NURSES' CERTIFICATE
EMERGENCY AND CRITICAL CARE NURSING

NCert(E&CC)

SYLLABUS AND LEARNING OBJECTIVES

NURSE CERTIFICATE EMERGENCY AND CRITICAL CARE NURSING - NCert(E&CC)

SYLLABUS

This syllabus is designed as a guideline to the key areas that the delegate will be expected to understand. The learning objectives provide a clear insight of how the learning aims and syllabus will be addressed. The emphasis is very much on the approach to different conditions – practical examination techniques, application of appropriate diagnostic procedures and an understanding of the potential complications associated with different body systems, rather than an exhaustive list of potential disorders. The veterinarian will instead be expected to have knowledge of common disorders and an appreciation of resource material from where further research can be undertaken into more unusual conditions. An understanding of normal anatomy and physiology, and how these impact on the pathogenesis and treatment of medical diseases will be expected.

Exam questions may cover any area of the syllabus but not all areas of the syllabus are covered in the taught programme, therefore delegates are recommended to be familiar with all parts of the syllabus.

(S1) Triage, monitoring and stabilisation

- Triage
- Major body system assessment
- Monitoring of clinical parameters
- Recognise the signs of respiratory distress and localise the cause
- Oxygen supplementation techniques
- Blood gas and acid base analysis.

(LO1) Key learning objectives for S1:

1.1 Describe the triage process and explain how it benefits your patients
1.2 Classify the principles and practical aspects of critical patient monitoring
1.3 Define the perfusion parameters and explain how these can be used to identify hypoperfusion and to monitor a patient's response to treatment.
1.4 Implement the various mechanisms to assess perfusion and monitoring of clinical parameters, and be able to interpret their readings, including ECG abnormalities
1.5 Recognise dypnoeic patients and assess them for their degree of respiratory impairment.
1.6 Discuss the causes of respiratory disease and state the various oxygen supplementation techniques.
1.7 Discuss the collection of arterial and venous blood samples for blood gas analysis and be able to explain their importance.

(S2) Fluid Therapy in the Emergency Patient

- Dehydration and hypovolaemia recognition and treatment

- Fluid therapy: crystalloids, colloids and blood products
- Shock and its identification
- Fluid therapy calculations
- Continuous rate infusions
- Blood transfusions

(LO2) Key learning objectives for S2:

2.1 Define the difference between hypovolaemia and dehydration and how they are treated using fluid therapy
2.2 Recognise the importance of electrolytes and their role in homeostasis
2.3 Describe the different types of intravenous fluids including crystalloids, colloids and blood products.
2.4 Recognise the different types of shock: hypovolaemic, maldistributed, septic, cardiogenic
2.5 Solve administration calculations for the correct administration of constant rate infusions, crystalloids, colloids and blood products
2.6 Describe the importance of how blood transfusions should be safely administered and describe the contraindications of blood transfusion and their associated adverse reactions.

(S3) Medical Emergencies

- Pathophysiology of cardiac disease
- Assessment and management of the acute kidney failure patient
- Endocrine emergencies
- Poisons and toxicities
- Acute gastroenteritis/peritonitis

(LO3) Key learning objectives for S3:

3.1 Describe the measures of caring for/treating patients presenting with cardiac disease
3.2 Classify the treatment of acute renal failure and the underlying causes of prerenal and post-renal failure.
3.3 State the pathophysiology of endocrine and metabolic emergencies, including hypoadrenocorticism
3.4 Discuss common poisons seen in companion animals and list antidotes and treatments.
3.5 State the common acute medical gastrointestinal emergencies and discuss their treatment and management
3.6 Describe the pathology of a ‘blocked cat’ and the available treatment options including associated nursing care
3.7 Classify laboratory sampling techniques, processing, storage and data recording; apply knowledge to using the microscope to examine blood smears, urinary sediment and basic cytology
3.8 Classify the most common neurological emergencies and their initial treatment

3.9 State the most common haematological abnormalities and their treatment

3.10 Discuss the treatment and nursing considerations of a patient with pancreatitis

(S4) Surgical Emergency Procedures

- Preparation of the emergency patient for surgery
- Asepsis
- Gastric Dilatation and Volvulus
- Septic Peritonitis
- Haemoabdomen
- Caesarean Section and neonatal emergencies

(LO4) Key learning objectives for S4:

4.1 Describe the correct preparation of the emergency patient for surgery.

4.2 Explain the importance of correct asepsis when preparing patients for surgery

4.3 Describe the pathophysiology behind gastric dilatation and volvulus, the emergency and surgical treatment options

4.4 Explain the term septic peritonitis and haemabdomen; the potential causes and surgical treatment options, discussing the nursing care of these patients

4.5 Discuss the common important clinical signs associated with reproductive and paediatric/neonatal emergencies to include the pre-, intra- and post-operative caesarean patient

(S5) Anaesthesia and Analgesia

- Anaesthesia Planning
- Anaesthesia for Respiratory Patients
- Anaesthesia for Cardiac Patients
- Analgesia
- Pain Scoring

(LO5) Key learning objectives for S5:

5.2 Identify common complications which can arise related to anaesthesia outcomes

5.3 Describe anaesthesia of patients with respiratory disease

5.4 Discuss the pathophysiology behind various cardiac diseases and how we may modify anaesthesia protocols for cardiac patients.

5.5 Define the range of analgesics available, including opioids, NSAIDs, and local anaesthetics

5.6 Recognise pain in companion animals, and gain confidence in the use of veterinary pain scoring systems.

(S6) Nursing the Critical Patient

- Recumbent Patient Nursing
- Nutrition and Feeding Tubes
- Management of catheters and drains
- Infection Control and Prevention of HAIs

(LO6) Key learning objectives for S6:

6.1 Classify the requirements and management of recumbent patients
6.2 State the nutritional requirements of trauma and critical care patients
6.3 Explain the different techniques for administering enteral nutrition to patients including:

- Nasogastric tubes
- Oesophagostomy tubes
- Gastrostomy tubes

6.4 Identify and explain the use of total parenteral and partial parenteral nutrition
6.5 Understand how to manage a variety of catheters and drains in an aseptic manner including urinary catheters, thoracic drains and tracheostomy tubes.
6.6 Perfect your knowledge of the importance of maintaining effective infection control protocols when dealing with critical patients in order to prevent hospital acquired infections (HAIs).

(S7) The Trauma Patient and emergency and diagnostic imaging

- Traumatic wounds and fractures
- Assessment, lavage and debridement of wounds
- Urinary tract trauma
- Head trauma
- Thoracic trauma
- TFAST and AFAST imaging

(LO7) Key learning objectives for S7:

7.1 State the priorities for stabilising and treating traumatic wounds and fractures on initial presentation and be able to implement effective assessment, lavage and debridement of wounds
7.2 Explain the principles and practical aspects of the latest advanced wound dressings
7.3 Identify how urinary trauma presents, and how patients are stabilised prior to surgