCOME 1 UNDERSTAND THE ROLE OF INFECTION IN ANIMAL AND HUMAN HEALTH

ASSESSMENT CRITERIA

The learner can:

1. Identify the major groups of disease-producing infectious agents in relation to animal health, to include viruses, bacteria, fungi, protozoa, parasites, prions
2. Identify and recognise the clinical signs and transmission potential of common zoonoses and requirements for reporting suspected notifiable diseases *
3. Explain the implications of antibiotic resistance for veterinary practice, to include MRSA, MRSP and E. coli

*Professional discussion is an acceptable assessment method

Context

Dogs, cats, rabbits, birds and reptiles

UNIT CONTENT

1.1 Identify the major groups of disease-producing infectious agents in relation to risk assessments, animal health and health of personnel, to include:

- Viruses
  - Structure and naming, replication, transmission, incubation
  - Diagnosis, treatment and prevention of viral disease
- Bacteria
  - Size, shape and structure
  - Naming of bacteria, endospores, bacterial growth and reproduction
  - Identification of bacteria
  - Diagnosis and treatment of associated diseases
  - Treatment of bacterial infections
- Fungi
  - Moulds and yeasts, reproduction
  - Diagnosis and treatment of fungal diseases
- Protozoa
  - Identification, routes of transmission, diagnosis, treatment and prevention of protozoal infections
- Parasites
  - Common endo- and ectoparasites, to include lice, fleas, dipteran flies, burrowing mites, surface mites, ticks, cestodes and nematodes, including life cycles.
  - Knowledge of common treatments and preventative measures
- Prions
  - Basic disease process, transmission routes, precautions for prevention
- The meaning of infection, contagion, colonisation and contamination

1.2 Identify and recognise the clinical signs and transmission potential of common zoonoses and requirements for reporting suspected notifiable diseases, including the following:

- Toxoplasmosis
- Leptospirosis
- Toxocariasis

- Salmonellosis
- Camplylobacteriosis
- Psittacosis
- Dermatophytosis
- Avian influenza
- Rabies
- Brucellosis
- Newcastle disease
- Pigeon paramyxovirus

1.3 Explain the implications of antibiotic resistance for veterinary practice

- Common antibacterial drugs used in practice
    - Spectrum of activity
    - Effect on bacteria
    - Mode of action
- Antibiotic use and compliance
- Good prescribing practice with reference to BSAVA and SAMSoc (Small Animal Medicine Society)
- Development of resistance and impact on wider community
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Methicillin-resistant *Staphylococcus pseudointermedius (MRSP)*
- *Escherichia coli*

OUTCOME 2 UNDERSTAND THE PRINCIPLES OF DISEASE TRANSMISSION AND PROVIDE ISOLATION NURSING IN VETERINARY PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Describe how microorganisms are transmitted, to include direct and indirect spread; inhalation and ingestion, inoculation; reservoirs, fomites and carriers
2. Explain reasons for isolation nursing, to include infection and compromised immunity
3. Describe the pathology of a range of commonly encountered contagious diseases
4. Explain the requirements for isolation accommodation, to include design and preparation for an admission
5. Prepare isolation accommodation for an admission
6. Summarise required conduct of staff in relation to isolated cases, to include protective clothing and hand hygiene, fomites and access to isolation accommodation
7. Limit the transfer of microorganisms through effective hand hygiene, protective clothing, recognising and managing fomites and restricting access to isolation accommodation
8. Clean isolation accommodation, to include daily cleaning regimen and terminal disinfection
9. Explain the special needs of isolated patients, to include reduction of stress and company
10. Address the special needs of isolated patients

Context

Dogs and cats

UNIT CONTENT

2.1 Describe how microorganisms are transmitted, to include:

- Direct and indirect spread – mechanical vectors, biological vectors, horizontal transmission, vertical transmission, incubation periods
- Inhalation and ingestion, inoculation, skin contact, across mucous membranes, across placenta or during parturition or coitus
- Spread within the host
- Reservoirs, fomites and carriers – method or routes of transmission for each
- The importance of hand hygiene, protective equipment, wound management, isolation procedures and protocols

2.2 Explain reasons for isolation nursing, to include infection and compromised immunity

- Define isolation, quarantine and ‘barrier' nursing, protective isolation
- Reasons for patient isolation

2.3 Describe the pathology of a range of commonly encountered contagious diseases, to include presentation and incubation periods of:

- Canine distemper virus
- Infectious canine hepatitis
- Canine parvovirus
- Leptospirosis
- Canine infectious respiratory disease

- Feline panleucopenia
- Feline upper respiratory disease
- Feline leukaemia
- Feline immune-deficiency
- Feline infectious peritonitis
- Feline infectious anaemia
- Toxoplasmosis
- Tick borne diseases
- Rabies virus
- Salmonellosis
- Campylobacteriosis

2.4 Explain the requirements for isolation accommodation, to include design and preparation for an admission

- Location in small animal practice
- Separate facilities – laundry, exercise area
- Importance of colour coded equipment
- Environmental considerations – preventing spread of contamination
- Flow of personnel and patients – entrances and exits, use of footbaths
- Efficacy of cleaning – appropriate cleaning regimens and disinfectants
- Removal and storage of waste – placement and type of waste bins
- Condition of small animal patient – barrier or reverse barrier nursing, presence of diarrhoea, vomiting, infected lesions, recumbent or mobile
- Separate equipment such as:
    - Bedding materials – disposable bedding, newspaper, incontinent pads
    - Feeding equipment- bowls, cutlery
    - Litter trays
    - Consumables- needles, syringes, cotton wool
    - Thermometer
- Siting of isolation facilities, viewing window

2.5 Prepare isolation accommodation for an admission

- Prepare accommodation applying principles of isolation or barrier nursing an animal, taking into account species, animal's welfare and importance of limiting contact with patients in isolation
- Prepare using separate or disposable equipment
- Demonstrate appropriate use of PPE
- Carrying out adjustments relating to environmental conditions of an isolation unit, dependent on species and condition and practice protocol
- Selecting effective cleaning, disinfectant agents and regimens, dependent on condition and species, following manufacturer's guidelines with regard to the use of cleaning agents and disinfectants
- Selecting appropriate methods for storing and disposing of waste

2.6 Summarise required conduct of staff in relation to isolated cases, to include:

- Use of PPE (personal protective equipment) such as disposable gloves, aprons, goggles, visors and footwear
- Hand hygiene with reference to WHO hand wash
- Fomites
- Access and entry to isolation accommodation, avoiding unnecessary traffic – essential staff, rotas and planning patient contact
- Educating lay staff and owner

2.7 Limit the transfer of microorganisms through:

- Effective hand hygiene, to include selecting and using appropriate hand washes, scrubs and gels, wearing disposable gloves as required, following practice protocols and manufacturer's guidelines
- Wear other protective clothing as necessary
- Use disinfectant barriers on entry and exit to isolation area
- Recognise and manage fomites
- Dispose of waste in accordance with practice protocols
- Restrict access to isolation accommodation, including measures such as named staff and warning signs
- Plan effective care regimens in accordance with animal's needs and other in-patients

2.8 Clean isolation accommodation

- Daily cleaning regimen, dependent on condition, species, nursing care requirements and practice protocols, to include:
    - Using separate or disposable items, including PPE, bedding and substrate
    - Waste disposal methods appropriate to species and condition and in line with practice protocols
- Selection and usage of appropriate efficacious cleaning and disinfectant agents and practice protocols following manufacturer's guidelines
- Terminal disinfection, dependent on condition requiring animal to be isolated, species and practice protocols, to include:
    - Selection and usage of appropriate efficacious cleaning, disinfectant agents and equipment according to practice protocols and following manufacturer's guidelines
    - Procedure following vacating accommodation and sufficient ventilation, air change, time elapsed before usage of facility for subsequent animals
- Consideration for health and safety and zoonotic transfer

2.9 Explain the special needs of isolated patients, to include reduction of stress and company

- Preparing the environment
- Providing enrichment opportunity
- Length of stay
- Species
- Life stage
- Human interaction

2.10 Address the special needs of isolated patients

- Reduction of stress
- Nursing care in line with the five welfare needs and nursing models as appropriate, including condition, species and age of animals
- Length of stay
- Other animals in facility
- Physiological and temperament monitoring and assessment
- Use of appropriate PPE and restraint equipment to ensure welfare of animal and staff
- Planning of patient contact, including hands-on human contact and owner visits in line with barrier and isolation nursing protocols at practice
- Provision of stimulation and environmental enrichment, use of surrogate or familiar items from home environment – such as cuddly toys, radio, bedding and verbal reassurance, encouragement and praise

OUTCOME 3 UNDERSTAND THE PRINCIPLES OF DISINFECTION AND STERILISATION

ASSESSMENT CRITERIA

The learner can:

1. Distinguish between the processes of disinfection and sterilisation
2. Use clinical antiseptics and disinfectants safely and effectively, to include susceptibility of different classes of organisms and how this affects choice
3. Explain the process of sterilisation, to include steam, gas, cold chemicals and gamma radiation
4. Describe the operation of an autoclave, to include safety, loading, monitoring of effective sterilisation
5. Demonstrate how to clean instruments effectively, to include hand-cleaning and ultrasonic cleaning
6. Demonstrate how to fold, pack, label and store items for sterilisation

Context

Dogs and cats

UNIT CONTENT

3.1 Distinguish between the processes of disinfection and sterilisation, to include antisepsis and asepsis, sepsis and nosocomial infections, and the purpose of these processes in relation to cleaning various clinical environments and materials, including:

- Clean and 'sterile' areas within the practice
- Sterile surgical instruments, needles, syringes, otoscopes, thermometers, stethoscopes
- Protective clothing – scrub suits, vet tops, nurse uniforms, sterile gowns, caps, masks, theatre shoes
- Furniture – consulting and operating tables, theatre lighting, X-ray machine, anaesthetic machine, chairs, operating stool

3.2 Use of clinical disinfectants safely and effectively, to include susceptibility of different classes of organisms and how this affects choice, to encompass:

- Use of disinfectants as per practice protocol
- The importance of following manufacturer's instructions
    - Dilution rates
    - Contact time
    - Use of PPE
    - Maintain safe and effective usage
    - Safe storage
- The choice of agents in relation to the susceptibility of different classes of organisms

3.3 Explain the process of sterilisation, to include steam, gas, cold chemicals and gamma radiation, to encompass:

- Materials suitable for sterilisation by each method
- Range of microorganisms destroyed, limitations, safety implications and precautions
- Ease of use and availability, packaging method

- Applicable times, pressures and temperatures required
- Appropriate sterilisation indicators for each method

3.4 Describe the operation of an autoclave, to include safety, loading, monitoring of effective sterilisation, taking account of:

- Types of autoclave – horizontal or vertical downward displacement, vacuum assisted
- Siting of autoclaves and ventilation
- Effective use and efficiency testing – temperature and pressure gauges, sterility indicators

3.5 Demonstrate how to clean instruments effectively, to include:

- Hand cleaning and dismantling of used kit of instruments
- Rinsing, soaking, scrubbing and drying instruments ready for sterilisation
- The use of cleaning solutions for general equipment, dilution rates and contact time
- Ultrasonic cleaning using suitable solutions, dilution rates and time
- Cleaning and checking for damage of delicate instruments and equipment
- Cleaning and removal of blades, safe disposal, separate heavy from delicate equipment to protect from damage
- Sharpening and lubrication of equipment as per manufacturer's instructions
- Identification of faulty equipment
- Safe use of PPE

3.6 Demonstrate how to fold, pack, label and store items for sterilisation using appropriate wrapping materials, to include single instruments, instrument sets and drapes and gowns

- Suitable packaging protection for single instruments, sharp and cutting edges, delicate items, power tools and swabs, taking account of different techniques methods suitable to practice requirement
- Suitable packaging according to size and type of contents of instrument sets, taking account of sterilisation method – cost, size of kit and individual veterinary surgeon's preference
- The inclusion of other items such as suture needles, set amount of swabs
- Packaging and labelling equipment according to practice protocols to clearly identify contents, including dating of pack and sealing correctly
- Ensuring drapes and gowns are suitable, free from debris and damage and clean prior to packaging
- Fold drapes, including fenestrated, correctly
- Fold gowns correctly and neatly into sterile pack ready for sterilisation
- Consideration of different types of packaging – nylon film, peelable pouches, paper, textiles, metal drums, boxes and cartons
- Sterility indicators – chemical indicators, temperature indicators, spore tests

OUTCOME 4 UNDERSTAND HOW TO MAINTAIN A CLEAN CLINICAL ENVIRONMENT

ASSESSMENT CRITERIA

The learner can:

1. Apply principles of effective clinical cleaning, to include consulting rooms, kennel accommodation, laboratory, preparation area and operating theatres
2. Demonstrate safe principles of waste handling and disposal in relation to contaminated materials, to include blood, urine, faeces, tissue and cadavers

Context

Dogs and cats

UNIT CONTENT

4.1 Apply principles of effective clinical environment cleaning, to include:

- Consulting rooms
    - Environment – floors, walls, doors
    - Furniture – consulting table, worktop, chair
    - Fixtures and fittings – sink, lighting, shelving, storage containers, fridge, bins, hand towel dispenser
- Kennel accommodation
    - Environment – floors, walls, doors, kennel surfaces, bars
    - Fixtures and fittings – sink, lighting, storage containers, hosepipe, shelving, bins, hand towel dispenser
    - Other – mop heads, squeegee, bedding, food and water bowls
- Laboratory
    - Environment – floors, walls, doors
    - Fixtures and fittings – lighting, work surfaces, machinery, sinks, hand towel dispenser, bins, storage containers, fridge
- Preparation area:
    - Environment – floors, walls, doors
    - Fixtures and fittings – lighting, sinks, storage, bins
    - Furniture – anaesthetic machine, table, trolley, dental machine, hand towel dispenser,
    - Clippers
- Operating theatre
    - Environment – floors, walls, doors
    - Fixtures and fittings – lighting, scrub sinks, instrument storage
    - Furniture – anaesthetic machine, portable lights, operating table, instrument trolley
- Classification of risk areas
- Frequency of cleaning including daily, weekly, monthly chores
    - Accommodation usage and cleaning during outbreaks of contagious or zoonotic disease
    - Isolation facilities
    - The use of specialist cleaning equipment
    - Use of colour coded equipment

4.2 Demonstrate safe principles of waste handling and disposal in relation to contaminated materials, to include equipment, blood, urine, faeces, tissue and cadavers when:

- Handling contaminated materials, body tissue, fluids using appropriate PPE and techniques
- Using disposal systems, taking account of waste categories, clinical waste bags, sharps, collection of clinical waste as per BVA good practice guide
- Storing and disposing of cadavers, taking account of cadaver bags, labelling cadavers, fridge and freezer requirements, home burial, crematoria
- Maintaining legal waste disposal requirements encompassing:
    - COSHH 2002
    - Hazardous Waste (England and Wales) Regulations 2005
    - Hazardous Waste (England and Wales) (Amendment) Regulations 2009
    - The Waste (Scotland) Regulations 2005.
    - Environmental Protection Act 1990

OUTCOME 5 UNDERSTAND HOW TO MAINTAIN PERSONAL HYGIENE IN RELATION TO CROSS-INFECTION

ASSESSMENT CRITERIA

The learner can:

1. Explain the importance of personal hygiene and dress in relation to infection control, mentioning hair, nails, jewellery, badges, sleeves, ties
2. Demonstrate effective hand hygiene, to include antiseptic washes and alcohol gels
3. Demonstrate appropriate use of disposable protective clothing, to include gloves and aprons

Context

Dogs and cats

UNIT CONTENT

5.1 Explain the importance of personal hygiene and dress in relation to infection control, mentioning:

- Hair – tying long hair back, theatre caps
- Nails – infection risks of nail varnish, dirty nails
- Jewellery – removal before handling animals
- Badges, sleeves, ties – sharp pins, cross contamination
- Hand hygiene – importance of washing hands between patients, alcohol gel
- PPE used to prevent disease transmission
- Risk of acquired infections, including MRSA, MRSP and resistant Streptococcus, gastrointestinal infections including *C. difficile and E. coli*, dermatophytosis

5.2 Demonstrate effective hand hygiene, to include antiseptic washes and alcohol gels

- Wash hands using effective techniques, including World Health Organisation (WHO) method
- Use of detergent antiseptics, scrubbing brushes, towels and hand dryers
- Use hand decontaminant alcohol gels

5.3 Demonstrate appropriate use of disposable protective clothing, to include:

- Gloves – sterile and non-sterile taking account of latex allergies
- Aprons
- Goggles/visors
- Face masks
- Changing PPE between patients and tasks
- Disposal of PPE

OUTCOME 6 UNDERSTAND THE PRINCIPLES OF INFECTION MONITORING

ASSESSMENT CRITERIA

The learner can:

1. Explain the importance of infection monitoring in clinical audit
2. Analyse the role of the veterinary nurse in maintaining infection control

Context

Dogs and cats

UNIT CONTENT

6.1 Explain the importance of infection monitoring in clinical audit, to include:

- Incidence monitoring – mortality and morbidity rounds and records
- Routine environmental swabbing
- Autoclave monitoring – sterilisation indicators, maintenance and servicing as per RCVS PSS Written Scheme of Examination for autoclave.

6.2 Analyse the role of the veterinary nurse in maintaining infection control

- Audits
- Quality improvement
    - Importance of quality improvement
    - Guidelines for infection control, for example:
        - RCVS Practice Standards Scheme Small Animal Module 7: Infection Control
        - RCVS knowledge quality improvement for infection control and biosecurity
- Champion of biosecurity
    - Role model by ensuring the maintenance of a safe environment for colleagues and clients
    - Leadership by providing staff training and mentorship to develop expertise
    - Development of policies and procedures
- Advocate for patient welfare:
    - Advocate for patient welfare with reference to CoPC
    - Professional accountability
    - Key principles of nursing care
- Reference to RAW feeding

Unit Title	**VNSA4/25 Communication and professional relationships in small animal practice**		
Level	3	**Credit value**	11
Guided Learning Hours		Classroom based Other activities	31 13

UNIT AIM

This unit includes the exploration of dynamics of communication as well as the inter-professional and client relationships within a veterinary setting. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **five** learning outcomes to this unit. The learner will:

1. Understand the dynamics of communication
2. Be able to communicate with clients and colleagues
3. Understand factors affecting working relationships with clients and within the veterinary team
4. Explain how to support a client through grief and loss
5. Understand the principles of customer service

ASSESSMENT

Type	**Assessment criteria**
Assignment	1.1, 1.2, 1.3, 1.4, 3.1, 3.2, 3.3, 4.1, 4.4 5.1, 5.2, 5.3
Central Skills Log	2.1, 2.2, 2.3, 3.4, 4.2, 4.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 2.1, 2.2, 2.5, 2.12 **LO2:** 2.1,2.2, 2.3, 2.4, 2.5, 2.7, 2.8 **LO3:** 2.1, 2.12 **LO4:** 2.1, 2.2, 2.5, 2.12, 3.5 **LO5:** 2.1, 2.3, 2.12
DOC	**LO1:** 1, 2, 3, 5, 6, 7, 10, 11, 14, 22, 36, 37 **LO2:** 1, 2, 3, 5, 7, 8, 22, 37 **LO3:** 1, 2, 5, 8, 10, 11, 14, 15, 16, 19, 22, 36, 37 **LO4:** 1, 2, 5, 6, 7, 8, 10, 11,17, 36 **LO5:** 1, 2 ,3, 5, 7, 8, 10, 11

OUTCOME 1 UNDERSTAND THE DYNAMICS OF COMMUNICATION

ASSESSMENT CRITERIA

The learner can:

1. Identify modes of communication encountered in veterinary practice
2. Differentiate between communication styles, to include recognition of own style of communication
3. Explain the dynamics of effective face-to-face interaction, mentioning social and environmental factors, body language and feedback mechanisms
4. Explain the specific demands and adaptations required in telephone communication with a focus on excellence in customer service and client care

Context

Dogs and cats

UNIT CONTENT

1.1 Identify modes of communication encountered in veterinary practice

- Effective verbal and non-verbal communication, to include:
  - Written
  - Digital such as email and social media
  - Marketing and promotional activities
  - Client feedback
  - Telephone
  - Body language
  - Face-to-face
  - Listening

1.2 Differentiate between communication styles, to include:

- Recognition of own style of communication, ensuring empathy and control of emotions in challenging situations
- Importance of maintaining civility
- Methods of adapting and improving own communication with others
- Two-way discussion rather than authoritative statements
- Empathy in approach as opposed to clinical hard facts
- Client care standards and training of staff
- Selecting appropriate time and place for one-to-one conversations

1.3 Explain the dynamics of effective face-to-face interaction, to include:

- Social and environmental factors regarding treatment options
- Use of appropriate body language and eye contact
- Effective feedback mechanisms to ensure understanding
- Use of veterinary practice or manufacturer's client support literature to aid understanding
- Practical demonstration to aid compliance
- Questioning and listening techniques
- Building rapport, showing empathy and being tactful

1.4 Explain the specific demands and adaptations required in telephone communication with a focus on excellence in customer service and client care, to include:

- Using a suitable greeting, friendly manner and voice tone when answering the phone
- Good listening skills and staying in control of emotions when communication is difficult, for example a client with an aggressive manner
- Having an ability to extract appropriate information efficiently and to provide information that is easily understood
- Being informative and knowledgeable, but recognising limits of own authority and showing an understanding of the Data Protection Act 1998 regarding information
- Recording information received accurately and acting on this according to needs of client and in line with practice protocols
- Ability to stay calm under pressure

OUTCOME 2 BE ABLE TO COMMUNICATE WITH CLIENTS AND COLLEAGUES

ASSESSMENT CRITERIA

The learner can:

1. Be able to operate a veterinary reception desk
2. Take a patient history, to include actively eliciting relevant information, correct interpretation of given facts, concise transmission of relevant information to a veterinary colleague
3. Produce written clinical records, to include patient records and reports, admission/consent forms, referral and diagnostic forms client home care plans and instructions

Context

Dogs and cats

UNIT CONTENT

2.1 Be able to operate a veterinary reception desk:

- Greet and address clients appropriately
    - Knowledge of the client and animal and greeting by name
    - Welcoming and caring environment as perceived by clients
    - Approach and presentation
    - Interpersonal skills
- Make appropriate appointments for clients
    - First appointments, emergencies, follow-ups
    - Prioritising and eliciting relevant information, using open and closed questions
    - Prioritise appointments based on information given, with guidance from other team members as appropriate, and to include techniques for turning down inappropriate requests
    - Using appointment booking systems
- Use veterinary record-keeping systems
    - Data storage and disclosure, legal requirements
    - Confidentiality
    - Keeping accurate and professional records
    - Data destruction and the Data Protection Act 1998
- Take payments for treatment or retail services, for example:
    - Debit and credit cards
    - Cash
    - Insurance claims
    - Recording payments
- Communicate clearly with clients and colleagues with reference to second opinions and referrals, to include:
    - Second opinions: supersession, procedures, RCVS Code of Professional Conduct
    - Referrals: veterinary specialists and para-professionals
    - Relevant paperwork

2.2 Take patient history, including eliciting relevant information, correct interpretation of given facts and concise transmission of relevant information to a veterinary colleague for each animal to include:

- Client details, including confirming over 18 years of age
- Name and sex of animal
- Breed, age and weight of animal
- Vaccination status and travel history
- Identification
    - Microchip
    - Tattoo
    - Insurance status
    - Entire or neutered
    - Exemption certificate
- Verbal and/or written details to include the presenting complaint, history of condition and progression of symptoms, accounting for any treatment/diagnostic tests already performed as well as reflecting on any available evidence-based resources
- Obtain relevant history from other practice if second opinion or new client, including previous preventative measures such as vaccinations, prior or ongoing treatment and medication, adverse reactions and temperament

2.3 Produce written clinical records, to include patient records and reports, admission/consent forms, referral and diagnostic forms, client home care plans and instructions

- Use correct veterinary terminology
- Produce clear, comprehensive and legible records

OUTCOME 3 UNDERSTAND FACTORS AFFECTING WORKING RELATIONSHIPS WITH CLIENTS AND WITHIN THE VETERINARY TEAM

ASSESSMENT CRITERIA

The learner can:

1. Explore factors that may affect communication and influence human/animal relationships
2. Recognise how emotions affect communication, to include manifestations of grief and loss
3. Understand importance of maintaining relationships between members of an inter-professional team

Context

Dogs and cats

UNIT CONTENT

3.1 Explore factors that may affect communication and influence human/animal relationships, such as:

- Cultural and religious beliefs
- Socio-economic status
- Neurodiversity
- Health status
- Use of animals, to include those kept for work, used as service animals, recreational pursuits, companionship, breeding and financial gain
- Animal's role within the hierarchy of the household
- Age of family members and their individual relationship with the animal
- Length of animal ownership
- Continuity of care and appropriate client involvement and understanding of ongoing care requirements
- Adaptation of communication method to meet client requirements
- Grief and support requirements
- Use of appropriate language – ensuring client understanding
- Language and dialect barriers between client and staff
- Reading and writing barriers
- Body language
- Welcoming and caring atmosphere, RCVS Practice Standards Scheme
- Time constraints on staff
- Staff training and CPD
- Limitations of staff in decision making
- Sensory impairment
- Presence of other pets

3.2 Recognise how emotions affect communication, to include manifestations of grief and loss

- Awareness of and sensitivity to emotionally charged situations, such as:
    - Serious and terminal conditions, loss, euthanasia and death
    - Supporting clients in making decisions about their animal's treatment options
    - Maintaining professional relationships with clients
    - Supporting bereaved and distressed clients
    - Supporting colleagues under pressure

- Supporting stress/psychological needs of the veterinary team
- Experienced help, support and counselling as required
- Training and CPD activities relevant to role
- Mentoring of junior staff

3.3 Understand the importance of maintaining relationships between members of an inter- professional team

- Working as an effective team
- Roles, expertise and responsibilities of the following:
  - Veterinary surgeons for example specialist, partner, assistant, new graduate, undergraduate
  - Veterinary nurses for example experienced, newly qualified, student
  - Non-clinical staff for example receptionists, managers
  - New and long-serving staff members
- Factors that may influence relationships
- Importance of maintaining civility within a practice environment in relation to colleagues, clients and patients
- Abiding by CoPC

OUTCOME 4 UNDERSTAND HOW TO SUPPORT A CLIENT THROUGH GRIEF AND LOSS

ASSESSMENT CRITERIA

The learner can:

1. Explain the psychological processes of loss and grieving and summarise how these may impact on communication with a client
2. Be able to assist with breaking bad news to clients
3. Demonstrate how sensitive euthanasia can be accomplished within a busy veterinary practice
4. Evaluate services available to assist clients to cope with loss

Context

Dogs and cats

UNIT CONTENT

4.1 Explain the psychological processes of loss and grieving and summarise how these may impact on communication with a client

- Grieving process
- The Kubler-Ross 5 Stages of grieving – denial, anger, bargaining, depression, acceptance

4.2 Be able to assist with breaking bad news to clients

- Relationship with client, time, training
- Immediate support of the client – allowing natural behaviour to be expressed, appropriate language and body language, demonstrating empathy and sympathy, providing comfort
- Ongoing support to include signposting to bereavement counselling

4.3 Demonstrate how sensitive euthanasia can be accomplished within a busy veterinary practice

- Preparing clients – options available for dealing with cadaver, time and place of appointment, staff involved, consent forms, discussing procedure, billing, dealing with unexpected euthanasia
- Logistical considerations – special entrance and exit for clients, layout of consulting room, adequate equipment when undertaking a home visit
- Sensitive handling of patient, including appropriate restraint methods
- Being prompt and allowing appropriate time during and after procedure
- Follow-up support – communication, referral for additional help, sympathy cards

4.4 Evaluate services available to assist clients to cope with loss

- Pet bereavement counselling
- Pet crematoria and cemeteries
- Contacting family and friends
- Support group
- Human healthcare professionals

OUTCOME 5 UNDERSTAND THE PRINCIPLES OF CUSTOMER SERVICE

ASSESSMENT CRITERIA

The learner can:

1. Summarise the value of clients to a veterinary practice
2. Explain important customer service factors for veterinary clients, to include information, courtesy, responsiveness, presentation of the practice
3. Summarise the principles of handling a complaint

Context

Dogs and cats

UNIT CONTENT

5.1 Summarise the value of clients to a veterinary practice

- Factors critical to business growth, to include:
  - Profit and sustainability
  - Effective sales and marketing
  - Pricing structure
  - Local practices
  - Loyalty of clients
  - Word of mouth recommendations
  - Attracting new clients

5.2 Explain important veterinary customer service factors, to include:

- Information, courtesy, responsiveness and presentation of the practice
  - Presentation of the practice and staff
  - Practice facilities
  - Location
  - Client care standards
  - Ability to meet clients' needs
  - Open surgery or appointment system
  - Opening hours
  - Welcoming and caring atmosphere
  - RCVS Practice Standards Scheme
  - Trained staff
  - Attitude of staff to animal or client
  - Consideration of client feedback

5.3 Summarise the principles of handling a complaint

- Keeping a record, to include:
  - The complaint
  - Responses given by whom and when, and what action taken, including referral to the appropriate person where required
  - Addressing the subject of complaint
  - Resolution
- Timescale
- Courtesy and objectivity
- Confidentiality

Unit Title	**VNSA5/25 Veterinary nursing care for hospitalised small animals**		
Level	3	**Credit Value**	18
Guided Learning Hours		Classroom based Other activities	30 38

UNIT AIM

This unit facilitates an understanding of the essentials of nursing sick animals within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **three** learning outcomes to this unit. The learner will:

1. Understand the principles of a systematic approach to the provision of nursing care
2. Understand how to assess the condition of patients
3. Understand the basic nursing care and hygiene management of patients

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 2.1, 2.2, 2.4,2.5, 3.1
Central Skills Log	1.3, 2.3, 3.2

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 2.1, 2.9, 2.10, 4.1, 4.2, 4.3 **LO2:** 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 4.1,4.3, 4.4 **LO3:** 1.1, 4.1, 4.5, 4.6
DOC	**LO1:** 1, 2, 5, 8, 9, 11, 12, 13, 15, 14, 16, 18, 19 **LO2:** 5, 14, 18,19, 35 **LO3:** 1, 15, 18, 19

OUTCOME 1 UNDERSTAND THE PRINCIPLES OF A SYSTEMATIC APPROACH TO THE PROVISION OF NURSING CARE

ASSESSMENT CRITERIA

The learner can:

1. Differentiate between the 'medical' model of nursing and the nursing-focused model
2. Explain the 'Nursing Process', mentioning a logical cycle of planning, implementation and evaluation
3. Use a reflective approach to support nursing problem solving and quality improvement

Context

Dogs and cats

UNIT CONTENT

1.1 Differentiate between disease-focused models and nursing-focused models for the delivery of supportive care according to individual patient needs

- Disease-focused models, for example the Medical Model
- Nursing-focused models, for example the Orpet and Jeffery Ability Model, and the concept of care bundles
- Veterinary surgeon and veterinary nursing roles, to include:
    - Nursing assessment
    - Nursing care
    - Medical diagnosis
    - Veterinary treatment
    - Responsibilities and limitations of each role
- Aims of nursing models, advantages of systematically constructed framework
- The role of nursing models in informing discharge instructions for clients

1.2 Explain the 'nursing process', mentioning a logical cycle of assessment, planning, implementation and evaluation

- Practical application and limitations of nursing process
- Integration of the nursing process with models of nursing, to create a comprehensive nursing care plan

1.3 Use a reflective approach to support nursing problem solving and quality improvement

- Process of reflection
- Value of reflection in learning, improving practice
- Using a reflective model, for example Gibbs' reflective cycle, Johns' reflective cycle, Kolb's learning cycle
- Reflective diaries, commentary
- Practice meetings and group reflection

OUTCOME 2 UNDERSTAND HOW TO ASSESS THE CONDITION OF PATIENTS

ASSESSMENT CRITERIA

The learner can:

1. Explain how a nursing model is used to inform patient assessment, to include physical, behavioural and owner-related factors
2. Differentiate between actual and potential nursing problems
3. Use an assessment protocol to examine an animal
4. Explain the use of directional terms, prefixes and suffixes, modes of body section and joint movement and the anatomical boundaries of body cavities
5. Explain how to record and monitor vital signs to include temperature, pulse, respiration, capillary refill time, mucous membranes, blood pressure

Context

Dogs, cats and rabbits

UNIT CONTENT

2.1 Explain how a nursing model is used to inform patient assessment, to include physical, behavioural and owner-related factors

- In-patient assessment, using a logical sequence and methodology
- Holistic approach

2.2 Differentiate between actual and potential nursing problems

- Use of assessment in planning to prevent problems, to include:
  - Decubitus ulcers
  - Weight loss/gain
  - Muscle atrophy
  - Urine scalding
  - Hypostatic pneumonia
  - Stress
- Value of patient assessment in establishing condition of patient

2.3 Use an assessment protocol to examine an animal

- Procedure protocol of the practice, to include:
  - Admission
  - Initial assessment
- Validate identity through the use of a microchip

2.4 Explain the use of directional terms, prefixes and suffixes, modes of body section and joint movement and the anatomical boundaries of body cavities

- Anatomical planes, directions and associated terms
- Definitions
- Spatial relations between the structures within each body cavity

2.5 Explain how to record and monitor vital signs, to include temperature, pulse, respiration, capillary refill time, mucous membranes, blood pressure

- Normal parameters of the above vital signs, to include:
  - Dogs
  - Cats
  - Rabbits
- Techniques for measuring vital signs, to include:
  - The correct use and placement of thermometers
  - Procedure for taking pulse and location of pulse points
  - The correct use of a stethoscope for auscultation
  - Procedure for measuring capillary refill time
  - Invasive and non-invasive methods of blood pressure monitoring
- Methods of recording information on vital signs, to include graphs
- Reasons for abnormalities and variations in vital sign parameters
- Descriptive and functional terms associated with pulse to include:
  - Tachycardia
  - Bradycardia
  - Sinus arrhythmia
  - Pulse deficit
  - Hyperkinetic pulse
  - Hypokinetic pulse
- Descriptive and functional terms associated with respiration to include:
  - Tachypnoea
  - Bradypnoea
  - Dyspnoea
  - Paradoxical breathing
  - Stertor
  - Stridor
- Descriptive and functional terms associated with body temperature to include:
  - Hyperthermia
  - Hypothermia
  - Pyrexia
- Significance of mucous membrane colour to include:
  - Pale
  - Hyperaemic
  - Cyanosis
  - Icteric

OUTCOME 3 UNDERSTAND THE BASIC NURSING CARE AND HYGIENE MANAGEMENT OF PATIENTS

ASSESSMENT CRITERIA

The learner can:

1. Explain the care needs of patients in relation to commonly encountered situations
2. Demonstrate maintenance of hygiene for individual patients

Context

Dogs, cats and rabbits

UNIT CONTENT

3.1 Explain the basic care needs of patients in relation to commonly encountered situations, to include:

- Recumbency
  - Accommodation and bedding requirements
  - Access to food and water
  - Urination and defecation
  - Potential problems – hypostatic pneumonia, decubitus ulcers, urine scalding
  - Grooming and bathing
- Post-surgical care
  - Wound management
  - Pain relief
  - Feeding for recovery
  - Exercise regimen
- Trauma
  - Pain relief
  - Fluid requirements
  - Accommodation and bedding requirements
- Requirement for assisted feeding
  - Techniques to encourage animals to eat
  - Calculating nutritional requirements
  - Interventions to assist feeding
- Recognition of normal and abnormal excretions, secretions and their implications, to include:
  - Urine and faeces
  - Ophthalmic, nasal, aural, oral and reproductive secretions
  - Vomiting
  - Regurgitation of either solids or fluids

3.2 Demonstrate maintenance of hygiene for individual patients, to include:

- Cleaning of wounds may include – puncture, lacerated, incised, sutured, stapled, glued, attached external fixators
- Accurate monitoring and recording of changes
- The use of hygiene cleaning solutions – PPE and practice procedures, protocols and safe working practice
- Cleaning of mouth, catheter and cannula areas, drains, perianal area and orifices, including on neonates, juvenile, adult, lactating and geriatric animals
- Bathing appropriate to species and condition
- Grooming using combs, mitts and brushes on appropriate areas, dependent on species and

condition
- Safe and effective handling techniques – dependent on condition and species
- Bedding – soft, warm and absorbent, dependent on condition and species
- Drying techniques suitable and safe for species and condition

Unit title	**VNSA6/25 Veterinary medicine supply in small animal practice**		
Level	3	**Credit Value**	12
Guided Learning Hours		Classroom based Other activities	22 26

UNIT AIM

This unit facilitates an understanding of veterinary pharmacology and the supply of medicines within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **six** learning outcomes to this unit. The learner will:

1. Understand the legal requirements in relation to the storage and supply of veterinary medicines
2. Understand the role, remit and professional responsibilities of a Suitably Qualified Person (SQP)
3. Understand the principles of pharmacodynamics
4. Be able to administer medications
5. Know how to supply veterinary medicines to clients
6. Provide advice to clients on the administration of veterinary medicines

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 5.1
Central Skills Log	1.2, 4.1,4.2,4.3 ,5.2, 5.3, 5.4, 5.5, 6.1, 6.2

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 1.1, 2.3, 7.1, 7.3 **LO2:** 2.1, 7.3 **LO3**: 1.1, 2.1, 2.2, 4.1, 4.11, 7.1 **LO4:** 1.1, 1.2, 3.5, 4.10, 4.11, 7.1, 8.3 **LO5:** 1.1, 1.2, 2.1, 2.2, 7.1, 7.2, 7.3 **LO6:** 1.1, 2.1, 2.5, 2.7, 7.1
DOC	**LO1:** 1, 2, 3, 4 5, 7, 8, 9, 25, 26 **LO2:** 1, 3, 8, 9, 15, 26, 37 **LO3:** 1, 2, 3, 5, 7, 15, 25, 27, 37 **LO4:** 1, 3, 9, 27 **LO5:** 1, 2, 3, 5, 9, 15, 25, 26, 27 **LO6:** 1, 5, 26, 27

OUTCOME 1 UNDERSTAND THE LEGAL REQUIREMENTS IN RELATION TO THE STORAGE AND SUPPLY OF VETERINARY MEDICINES

ASSESSMENT CRITERIA

The learner can:

1. Explain the law in relation to veterinary medicines, to include the registration of premises, legal categories of medicines, veterinary prescribing cascade (non-food animals), storage and disposal requirements and record-keeping
2. Manage pharmaceutical stock in accordance with practice guidelines and legislation

Context

Dogs and cats

UNIT CONTENT

1.1 Explain the law in relation to veterinary medicines, to include:

- Registration of premises
- Veterinary prescribing cascade, to include non-food animals
- Storage and disposal requirements
- Legal categories including:
    - Prescription-only medicine – veterinary surgeon only (POM-V)
    - Prescription-only medicine – veterinary surgeon, pharmacist, suitably qualified person (POM-VPS)
    - Non-food animal – veterinary surgeon, pharmacist, suitably qualified person (NFA-VPS)
    - Authorised veterinary medicine – general sales list (AVM-GSL)
- Under Care guidance
- Routes of administration
- Schedules of controlled drugs and requirements for ordering, recording, delivery, usage, storage and disposal
- Legal requirements for record-keeping of pharmacy stock
- Legal requirements for safe storage of medicines to include Dangerous Drugs Cabinet and temperature
- Appropriate and inappropriate use of unlicensed drugs
- Legislation and guidance, to include:
    - Veterinary Medicines Directorate (VMD)
    - Misuse of Drugs Act 1971
    - Misuse of Drugs Regulations 2001
    - Misuse of Drugs (Safe Custody) Regulations 1973
    - Veterinary Medicines (Amendment etc) Regulations 2024 (VMR)
    - SQP Code of Practice 2024
    - NOAH compendium
    - VMD website
- Value of different sources of evidence

1.2 Manage pharmaceutical stock in accordance with practice guidelines and legislation, to include:

- Storage, handling and disposal of medicinal products, to include:
    - Summary of Product Characteristics

    - Legislation
- Storage, handling and disposal of controlled drugs, cytotoxic drugs, hormonal products with special handling instructions, in accordance with legislation, practice protocols and SOPs
- Stock rotation and storage requirements
- Record-keeping

OUTCOME 2 UNDERSTAND THE ROLE, REMIT AND PROFFESSIONAL RESPONSIBILITIES OF A SUITABLY QUALIFIED PERSON (SQP)

ASSESSMENT CRITERIA

The learner can:

1. Explain the role, remit and professional responsibilities of a Suitably Qualified Person (SQP)
2. Summarise information that should be obtained from a client to enable an appropriate choice of medication for supply by an SQP

Context

Dogs and cats

UNIT CONTENT

2.1 *Explain the role, remit and professional responsibilities of a Suitably Qualified Person* (SQP)

- Explain the different legislative requirements regarding the use and dispensing of medication under the Veterinary Medicines (Amendment etc) Regulations 2024 to include:
    - Prescription-only medicine – veterinary surgeon only (POM-V)
    - Prescription-only medicine – veterinary surgeon, pharmacist, suitably qualified person (POM-VPS)
    - Non-food animal – veterinary surgeon, pharmacist, suitably qualified person (NFA-VPS)
    - Authorised veterinary medicine – general sales list (AVM-GSL)
- Registration and training of suitably qualified persons and the role of regulatory bodies

2.2 Summarise information required from client to enable an appropriate choice of medication for supply by an SQP

- Condition – client or veterinary diagnosis, identifying infestation, limitations on SQP ‘diagnosis’
- Previous supply – where and when
- Last veterinary examination

OUTCOME 3 UNDERSTAND THE PRINCIPLES OF PHARMACODYNAMICS

ASSESSMENT CRITERIA

The learner can:

1. Describe ways in which medicines act and are excreted, to include action, excretion, common side effects, handling precautions, contraindications, nursing implications
2. Explain factors that can affect duration of action
3. Explain the mechanisms for reporting adverse reactions

Context

Dogs and cats

UNIT CONTENT

3.1 Describe ways in which medicines act and are excreted

- Action of drugs
- Excretion via digestive system, renal system
- Handling precautions
- Nursing implications
- Uses
- Terms used in pharmacology, to include:
    - Differentiation between side effect and adverse reaction
    - Types of adverse reaction
    - Differentiation between special precaution and contraindications

3.2 Explain factors that can affect duration of action

- Patient factors, to include:
    - Age
    - Route of administration
    - Hydration
    - Multiple medications
    - Conditions or illness
- Medical factors, to include:
    - Effects of storage
    - Formulation
- Reasons for choice of administration route in relation to bioavailability of drug when given by different routes, selection according to individual patient need, speed of onset of effect

3.3 Explain mechanisms for reporting adverse reactions

- Recognition of adverse reactions
- Reporting to the Veterinary Medicines Directorate (VMD) and subsequent completion of the Suspected Adverse Reaction Surveillance Scheme (SARSS) reporting form
- Batch tracking

OUTCOME 4 BE ABLE TO ADMINISTER MEDICATIONS

ASSESSMENT CRITERIA

The learner can:

1. Interpret veterinary prescriptions and prepare medications for administration
2. Demonstrate the techniques and routes for administering medicines, to include oral, rectal, topical, parenteral, and sites commonly used for injection
3. Safely dispose of used equipment and surplus medication

Context

Dogs, cats, rabbits

UNIT CONTENT

4.1 Interpret veterinary prescriptions and prepare medications for administration, to include:

- Oral preparations
- Rectal preparations
- Topical preparations
- Medicines for injection
- Explanation of the descriptive terminology of a range of medication types, to include antibiotics, sedatives, analgesics, antitussive, anthelmintic and antiparasitics

4.2 Demonstrate the techniques and routes for administering medicines, to include:

- Oral
  - Tablets, capsules
  - Liquids, suspensions, solutions and syrups
- Rectal
  - Enema
  - Suppository
- Topical
  - Cream, ointment, shampoo, gel, spot-on
  - Eye drops, ointment
  - Ear drops, ointment
- Parenteral
  - Subcutaneous injection
  - Intramuscular injection
  - Intravenous injection
- Sites commonly used for injection in:
  - Dogs, cats and rabbits
- Precautions and limitations of administering oral, topical and rectal medication
- Precautions and limitations of administering medication by subcutaneous, intramuscular and intravenous injection
- Infused medications and intravenous bolus medications
  - Preparation of equipment
  - Patency checks of I/V cannula
    - Draw up medication as prescribed by veterinary surgeon
    - Update records
- Requirements for nursing observations following administration of medication and reporting of:
  - Side effects

    - Adverse reactions
- Maintaining health and safety showing consideration of
    - COSHH
    - The Misuse of Drug Act 1971
    - The Medicines Act 1968
    - Veterinary Medicines Regulations 2024
    - Health and Safety at Work 1974
    - Dealing with problems as they arise
    - Legislation and manufacturer's guidelines
    - Following practice procedure and protocols for administration of medicines and medications
- Awareness of potential hazards, to include:
    - Spillage
    - Contamination
    - Inadvertent administration
    - Needlestick injury

4.3 Safely dispose of used equipment and surplus medication

- Basic disposal of unused medicines and equipment/materials
- Opportunities for recycling
- Disposal of equipment used for administration of injections
- Control of Substances Hazardous to Health (COSHH) Regulations 2002
- Hazardous Waste (England and Wales) Regulations 2005 and Hazardous Waste (England and Wales) (Amendment) Regulations 2009

OUTCOME 5 KNOW HOW TO SUPPLY VETERINARY MEDICINES TO CLIENTS

ASSESSMENT CRITERIA

The learner can:

1. Explain the requirements for a legal veterinary prescription
2. Interpret pharmacy terminology and abbreviations
3. Package and label veterinary medicines
4. Calculate and dispense appropriate quantities of medication
5. Demonstrate how to dispense medicines safely and effectively, to include correct prescription, safe handling of medicines

Context

Dogs and cats

UNIT CONTENT

5.1 Explain the requirements for a legal veterinary prescription

- Principles, practice and legal requirements for a valid prescription
- Definition of a Veterinary Medicinal Product (VMP)
- Law in relation to providing prescriptions for clients to obtain medication from sources other than the premises of the prescriber
- The use of the cascade system for non-food animals regarding medications and dispensing
- Legal obligations of labelling and dispensing medications and retail product sales under the Veterinary Medicines Guidance Notes requirements
- Regulations relating to charging for prescriptions

5.2 Interpret pharmacy terminology and abbreviations

- Proprietary and generic names of medicines
- Common abbreviations for route of administration, to include:
    - Injectable – s/c
    - Oral – p/o
- Frequency and time of administration, to include:
    - s.i.d. – once daily or every 24 hours
    - b.i.d. – twice daily or every 12 hours
    - t.i.d. – three times daily or every 8 hours
    - q.i.d. – four times daily or every 6 hours
    - e.o.d – every other day
    - ad lib – at pleasure
    - q – every, for example q4h – every four hours

5.3 Package and label veterinary medicines

- Principles of safe dispensing, to include labelling, practice policy and legal requirements
- Appropriate containers for veterinary medicines, to include:
    - Tablets (single and blister packed)
    - Liquids
    - Topical applications and injectable drugs
    - Medicines for external use such as shampoos
    - Creams
    - Dusting powder
    - Granules

    - Sachets
- Precautions when handling medicines – including cytotoxic drugs
- Forms in which drugs may be dispensed, for example tablet, liquid
- Product labelling – legal requirement and RCVS guidelines
- Datasheet and other sources of information

5.4 Calculate and dispense appropriate quantities of medication

- Formulae used to calculate dosages and quantities for dispensing, to include:
    - Converting units (% to mg/ml, mg to g etc.)
    - Calculating percentage solutions
    - Calculating individual dose rate
    - Calculating total quantity to dispense
- Differentiating between standard and international units

5.5 Demonstrate how to dispense medicines safely and effectively, to include:

- Correct prescription
- Safe handling
- Demonstrate correct selection of PPE and medication in line with practice protocols and legislation
- Handle and dispense medicines in line with practice protocols and legal requirements including following COSHH and Health and Safety at Work guidelines
- Demonstrate accurate record-keeping methods

OUTCOME 6 PROVIDE ADVICE TO CLIENTS ON THE ADMINISTRATION OF VETERINARY MEDICINES

ASSESSMENT CRITERIA

The learner can:

1. Provide information to a client concerning the administration of a prescribed medicine
2. Demonstrate to clients' suitable techniques for administering medicine, to include instruction, demonstration and written guidance

Context

Dogs and cats

UNIT CONTENT

6.1 Provide information to a client concerning the administration of a prescribed medicine

- Purpose of medication
- Safe handling and disposal
- Route of administration
- Adverse reactions
- Compliance

6.2 Demonstrate to clients' suitable techniques for administering medicine, to include:

- Instruction
- Demonstration and written guidance pitched at an appropriate level and in a relevant format for ease of understanding by the client, to enable them to administer medications whilst minimising stress and ensuring health and wellbeing of client and animals
- Principles of effective demonstration to include safe handling, restraint, disposal of waste and monitoring
- PPE requirements
- Checking client understanding using suitable technique
- Follow-up and monitoring of compliance

Unit Title	**VNSA7/25 Understand and apply the principles of fluid therapy and intravenous cannulation**		
Level	3	**Credit value**	8
Guided Learning Hours		Classroom based Other activities	22 10

UNIT AIM

This unit facilitates an understanding of fluid balance within the body and how this can be addressed in differing patient circumstances. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **five** learning outcomes to this unit. The learner will:

1. Understand the concept of body fluid compartments
2. Describe the structure and function of the circulatory system
3. Explain the parenteral fluid types used in practice and their indications
4. Understand the principles of intravenous cannulation
5. Explain the principles of administering blood and blood products

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 5.1
Central Skills Log	3.6, 4.2, 4.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:**4.12 **LO2:** 4.12 **LO3:** 2.2, 4.1, 4.4**,** 4.10**,** 4.12 **LO4:** 2.2, 3.5, 4.12 **LO5:** 4.12, 4.16, 5.3
DOC	**LO3:** 1, 5, 7, 9, 13, 15, 17 **LO4:** 1, 5, 7, 9, 13, 14, 15 **LO5:** 5, 7, 9, 14, 15, 20, 35

OUTCOME 1 UNDERSTAND THE CONCEPT OF BODY FLUID COMPARTMENTS

ASSESSMENT CRITERIA

The learner can:

1. Explain the different body fluid compartments including composition
2. Understand the distribution of water within the body to include requirement and losses
3. Explain the terms osmosis, diffusion and acid-base balance

Context

Dogs, cats and rabbits

UNIT CONTENT

1.1 Explain the different body fluid compartments including main electrolytes found in each:

- Intracellular fluid
- Extracellular fluid
  - Interstitial fluid
  - Intravascular fluid

1.2 Understand the distribution of water within the body to include requirement and losses:

- Know the distribution of water within the body and breakdown per compartment as in 1.1
- Normal water intake and fluid loss
  - Eating, drinking, metabolism
  - Urination, defecation, respiration
- Abnormal water intake and fluid loss
  - Metabolic disorders, systemic illness, anaesthesia, water depravation
  - Vomiting, diarrhoea, haemorrhage, pathological fluid loss

1.3 Explain the terms osmosis, diffusion and acid-base balance:

- Osmosis
- Diffusion
- Acid-base balance
  - Acidosis
  - Alkalosis
  - Reasons for these occurring
  - Blood gas analysis

OUTCOME 2 DESCRIBE THE STRUCTURE AND FUNCTION OF THE CIRCULATORY SYSTEM

ASSESSMENT CRITERIA

The learner can:

1. Describe the structure and function of the circulatory system

Context

Dogs, cats and rabbits

UNIT CONTENT

2.1 Describe the structure and function of the circulatory system, to include:

- Blood
  - Function and formation of blood constituents – sites of haematopoiesis
  - Composition of blood – plasma, erythrocytes, leucocytes, thrombocytes
  - Identification of cell types under the light microscope
  - Blood clotting mechanism
- Heart
  - Structure of the heart – muscle wall, septum, atrioventricular and semilunar valves, atria, ventricles, papillary muscle, chordae tendinae, major blood vessels, pericardium
  - Circulation of blood through the heart
  - Electrical conduction mechanism – sinoatrial and atrioventricular nodes, path of conduction, bundle of His, Purkinje fibres, corresponding muscle contraction
  - Electrocardiograph representation of cardiac cycle
  - Origin of heart sounds
- Circulatory system
  - Structure and function of blood vessels
  - Path of blood through the circulatory system to include the heart and hepatic portal systems
  - List and locate major vessels of the body: aorta, carotid, brachial, lingual and femoral arteries; cephalic, jugular, saphenous and lingual veins
  - Outline the factors controlling blood pressure and circulatory volume

- Lymphatic system
  - Structure and function of the lymphatic system
  - Location of the main components – right lymphatic duct, thymus, spleen, lacteals, thoracic duct, cisterna chyli
  - Location of lymph nodes, palpation of superficial nodes
  - Structure of a lymph node and its role in immunity
  - Composition, colour and flow of lymph through nodes and vessels

OUTCOME 3 EXPLAIN THE PARENTERAL FLUID TYPES USED IN PRACTICE AND THEIR INDICATIONS

ASSESSMENT CRITERIA

The learner can:

1. Identify the common parenteral fluid types
2. Indications of using parenteral fluids to include dehydration and hypovolaemia
3. Calculate fluid requirements
4. Explain the administration and monitoring of fluid therapy
5. Identify patients where administration of fluid therapy may need to be modified
6. Monitor and maintain intravenous fluid therapy

Context

Dogs, cats and rabbits

UNIT CONTENT

3.1 Identify the common parenteral fluid types, to include:

- Crystalloids
    - Isotonic crystalloids
    - Hypertonic crystalloids
    - Hypotonic crystalloids
- Colloids
- Synthetic colloids
- Blood and associated components
- Parenteral nutrition

3.2 Indications of using parenteral fluids:

- Reference to the five R's of fluid therapy
    - Resuscitation
    - Routine maintenance
    - Replacement
    - Redistribution
    - Reassessment
- Dehydration including causes
    - Clinical assessment of dehydration
    - Estimated degree of dehydration
    - Laboratory tests
- Hypovolaemia/hypotension including causes
    - Clinical assessment of hypovolaemia
    - Laboratory tests
- Restore electrolyte balance
- Assist drug administration
- Providing nutritional support
- Diuresis
- Peri-operative

3.3 Calculating fluid requirements

- Normal fluid requirement over a 24-hour period using 50ml/kg/day
- Calculation of replacement of losses
- Calculation of ongoing losses
- Calculation of total fluid requirement

3.4 Administration and monitoring of fluid therapy

- Use of giving sets and associated drip factors to include:
  - Standard giving sets 20 drops/ml
  - Paediatric giving sets 60 drops/ml
  - Burettes 60 drops/ml
  - Blood giving set 15 drops/ml
- Calculation of fluid rates to include:
  - Rate per day in ml/day
  - Rate per hour in ml/hr
  - Rate per minute in ml/minute
  - Rate in drop per minute using above drip factors
- Use of fluid administration equipment to include:
  - Infusion pumps
  - Fluid pressure bags
  - Syringe drivers
- Monitoring of fluid therapy
  - Recognising extravasation
  - Urinary output
  - Venous spasm
  - Dealing safely with stopped infusion and clotting
- Signs of overhydration to include:
  - Peripheral oedema
  - Chemosis
  - Pulmonary oedema
  - Cerebral oedema
  - Serous nasal discharge
- Communication and record keeping

3.5 Identify patients where administration of fluid therapy may need to be modified to include:

- Respiratory disease and trauma
- Renal disease
- Cardiac disease
- Head trauma
- Paediatric patients

3.6 Monitor and maintain intravenous fluid therapy, to include:

- Cannula site, flow rate, adverse reactions, interference, discomfort, vomiting, tremors, pyrexia, pulse rate, respiration, mucous membrane colour and moistness
- Assessing dehydration and hydration levels in accordance with veterinary surgeon or veterinary nurse instructions
- Control of fluid flow rate, maintenance of a patent line and prevention of sepsis
- Dealing with problems
- Health and safety considerations
- Adding medication, supplements and/or additional fluid to the bag

OUTCOME 4 UNDERSTAND THE PRINCIPLES OF INTRAVENOUS CANNULATION

ASSESSMENT CRITERIA

The learner can:

1. Explain the principles of intravenous cannulation, to include indications, identification of access points and veins, selection of cannulae and risks and complications
2. Demonstrate the safe and effective introduction of a peripheral intravenous cannula
3. Demonstrate the care of an intravenous cannula to include site care, maintaining patency and mentioning intermittent use

Context

Dogs, cats and rabbits

UNIT CONTENT

4.1 Explain the principles of intravenous cannulation, to include:

- Indications – fluid therapy, drug therapy, repeat blood sampling, measurement of central venous pressure, total and partial parenteral nutrition
- Identification of access points and veins to include:
    - Cephalic
    - Saphenous
    - Auricular
    - Jugular
- Selection of appropriate site for purpose, differences between species, indications and contraindications
- Selection of cannulae – over the needle, through the needle, appropriate size, injection cap, 3-way taps
- Risks and complications – extravasation, thrombosis, infection, phlebitis, accidental cannula fragmentation
- Theory of cannula placement – the procedure to follow for both peripheral and central lines
- Other considerations – time, restraint, patient compliance

4.2 Demonstrate the safe and effective introduction of a peripheral intravenous cannulae

- Practical tuition and experience using simulation and animal patients, with regard to animal welfare

4.3 Demonstrate the care of an intravenous cannula, to include:

- Site care – clipping, cleaning, antiseptic solutions, aseptic techniques, bandaging, monitoring, cannula fixing, prevention of patient interference
- Checking site and patency prior to use
- Nursing interventions to maintain patency during regular and intermittent use, such as:
    - Use of appropriate flush solution
    - Dealing with venous spasm
    - Occluded or kinked cannulae
    - Splinting of limbs

OUTCOME 5 EXPLAIN THE PRINCIPLES OF ADMINISTERING BLOOD AND BLOOD PRODUCTS

ASSESSMENT CRITERIA

The learner can:

1. Explain the principles of administering blood and components

Context

Dogs and cats

UNIT CONTENT

5.1 Explain the principles of administering blood and components, to include:

All content below to be informed by current guidance and literature from the Pet Blood Bank

- Canine and feline blood groups
- Indications for transfusions
  - Anaemia
  - Thrombocytopaenia
  - Severe blood loss
- Donors
  - Typing
  - Cross matching
  - Donor characteristics
  - Safe collection of blood
  - Sourcing and selection of suitable donors
  - Use of pet blood banks
- Blood products and components
  - Separation to produce plasma and packed red blood cells
  - Fresh whole blood
  - Stored whole blood
  - Packed red blood cells
  - Fresh frozen plasma (FFP)
  - Frozen plasma
  - Cryoprecipitate
- Storage
  - Anticoagulants/preservatives
  - Temperature
  - Timeframe
  - Transport
- Equipment and administration
  - Safe warming of blood products
  - Giving sets
  - Significance of transfusion rates
- Patient monitoring and complications
  - Reasons for reactions
  - Recognition
  - Action to take
  - Consequences of over transfusion

- Central venous pressure
- Records

Unit title	**VNSA8/25 Introduction to Professional practice, professionalism and ethics for small animal veterinary nurses**		
Level	3	**Credit Value**	10
Guided Learning Hours		Classroom based Other activities	18 22

UNIT AIM

This unit facilitates an understanding of working within a professional environment. It will enable student veterinary nurses to understand and explore the concept of professional accountability and their duties as registered practitioners. They will consider some of the moral and ethical conflicts that may be encountered in caring for animals and working with colleagues and learn to apply strategies for resolving such conflicts and/or how to seek appropriate expert help.

LEARNING OUTCOMES

There are **six** learning outcomes to this unit. The learner will:

1. Understand the importance of professional practice
2. Know the legal framework for veterinary nursing practice
3. Understand the accountability of veterinary nurses
4. Understand the application of ethical principles
5. Understand the principles of consent to veterinary treatment
6. Understand legal and ethical duties to clients, colleagues and animals

ASSESSMENT

Type	**Assessment criteria**
Assignment	2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3
Examination	1.1, 1.2, 2.1, 6.1, 6.2
Central Skills Log	1.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 1.2, 2.1, 2.2, 2.11, 4.3**,** 4.4, 4.15, 4.16, 5.1,10.4, 10.6 **LO2:** 2.11 **LO3:** 1.2, 2.11 **LO4:** **LO5:** 2.4, 2.12, 4.15, 4.16, 5.1 **LO6:** 1.3
DOC	**LO1:** 1, 2, 3, 5, 8, 9, 11, 15, 16 **LO2:** 2, 3, 8, 9 **LO3:** 1, 2, 3, 8, 9, 15, 16 **LO4:** 1**,** 2, 8, 10, 11 **LO5:** 1, 2, 3, 5, 6, 7, 10 **LO6:** 1, 2, 3, 5, 6, 9, 10, 11, 13, 15, 16

OUTCOME 1 INTRODUCTION TO PROFESSIONAL PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Outline the roles and responsibilities of the veterinary team
2. Outline the significance of the Veterinary Surgeons Act 1966
3. Demonstrate an understanding of professional behaviours and attributes including the importance of reflection. *

*Professional discussion is an acceptable assessment method

Context

Dogs and cats

UNIT CONTENT

1.1 Outline the roles and responsibilities of the veterinary team

- Veterinary surgeon to include:
  - Defining acts of veterinary surgery, treatment and medical diagnosis
  - Protection of animals' interests
  - The Veterinary Surgeons Act 1966
  - The RCVS Code of Professional Conduct for Veterinary Surgeons
  - Providing effective leadership
  - CPD requirements
- Veterinary nurse to include:
  - Nursing assessment and care
  - Working within professional competence
  - The RCVS Code of Professional Conduct for Veterinary Nurses
  - Understand the RCVS Veterinary Nurse Registration Rules 2017 in relation to student veterinary nurses
  - Providing effective leadership
  - Public image and professionalism
  - CPD requirements
  - Awareness of fitness to practice
- Any other person working within a practice, for example receptionists, kennel staff, veterinary care assistants, work experience students and volunteers
- Limitations of lay staff in treatment of animals

1.2 Outline the significance of the Veterinary Surgeons Act 1966 in relation to:

- Purpose and limitations of the Veterinary Surgeons Act 1966
- Who may treat animals, including provisions for owners, veterinary nurses, student veterinary nurses and members of the public to include Schedule 3

1.3 Demonstrate an understanding of professional behaviours and attributes to include:

- How professional behaviours are linked to respectful, courteous, and competent conduct
- How to reflect upon development of professional behaviours using reflection models such as:
    - Kolb's Reflective Cycle
    - John's Model of Structured Reflection
- Understanding how to progress and what is required for the final assessment
- The importance of reflection for both individual and team development

OUTCOME 2 KNOW THE LEGAL FRAMEWORK FOR VETERINARY NURSING PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Summarise the UK legal system to include criminal and civil law
2. Interpret the provisions of the Veterinary Surgeons Act 1966 in relation to veterinary nurses, to include the meaning of Schedule 3 and the scope of veterinary nursing practice

Context

Dogs and cats

UNIT CONTENT

2.1 Summarise criminal and civil law relevant to veterinary nursing practice to include:

- Define criminal law
- Discuss civil Law with reference to:
  - Negligence
  - Trespass
  - Breach of contract
- Acts of Parliament that are applicable to veterinary nurse practice

2.2 Interpret the provisions of the Veterinary Surgeons Act 1966, to include:

- Meaning of Schedule 3 with reference to the Schedule 3 Amendment 2002 with reference to Chapters 18 and 19 of CoPC
- Scope of veterinary nursing practice
- Delegation of acts of veterinary surgery by a veterinary surgeon to registered veterinary nurses and student veterinary nurses
- Definition of ‘under direction’, ‘under supervision’ and ‘under direct, continuous supervision’ of a veterinary surgeon

OUTCOME 3 UNDERSTAND THE ACCOUNTABILITY OF VETERINARY NURSES

ASSESSMENT CRITERIA

The learner can:

1. Discuss the features of professional status
2. Explain the purpose and principles of professional regulation, to include statutory and voluntary regulation, self-versus independent regulation
3. Explain the functions of a professional regulatory body, with reference to the RCVS Veterinary Nurse Registration Rules 2017 public protection, codes of conduct, investigation of complaints including the RCVS Conduct and Discipline Rules 2014
4. Interpret the RCVS Code of Professional Conduct for Veterinary Nurses

Context

Dogs and cats

UNIT CONTENT

3.1 Discuss the features of professional status

- Accountability, autonomy, education and public regard
- History and status of veterinary nursing

3.2 Explain the purpose and principles of professional regulation, to include statutory and voluntary regulation, self-versus independent regulation

- Public interest, protection of the vulnerable
- Examples of statutory and voluntary regulation
- Meaning of professional self-regulation
- Independent regulation, government regulatory agencies

3.3 *Explain the functions of a professional regulatory body, to include public protection, codes of conduct, investigation of complaints*

- RCVS Veterinary Nurse Registration Rules 2017
- Maintaining register
- Standard-setting, to include education, practice standards, CPD and revalidation
- Compare other non-veterinary regulators, to include General Dental Council, Nursing and Midwifery Council
- Investigation of complaints and disciplinary sanctions with reference to the RCVS Conduct and Discipline Rules 2014

3.4 Interpret the RCVS Code of Professional Conduct for Veterinary Nurses

- Provisions of the Code
- Application to practical situations
- Obtaining help and advice
- Limitations

OUTCOME 4 UNDERSTAND THE APPLICATION OF ETHICAL PRINCIPLES

ASSESSMENT CRITERIA

The learner can:

1. Summarise ethical schools of thought, to include utilitarianism, deontology and virtue ethics
2. Identify ethical problems arising in veterinary practice
3. Identify patient care issues using ethical principles

Context

Dogs and cats

UNIT CONTENT

4.1 *Summarise ethical schools of thought, to include utilitarianism, deontology and virtue ethics*

- Utilitarian costs and benefits versus moral rights and wrongs
- Examples of major theorists, to include Bentham, Kant
- Recognising the basis of arguments
- Individual character and conscience – limitations

4.2 Identify ethical problems arising in veterinary practice

- Potential patient, client and colleague issues, to include:
    - Informed consent
    - Socio-cultural background of clients
    - Economic drivers of treatment
    - Animal abuse
    - Euthanasia
    - Addressing poor practice
    - Substance abuse
    - Breed Specific Legislation
    - Treatment of stray animals

4.3 Identify patient care issues using ethical principles

- Practical debate using principles in 3.1 and real or supplied problems from veterinary practice
- Resolving dilemmas
- Where to go for help, including representative organisations such as:
    - RCVS
    - BVNA
    - BVA
    - Vet life Helpline
    - RCVS Mind Matters

OUTCOME 5 UNDERSTAND THE PRINCIPLES OF CONSENT TO VETERINARY TREATMENT

ASSESSMENT CRITERIA

The learner can:

1. Explain the legal requirements for consent to treatment, to include treatment without consent
2. Summarise the features and identify potential barriers of informed consent in practice

Context

Dogs and cats

UNIT CONTENT

5.1 Explain the legal requirements for consent to treatment, to include treatment without consent

- Express and implied consent, written and verbal, mental competence, giving of information
- Design and retention of consent forms
- Situations where treatment can be performed without consent

5.2 Summarise the features and identify potential barriers of informed consent in practice

- Information giving versus understanding, how much understanding is sufficient
- Barriers to consent such as
    - Time
    - Training of staff
    - Emergency situations
    - Unethical practices
    - Language
    - Disabilities
    - Age
    - Religion
    - Knowledge

OUTCOME 6 UNDERSTAND LEGAL AND ETHICAL DUTIES TO CLIENTS, COLLEAGUES AND ANIMALS

ASSESSMENT CRITERIA

The learner can:

1. Explain the principles of duty of care in relation to clients, colleagues and animals, to include Animal Welfare Act 2006, negligence, maintaining professional competence, personal scope of competence
2. Outline ethical issues surrounding the support of colleagues and clients, to include whistleblowing

Context

Dogs and cats

UNIT CONTENT

6.1 Explain the principles of duty of care in relation to clients, colleagues and animals, to include:

- Animal Welfare Act, statutory duties to animals
- Duty of care to clients and colleagues, reasonableness
- Ensuring informed consent
- Negligence, remedies in law
- Maintaining professional competence – practicing within own level of competence, resisting inappropriately delegated work
- Maintaining CPD
- Professional development from 'beginner to expert', to include Benner's Stages of Clinical Competence
- Professional development – basic leadership skills development for veterinary practice

6.2 Outline ethical issues surrounding the support of colleagues and clients, to include:

- Addressing problems, protocols for:
    - Whistle-blowing with reference to RCVS Advice Note 30
    - Breaching confidentiality in the public interest with reference to The Public Interest Disclosure Act 1998
    - Where to seek advice and help

Unit title	**VNSA9/25 Principles of supporting anaesthesia for small animal veterinary nurses**		
Level	3	**Credit Value**	36
Guided Learning Hours		Classroom based Other activities	80 64

UNIT AIM

This unit facilitates an understanding of theory and practical application of anaesthesia and anaesthetic monitoring in clinical veterinary practice. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse

LEARNING OUTCOMES

There are **six** learning outcomes to this unit. The learner will:

1. Describe the structure and function of the respiratory and nervous system
2. Understand the principles of anaesthesia
3. Understand and demonstrate the function of anaesthetic equipment
4. Understand and assist with anaesthetic preparation and induction
5. Understand and apply the principles of monitoring an anaesthetised animal
6. Know how to recognise and respond to anaesthetic emergencies

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1,4.3, 4.5, 4.7, 5.1, 5.3, 5.5, 5.6, 5.7, 6.1, 6.2
Central Skills Log	3.6, 3.7, 4.2 ,4.4, 4.6, 4.8, 4.9, 5.2, 5.4, 5.8

RCVS Day One Skills and Competences mapping

DOS	**LO2:** 1.1, 1.2, 4.10, 4.13,10.1, 10.2, 10.3, 10.4 **LO3:** 1.1, 10.2, 10.5 **LO4:** 2.1**,** 2.5**,** 3.5, 9.4, 10.1, 10.2, 10.3,10.4 **LO5:** 2.1, 2.2, 4.4, 4.13, 7.3, 10.4, 10.6 **LO6:** 1.2, 2.2, 4.16, 7.3
DOC	**LO2:** 18, 27 **LO3:** 3, 4, 9, 15, 33 **LO4:** 1,5, 9, 15, 17, 35 **LO5:** 1, 5, 7, 8, 9, 33,35 **LO6:** 1, 2, 4, 9, 15, 20

OUTCOME 1 DESCRIBE THE STRUCTURE AND FUNCTION OF RESPIRATORY AND NERVOUS SYSTEM

ASSESSMENT CRITERIA

The learner can:

1. Describe the structure and function of the respiratory system
2. Explain the function of the nervous system

Context

Dogs and cats

UNIT CONTENT

1.1 Describe the structure and function of the respiratory system and explain the process of respiration

- Airways
  - Structure of nose, paranasal sinuses, nasopharynx, larynx, hyoid apparatus, trachea, bronchi and bronchioles
- Lungs
  - Location and structure of lungs in relation to thoracic cavity
  - Structure and function of alveoli
- Mechanism and control of respiration
  - Associated muscles
  - Action of inspiration and expiration
  - Neural control of respiration – stretch receptors, Hering-Breuer reflex, chemoreceptors
  - Mechanisms of gaseous exchange
  - Respiratory cycle
- Define terms associated with respiration
  - Tidal volume
  - Minute volume
  - Residual volume
  - Inspiratory and expiratory reserve volumes
  - Dead space
  - Vital and total lung capacities

1.2 Describe the function of the nervous system

- Structure and function of a neuron, synapse and neuromuscular junction
- Classification of nerves – sensory, motor, mixed, intercalated neuron, afferent, efferent, visceral sensory and motor nerves, somatic sensory and motor nerves, ganglion
- Nerve impulse transmission and basic reflex arc
- Central nervous system – forebrain, midbrain, hindbrain, meninges, cerebrospinal fluid (CSF), spinal cord, blood-brain barrier
- Function of nervous system in controlling body systems
- List and locate clinically relevant peripheral nerves – radial, median, ulnar, sciatic and femoral
- Names and functions of cranial nerves

OUTCOME 2 UNDERSTAND THE PRINCIPLES OF ANAESTHESIA

ASSESSMENT CRITERIA

The learner can:

1. Define different methods of anaesthesia
2. Explain anaesthetic terminology, to include minute volume, tidal volume, dead space
3. Explain the physiology of general anaesthesia, to include sedation, muscle relaxation and pain relief
4. Summarise the concept of balanced anaesthesia
5. Outline the function of key groups of anaesthetic drugs
6. Explain stages and levels of anaesthesia
7. Calculate fresh gas flow rate according to species, weight and circuit factor

Context

Dogs and cats

UNIT CONTENT

2.1 Define different methods of anaesthesia

- Types of anaesthesia/analgesia to include advantages, disadvantages and application of each:
  - General
  - Epidural
  - Local – topical, infiltrative, regional, peri-neural, intra-articular
  - Dissociative
- Sedative drugs/drug combinations available to facilitate the performance of radiography and minor procedures, including routes of administration

2.2 Explain anaesthetic terminology, to include:

- Minute volume
- Tidal volume
- Dead space – equipment and physiological
- Premedication
- Neuroleptanalgesia
- Anaesthetic sparing and second gas effect

2.3 Explain the physiology of general anaesthesia, to include sedation, muscle relaxation and pain relief

- Physiology of sedation and injectable anaesthetic agents – routes of administration and uptake within the body, blood-brain barrier
- Exchange of gases in the lung and principles of tissue respiration – minimum alveolar concentration, critical oxygen tension/ partial pressure
- Effect of anaesthetic agents on the autonomic nervous system, especially renal and hepatic perfusion and function
- Recovery from anaesthesia – removal of inhalation agents, metabolism, fat-soluble agents
- Perception of pain, nociception and response to pain, to include spinal, medullary, hypothalamic, cortical

2.4 Summarise the concept of balanced anaesthesia

- 'Triad of anaesthesia'
- Objectives of premedication
- Methods used for maintaining general anaesthesia, to include:
    - Carrier gases
    - Volatile agents
    - Total intravenous anaesthesia (TIVA) and 'top-up' doses
    - Neuromuscular blockade

2.5 Outline the classification and function of key groups of anaesthetic drugs, to include:

- Intravenous anaesthetics
    - Injectable induction agents
    - Properties
    - Use and side-effects
- Gaseous anaesthetics
    - Inhalation anaesthetics
    - Pharmacokinetics
    - Use and side-effects
    - Carrier gases – nitrous oxide, use, properties and precautions
- Intramuscular anaesthetics
- Sedatives
    - Achieving effective sedation
    - Commonly used sedatives
    - Properties
    - Use and side-effects
- Analgesics
    - Location of pain pathways – action of analgesics on target areas
    - Pre-emptive analgesia
    - Opioid analgesics – properties, use and side-effects
    - Non-steroidal anti-inflammatory drugs – properties, use and side-effects
    - Local anaesthesia
    - Other agents with analgesic properties
- Muscle relaxants
    - Uses
    - Monitoring procedure during neuromuscular blockade
    - Depolarising and non-depolarising drugs
- Antagonists

2.6 Explain stages and levels of anaesthesia, to include:

- 4 periods of anaesthesia – premedication, induction, maintenance and recovery
- Anaesthetic depth to include:
    - Light anaesthesia
    - Surgical anaesthesia
    - Deep anaesthesia
- Parameters to assess
    - Cranial nerve reflexes such as palpebral reflex, pedal reflex, eyeball position, pupillary diameter, pupillary light reflex, jaw tone
    - Cardiopulmonary such as heart rate, capillary refill time, mucus membrane colour, peripheral pulses, respiratory rate
    - Temperature
    - Muscle tone

2.7 Calculate fresh gas flow rate according to species, weight and circuit factor

- Calculation formulae to include weight, tidal volume (TV), minute volume (MV), Circuit factor (CF)
- Use of calculators and pre-prepared charts
- Gross error checks
- Minute volume and tidal volume
- Knowledge of circuit factors of non-rebreathing circuits to include:
    - T-Piece
    - Lack and Mini-lack
    - Bain
- Knowledge of calculating fresh gas flow rate when using rebreathing circuits to include:
    - Circle
    - Humphrey ADE-circle system

OUTCOME 3 UNDERSTAND AND DEMONSTRATE THE FUNCTION OF ANAESTHETIC EQUIPMENT

ASSESSMENT CRITERIA

The learner can:

1. Explain the function and maintenance of key parts of an anaesthetic machine
2. Identify, and summarise the use of, anaesthetic breathing systems, to include rebreathing and non-rebreathing
3. Summarise types of endotracheal tube and describe their use and maintenance
4. Explain the safety checks to be made of anaesthetic equipment, to include endotracheal tubes, breathing systems, anaesthetic machines, pollution control systems and ventilator
5. Explain the use of monitoring equipment, to include capnograph, pulse oximeter and electrocardiograph
6. Demonstrate the set-up and checks required of anaesthetic equipment, to include endotracheal tubes, circuits, anaesthetic machines, pollution control systems and monitoring equipment
7. Clean and care for anaesthetic equipment, to include the items set out in 3.6

Context

Dogs and cats

UNIT CONTENT

3.1 Explain the function and maintenance of key parts of an anaesthetic machine

- Use and maintenance of equipment for the administration of inhalation anaesthetic agents
- Identification of key parts of an anaesthetic machine, including:
    - Gas supply such as oxygen generators
    - Oxygen and nitrous oxide – pressure/contents gauge, cylinder colour coding, cylinder sizes, pin-indexing system, piped gases
    - Pressure reducing valves/regulators and emergency oxygen flush
    - Flowmeters
    - Common gas outlet
- Vaporiser
    - Compensation devices
    - Draw-over and plenum vaporisers
    - Back bar
    - Control dial
    - Filling and viewing ports
    - Filler keys
- Scavenging
    - COSHH regulations
    - Passive versus active
    - Activated charcoal
    - Anaesthetic Gas Scavenging system (AGSS)
- Safety features
    - Nitrous oxide cut-out devices
    - Over-pressure valve
    - Emergency air intake valve
    - Oxygen failure alarm

3.2 Identify, and summarise the use of, anaesthetic breathing systems, to include:

- Rebreathing
  - Advantages and disadvantages
  - Circle circuit – construction, direction of gas flow, uses
- Non-rebreathing
  - Advantages and disadvantages
- Gas flow, uses and contraindications of circuits, to include:
  - Lack – coaxial, parallel and mini
  - Ayre's T-piece (mentioning Jackson-Rees modification and APL valve)
  - Bain
  - Humphrey ADE (mentioning use as a circle circuit)
- Inhalation and chamber induction equipment
- The advantages and disadvantages of intermittent positive pressure ventilation (IPPV) and its practical use
- Use of mechanical ventilators, advantages and disadvantages

3.3 Summarise types of intubation device and describe their use and maintenance

- Supraglottic airway device, for example v-gel®
- Endotracheal tubes
  - Construction material
  - Cuffed and uncuffed
  - Disposable and re-sterilisable
  - Tube selection
  - Intubation procedure, laryngeal reflexes, laryngoscope
  - Checking for patency – connection to oxygen source, breath sounds
  - Cuff inflation
  - Use of suction device to maintain patency
- Maintenance
  - Cleaning and sterilisation
  - Storage

3.4 Explain the safety checks to be made of anaesthetic equipment, to include:

- Endotracheal tubes – patency and integrity/kinks, cuff function
- Breathing systems – circuits correctly assembled, intact and not leaking, APL valve function
- Anaesthetic machines – major start of day check procedure, oxygen flush working, gas supply connected, turned on and sufficient, vaporiser filled and dial working
- Scavenging systems – weigh adsorber, system connected and working
- Ventilator – tubing correctly attached, sufficient pressure during inspiratory phase, alarms functioning, alternative means of ventilation prepared in case of ventilator malfunction
- Anaesthetic techniques to promote safety, to include minimising anaesthetic gas leakage during procedures, safe filling of vaporisers
- Recognising and reporting faults with equipment

3.5 Explain the use of monitoring equipment, to include:

- Indications for use, effective use of:
  - Capnograph
  - Pulse oximeter
  - Electrocardiograph
  - Arterial blood pressure monitors – Oscillometric and Doppler flow detection
  - Central venous pressure
  - Blood gas analysis
  - Thermometers/thermistor probes

3.6 Demonstrate the set-up and checks required on anaesthetic equipment, to include:

- Endotracheal tubes, to include:
  - Checks for visual damage, cleanliness and patency
  - Cuff inflation
- Circuits, to include:
  - Rebreathing 'closed or circle system'
  - Non-rebreathing/ 'semi-closed system' – may include: coaxial, parallel and mini Lack, Ayre's T-piece, Bain, Humphrey ADE
- Anaesthetic machines, to include:
  - Gas cylinders, pressure reducing valves/regulators, pressure/contents gauges
  - Vaporiser
  - Flow meters
  - Warning devices, oxygen flush
  - First check of the day
- Monitoring equipment as appropriate to practice, may include:
  - Electrocardiograph
  - Pulse oximeters
  - Oesophageal stethoscope
  - Arterial blood gas analysis
  - Temperature monitoring
  - Blood pressure monitoring equipment
  - Respiratory monitors, capnograph
- Pollution control systems/scavenging systems as appropriate to practice

3.7 Clean and care for anaesthetic equipment, to include the items set out in 3.6

OUTCOME 4 UNDERSTAND AND ASSIST WITH ANAESTHETIC PREPARATION AND INDUCTION

ASSESSMENT CRITERIA

The learner can:

1. Summarise the preparation of an animal for general anaesthesia, to include pre- anaesthetic checks, fasting
2. Assess the patient's anaesthetic risks, to include ASA guidelines, behaviour and temperament
3. Summarise the materials and equipment needed for induction of anaesthesia
4. Prepare materials and equipment needed for induction of anaesthesia, to include consumables, drugs and intravenous fluids, laryngoscope and endotracheal tubes
5. Summarise the role of the veterinary nurse during induction of anaesthesia
6. Support the anaesthetist during anaesthetic induction, to include restraint and positioning of the animal, supply and management of equipment and adjustment of gas flow and volatile agent
7. Explain the principles of effective intubation
8. Demonstrate safe and effective intubation technique
9. Transfer an anaesthetised animal safely into the operating theatre and position appropriately for procedure

Context

Dogs and cats

UNIT CONTENT

4.1 Summarise the preparation of an animal for general anaesthesia, to include:

- Pre-anaesthetic checks
    - Taking a history
    - Physical examination – CNS, cardiovascular and respiratory systems
    - Record accurate weight
    - Assess behaviour and temperament
    - Further tests if necessary – ECG, radiography, ultrasonography, haematology and biochemistry
    - Fasting – implications of anaesthetising a patient with a full stomach, species differentiation
    - Stabilisation of existing conditions – oxygen or drug therapy
    - Administration of fluid therapy where required
- Use of American Society of Anesthesiologists (ASA) anaesthetic risk score to include patients such as:
    - Brachycephalic
    - Age of patient – neonate or geriatric
    - Obese
    - Undergoing caesarean section
    - Patients with cardiovascular, renal or hepatic disease
- Specific disorders, to include ruptured diaphragm, gastric dilatation and volvulus (GDV), intra cranial pressure

4.2 Assess the patient's anaesthetic risks, to include:

- American Society of Anesthesiologists (ASA) guidelines
- Behaviour and temperament of patient
- Discuss with an appropriate member of the veterinary team

4.3 Summarise the materials and equipment needed for induction of anaesthesia, to include:

- Consumables – needle, syringe, intravenous cannula, skin preparation materials
- Drugs
- Laryngoscope
- Endotracheal tubes, cuff inflator and ties
- Monitoring equipment

4.4 Prepare materials and equipment for induction of anaesthesia

- Consumables
    - Hospital sheet including pre-op observations and pre-op blood screen results if appropriate
    - Consent form, anaesthetic monitoring forms
    - Range of needles and syringes
    - IV cannula, giving set and associated equipment
- Drugs and intravenous fluids, to include:
    - Induction agents
    - Intra-operative analgesia
    - Intravenous giving set
- Laryngoscope
- Endotracheal tubes, to include:
    - Range of sizes
    - Bandage, syringe for cuff inflation and lubrication
    - Local anaesthetic spray

4.5 Summarise the role of the veterinary nurse during induction of anaesthesia, to include:

- Restraint and positioning of the animal
- Supply and management of equipment
- Access to and raising veins
- Safety
- Intravenous cannula types and the principles of cannula placement
- Securing intravenous lines, indwelling catheters etc.
- Fixing cannulae, endotracheal tube, circuit
- Inhalation and chamber induction
- Adjusting gas flow, volatile agent in accordance with veterinary direction
- Setting up and maintenance of monitoring equipment
- Ability to respond to anaesthetic emergency

4.6 Support the anaesthetist during anaesthetic induction, to include:

- Restraint and positioning of the animal – using restraint equipment if necessary
- Supply and management of equipment, to include the items set out in 3.5
- Adjustment of gas flow and volatile agent – according to veterinary surgeon's instructions

4.7 Explain the principles of effective intubation

- Correct size of tube, including length
- Use of laryngoscope
- Identification of epiglottis
- Avoidance of laryngeal spasm
- Correct inflation of cuff
- Securing in position
- Connection to gas supply

4.8 Demonstrate safe and effective intubation technique

- Tube selection – appropriate diameter and length
- Checking tube for patency, cuff inflation, signs of wear and splitting
- Preparing equipment – lubrication, laryngoscope, local anaesthetic spray
- Safe handling of patient – ensuring appropriate level of anaesthesia
- Protecting the frenulum of the tongue, protection of teeth, gentle introduction of tube
- Using safe methods of ensuring tube is correctly placed – connecting to oxygen supply and IPPV, auscultation of bilateral lung sounds, visualisation of vocal cords, end tidal CO_2 monitoring and the awareness of fallibility of some testing methods
- Inflation of cuff – implications of over and under inflation of cuff

4.9 Transfer an anaesthetised animal safely into the operating theatre and position appropriately for procedure

- Maintaining anaesthesia during transfer
- Appropriate equipment – stretcher, trolley use of extra staff
- Positioning of animal – to protect airway and equipment
- Position animal appropriately on operating table, taking into consideration the planned procedure and the patient's condition

OUTCOME 5 UNDERSTAND AND APPLY THE PRINCIPLES OF MONITORING AN ANAESTHETISED ANIMAL

ASSESSMENT CRITERIA

The learner can:

1. Explain the observations to be made of an anaesthetised animal and how these should be recorded
2. Observe, monitor and record observations of an anaesthetised animal, to include temperature, pulse, respiration, level of consciousness, muscle relaxation
3. Describe the observations to be made of equipment during an anaesthetic
4. Observe equipment during an anaesthetic
5. Explain the routine care requirements of an anaesthetised animal
6. Explain the positioning and monitoring of a patient during anaesthetic recovery
7. Summarise the role of the veterinary nurse in monitoring and anaesthetic recovery in line with CoPC
8. Position and monitor a patient during anaesthetic recovery, to include disconnection from anaesthetic equipment and extubation

Context

Dogs and cats

UNIT CONTENT

5.1 Explain the observations to be made of an anaesthetised animal, and how these should be recorded

- Temperature
  - Use of thermistor probes
  - Methods of maintaining core body temperature
- Pulse
  - Rate and quality
  - Use of pulse oximetry
  - Arterial blood gas analysis
- Respiration
  - Rate, depth and pattern
  - Capnography (pulse oximetry and arterial blood gas analysis)
- Level of consciousness
  - Eye position
  - Muscle tone
  - Cranial nerve reflexes
  - Cardiovascular signs
- Circulation
  - Heart rate and rhythm
  - Use of electrocardiogram
  - Blood pressure monitoring – invasive and non-invasive
  - Mucous membrane colour and capillary refill time
- Blood loss
  - Weight differential of dry and used swabs
  - Suction bottle contents
  - Visual observation
  - Blood analysis

- Urine output – colour, smell, amount
- IV fluids and blood transfusions
- Drainage and collection of fluids during procedures
- Tourniquets – timing regarding application and release, effectiveness, circulation of blood when released
- Frequency of observations, reporting and responding to significant changes, use of monitoring forms

5.2 Observe and monitor an anaesthetised animal, to include:

- Temperature, pulse, respiration
    - Temperature – normal parameters, core and extremities
    - Pulse rate, rhythm and quality, pulse oximetry
    - Respiration rate and rhythm, capnography if available
    - Level of consciousness
    - Stages of anaesthesia
    - Cranial nerve reflexes relating to anaesthetic depth
- Muscle relaxation
    - Assessing musculoskeletal tone
    - Monitoring neuromuscular blockade if applicable
    - Mucous membrane colour, capillary refill time, heart sounds
- Record observations on an anaesthetic chart
- Report relevant or significant changes to veterinary surgeon

5.3 Describe the observations to be made of equipment during an anaesthetic

- Gases and volatile agents – monitoring levels, ensuring spare cylinders/vaporiser available
- Circuits and tube – checking for leaks/kinking
- Monitoring equipment – correlation of equipment read-outs with condition of patient/machine faults, power supply, connections

5.4 Observe equipment during an anaesthetic, to include:

- Gases and volatile agents
- Circuits and tube
- Monitoring equipment

5.5 Explain the routine care requirements of an anaesthetised animal

- Prevention of pressure necrosis by use of cradles, ties, foam wedges, padding, positioning, monitoring
- Avoidance of joint strain and limb swelling by massage, support, positioning, handling, padding, restraint and bandaging techniques
- Prevention of corneal ulcers by application and usage of corneal lubricant and protection of exposed mucosae

5.6 Explain the positioning and monitoring of a patient during anaesthetic recovery

- Recognition of when to extubate
- Extubation
- Laryngeal spasm
- Effects of patient positioning on respiratory and cardiovascular function

5.7 Summarise the role of the veterinary nurse in monitoring and anaesthetic recovery in line with CoPC

- Significant changes in respiration and pulse pattern or rate
- Level of consciousness

- Significant blood loss
- Significant changes in blood pressure
- Signs of pain/distress
- Changes in behaviour/appearance
- Temperature changes
- Abide by CoPC in relation to delegation and advice note 18

5.8 Position and monitor a patient during anaesthetic recovery, to include disconnection from anaesthetic equipment and extubation

- Prepare recovery area
- Extubate patient at time appropriate to species and maintain patent airway
- Ensure body temperature is maintained
- Observe wound and dressings for signs of bleeding
- Monitor and recognise signs of pain and report to veterinary surgeon
- Monitor and maintain accurate recovery records
- Communicate post operative and/or anaesthetic recovery process to an appropriate member of the veterinary team

OUTCOME 6 KNOW HOW TO RECOGNISE AND RESPOND TO ANAESTHETIC EMERGENCIES

ASSESSMENT CRITERIA

The learner can:

1. Explain how to recognise respiratory and cardiac arrest
2. Describe how to recognise and manage equipment failure, to include power failure

Context

Dogs and cats

UNIT CONTENT

6.1 Explain how to recognise respiratory and cardiac arrest

- Clinical signs of:
  - Respiratory obstruction
  - Respiratory arrest
  - Cardiac arrest
  - Death

6.1 Describe how to recognise and manage equipment failure, to include power failure

- Standard operating procedure in the event of power failure – local/general
- Emergency lighting, manual ventilation, management of surgical procedure

Unit title	**VNSA10/25 Theatre practice for small animal veterinary nurses**		
Level	3	**Credit Value**	25
Guided Learning Hours		Classroom based Other activities	45 55

UNIT AIM

This unit facilitates an understanding of veterinary operating theatre practice for veterinary nurses.

It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **six** learning outcomes to this unit. The learner will:

1. Understand the principles of theatre suite design and use
2. Understand the use of theatre suite furniture and equipment
3. Be able to dress and behave appropriately in an operating theatre
4. Understand the management of instruments and materials during a surgical procedure
5. Be able to assist the operating surgeon as a circulating nurse
6. Be able to assist the operating surgeon as a scrub nurse

ASSESSMENT	
Type	**Assessment criteria**
Examination	1.1, 1.3, 2.1, 2.2, 2.3,4.1, 4.2, 4.3, 4.4
Central Skills Log	1.2, 3.1, 3.2, 3.3, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3

RCVS Day One Skills and Competences mapping	
DOS	**LO1:** 1.2, 8.2, 8.3, 9.3 **LO2:** 1.1, 1.2, 3.4, 8.3, 9.3 **LO3:** 1.1, 2.1, 9.7, 9.8 **LO4:** 4.7, 9.1, **LO5:** 2.1, 2.2, 9.3, 9.6, 9.9, 9.11, 9.12 **LO6:** 1.1, 9.1,9.6, 9.9, 9.10, 9.12
DOC	**LO1:** 1, 8, 29 **LO2:** 4, 17, 30 **LO3:** 3, 4 **LO4:** 29, 30 **LO5:** 8, 30 **LO6:** 30, 31

OUTCOME 1 UNDERSTAND THE PRINCIPLES OF THEATRE SUITE DESIGN AND USE

ASSESSMENT CRITERIA

The learner can:

1. Explain the principles of theatre suite design, to include clean and dirty areas, heating, lighting, ventilation and circulation of personnel and materials
2. Apply effective operating theatre protocols, to include daily and periodic cleaning of environment, furniture and equipment
3. Explain the principles of planning an operating list

Context

Dogs and cats

UNIT CONTENT

1.1 Explain the principles of operating theatre suite design, to include:

- The components of a theatre suite such as operating theatre, preparation area, scrubbing up area, changing rooms, recovery room, sterilisation area, sterile stores
- Clean and dirty areas, their usage encompassing sterile and aseptic operation areas, the importance of no through traffic and theatre clothing
- Preparation areas used for clipping up, initial skin preparation, removal of dirt and debris, induction of anaesthesia and sedation, and minor procedures
- Easily viewable, quiet and warm recovery areas appropriate for species following procedures and prior to returning to ongoing care areas
- Heating and lighting which is practical for a working surgical team and infection control
- The maintenance of an appropriate ambient temperature – radiators, wall heating, under floor heating
- Supplementary heating from lamps, lights, halogen
- The use of natural and artificial light, mobile and fixed lights, positioning and colouring in consideration of shadow, heat and glare reduction
- Ventilation, positive pressure air ventilation systems, active/passive scavenging systems, windows, fans, air conditioning units, humidity control
- Consideration of efficiency, cost and flexibility
- Circulation of personnel and materials that minimises movement of personnel, patients and equipment from dirty to clean areas, provision of separate cleaning equipment for each area
- Effective waste disposal systems

1.2 Apply effective operating theatre protocols, to include:

- Following SOPs and manufacturers guidelines
- Principles of cleaning and surfaces, environment, furniture and equipment
- Periodic deep cleaning, removal of all fixtures and furniture, filter changes, cleaning and disinfecting regimens, wet vacuum with disinfectant, MRSA and bacteriology monitoring control methods
- Daily cleaning methods and solutions for cleaning walls, floors, fixtures, fittings, equipment, technique – top to bottom, back to front, disposal of waste, colour coding of 'theatre use only' cleaning equipment
- Damp-dusting methods for cleaning of non-portable equipment, fixed lighting, piped gas supplies, non-sterile packaging using disposable cloths
- Preparing the operating theatre for use, taking into consideration the procedure and patient

1.3 Explain the principles of planning an operating list

- Order of priority from clean to dirty
- Maintain an aseptic environment– theatre clothing and footwear, no through traffic, minimal staff, aseptic techniques, routine clean operations, emergency procedures, prevention of cross infection
- Dirty – non-sterile procedures
- MRSA and MRSP

OUTCOME 2 UNDERSTAND THE USE OF THEATRE SUITE FURNITURE AND EQUIPMENT

ASSESSMENT CRITERIA

The learner can:

1. Describe furnishings and equipment within the theatre suite environment
2. Explain the safe use and care for key operating theatre equipment, to include lighting, adjustable table and positioning aids, diathermy, suction and tourniquets
3. Explain the safe transport of patients between areas

Context

Dogs and cats

UNIT CONTENT

2.1 Describe furnishings and equipment within the theatre suite

- Essential items and equipment appropriate to the practice's operating theatre to include:
    - Adjustable height operating table
    - Adequate lighting – fixed and adjustable
    - Theatre trolley – Mayo, two tiers, over table
    - Anaesthetic machine
    - Scavenging systems
    - A means to display diagnostic images within the operating theatre
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Wall mounted clock
    - Positive pressure air ventilation
    - Emergency box containing drugs and equipment in case of cardiac or respiratory arrest
- Preparation room or dirty ops area, to include:
    - Adjustable height operating or preparation table
    - Anaesthetic machine and selection of circuits, ET tubes and masks
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Weighing scales
    - Clinical bins for different types of waste
    - Clippers and blades
    - Hand held vacuum cleaner
    - Skin prep solutions – cleaners and antiseptics, chlorhexidine, povidone-iodine, isopropyl alcohol
    - Bandages and dressings
    - Restraint equipment – muzzles, poles, graspers, crush cage, gauntlets
    - Dental equipment
- Scrub area – sited near or next to operating area
    - Stainless steel scrub sinks
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Elbow, knee or foot operated taps
    - Scrub solutions, gels, sterile brushes and towels
    - Sterile gowns, gloves, caps and masks away from splash area
- Sterile stores
    - Sterile packs of instruments and supplies in date order

    - Enclosed cabinet for storage of sterile packs of instruments
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Control of humidity, temperature and handling
    - Disposable sterile items
- Sterilisation area
    - Autoclave or appropriate sterilising equipment – dry, moist, gaseous, chemical, irradiation or gas plasma methods, including suitable venting
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Sterilising pouches, nylon film, metal drums, boxes or cartons
    - Sterilising indicators – Bowie-Dick tape, Browne's tube, time steam temperature (TST) strips, indicator spots, spore tests
    - Sinks for washing used equipment
- Recovery or treatment area
    - Recovery cages suitable for a range of sizes of different animals
    - Viewing window
    - Seamless, easy-clean, durable flooring systems with hygienic protection, non- slip
    - Easy-clean, durable wall covering with hygienic protection
    - Monitoring equipment
    - Crash trolley and emergency box
    - Oxygen
    - IV fluids and IV infusion equipment
    - Bedding
    - External heat sources for patients, to include heat pads, water bottles, warm air blankets

2.2 Explain the safe use and care of key operating theatre equipment, to include:

- Lighting
    - Portable and fixed, natural, fluorescent, focused, colour, heat, intensity requirements
    - Health and safety requirements encompassing PAT testing
- Adjustable tables and positioning aids
    - Mobile, height-adjustable table, non-slip mat or surface, positioning aids, foam wedges, cradles, bandages, tape, sand bags, ropes, winches
    - Cleaning and lubrication as appropriate
- Diathermy
    - Battery, electrocautery, sterilisation and cleaning as per manufacturer's guidelines – steam or ethylene oxide
- Suction, including following manufacturer's guidelines for cleaning and maintenance
- Tourniquets
    - Elastic bandage or band, rubber tubing – application, pressure points, monitoring, safe usage, disposable, reusable
    - Esmarch's bandage
- Heat sources and pads
    - Hot water bottles, pads – microwavable, electrical, infra-red lights, checking wiring and operation prior to use, manufacturer's guidelines regarding care and maintenance
- Anaesthetic machine
    - Single gas, portable, wall mounted, piped, fixed as per type of anaesthetic machine and manufacturer's guidelines
- Scavenging
    - Charcoal adsorbers – monitor weight and follow manufacturer's guidelines
    - Anaesthetic Gas Scavenging System (AGSS)
- Cryosurgery equipment
    - Liquid nitrogen and nitrous oxide – avoid contact with skin, PPE equipment including protective goggles and gloves must be worn
- Control boxes and foot pedals

- Checks required prior to use
- Manufacturer's guidelines regarding cleaning and maintenance

2.3 Explain the safe transport of patients between areas, to include:

- Stretchers and trolleys, electrical or manual, constraints regarding space, cost, ease of cleaning and maintenance
- Health and safety considerations for animals and staff involved
- The safe transfer of patients to and from tables using safe lifting techniques
- The safe use of handling and restraint equipment
- The use of an additional person
- Risk assessments
- The importance of following manufacturer's guidelines for safe usage

OUTCOME 3 BE ABLE TO DRESS AND BEHAVE APPROPRIATELY IN AN OPERATING THEATRE

ASSESSMENT CRITERIA

The learner can:

1. Behave appropriately in an operating theatre, to include communication, movement, personal hygiene and safety of self and others
2. Demonstrate effective hand-hygiene, to include hand-washing, use of antiseptic gels and surgical scrubbing
3. Prepare and wear operating theatre clothing, to include scrubs and footwear, caps and masks, sterile gowns and sterile gloves

Context

Dogs and cats

UNIT CONTENT

3.1 Behave appropriately in an operating theatre, to include:

- Theatre protocols
- Essential communication and movement in relation to sterile fields and scrubbed personnel and the importance of minimal verbal communication
- Movement and posture when scrubbed and avoidance of contact with non-sterile fields
- Personal hygiene, the use of face masks, appropriate clothing, PPE
- Importance of general cleanliness, the removal of jewellery and nail varnish, dealing with piercings
- Safety of self and others by following practice procedure protocols and health and safety guidelines

3.2 Demonstrate effective hand hygiene, to include:

- Appropriate methods for hand-washing, use of antiseptic gels and surgical scrubbing, taking account of:
    - Different types of skin cleansers
    - Antimicrobial agents
    - Antiseptics and disinfectants
    - Use of scrubbing brushes, towels and disposable items

3.3 Prepare and wear operating theatre clothing appropriate to practice protocols and procedure, to include:

- Scrub suits that are comfortable, unrestrictive and clean (sterilisable), with tops that can be tucked into trousers
- Footwear which is non-slip and washable
- Disposable or reusable caps covering hair and masks with appropriate facial coverage
- Sterile gowns with back and side ties, covering arms and body, disposable and cloth
- Donning sterile gloves, creating an effective barrier to increase asepsis including:
    - Open gloving techniques
    - Closed gloving techniques

OUTCOME 4 UNDERSTAND THE MANAGEMENT AND CARE OF INSTRUMENTS AND MATERIALS USED FOR SURGICAL PROCEDURES

ASSESSMENT CRITERIA

The learner can:

1. Describe the construction and care of instruments, to include materials used, care and storage requirements, identifying damage and safe handling
2. Identify commonly used instruments and explain their use, to include general surgical, dental and orthopaedic
3. Identify types of wound closure material and explain their properties and use, to include sutures, staples and glue
4. Explain the use of instrument trolleys and Mayo tables, to include layout of instruments

Context

Dogs and cats

UNIT CONTENT

4.1 Describe the construction and care of instruments, to include:

- Materials used – mirror, satin or ebony finish, austenitic, martensitic, chromium plated carbon steel, titanium and tungsten carbide tipped instruments
- Care and storage requirements following manufacturer's instructions
- The protection of blades and sharp edges with separate storage for delicate items
- The importance of appropriate lubrication
- Identifying damage to teeth, serrated edges, non-alignment of tips or jaws, stiff hinges, bent ratchets, pitting, corrosion and loose screws
- Following manufacturer's guidelines in the safe handling of equipment when washing and sterilising, wrapping sharp edges and blades, protective covers on equipment, using appropriate PPE.
- The care for commonly powered and specialist instrumentation, oiling, cleaning, lubrication, sterilisation methods and techniques
- The importance of following manufacturer's guidelines when caring for powered instrumentation encompassing dental equipment and orthopaedic drills
- Safe removal, care and handling of:
    - Mounted blades and needles
    - Drill bits
    - Cutting equipment
    - Saw blades
    - Mounted light sources
    - Hinges and working surfaces
- Care of tungsten-tipped instruments and the importance of avoiding benzyl ammonium chloride products

4.2 Identify commonly used instruments and explain their use, to include:

- General surgical instruments
    - Towel clips – Cross action, Atraumatic and Backhaus
    - Scalpels and blade holders
    - Needle holders – Gillies, Mayo Hegar, McPhail and Olsen Hegar, Crile-Wood
    - Dissecting forceps – standard: Dressing and Rat toothed; Adson, Adson Browne and Debakey

    - Forceps – tissue: Allis, Babcock, Lane, Littlewoods
    - Forceps – artery: Spencer Wells, Halstead Mosquito, Rochester Pean, Ferguson Angiotribes
    - Forceps – Rampley sponge-holding
    - Scissors – Mayo, Metzenbaum, Spencer Stitch, Heath
    - Self-retaining retractors – Gelpi, Balfour, Gossett, West, Travers, Finochietto
    - Handheld – Hohmann, Volkman, Langenbeck, Kilner (Senn-Miller)
    - Speculums – eyelid and vaginal
    - Spay Hook
    - Visceral clamps – Doyen, Mayo-Robson, Parker-Kerr
- Orthopaedic instrumentation
    - Stille chisel
    - Osteotomes
    - Mallets
    - Rongeurs
    - Bone curette
    - Bone cutting forceps-Liston
    - Bone holding forceps
    - Periosteal Elevator
    - Graft passer
    - Wire twisters and cutters
    - Pin cutters
    - Arthroscopes
    - Air powered equipment
    - Jacobs chuck and key
    - External fixators
    - Screwdrivers
    - Screws – ASIF cancellous, ASIF cortical, Sherman
    - Plates - Dynamic Compression Plate (DCP), Venables, Sherman, String of Pearls (SOP)
    - Intramedullary pins - Rush pin, Steinmann
    - Wire - Cerclage, Arthrodesis, Kirschner, Gigli
    - ASIF system
- Dental equipment
    - Extraction forceps
    - Dental elevator,
    - Periosteal elevator
    - Subgingival curette
    - Supragingival scaler
    - Dental explorer
    - Periodontal probe
    - Sharpening stone
    - Gags
    - Scalers
    - Scrapers
- Ophthalmic instrumentation
    - Ophthalmoscopes
    - Scissors – Iris, Strabismus, Castroviejo corneal
    - Forceps – Capsule, Catford, Iris, Chalazion, St Martin's corneal suturing, Castroviejo corneal suturing, Micro corneal tying forceps
    - Castroviejo needle holders
    - Speculums – Castroviejo lid speculum, Barraquer lid speculum
    - Head torches
    - Loupes
    - Specialised instrumentation
- Suction tips
    - Poole

- Yankauer
- Frazier

4.3 Identify types of wound closure material and explain their properties and use, to include:

- Sutures
  - Types of suture materials and their properties
  - Absorbable or non-absorbable
  - Synthetic or natural materials
  - Multifilament or monofilament
  - Knot security
  - Capillary action
  - Tissue drag
  - Memory
  - 'Chatter'
  - Sterilisation
  - Tissue reaction
  - Elongation
  - Tensile strength
  - Specific contraindications for suture materials
- Types of needles
  - Spatulated
  - Cutting
  - Tapercut
  - Reverse cutting
  - Round bodied
  - Shape of needles – straight, half curved, curved
- Attachment of suture material – swaged or unswaged
- Basic suture patterns and their use: continuous, interrupted, mattress, simple tension, purse-string, stay suture
- Staples and equipment for their insertion and removal
- Tissue adhesive – properties and usage of tissue adhesive for wound closures
- Adhesive tapes – properties and usage for wound closures

4.4 Explain the use of instrument trolleys and Mayo tables in the management of instruments and materials during surgical procedures, to include:

- The importance of layout of instrumentation for surgical procedures in anticipated order of use
- Positioning, size, height and use of instrument trolleys and Mayo tables
- Maintaining sterility of the trolley during a procedure – managing fluids, tissues, sharps

OUTCOME 5 BE ABLE TO ASSIST THE OPERATING SURGEON AS A CIRCULATING NURSE

ASSESSMENT CRITERIA

The learner can:

1. Complete a surgical safety checklist
2. Open and pass sterile materials correctly, to include handing to a scrubbed operator and onto a sterile field
3. Prepare ancillary and powered equipment
4. Be able to keep track of instruments and swabs, to include timing and recording of instrument and swab counts

Context

Dogs and cats

UNIT CONTENT

5.1 Complete a surgical safety checklist to include:

- Ensure pre anaesthesia section has been completed
- Complete pre-operative checklist
- Complete post operative checklist prior to leaving theatre

5.2 Open and pass sterile material correctly – ensuring all equipment required is available and ready for use, checking all packaging for sterility and damage, to include:

- Handing to a scrubbed operator
    - Always maintaining asepsis, passing instruments where the handle or instruments are placed directly into their hands
    - Avoiding packaging encountering sterile area
    - Placing instruments in the anticipated order of use
- Onto a sterile field
    - Opening and passing material and equipment
    - Standing in a position that avoids leaning over sterile fields and ensuring the surgeon's view is not blocked
    - Avoiding damage to instruments
    - Avoiding packaging encountering sterile area

5.3 Prepare ancillary and powered equipment

- Ensure that ancillary and powered equipment is prepared before the procedure
- Complete surgical safety checklists
- Be able to hand the appropriate equipment to the veterinary surgeon as required throughout the procedure, always maintaining sterility

5.4 Be able to keep track of instruments and swabs, to include:

- Start and finish time of procedure logged in line with practice protocols
- Recording of instrument and swab counts, encompassing:
    - Pre-packaged kits containing pre-counted swabs and instruments with numbers as per practice protocols
    - Importance of recording, checking and counting kits, instruments, swabs and equipment

prior to use, prior to suturing and at conclusion of procedure in line with practice protocols
- Monitoring blood loss

OUTCOME 6 BE ABLE TO ASSIST THE OPERATING SURGEON AS A SCRUB NURSE

ASSESSMENT CRITERIA

The learner can:

1. Assist with draping the patient
2. Demonstrate safe techniques for handling and passing instruments, to include passing bladed items, mounted needles, demounting needles
3. Identify commonly used instruments

Context

Dogs and cats

UNIT CONTENT

6.1 Assist with draping the patient

- Assisting the veterinary surgeon with draping the patient
- Always maintain sterility

6.2 Demonstrate safe techniques for handling and passing instruments, to include:

- Placing instruments on trolley or table in the anticipated order of use
- Placing instruments into veterinary surgeon's hand ready for use
- Ensuring ratchets not engaged
- Passing ringed instruments into the veterinary surgeon's palm with points outwards and curves upwards
- Passing bladed items – dissecting forceps and scalpel handles into a finger grip
- Mounting needles, remove needle from packaging, mounting onto suitable sized sterile syringe
- Maintaining health and safety by ensuring protective cover of needle remains in situ until syringe and needle required
- Ensuring correct hand and body positioning and technique when demounting blades
- Methods of passing surgical instruments dependent on the procedure to be performed
- Always maintain sterility

6.3 Identify commonly used instruments, to include:

- General surgical instruments
    - Towel clips – Cross action, Atraumatic and Backhaus
    - Scalpels and blade holders
    - Needle holders – Gillies, Mayo Hegar, McPhail and Olsen Hegar, Crile-Wood
    - Dissecting forceps – standard: Dressing and Rat toothed, Adson, Adson Browne and Debakey
    - Forceps – tissue: Allis, Babcock, Lane, Littlewoods
    - Forceps – artery: Spencer Wells, Halstead Mosquito, Rochester Pean, Ferguson Angiotribes
    - Forceps – Rampley sponge-holding
    - Scissors – Mayo, Metzenbaum, Spencer Stitch, Heath
    - Self-retaining retractors – Gelpi, Balfour, Gossett, West, Travers, Finochietto
    - Handheld – Hohmann, Volkman, Langenbeck, Kilner (Senn-Miller)
    - Speculums – eyelid and vaginal
    - Spay Hook
    - Visceral clamps – Doyen, Mayo-Robson, Parker-Kerr

- Orthopaedic instrumentation
    - Stille chisel
    - Osteotomes
    - Mallets
    - Rongeurs
    - Bone curette
    - Bone cutting forceps-Liston
    - Bone holding forceps
    - Periosteal Elevator
    - Graft passer
    - Wire twisters and cutters
    - Pin cutters
    - Arthroscopes
    - Air powered equipment
    - Jacobs chuck and key
    - External fixators
    - Screwdrivers
    - Screws – ASIF cancellous, ASIF cortical, Sherman
    - Plates - Dynamic Compression Plate (DCP), Venables, Sherman, String of Pearls (SOP)
    - Intramedullary pins - Rush pin, Steinmann
    - Wire - Cerclage, Arthrodesis, Kirschner, Gigli

Unit title	**VNSA11/25 Principles of small animal peri-operative veterinary nursing support**		
Level	3	**Credit Value**	18
Guided Learning Hours		Classroom based Other activities	47 25

UNIT AIM

This unit facilitates an understanding of peri-operative nursing care principles relating to small animals and within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **three** learning outcomes to this unit. The learner will:

1. Understand and demonstrate how to prepare a patient for surgery
2. Understand the requirements and apply processes for immediate and ongoing post-operative care
3. Know species-specific nursing requirements for patients before, during and following specific procedures

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 1.4, 1.5, 2.1, 2.3, 2.4, 2.6, 2.7 3.1, 3.3
Central Skills Log	1.3,1.6, 2.2, 2.5, 3.2, 3.4

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 2.1, 2.2, 2.4, 2.5, 4.3, 4.4, 9.3, 9.5, 10.1 **LO2:** 2.1, 2.2, 3.3, 3.4, 4.1, 4.4, 4.5, 4.6, 4.7,4.8, 4.9, 4.10, 4.12, 4.13, 4.14, 10.6 **LO3:** 2.2, 4.1, 4.7, 4.13, 4.14, 9.3, 9.4, 9.11, 9.12
DOC	**LO1:** 1, 2, 6, 7, 8, 9, 30, **LO2:** 1, 5, 7, 8, 9, 14, 15, 17, 18, 19, 34, 35 **LO3:** 5, 8, 19, 30, 34, 35

OUTCOME 1 UNDERSTAND AND DEMONSTRATE HOW TO PREPARE A PATIENT FOR SURGERY

ASSESSMENT CRITERIA

The learner can:

1. Explain the information to be obtained from the animal's owner
2. Summarise the legal requirements for consent to a surgical procedure
3. Admit animals for surgery
4. Explain the principles of withholding food and fluids prior to anaesthesia
5. Describe requirements for clipping and skin preparation
6. Prepare operation sites

Context

Dogs, cats and rabbits

UNIT CONTENT

1.1 Explain the information to be obtained from the animal's owner

- Starvation – time from which food withheld, access to water
- Normal routine – feeding, exercise, housing
- Contact details – of owner or agent for owner, arrange time for owner to call or be called by veterinary surgeon
- Reason for admission – identify site of surgery if appropriate
- General condition, any change since last consultation, to include weight and behaviour, confirm patient's medication and time of last dose
- Consent to anaesthesia and surgery

1.2 Summarise the legal requirements for consent to a surgical procedure

- Fee estimate – written and included on consent form
- Explanation – of procedure to be undertaken, given by a qualified person in language appropriate to owner understanding, concept of informed consent
- Signature – legal contract between veterinary surgeon and owner, implications of an owner under the age of 18 signing the consent form, telephone consent

1.3 Admit animals for surgery, to include:

- Handover from owner
    - Checking when the animal was last fed
    - Checking water was withheld if appropriate
    - Label animal's personal possessions
    - Checking if and when any medication has been administered
- Checking consent
    - Ensuring that the person is the owner or the owner's agent and is over 18 years of age
    - Clarifying the consent form with the owner
    - Ensuring the client understands the nature of the proposed procedure
    - Consideration of economics
    - Answering or referring any questions or queries
- Recording contact details
    - Informing owner of when to phone regarding the procedure and progress
    - Recording and updating owner's and animal's details, including contact details
    - Regarding surgery and progress

- Creating a nursing record
    - Recording any changes to normal behaviour, eating, drinking, elimination, allergies, reactions to anaesthetic procedures, blood transfusions
    - Establishing baseline parameter observations
    - Updating records
    - Weighing animal
    - Administering and recording pre-med according to veterinary surgeon's instructions

1.4 Explain the principles of withholding food and fluids prior to anaesthesia

- Risk of regurgitation
- Reduction of lung volume and limitation of respiration
- Pulmonary acid aspiration syndrome
- Varying period of withholding in special cases, including:
    - Geriatric animals
    - Paediatric patients (less than 12 weeks old)
    - Species considerations
    - Emergency situations

1.5 Describe requirements for clipping and skin preparation

- Care and use of clippers
    - Sharpening blades
    - Lubrication and cleaning
    - Removal of loose hair
    - Restraint
    - Bacterial colonisation
- Identification of site
    - Records
    - Skin marking
- First skin scrub
    - Pre-operative bathing
    - Appropriate swabs/materials
    - Appropriate antiseptic skin solution
    - Direction and motion of scrubbing
    - Contact time
    - Bacterial colonisation on surgical site
    - Protecting open wounds and eyes
    - Site degreasing
- Foot bandage
    - Maintaining asepsis of surgical site

1.6 Prepare operation sites, to include:

- Care and use of clippers
    - Check clippers and blades for cleanliness, damage and function
    - Care taken when clipping sensitive areas
    - Fit and adjust blades
- Identification of site
    - Prepare site as directed by veterinary surgeon
    - Clip area around proposed incision site dependent on proposed procedure and species
    - Use handling methods and techniques when clipping to ensure minimal skin trauma and maximum efficiency

- First skin scrub
    - Prepare skin using suitable detergent and antiseptic agents and appropriate scrubbing technique
    - Follow practice protocols regarding the use of PPE
- Foot bandaging
    - Apply foot bandaging in line with veterinary surgeon's guidelines, surgical procedure and practice protocols where relevant

OUTCOME 2 UNDERSTAND THE REQUIREMENTS AND APPLY PROCESSES FOR IMMEDIATE AND ONGOING POST- OPERATIVE CARE

ASSESSMENT CRITERIA

The learner can:

1. Explain the observations and information required for handover from the operating theatre
2. Record immediate post operative observations
3. Explain core nursing requirements and observations undertaken during post-operative convalescence
4. Summarise the principles of effective post-operative pain management
5. Plan, implement and evaluate care plans to address core nursing requirements during post-operative convalescence
6. Explain the physiology, recognition and management of post-operative shock
7. Outline how post-operative fluid balance is maintained

Context

Dogs, cats and rabbits

UNIT CONTENT

2.1 Explain the observations and information required for handover from the operating theatre

- Surgical procedure – details of, complications, wound drainage
- Anaesthetic – observations of level of consciousness, vital signs, airway, cough reflex, extubation, laryngospasm
- Observations at handover – pain level, demeanour, temperature
- Treatment instructions – dressings and bandages, prevention of wound interference, medication, analgesia
- Preparation of suitable recovery accommodation, including temperature, ventilation, light, noise, bedding materials, ease of observation, stress factors
- Transition from anaesthetic recovery to ward, including mode and method with health and safety considerations
- Handover observations, including airway, level of consciousness, vital signs, fluids
- Importance of communication both verbal and written, record-keeping

2.2 Record immediate post-operative observations, to include:

- Vital signs
    - Temperature, pulse, respiration, mucous membrane colour and CRT, level of consciousness, hydration status, response to stimuli, signs of shock, discharges, any vomiting or diarrhoea
- Pain
    - Responses to pain – requirement for additional analgesia, vocalisation, restlessness
    - Assessment of pain score, analgesia already given – dosage, route, time and effect
- Intravenous fluids – dependent on procedure
    - Maintaining IV cannula site and line
    - Warm fluids if appropriate or instructed by veterinary surgeon
- Urine output
    - The monitoring of urine output – colour, amount

- Wound appearance and drainage – dependent on procedure
    - Signs of leakage from wound site, amount drained and appearance of discharge, haematoma and bruising or through dressing and respond appropriately

2.3 Explain core nursing requirements and observations made during post-operative convalescence, to include:

- Vital signs – monitoring trends by recording observations
    - Recognising deviation from normal
    - Influence of positioning on breathing and circulation
    - Impact of decreasing body temperature
- Urine output –significance of urine volume and colour
- Fluid and nutrition – calculation of resting energy and fluid requirements, methods of nutritional support
- Wound management and drainage – observation of wound drains and dressings, significance of types of discharge, wound appearance
- Elimination – methods of supported exercise to aid elimination, managing incontinence, prevention of urine scalding, bladder evaluation, bladder expression and/or prevention of urinary tract infection and management of constipation and enemas
- Mobility, exercise – supported exercise, physiotherapy techniques
- Nursing management – preventative measures to avoid common post-operative complications and actions to take if they do occur
- Evaluation of the above, considering species, specific condition, age and general fitness

2.4 Summarise the principles of effective post-operative pain management

- Recognising pain pathways and importance of pre-emptive analgesia
- Commonly used analgesics for peri- and intra-operative pain relief
- Epidural analgesia, local/regional blocks
- Timing of administration and combination of methods and medicines
- Pain – recognising signs of pain and discomfort through recording of vital signs, demeanour, behaviour, body language
- Pain scoring using validated or evidence-based protocols such as:
    - Glasgow Composite Pain Scale for dog/cats
    - University of Melbourne Pain Scale
    - The Botucatu University Pain Scale
    - The Rabbit Grimace Scale
- Monitoring effective pain relief
- Alleviation of stress
- Provision of appropriate bedding, comfort, environment and accommodation

2.5 Plan, implement and evaluate care plans to address core nursing requirements during post-operative convalescence, to include:

- Fluid and nutrition
    - Assessment of patients' needs considering the animal and the procedure undergone
    - Review, monitor and evaluate care plan on a regular basis in response to the animal's requirements, taking account of dehydration, trauma, shock and metabolic disease
    - Feeding methods dependent on animal species, age and condition, hand feeding, syringe feeding, tube feeding, IV fluids, oral rehydration fluids, type, amount and frequency offered
- Elimination
    - Monitoring of urine and faecal output, diarrhoea, constipation, blood, mucous present
- Mobility, exercise – dependent on procedure
    - Regularly turn or reposition, use of aids, foam wedges, vet bed
    - Massage, physiotherapy
    - Restricted size of accommodation

    - Supported exercise
- Pain relief and alleviation of stress
    - Pain relief dependent on species, age, condition
    - Pain score assessment and provide adequate analgesia based on evaluation of pain
    - Administer analgesia via appropriate route and method as prescribed and according to veterinary surgeon's instructions
    - Reassess and monitor pain relief (physiological signs of pain) and stress
    - Suitable environment- appropriate and easily viewable area and accessible recovery area– consider lighting, heating, ventilation, humidity, noise levels
    - Careful and appropriate handling techniques
    - Positioning of patient- positioning to allow for optimum cardiopulmonary function, use of positioning aids, bedding materials
    - 'Boredom buster' toys, stimulating environment, providing human company, grooming
- Care of surgical wounds to include:
    - Signs of swelling, redness, reduction of circulation to area, discharge
    - Signs of patient discomfort, pain or distress
    - Complications such as infection or sepsis
- Management of drainage, to include:
    - Normal and abnormal drainage
    - Identifying colour, amount and smell
- Dressing and bandaging, to include:
    - Observe surgical wounds, dressings, bandages, casts, wound closures in line with veterinary instructions
    - Care for wound dressing and bandages for signs of discharge, haemorrhage, bruising, swelling, signs of impaired circulation and complications appropriately
- Removal of drains and closures
    - As per veterinary instructions, species and procedure
- Preventing interference
    - Ensure comfort of patient
    - Appropriate aids – Elizabethan collar, bandaging, t-shirt
- Use of appropriate PPE

2.6 Explain the physiology, recognition and management of post-operative shock, to include:

- Cardiogenic shock
- Hypovolaemic shock
- Distributive shock – anaphylactic, toxic and septic
- Obstructive shock
- Compensatory mechanisms
- Signs of shock, including cardiac indicators, mucous membranes, blood pressure, urine output, raised blood lactate levels
- Methods of arresting haemorrhage
- Use of fluid replacement such as colloids, crystalloids, whole blood and blood products
- Oxygen therapy
- Complications such as SIRS and DIC
- General patient care – maintaining core body temperature

2.7 Outline how post-operative fluid balance is maintained

- Altered intake/output – signs of hypervolaemia and hypovolaemia
- Calculating fluid requirements
- Maintaining intravenous infusion
- Reasons for peri-operative altered fluid balance
- Urinary output and fluid loss
- Communication and record-keeping

OUTCOME 3 KNOW SPECIES-SPECIFIC NURSING REQUIREMENTS FOR PATIENTS BEFORE, DURING AND FOLLOWING SPECIFIC PROCEDURES

ASSESSMENT CRITERIA

The learner can:

1. Summarise the species-specific peri-operative nursing requirements of patients mentioning dogs, cats and rabbits
2. Deliver species-specific peri-operative nursing care to patients, including cats, dogs and rabbits
3. Understand how to prepare equipment and assist during dental procedures and oral surgery
4. Prepare equipment and assist during dental procedures and oral surgery

Context

Dogs, cats and rabbits

UNIT CONTENT

3.1 Summarise the species-specific peri-operative nursing requirements of patients, mentioning dogs, cats and rabbits, to include:

- Minor surgery
- Abdominal procedures
- Orthopaedic procedures
- Thoracic surgery
- Ophthalmic procedures
- Spinal surgery
- BOAS surgery

3.2 Deliver species-specific peri-operative and intensive nursing care to patients including cats, dogs and rabbits, to include:

- Minor surgery
    - The delivery of specific management of pain, ensuring minimal wound interference
    - Encourage feeding according to species, introduction, restriction and monitoring
- Abdominal procedures such as laparotomy, caesarean section, GDV, foreign body
    - Deliver species specific peri-operative nursing care – taking account of septic shock, internal haemorrhage
    - Regular monitoring of vital signs, temperature, pulse and signs of nausea, vomiting or abdominal pain
    - Maintenance of IV fluid therapy initiated with introduction of oral fluids
- Airway procedures such as BOAS, thoracotomy, thoracic drain, tracheostomy
    - Monitor respiration rate
    - Effective pain management
    - Airway management
    - Oxygen therapy
- Orthopaedic procedures such as fractures and luxations
    - Specific peri-operative nursing care to help with early detection of complications such as osteomyelitis, overuse by patient and swelling of the affected limb
    - Monitor vital signs of wounds and dressings, casts and affected limbs for signs of discolouration, impaired circulation, swelling, pain

- Maintain minimal wound interference by animal
- Effective pain management
- Maintain bedding
- Provide environmental enrichment
- Provide physiotherapy if required
- Monitor bladder and bowel function and take action if signs cause concern

3.3 Understand how to prepare equipment and assist during dental procedures and oral surgery

- Preparation of equipment before the procedure
- Positioning of the animal throughout the procedure, as per the veterinary surgeon's instructions
- Offering required equipment to veterinary surgeon during the procedure in anticipation of the veterinary surgeon's needs
- Observation of extractions, including techniques and equipment used, and recording of teeth extracted
- Scaling and polishing teeth safely and effectively
- Care of patient during and following the procedure, with reference to temperature, pain, hydration status, water intake and appetite

3.4 Prepare equipment and assist during dental procedures and oral surgery, to include:

- Preparation of equipment before the procedure
- Positioning of the animal throughout the procedure, as per the veterinary surgeon's instructions
- Offering required equipment to veterinary surgeon during the procedure in anticipation of the veterinary surgeon's needs
- Observation of extractions, including techniques and equipment used, and recording of teeth extracted
- Scaling and polishing teeth safely and effectively
- Care of patient during and following the procedure, with particular reference to temperature, pain, hydration status, water intake and appetite

Unit title	**VNSA12/25 Diagnostic imaging in small animal practice**		
Level	3	**Credit Value**	26
Guided Learning Hours		Classroom based Other activities	73 32

UNIT AIM

This unit facilitates an understanding of the application of diagnostic imaging techniques within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **five** learning outcomes to this unit. The learner will:

1. Know the legal requirements for operating radiographic equipment in a veterinary practice
2. Understand the principles of radiography
3. Understand how to take radiographs
4. Know how to process radiographs and understand digital storage and communication systems
5. Know the principles of alternative imaging techniques

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 3.2, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4, 5.5
Central Skills Log	1.3, 3.1, 3.3, 3.4, 4.4, 5.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 1.1, 1.2, 2.11, 6.2, 6.5 **LO2:** 1.1, 1.2, 2.8, 2.11, 6.1, 6.2, 6.4, 6.5 **LO3:** 1.2, 1.3, 2.11, 3.5, 6.1, 6.3 **LO4:** 2.2, 2.3, 2.8, 6.1, 6.4, 6.5 **LO5:** 3.5, 6.3, 6.4, 6.6, 8.4
DOC	**LO1:** 1, 2, 3, 4, 23 **LO2:** 2, 3, 4, 23 **LO3:** 1, 2, 3, 17, 23 **LO4:** 2, 3, 23 **LO5:** 17, 23

OUTCOME 1 KNOW THE LEGAL REQUIREMENTS FOR OPERATING RADIOGRAPHIC EQUIPMENT IN A VETERINARY PRACTICE

ASSESSMENT CRITERIA

The learner can:

1. Describe the legal requirements for radiography in veterinary practice, to include authorised personnel and health and safety
2. Explain the requirements for exposure risk assessment and monitoring
3. Use appropriate personal protective equipment when dealing with radiation

Context

Dogs and cats

UNIT CONTENT

1.1 Describe the legal requirements for radiography in veterinary practice

- Authorised personnel and health and safety
- Current legislation, including Ionising Radiations Regulations (IRR) 2017
- Methods of monitoring and limiting exposure risks, exposure charts, ALARA principle
- Considerations in pregnancy, young persons, untrained personnel, clients
- Appointments and protocols required to maintain safe working practices, local rules, Radiation Protection Supervisor (RPS), Radiation Protection Adviser (RPA)
- Implications to personnel and patients of inaccurate or incorrect exposures, including somatic, carcinogenic and genetic effects of radiation
- Controlled area, warning signage, lights and siren

1.2 Explain the requirements for exposure risk assessment and monitoring

- Ionising Radiation Regulations (IRR) 2017, including maximum exposure limits
- Effective use of dosemeters, including film badges, thermoluminescent dosemeters
- Reducing exposure risk, including rotation of staff, effective use of PPE, calculation of exposure, distance from tube head, length of time exposed, screening, lead-lined walls, non-holding policy
- Implications to personnel and patients of inaccurate or incorrect exposures

1.3 Use appropriate personal protective equipment when dealing with radiation

- Protective clothing, to include:
    - Aprons
    - Thyroid protectors
    - Gloves
    - Sleeves
- The use of screens
- Care of PPE, including correct storage and cleaning
- Checking integrity of PPE

OUTCOME 2 UNDERSTAND THE PRINCIPLES OF RADIOGRAPHY

ASSESSMENT CRITERIA

The learner can:

1. Describe the properties and effects of radiation, to include function of equipment, absorption by different materials/tissues and effects of kV and mA
2. Summarise types of images that can be produced using radiation, to include radiography, scintigraphy and computed tomography (CT)
3. Explain the features and use of digital cassettes and plates plus grids
4. Summarise the design features and maintenance of a radiography facility, to include equipment
5. Explain how to calculate exposure factors

Context

Dogs and cats

UNIT CONTENT

2.1 Describe the properties and effects of radiation, to include:

- Key terms, properties and effects of radiation used to create diagnostic images
- Basic equipment and its function, to include:
    - Tube head, including the role of the anode and cathode
    - Light beam diaphragm
    - Effects of varying kilovoltage (kV) and milliamperage (mA) and their relationship
    - Primary beam and scatter production in relation to absorption by a range of animate and inanimate subjects with a range of densities
- Use, types and implications of contrast imaging, to include:
    - Preparation, administration techniques and special precautions
    - Positive contrast media – barium sulphate, water soluble iodine
    - Negative contrast media – room air
    - Double contrast imaging
    - Types of contrast study, to include alimentary tract studies, myelography, arthrography, urinary tract studies

2.2 Summarise types of image that can be produced using radiation, to include radiography, scintigraphy and computed tomography (CT)

- Radiography – digital imaging systems including
    - DR including cassettes/sensors and those built into table tops
    - CR cassettes
- Computed tomography
- Scintigraphy

2.3 Explain the features and use of cassettes, plates and grids

- Methods of storage of images, including computer-based, and maintaining the image
- Structure and care of CR and DR cassettes/sensors to include cleaning, storage, avoidance of artefacts on radiograph
- Structure and use of different grid types to include cleaning, storage and care of grids
- Labelling methods and protocols including during exposure and software-based tools
- BVA/KC Hip and Elbow Dysplasia Schemes identification requirements

2.4 Summarise the design features and maintenance of a radiography facility, to include equipment

- Design and layout of the controlled area, including health and safety measures
- Maintenance, preparation and use of X-ray machines
- Protocols, SOPs and warnings
- Storage of PPE, positioning equipment

2.5 Explain how to calculate exposure factors

- Exposure charts, ratings charts
- Kilovoltage, milliamperage and time
- Focal film distance – inverse square law
- X-ray tube rating
- Grid factor and grid ratio, lines per centimetre

OUTCOME 3 UNDERSTAND HOW TO TAKE RADIOGRAPHS

ASSESSMENT CRITERIA

The learner can:

1. Demonstrate methods of patient restraint for radiographic examination
2. Explain the structure and function of the musculoskeletal system
3. Demonstrate standard radiographic positions and the use of positioning aids, to include views (appropriate to species) of limbs, head, spine, abdomen, thorax and pelvis

Context

Dogs, cats and exotics

UNIT CONTENT

3.1 Demonstrate methods of patient restraint for radiographic examination

- Methods of patient restraint, to include:
  - Chemical, including sedation and general anaesthesia
  - Positioning aids
  - Manual restraint, appropriate use, employee and patient considerations
  - Clinical considerations when imaging debilitated patients, including positioning to avoid respiratory distress, care of fractures and open wounds during radiography, avoidance of over-extension of joints
  - Implications of poor positioning, including radiographic quality, repeat exposures, risks to patient and staff
  - Care and safety of patient and staff in contrast radiography

3.2 Explain the structure and function of the musculoskeletal system

- The skeleton, to include:
  - Structure of bone tissue – Haversian system
  - Development of bone in the embryo – intramembranous and endochondral ossification
  - Healing bone tissue
  - Classification of bones according to shape – long, flat, short, irregular, sesamoid, pneumatic, splanchnic
  - Function of the skeleton
  - Skeletal terminology – foramen, fossa, head, condyle, epicondyle, trochlea, tuberosity, trochanter, tubercle
  - Bones of the axial skeleton, structure and function of the skull and vertebrae
  - Bones of the appendicular skeleton – forelimb, hindlimb
  - Splanchnic skeleton
  - Structure of a typical long bone, including compact and cancellous tissue, cortex, medulla, medullary cavity, diaphysis, epiphyses and periosteum
- Joints, to include:
  - Fibrous joints
  - Cartilaginous joints
  - Synovial joints – types of synovial joints and range of movement provided
  - Structure and function of tendons and ligaments – location of biceps, Achilles, cruciates, collaterals
- Muscles, to include:
  - Structure of skeletal muscle – muscle contraction, relaxation and tone
  - Associated terminology – origin, insertion, belly, head, sheath action, aponeurosis, antagonistic pairing

    - Position and action of skeletal muscles, to include pectorals, biceps, triceps, gluteals, quadriceps, biceps femoris, gastrocnemius, cranial tibial, abdominal, hypaxial and epaxial, intrinsic, extrinsic, sphincter
- Classification of musculoskeletal injury, for example:
    - Types of fracture
    - Dislocation

3.3 Demonstrate standard radiographic positions and the use of positioning aids

- Placement of cassette/plate and grid, selecting correct size
- Identification, including left and right marker, patient information
- Significance of differing views for diagnostic purposes
- Positioning nomenclature
- Standard positioning and radiographic views in general practice use, to include:
    - Thorax – dorso-ventral (DV), ventro-dorsal (VD), lateral
    - Abdomen – VD, DV, lateral
    - Forelimbs – views of shoulder, humerus, elbow, radius, ulna, carpus and paw
    - Skull – lateral, DV, VD, lateral oblique, intra-oral
    - Spine – lateral, VD
    - Pelvis and hind limbs – VD and lateral pelvis, views for femur, stifle, tibia, hock and paw
- Views and labelling required for the BVA/KC Hip and Elbow Dysplasia Schemes
- Application and use of positioning aids, including troughs, sandbags, foam wedges and blocks, ropes, tape and Velcro bands
- Identification of collimation borders and centering points for a range of views

OUTCOME 4 KNOW HOW TO PROCESS RADIOGRAPHS AND UNDERSTAND DIGITAL STORAGE AND COMMUNICATION SYSTEMS

ASSESSMENT CRITERIA

The learner can*:*

1. Explain the principles of digital imaging
2. Explain the advantages and limitations of digital imaging
3. Appraise the factors which may influence the diagnostic quality of a processed radiograph
4. Be able to use radiographic equipment to produce a diagnostic image

Context

Dogs and cats

UNIT CONTENT

4.1 Explain the principles of digital imaging, to include:

- Digital radiography, including direct and indirect radiography, how the image is formed
- Computed radiography, including equipment, how the image is formed
- Correct labelling and submission details
- Viewing digital radiographs, including post-processing techniques to include subtraction, edge enhancement, brightness and contrast enhancement, printing, reasons for poor quality
- Storage, including Picture Archiving and Communication System (PACS)

4.2 Explain the advantages and limitations of digital imaging, to include:

- Equipment required
- Versatility of viewing method, including e-mail and transmission to other monitors
- Compare CR and DR systems
- Compare DR and CR imaging with Computed Tomography (CT)

4.3 Appraise the factors which may influence the diagnostic quality of a processed radiograph

- Density, contrast, sharpness/definition
- Effects of kV and mAs on resulting exposure
- Causes and effects of under/overexposure, including reasons for poor image quality
- Recording of exposures and quality of resultant images – legal requirement, continuous improvement in radiographic safety and quality and importance of correct detail input in imaging software

4.4 Be able to use radiographic equipment to produce a diagnostic image

- In line with practice procedure

OUTCOME 5 KNOW THE PRINCIPLES OF ALTERNATIVE IMAGING TECHNIQUES

ASSESSMENT CRITERIA

The learner can:

1. Summarise how images are produced using ultrasound
2. Describe the care and maintenance of ultrasound equipment
3. Prepare and support animals during ultrasound investigation
4. Summarise how images are produced by magnetic resonance imaging (MRI)
5. Explain the principles of endoscopy and the care, maintenance and storage of equipment

Context

Dogs and cats

UNIT CONTENT

5.1 Summarise how images are produced using ultrasound

- Image quality mentioning how the image is produced, interpreting the image and related terminology, to include:
  - Echogenicity
  - Anechoic
  - Hypoechoic
  - Hyperechoic
- Principles and types of ultrasonic imaging and indications for use, including diagnostic and Doppler

5.2 Describe the care and maintenance of ultrasound equipment

- Care of the scanner, probes, transducers, including cleaning, handling and storage
- Obtaining ultrasonic images, including computer monitor, printer
- Use of conductive fluids, patient care and positioning, including table top adaptations for heart motion scanning
- Storing images

5.3 Prepare and support animals during ultrasound investigation

- Preparation of the patient appropriate to the area being investigated, to include clipping and application of gel
- Restraint and positioning of patient during ultrasound examination
- Cleaning of patient after procedure complete

5.4 Summarise how images are produced by magnetic resonance imaging (MRI)

- Principles of magnetic resonance imaging, including equipment, how the image is formed, different types of MRI scan, for example T1, T2
- Role and application, including detail shown on image, diagnostic potential
- Considerations in relation to magnetic field, including dangers to patients and handlers of ferrous metal objects
- Use of anaesthetic and monitoring equipment and patient care during procedure

5.5 Explain the principles of endoscopy and the care, maintenance and storage of equipment

- Principles of endoscopic examination and indications and implications of use, to include:
    - Flexible endoscopy, including examination, removal of foreign bodies, taking samples, biopsies
    - Rigid endoscopy, including diagnostic and surgical applications
- Methods of restraint and patient positioning, to include:
    - Upper and lower GI tract
    - Laparoscopy
    - Respiratory tract – tracheobronchoscopy, rhinoscopy, thoracoscopy
    - Ear, nose, pharynx
    - Colonoscopy, vaginoscopy, urethrocystoscopy
- Care, management and maintenance of equipment, to include fibre optics, light sources, camera, cleaning protocols, sterilisation, storage and handling

Unit title	**VNSA13/25 Laboratory diagnostics in small animal practice**		
Level	3	**Credit Value**	20
Guided Learning Hours		Classroom based Other activities	6 72

UNIT AIM

This unit facilitates an understanding of diagnostic testing and essential laboratory techniques in clinical veterinary practice. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **five** learning outcomes to this unit. The learner will:

1. Explain basic cell structure and function for those visible using a variety of microscopes
2. Understand the function and use of laboratory equipment
3. Understand how to collect and prepare specimens for examination
4. Be able to test pathological specimens in house
5. Be able to prepare specimens for transportation

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2
Central Skills Log	2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2

RCVS Day One Skills and Competences mapping

DOS	**LO2:** 1.1, 1.2, 5.1, 5.7, 8.4 **LO3:** 1.1, 1.2, 3.5, 5.1, 5.2 **LO4:** 1.1, 1.2, 2.2, 3.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.9, 8.3, 8.4 **LO5:** 1.1**,** 2.1, 2.2, 2.8, 5.8
DOC	**LO2:** 4 **LO3:** 1, 4, 17, 21 **LO4:** 4, 7, 21, 22 **LO5:** 21, 22

OUTCOME 1 EXPLAIN BASIC STRUCTURE AND FUNCTION OF COMMONLY SAMPLED CELLS SUCH AS SKIN, HAIR AND GLANDS

ASSESSMENT CRITERIA

The learner can:

1. Explain basic cell structure, physiology and division
2. Describe the structure of the skin, hair and associated glands

Context

Dogs and cats

1.1 Explain basic cell structure, physiology and division

- Cell structure and organelles visible under the light microscope
    - Nucleus
    - Cell membrane
    - Cytoplasm
    - Vacuoles
- Key organelles visible under the electron microscope
    - Nucleolus
    - Mitochondria
    - Lysosomes
    - Rough and smooth endoplasmic reticulum
    - Golgi apparatus
    - Centrosomes
- Function of organelles
- Basic cell division, essential differences between meiosis and mitosis
- Basic tissue types, to include:
    - Epithelial – simple and stratified, squamous, columnar, cuboidal, ciliated, glandular, transitional
    - Nervous
    - Muscle – cardiac, skeletal, smooth
    - Connective – blood, haematopoietic, areolar, adipose, fibrous/dense cartilage, bone
    - Different types of gland within the body – exocrine, endocrine, mixed

1.2 Describe the structure of the skin, hair and associated glands

- General structure of skin, to include:
    - Epidermis
    - Dermis
    - Hypodermis
    - Functions of skin
    - Structure of rhinarium (nose pad), footpads and hair
    - Hair types and moulting
- Skin glands, to include:
    - Sebaceous – tail, circumanal, anal, circumoral, ceruminous, meibomian
    - Sudoriferous
    - Mammary glands

OUTCOME 2 UNDERSTAND THE FUNCTION AND USE OF LABORATORY EQUIPMENT

ASSESSMENT CRITERIA

The learner can:

1. Safely use in house laboratory equipment, to include operation and maintenance, calibration and quality control
2. Demonstrate correct, safe and effective use of a microscope to examine laboratory samples

Context

Dogs and cats

UNIT CONTENT

2.1 Safely use in house laboratory equipment, to include:

- Analysers
    - Biochemistry, haematology, electrolyte
    - Knowledge of types of tests performed
    - Correct sample tube for analysis
- Centrifuge/statspin
    - Microhaematocrit tubes
    - Blood tubes
    - Eppendorf tubes
    - Correct balancing
    - Correct use of safety lid
    - Ensure lid of machine is locked before use
    - Correct Speed and times for sample
- Refractometer
    - Calibrate using distilled water to 1.0000
    - Correctly read specific gravity scale
    - Correctly read total solids scale

For the above equipment have knowledge of:

- Operation and maintenance
- Calibration and quality control
- Care and hygiene management
- Safe and effective use of equipment
- Use of correct PPE
- Manufacturer's instructions

2.2 Demonstrate correct, safe and effective use of a microscope to examine laboratory samples, to include:

- Correct placement of microscope on appropriate surface
- Correct use of rheostat (light source)
- Adjustment of eyepieces to accommodate the user
- Positioning of stage and substage condenser
- Correct placement of slide for viewing
- Initial examination using lower power objective lens moving through to higher power
- Correct use of oil immersion object

- Correct use of course and fine focus
- Read and record main scale and vernier scale

OUTCOME 3 UNDERSTAND HOW TO COLLECT AND PREPARE SPECIMENS FOR EXAMINATION

ASSESSMENT CRITERIA

The learner can:

1. Prepare equipment and materials required for sample collection and preservation
2. Prepare animals for the collection of samples
3. Demonstrate effective and safe sampling techniques

Context

Dogs and cats

UNIT CONTENT

3.1 Prepare equipment and materials required for sample collection and preservation

- Blood
  - PPE
  - Clippers
  - Appropriate syringe and needle
  - Skin preparation materials
  - Blood tubes, vacutainers – colours and types
  - Microscope slide
- Urine
  - PPE
  - Sterile universal containers
  - Collection funnel
  - Sterile kidney dish
  - Preservatives, for example boric acid, Thymol, Toluene
  - Sterile urinary catheter and syringe
  - Three-way tap
- Faeces
  - PPE
  - Spatula
  - Universal container with/without spoon
- Secretions such as oral, nasal, reproductive
  - PPE
  - Test tube
  - Universal container
  - Swab
- Skin
  - PPE
  - Swab
  - Wood's lamp
  - Clear adhesive tape
  - Sterile scalpel blade
  - Microscope slide and cover slip
  - Liquid paraffin or potassium hydroxide
- Hair
  - PPE
  - Brush
  - Microscope slide and cover slip

    - Clear adhesive tape
    - Wet paper
- Tissue
    - PPE
    - Syringe and needle
    - Punch biopsy
    - Skin preparation materials
    - Surgical kit
    - Pot of formalin
- Recognise the effects of storage and preserving samples over time

3.2 Prepare animals for the collection of samples

- Blood, urine, faeces, secretions, skin and hair
- Patient checks
- Safe moving and handling
- Appropriate positioning and restraint
    - Physical restraint
    - Chemical restraint
- Skin preparation appropriate for test performed
- Aseptic technique

3.3 Demonstrate effective and safe sampling techniques

- Blood
    - Appropriate sample site
    - Biochemistry
    - Haematology
    - Electrolytes
- Urine
    - Midstream
    - Manual expression
    - Catheterisation
- Faeces
    - Ground collection
    - Rectal collection
- Hair and skin
    - Bacterial swabs
    - Removal of or brushing hair to test for example fleas, ticks, lice, dermatophytes
    - Skin scraping to test for example for Demodex, *S. scabiei,*
    - Hair plucks
    - Tape strips
    - Impression smears

OUTCOME 4 BE ABLE TO TEST PATHOLOGICAL SPECIMENS IN HOUSE

ASSESSMENT CRITERIA

The learner can:

1. Understand how to use commercial test kits effectively
2. Understand how to carry out common test techniques
3. Dispose of surplus pathological material and reagents safely
4. Demonstrate accurate and effective reporting of in-house test results

Context

Dogs and cats

UNIT CONTENT

4.1 Understand how to use commercial test kits effectively

- Types of commercial test kit to include SNAP© and reagent test strips
- Samples required
- Using kit materials and recording results

4.2 Understand how to carry out common test techniques

- Microscopy
  - Battlement method
  - Blood cell identification according to morphology
  - Examination of urine, faeces, skin, hair
- Packed cell volume (PCV)
  - Method of preparing microhaematocrit tube
  - Use of centrifuge
  - Correct use of microhaematocrit reader
  - Be able to perform manual calculation
- Blood smear
  - Spreading and drying a smear of a diagnostic quality
  - Staining – different types and techniques including Diff-Quik
- Test strips
  - Procedure, following manufacturer's instructions
  - Interpretation and recording of results
- Use of an analyser
  - Haematology and biochemistry
  - Electrolyte
- Use of refractometer
  - Measurement of specific gravity (SG)
  - Measurement of total solids (protein)
- Bacterial culture
  - Bacterial culture media
  - Method for inoculating an agar plate
  - Bacterial culture and antibiotic sensitivity
- Recognition of common parasites to include
  - Ctenocephalides canis and felis
  - Trichodectes canis
  - Otodectes cynotis
  - Felicola subrostratus

    - Demodex
    - Sarcoptes scabiei/Notoedres cati
    - Ixodes ricinus
    - Trombicula autumnalis
    - Cheyletiella
    - Linognathus setosus
- Recognition of urine crystals to include
    - Struvite
    - Calcium Oxalate
    - Cystine
    - Ammonium Urate
    - Uric acid
    - Calcium phosphate
- Use of Baermann technique for faecal examination

4.3 Dispose of surplus pathological material and reagents safely

- Disposal of reagents, sharps, animal tissue, PPE
- Hazardous Waste (England and Wales) Regulations 2005 and Hazardous Waste (England and Wales) (Amendment) Regulations 2009
- The Controlled Waste (England and Wales) Regulations 2012

4.4 Demonstrate accurate and effective reporting of in-house test results

- Physiological significance of test results, reporting relevance to colleagues and clients
- Accurate recording of test results
- Normal biochemical and haematological parameters
- Significance of abnormal results, recognition of spurious results, need to re-run test
- Relate test results to medical and surgical conditions and treatments

OUTCOME 5 BE ABLE TO PREPARE SPECIMENS FOR TRANSPORTATION

ASSESSMENT CRITERIA

The learner can:

1. Understand the requirements for the safe transport of specimens, to include correct documentation, labelling and packaging
2. Store specimens safely and effectively prior to dispatch

Context

Dogs and cats

UNIT CONTENT

5.1 Understand the requirements for the safe transport of specimens, to include correct documentation, labelling and packaging

- Effective handling of samples:
  - Humidity and temperature control
  - Freezing and fixing samples
  - Selection of appropriate swab transport media
  - Maintaining asepsis in collection of samples
  - Infection control
- Correct sample pot in accordance with laboratory used
- Labelling of samples
  - Animal name
  - Species
  - Breed
  - Sex
  - Owner's name
  - Date
- Correct completion of diagnostic test request forms
  - Practice details
  - Veterinary Surgeon's name
  - Owner's name and address
  - Species, sex and age of animal
  - Date sample collected
  - Sample type
  - Sample site where required
  - Relevant history, clinical findings and therapy
- Packing techniques to avoid damage to sample according to P650
  - Specimen in leakproof primary receptacle
  - Absorbent material used
  - Non rigid leakproof secondary packaging
- Dispatch to external laboratories
  - Postal regulations including reference to UN3373
  - Courier requirements
- Security
- Records of samples sent
- Accurate recording of any results received

5.2 Store specimens safely and effectively prior to dispatch

- Refrigeration where required
- Segregation of pathological samples
- Prevention of sample deterioration

Unit title	**VNSA14/25 Principles of small animal veterinary nursing support**		
Level	3	**Credit Value**	36
Guided Learning Hours		Classroom based Other activities	77 67

UNIT AIM

This unit facilitates an understanding and application of complex nursing of non-surgical small animals, including emergency conditions within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **four** learning outcomes to this unit. The learner will:

1. Understand anatomy and physiology of body systems in mammals relevant to veterinary nursing care
2. Understand how pathology affects the normal function of an animal
3. Understand how to plan and deliver care for animals with a range of commonly encountered conditions including emergencies
4. Understand and apply the principles of wound healing and care

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1,1.2,1.3,1.4, 2.1, 2.2, 2.3, 2.4, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5
Central Skills Log	3.1, 3.2, 3.4, 3.5, 3.6, 3.7, 4.6, 4.7,4.8, 4.9

RCVS Day One Skills and Competences mapping

DOS	**LO2:** 4.1,4.11, 5.1, 8.1 **LO3:** 2.1, 2.2, 2.9, 2.10, 4.1, 4.2, 4.4, 4.5, 4.6, 4.10, 4.12, 4.13, 4.14 **LO4:** 2.1, 3.5, 4.7, 4.8, 4.9, 5.2, 8.4
DOC	**LO2:** 1, 14, 17, 21, 34, 35 **LO3:** 1, 2, 5, 7, 8, 9, 12, 13,14, 15, 16, 17,18, 19, 34, 35 **LO4:** 1,3 ,9, 12, 17, 19**,** 21

OUTCOME 1 UNDERSTAND THE ANATOMY AND PHYSIOLOGY OF BODY SYSTEMS IN MAMMALS RELEVANT TO VETERINARY NURSING CARE

ASSESSMENT CRITERIA

The learner can:

1. Explain the function of the endocrine system in relation to the control of body systems
2. Describe the urinary tract and explain the production of urine
3. Explain the function of the kidney in maintaining blood pressure and homeostasis
4. Describe the function of the special senses

Context

Dogs and cats

UNIT CONTENT

1.1 Explain the function of the endocrine system in relation to the control of body systems

- Location and function of glands associated with hormone secretion, to include:
  - Pituitary
  - Thyroid
  - Parathyroid
  - Pancreas
  - Ovaries
  - Testes
  - Adrenal glands
- Hormones secreted by endocrine glands – stimulus for secretion and their main actions
- Other organs with endocrine activity

1.2 Describe the urinary tract and explain the production of urine

- Location of kidneys
- Macroscopic structure – capsule, cortex, medulla, pelvis, renal pyramid
- Microscopic structure – glomerular capsule, proximal and distal convoluted tubule, loop of Henle, collecting duct
- Blood supply
- Formation of urine and the function of the nephron – control of water, sodium, hydrogen, potassium, glucose, nitrogenous waste, toxins and drugs
- Tubular system – ureters, bladder, urethra
- Normal radiographic and ultrasonographic appearance of kidney and bladder

1.3 Explain the function of the kidney in maintaining blood pressure and homeostasis

- Control of osmoregulation
- Control of water loss – ADH, osmoreceptors, baroreceptors
- Control of sodium levels – aldosterone, renin, angiotensinogen, angiotensin

1.4 Describe the function of the special senses

- Structure and basic physiology of special sense organs, to include:
  - Ear – external, middle and inner, perception of sound, static and dynamic balance
  - Eye – eyeball, extrinsic muscles, eyelids, formation of an image, fields of vision
  - Brief description of modalities of taste, olfaction and touch

OUTCOME 2 UNDERSTAND HOW PATHOLOGY AFFECTS THE NORMAL FUNCTION OF AN ANIMAL

ASSESSMENT CRITERIA

The learner can:

1. Describe the pathology of a range of commonly encountered medical disorders
2. Explain the effects of pathophysiological states and common pathologies on the normal function of an animal
3. Understand the use, action and contraindications of commonly used drugs
4. Recognise the significance of abnormal diagnostic test results and the impact of these on nursing requirements

Context

Dogs and cats

UNIT CONTENT

2.1 Describe the pathology of a range of commonly encountered medical disorders

- Causes and presentation of the following:
    - Circulatory disorders – mitral valve disease, dilated and hypertrophic cardiomyopathy
    - Respiratory disorders – acute respiratory failure, chronic obstructive pulmonary disease (COPD), upper airway obstructive diseases, laryngeal paralysis,
    - Urinary tract disorders – acute and chronic renal failure, urethral sphincter mechanism incompetence, obstructive and non-obstructive feline lower urinary tract disease, canine urolithiasis, cystitis
    - Endocrine disorders – hyperadrenocorticism, hypoadrenacortism, hyperthyroidism, hypothyroidism, diabetes mellitus, diabetes insipidus
    - Neurological disorders – epileptic seizures, canine and feline cognitive dysfunction syndrome, canine degenerative myelopathy
    - Gastrointestinal tract disorders – periodontitis, gastroenteritis, colitis, constipation, allergies and intolerances
    - Reproductive tract disorders – pyometra, cystic endometrial hyperplasia, prostatic hyperplasia, pseudocyesis
    - Musculoskeletal disorders – malocclusion, intervertebral disc disease, hip dysplasia, elbow dysplasia, patellar luxation, panosteitis, osteoarthritis, cruciate rupture, hernia
    - Disorders of the sense organs – conjunctivitis, entropion/ectropion, distichiasis, corneal ulcer, cataract, glaucoma, vestibular syndrome, otitis externa, media and interna
    - Hepatic disease – acute and chronic liver failure, cirrhosis
    - Pancreatic disease – acute and chronic pancreatitis, exocrine pancreatic insufficiency
    - Haematopoietic system disease – anaemias including immune-mediated thrombocytopenia, clotting disorders including Von Willebrand Disease
    - Diseases of the skin and coat – flea allergic dermatitis, sarcoptic and demodectic mange, dermatophytosis, ear mite infestation, pyoderma, immune-mediated diseases, atopy
    - Nutritional disease – obesity, hepatic lipidosis, deficiencies
    - Neoplasia – mast cell tumour, squamous cell carcinoma, histiocytoma, lipoma, liposarcoma, mammary carcinoma, thyroid adenoma/adenocarcinoma, osteosarcoma, haemangiosarcoma, lymphoma, transitional cell carcinoma of the bladder
- Explain the interplay between body systems that results in most diseases affecting more than one system
- Terminology and definitions associated with disease, including differentiation of acute and chronic, hereditary, congenital and acquired

2.2 Explain the effects of pathophysiological states and common pathologies on the normal function of an animal, to include:

- Sensory impairment – blindness, deafness
- Behaviour – aggression, senility, depression, distress, confusion, hyperaesthesia
- Reduced mobility – lethargy, ataxia, paresis, paralysis, lameness
- Impaired nutrition – vomiting, regurgitation, anorexia, obesity, cachexia, pica
- Metabolic disturbance – weight loss, vomiting, diarrhoea, dehydration, polyuria, polydipsia
- Dyspnoea, tachypnoea, bradypnoea
- Tachycardia, bradycardia
- Hypotension, hypertension, anuria
- Pyrexia, hypothermia, hyperthermia
- Taking into account life stage and general condition, identification of the potential nursing requirements of dogs and cats with medical disorders as outlined in outcome 2.1

2.3 Understand the use, action and contraindications of commonly used drugs with associated conditions in 2.1 such as

- Diuretics
- Corticosteroids
- Cardiovascular drugs
- Cytotoxic/anti-neoplastic
- Antihistamines
- Antiemetics
- Anticonvulsants
- Anti- inflammatory

2.4 Recognise the significance of abnormal diagnostic test results and the impact of these on nursing requirements

- Know the normal parameters and relevance of abnormal results from diagnostic tests to include:
  - Body fluids
  - Blood tests
  - Urine tests
  - Faecal tests
  - Skin scraping, smears, swabs and biopsies
  - Transcellular fluid (cerebrospinal fluid and synovial fluid)

OUTCOME 3 UNDERSTAND HOW TO PLAN AND DELIVER CARE FOR ANIMALS WITH A RANGE OF COMMONLY ENCOUNTERED CONDITIONS

ASSESSMENT CRITERIA

The learner can:

1. Plan, deliver and evaluate care for animals with a range of medical conditions, using an appropriate model or framework
2. Prepare accommodation for a critically ill patient
3. Explain the observations and nursing needs required of a critically ill patient
4. Perform a range of complex nursing techniques for non-surgical patients
5. Monitor and assess the condition of patients
6. Demonstrate effective communication with the veterinary team in relation to the evaluation and review of nursing care
7. Demonstrate the application of an evidence base to care planning and delivery

Context

Dogs and cats

UNIT CONTENT

3.1 Plan, deliver and evaluate care for animals with a range of medical conditions, using an appropriate model or framework

- Care planning for small animal patients with a range of commonly encountered conditions including those presented as emergencies, taking into account the influence of environmental, physical and psychological factors, such as:
    - Circulatory disorders
    - Respiratory disorders
    - Urinary tract disorders
    - Endocrine disorders
    - Neurological disorders
    - Gastrointestinal tract disorders
    - Reproductive tract disorders
    - Musculoskeletal disorders
    - Disorders of the sense organs
- For the above disorders, take into consideration any of those that may result as an emergent such as:
    - Cardiac failure and circulatory collapse
    - Dyspnoea
    - Urinary tract obstruction
    - Acute metabolic and endocrine disturbances
    - Neurological crises
    - Severe gastrointestinal disease
    - Severe hepatic, renal and pancreatic disease
    - Haemorrage and wounds

3.2 Prepare accommodation for a critically ill patient, to include:

- Types of accommodation – appropriate to species and condition
- Environment – consider lighting, heating, ventilation, noise levels, humidity
- Access for observation and nursing, to include emergency resuscitation, medical interventions, feeding and watering, toileting requirements

- Bedding – appropriate to species, consider warmth, hygiene, comfort and absorbability
- Proximity of electrical supply and oxygen – consider extension leads, trip hazards
- Observation charts

3.3 Explain the observations and nursing needs required of a critically ill patient, to include:

- Vital signs – pulse, respiration, mucous membrane colour, CRT
    - Frequency – effect of normal diurnal cycle, for example on body temperature
    - Maintaining body temperature – warming or cooling techniques, bedding
    - Breathing and cardiovascular function – position in relation to respiratory function, oxygen therapy, respiratory physiotherapy
    - Blood pressure monitoring – invasive and non-invasive
    - Electrocardiogram (ECG) – significance of PQRS complex in relation to activity of the heart, recognising abnormalities
- Pain and stress – reduction and management
    - Monitor pain via use of recognised pain scoring methods
- Neurological function – level of consciousness, function of cranial nerves
- Fluid balance – fluid therapy, use of infusion pumps
- Central lines – use of through the needle cannulae, importance of sterility and vigilance in site care
- Urine output – qualitative and quantitative analysis, frequency of urination
- Faecal output
- Hygiene – skin and coat to prevent maceration, ulceration, scalding, tangling and matting
- Mobility – physiotherapy to include prevention of contractures, pressure relief, support/slings in limb injury, supported exercise
- Complications, for example shock, sepsis, systemic inflammatory response syndrome (SIRS), disseminated intravascular coagulation (DIC), collapse, loss of consciousness, hypoproteinaemia
- Record keeping,intensive care charts, nursing care plans
- Monitoring by appropriate personnel
- Managing staff changes and handover

3.4 Perform a range of complex nursing techniques for non-surgical patients to include:

- Application of nursing techniques to include management and care
- Nursing interventions such as pre-feed checks, providing the feed and post-feed checks required in patients needing assisted feeding via, for example:
    - Pharyngostomy tubes
    - Naso-oesophageal tubes
    - Nasogastric tubes
    - Enterostomy tubes
    - Gastrostomy tubes
- Administration of fluid therapy
- Management of indwelling urinary catheters, to include:
    - Placement of and assistance with the placement of appropriate urinary catheters such as Foley, Tieman's, cat catheter, dog catheter, Jackson cat catheter, slippery Sam catheter
    - Equipment and technique requirements dependent on temperament, condition, species and gender
    - Use of aseptic technique – minimising stress, iatrogenic trauma and infection
    - Methods of avoiding patient interference as per species, condition, temperament, veterinary surgeon's instructions and practice protocols

    - Monitoring and cleaning of area around attachment of the catheter – sutured, taped
    - Regular care and monitoring for signs of interference or infection, for example redness or swelling, as required and in accordance with practice protocol
    - Monitoring of urine output – recording volume of urine, bag emptying, colour, smell
    - Safe, effective management of closed urine collection systems
    - Replacement or removal of catheter dependent on type, condition, species, gender, veterinary surgeon's instructions
- Management of bowel function to include:
    - Administration of aperients and enemata such as mini-enema, enema can, Higginson syringe, barium bag, solutions used
    - Purpose of administration – preparation for surgery, radiography, constipation, impaction
    - Treatment and equipment dependent on species and condition as per practice protocols ensuring the health and wellbeing of staff and animal
    - Suitable restraining methods and assistance for administration
    - Monitoring and recording of administration of aperients or enemata and results
    - Offering increased opportunity to defaecate for the diarrhoeic patient
- Respiratory therapy such as:
    - Oxygen supplementation – endotracheal intubation, naso-tracheal tube, face masks, oxygen tents/oxygen rich environment, health and safety
    - Tracheostomy – procedure and equipment, management
    - Thoracic drains – procedure, equipment, management and nursing interventions
    - Pulse oximetry, blood gas analysis – recognising equipment failure, method of sampling
    - Physiotherapy and postural drainage – coupage, percussion
    - Management of patient with critical thoracic trauma
- Drug therapy, including routes of administration, schedule and timing of drug administration
- Patients with compromised mobility
    - Positioning and changes to position according to species and condition
    - Ensuring the patient has the ability to evacuate bowels and bladder, checking and providing assistance as required
    - Using positioning aids
    - Bedding requirements, to prevent decubitus ulcers, urine or faecal scalding
    - The provision of physiotherapy, massage – effleurage, petrissage, friction
    - The provision of movement techniques, passive, active movement, coupage, cold therapy, heat therapy, contrast bathing
    - Frequency and length of treatment
    - Importance of warming joint and effleurage
    - Importance of accurate monitoring and recording of treatment
    - Contraindications and health and safety considerations
    - Appropriate physical support of the patient
- Complementary therapies such as acupuncture, magnetic therapy, aromatherapy, laser, thermal modalities

3.5 Be able to monitor and assess the condition of patients, to include responses to shock, infection, pain and stress

- Assess and record overall condition and demeanour, to include:
    - Coat, eyes, nose, ears, skin
    - Weight and body condition score,
    - Water intake and appetite
    - Hydration status
    - Behaviour and body language
    - Temperature, pulse, respiration and mucous membranes, to include identifying normal parameters for species

    - Levels of consciousness and altered states, ranging from normal, complete alertness to depression, confusion, delirium and finally loss of consciousness
- Observe and monitor excretion, to include urine, faeces, vomitus and gastric reflux
- Effects of shock, infection, stress and pain on in-patient condition
- Recognition of pain, distress and deterioration, to include pain scoring methods
- Recognition of behavioural changes in response to environment
- Management strategies, to include:
    - Medical intervention – intravenous fluids, analgesia, medication
    - Nursing intervention – feeding, exercise and toilet regimens
    - Control of the environment – bedding, noise and light levels

3.6 Demonstrate effective communication with the veterinary team in relation to the evaluation and review of nursing care

- Record-keeping in critical care, intensive care charts, nursing care plans
- Relevant and accurate reporting, to include subjective, objective, assessment, plan, implementation, evaluation and reassessment (SOAPIER) model
- Recognising significant changes, factors and potential nursing problems
- Written and verbal communication to colleagues
- Managing staff changes and handover

3.7 Demonstrate the application of an evidence base to care planning and delivery:

- Sources of information to support small animal nursing practice such as:
    - Clinical journals
    - Current veterinary texts
    - Evidence based concensus guidelines such as World Small Animal Veterinary Association (WSAVA), American Animal Hospital Association (AAHA), American Association of Feline Practitioners (AAFP), International Society of Feline Medicine (ISFM)
    - CPD opportunities
    - Professional congress
    - Credible internet resources
- Evidence-based versus tradition/common practice – evaluating efficacy of ‘accepted’ or ‘inherited’ methods of nursing
- Reading and evaluating literature – establishing the value of different sources of evidence, validity of source, verification of evidence, recognising commercial and other forms of bias
- Critical analysis of care planning and care bundles through research and clinical discussion
- Understand and apply principles of clinical governance and quality improvement in relation to evidence based veterinary nursing such as:
    - Critically analysing the current evidence for procedures used
    - Make any appropriate changes to practice based upon current evidence
    - Reflect upon communications with colleagues and make appropriate changes to practice

OUTCOME 4 UNDERSTAND AND APPLY THE PRINCIPLES OF WOUND HEALING AND CARE

ASSESSMENT CRITERIA

The learner can:

1. Explain the process of wound healing, to include healing by first intention and delayed healing
2. Describe the principles of surgical wound care
3. Summarise factors that may impede healing, to include poor perfusion, poor nutrition, infection, patient or client interference
4. Explain the principles of management for chronic wounds, to include moist healing
5. Appraise the use of different dressing materials in the veterinary situation, to include traditional materials, interactive dressings
6. Perform a simple wound dressing, to include use of aseptic technique and preparation of materials, observation and reporting of wound condition
7. Apply simple bandages that are safe and effective
8. Use strategies to prevent patient interference with dressings and bandages
9. Demonstrate effective wound management techniques, to include accurate assessment, taking swabs, irrigation and client education

Context

Dogs and cats

UNIT CONTENT

4.1 Explain the process of wound healing, to include healing by first intention and delayed healing

- Physiology of healing
- 1st intention – healing of the surgical wound, primary closure
- 2nd intention – features of granulation tissue, management of a granulation bed, delayed primary suture
- Recognising stages of healing – haemostasis, inflammatory phase, proliferative phase, remodelling phase
- Classification of wounds
- The link between nutrition and wound healing
- Recognising difference in healing times of different tissues

4.2 Describe the principles of surgical wound care

- Differentiation of normal inflammation and infection, bruising, haematoma, discharges
- Drains – purpose, types and management of wound drainage
- Dressing and bandaging – types, application, interactive dressings, aseptic dressing technique, purposes of bandaging (dressing retention/pressure/support) and techniques
- Casting materials and application/removal of casts, observation
- Removal of drains, closures – principles for different suture types, staples, removal
- Preventing interference – use of Elizabethan collars, pet shirts, socks

4.3 Summarise factors that may impede healing, to include:

- Poor perfusion
- Poor nutrition
- Infection and foreign material

- Patient or client interference
- Systemic diseases
- Poor wound management
- Poor suturing technique or equipment
- Drug therapy
- Effects of moisture
- Temperature

4.4 Explain the principles of management for chronic wounds

- Debridement – surgical, primary layer dressings, enzymatic debridement, use of sterile maggots
- Use of cleansing solutions, effect on healing, indications and contraindications
- Wound lavage
- Recognising colonisation and infection
- Indications for antibiotic therapy
- Use of interactive dressings and bioactive dressings
- Topical wound treatments – manuka honey, aloe vera, silver treatments, Alginate, Sodium chloride dressings, super absorbent dressings and dialkylcarbamoylchloride (DACC)
- Maintaining aseptic technique and use of PPE to protect patient and nurse from cross- infection
- Management of skin grafts
- How often to change dressings and dressing regimens

4.5 Appraise the use of different dressing materials in the veterinary situation, to include traditional materials, interactive dressings

- Functions of a wound dressing – absorption, analgesia, prevention of infection, protection, promotion of wound healing
- Properties of an ideal dressing
- Dressing types and their application, to include major groups of passive, interactive and bioactive dressings, permeability, adherent or non-adherent, absorbent or non- absorbent
- Removal and disposal of soiled dressings – reasons for removal

4.6 Perform a simple wound dressing, to include:

- Use of aseptic cleaning technique
- Preparation of materials
- Observation and reporting wound condition
- The application of dressings, which may include dry, moist, wet, impregnated gauze, adherent and non-adherent
- Maintain PPE requirements and ensure welfare of animal and handler

4.7 Apply simple bandages that are safe and effective such as the application of bandages to a limb, thorax, head and abdomen, encompassing

- Primary dressing (contact layer)
- Secondary dressing (intermediate padding layer)
- Tertiary dressing (outer layer)
- Additional padding to other areas as required
- Maintain PPE requirements and ensure welfare of animal and handler

4.8 Use strategies to prevent patient interference with dressings and bandages which may include:

- Elizabethan collars (Buster™)
- Neck brace (Bite Not™)
- T-shirt (Medical Pet Shirt™), socks

- Topical application (commercially available bitter spray)
- Sedation
- Changing of dressings, bandages, prevention of interference methods, frequency, observations and monitoring

4.9 Demonstrate effective wound management techniques, to include:

- Accurate assessment
    - Identifying the type of wounds: open – incised, lacerated, punctured, abrasion, abscess; closed – contusion, haematoma; other – skin graft, ulcer, tumour
- Taking swabs, to include:
    - Bacterial swabs or smears
    - Selection of equipment, PPE and as per practice protocols
    - Demonstrate aseptic technique taking swab and culturing in line with practice protocols, and health and safety guidelines
- Aseptic technique to clean the wound, including demonstrating safe and effective irrigation or lavage techniques to remove dirt and debris as per practice protocols and veterinary surgeon's instructions
- Selection of appropriate dressing and bandage for wounds
- Consideration of handling/restraint of the patient
- Client education – written and verbal instruction regarding:
    - Displacement of dressing and bandage
    - Areas of soreness
    - Discharge or smell through dressing or bandage
    - Swelling of limb or area
    - Supervised evaluated practice and demonstration regarding wound and dressing management, prevention of self-trauma and wound interference techniques
- Information regarding routine dressing changes according to practice protocol

Unit title	**VNSA15/25 Veterinary nursing support for emergency and critical care of small animal patients**		
Level	3	**Credit Value**	14
Guided Learning Hours		Classroom based Other activities	36 20

UNIT AIM

This unit prepares learners to provide first aid treatment and nursing care to injured and critically ill animals within a veterinary environment. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **two** learning outcomes to this unit. The learner will:

1. Understand the principles of small animal first aid
2. Know how to support emergency veterinary care

ASSESSMENT

Type	**Assessment criteria**
Examination	1.1, 1.2, 1.3 1.4, 2.1, 2.2, 2.4,2.5
Central Skills Log	2.3, 2.6

RCVS Day One Skills and Competences mapping

DOS	**LO1**: 1.1, 2.2, 2.5, 3.1, 3.4, 3.5, 4.4, 4.12, 4.13, 4.15, 4.16 **LO2:** 1.1, 2.1, 2.2, 2.5, 3.5, 4.4, 4.5, 4.1O, 4.12, 4.16, 7.3, 9.3
DOC	**LO1:** 1, 2, 3, 4, 5, 7, 8, 9, 14, 15, 17, 20 **LO2:** 1, 2, 4, 5, 7, 8, 9, 14, 15, 17, 20

OUTCOME 1 UNDERSTAND THE PRINCIPLES OF SMALL ANIMAL FIRST AID AND TRIAGE

ASSESSMENT CRITERIA

The learner can:

1. Define the scope of first aid, mentioning legal entitlement to provide first aid to animals
2. Explain the principles of first aid management and treatment, to include safety of self and others, models of casualty assessment and safe methods of movement
3. Explain the concept of triage and identify situations that constitute emergencies, to include communication with client, lay persons
4. Explain how to prepare for the admission of an emergency case, to include consulting room, equipment, consumables and operating theatre

Context

Dogs and cats

UNIT CONTENT

1.1 Define the scope of first aid, mentioning legal entitlement to provide first aid to animals

- RCVS requirement for provision of emergency cover
- Principles of first aid care
- Legal difference between first aid and emergency veterinary treatment
- Advice for owners on administering first aid
- Limitations of a registered veterinary nurse, student veterinary nurse or lay member of staff in performing acts of first aid
- Provisions of the Veterinary Surgeons Act 1966

1.2 Explain the principles of first aid management and treatment, to include

- Safety of self and others – safe environment
- Safe methods of movement – restraint, emergency immobilisation, prevention of further injury, transport, veterinary attendance

1.3 Explain the concept of triage and identify situations that constitute emergencies, to include communication with client, lay persons

- Triage process – identifying a minor emergency or severe life-threatening emergency
- Systematic assessment of casualty, information gathering, use of protocols, primary and secondary survey, to include airway, breathing, circulation, neurological status, other injuries
- Telephone conversations with owners, reassuring owner, gathering information quickly and politely
- Differentiate between commonly encountered emergency situations and those requiring attention through appointments in the immediate future

1.4 Explain how to prepare for the admission of an emergency case, to include:

- Consulting room – clear working space, diagnostic tools, for example ophthalmoscope, needles, syringes, blood tubes
- Equipment – emergency box, anaesthetic machine/oxygen supply, endotracheal tubes
- Consumables – drugs, intravenous cannulae, intravenous fluids, swabs, dressings
- Operating theatre – damp dusting, lighting, heating, sterile instruments and surgical kit, scavenging, gowns, gloves
- Deferring non-urgent patients if necessary
- Additional staff

OUTCOME 2 KNOW HOW TO SUPPORT EMERGENCY VETERINARY CARE

ASSESSMENT CRITERIA

The learner can:

1. Explain the first aid management of burns
2. Explain first aid management of poisons
3. Provide information to a veterinary surgeon regarding a treated first aid casualty
4. Explain the provision of cardio-pulmonary cerebral resuscitation
5. Explain the contents and maintenance of an emergency 'crash box' or trolley
6. Demonstrate first aid treatment techniques, to include unconsciousness, compromised airway (including CPR), haemorrhage, wounds and fractures

Provide information to a veterinary surgeon regarding a treated first aid casualty

Context

Dogs and cats

UNIT CONTENT

2.1 Explain the first aid management of burns

- History taking, immediate treatment, supportive care
- Identifying the type of burn, to include:
  - Dry
  - Scald
  - Cold
  - Electrical
  - Radiation
  - Chemical
- Immediate treatment of burns and scalds, suitable first aid dressings
- Supportive care for burns patients – intravenous fluids, analgesia
- Smoke inhalation

2.2 Explain first aid management of common poisons

- History taking
- Human drugs to include:
  - Paracetamol
  - Ibuprofen
  - Salbutamol (asthma medication)
  - Recreational drugs such as cannabis
- Veterinary prescription drugs to include:
  - NSAIDs
  - Insulin
  - Phenobarbital
  - Flea treatments containing permethrin
- Household products to include:
  - Bleach
  - Phenols
  - Antifreeze
  - Paint
- Garden products to include:
  - Anticoagulant rodenticides such as Warfarin, Broadifacoum, Bromadiolone

    - Metaldehyde (slug bait)
    - Organophosphates (insecticides)
    - Paraquat (weedkiller)
- Human foodstuffs to include:
    - Xylitol
    - Theobromine(chocolate)
    - Onion/garlic
    - Grapes/raisins
    - Alcohol
    - Mouldy foodstuff (Mycotoxins)
- Plants to include:
    - Lilium spp
    - Daffodils
- Prevention of further absorption to include:
    - Inducing emesis with reference to any contraindications
    - Intravenous lipid therapy
    - Activated charcoal
    - Gastric lavage
    - Topical decontamination strategies
- Supportive care to include:
    - Symptomatic treatment
    - Fluid therapy
    - Maintenance of normal body temperature
- Veterinary Poisons Information Service

2.3 Provide information to a veterinary surgeon regarding a treated first aid casualty, to include:

- Time and nature of injury
- Triage assessment of patient
- Treatment given and response to treatment
- Condition of animal throughout, observations of vital signs, level of consciousness, haemorrhage, discharges, pain levels
- Presenting person's contact details, owner details if known
- Relevant patient history

2.4 Explain the provision of cardio-pulmonary cerebral resuscitation to include basic life support and advanced life support in line with RECOVER BLS and ALS evidence guidelines

- Basic life support:
    - Airway – intubation, tracheostomy
    - Cardiac compression – external or internal cardiac massage
    - Ventilation – anaesthetic machine, self-inflating resuscitation bag
- Advanced life support
    - Drugs used in resuscitation to include adrenaline, atropine, lidocaine, reversal agents
    - Vascular access
    - Monitoring equipment such as ECG and capnograph
    - Electrical defibrillation
- Care of patient after resuscitation
    - Continued monitoring of ECG, ETCO2, SpO2, blood pressure
    - Oxygen supplementation
    - Monitor temperature
    - Neurological assessment

2.5 Explain the contents and maintenance of an emergency 'crash box' or trolley

- Location, ease of access and transport
- Contents
    - Consumables – needles, syringes, intravenous cannulae, swabs, dressings, bandages, antiseptic scrub solution, sterile scalpel blades, intravenous fluids, tape
    - Equipment – self-inflating resuscitation bag, laryngoscope, ET tubes, tracheostomy tubes, scalpel handle, defibrillator
    - Drugs – adrenaline, atropine, lidocaine
    - Drugs dose sheet
- Routine checking and rotation of contents, replenishment after use, expiry/use by dates
- Review of procedures

2.6 Demonstrate first aid treatment techniques, to include:*

- Demonstrate* first aid treatment techniques, to include:
- Unconsciousness
- Compromised airway (including CPR)
- Haemorrhage and wounds
- Fractures
- Gastric dilatation-volvulus syndrome (GDV)
- Seizures
- Shock
- Hypothermia and hyperthermia
- Hypoglycaemia

*Demonstration, practical experience and testing using simulation and resuscitation mannequins where appropriate in the interests of animal welfare.

Unit Title	**VNSA16/25 Homecare and Convalescence**		
Level	3	**Credit value**	5
Guided Learning Hours		Classroom based Other activities	3 12

UNIT AIM

This unit facilitates an understanding of the importance of homecare and client concordance for a range of medical and surgical patients. It is intended to support individuals working in veterinary practice and who are working towards professional registration as a veterinary nurse.

LEARNING OUTCOMES

There are **two** learning outcomes to this unit. The learner will:

1. Understand the importance of client concordance
2. Provide homecare plans for a range of surgical and medical conditions

ASSESSMENT

Type	**Assessment criteria**
Central Skills Log	1.1, 1.2, 1.3, 2.1, 2.2, 2.3

RCVS Day One Skills and Competences mapping

DOS	**LO1:** 2.2, 2.9, 4.1 **LO2:** 2.1, 2.2, 2.5, 2.7, 4.1, 4.3
DOC	**LO1:** 1, 2, 5, 8, 9, 10, 11, 14, 15, 18, 19 **LO2:** 1, 2, 5, 6, 7, 8, 10, 18, 19, 26

OUTCOME 1 UNDERSTAND THE IMPORTANCE OF CLIENT CONCORDANCE

ASSESSMENT CRITERIA

The learner can:

1. Understand the concept of contextualised care
2. Discuss the importance of client concordance in the home management of a variety of patients and identify factors that may inhibit this
3. Outline strategies for maintaining and improving client concordance with home care plans

Context

Dogs, cats and rabbits

UNIT CONTENT

1.1 Understand the concept of contextualised care

- Awareness of different approaches to delivery of veterinary care
- Circumstances of individual animal and their caregivers
- Importance of taking holistic approach when providing veterinary care
- Use of evidence based veterinary practice to support care provided

1.2 Discuss the importance of client concordance in the home management of a variety of patients and identify factors that may inhibit this

- Importance of assessing needs of owner before providing home care plan, such as:
    - Understanding of condition or procedure and engagement with treatment aims
    - Expectations in relation to ongoing condition and potential terminal illness
    - Ability to provide care within a suitable home environment
    - Ability to administer medications
    - Awareness of economic situation
    - Culture and beliefs
    - Methods of effective communication, providing clear recommendations to the client about the pet's treatment

1.3 Outline strategies for maintaining and improving client concordance with home care plans, to include:

- Frequency of follow-up appointments
- Points of contact; named nurse or vet
- Nursing clinics
- Quality of home care instructions
- Format of homecare instructions – variety needed to suit different clients
- Setting achievable goals or negotiating compromises with clients

OUTCOME 2 PROVIDE HOMECARE PLANS FOR A RANGE OF SURGICAL AND MEDICAL CONDITIONS

ASSESSMENT CRITERIA

The learner can:

1. Demonstrate effective care planning for discharge, to include condition of the patient and home circumstances
2. Demonstrate effective communication with patients' owners, to include oral and written guidance, teaching of practical techniques (to include medication)
3. Discuss the concept of the role of the RVN in the community providing client support

Context

Dogs, cats and rabbits

UNIT CONTENT

2.1 Demonstrate effective care planning for discharge, to include:

- Condition of the patient
    - Preparing in advance written and verbal instructions for owner regarding care, to include feeding, exercise, medications, care of dressings, wounds, possible complications
- Consideration of home circumstances to include
    - Type of accommodation
    - Adaptations in the home environment
    - Time
    - Finances
    - Assistance available
    - Species and condition
    - Changes in daily routine
    - Other animals in household
- Use of standardised discharge forms which are user friendly and in an easily understood format
- Identification of any remaining actual problems and potential problems
- Follow-up appointments
- Emergency contact

2.2 Demonstrate effective communication with patients' owners, to include:

- Providing comprehensive oral and written guidance regarding care requirement in line with practice protocol
    - Written and oral communication detailing care plans / requirements
    - Assessing owners' capabilities and time restrictions to provide care required and outlining alternatives
- Care – effective and evaluated training for owner in the use of correct techniques and equipment to ensure good quality of life and nursing care based on the needs of the patient
- Providing effective teaching of practical techniques appropriate to condition and practice protocols, to include:
    - Medication – how to prepare medication correctly, how to administer the medication correctly including routes, frequency and amounts; the checks to

be made to patient before, during and after medicating; potential side effects and complications
    - Handling and restraint – using the correct technique and equipment ensuring the health safety and wellbeing of patient and owner
    - PPE requirements for providing appropriate care
    - Physiotherapy techniques
    - Observations of animal's general condition, response to pain, feeding, watering, elimination
    - Assessing quality of life using recognised quality of life tools
    - How to dispose of waste, especially sharps and drug residues

2.3 Discuss the concept of role of the RVN in the community providing client support

- Staying within remit of the role of RVN
- Abiding by Code of Professional conduct
- Abiding by Schedule 3 Amendment 2002 of The Veterinary surgeons Act 1966
- Personal indemnity insurance
- VDS
- Use of apps and social media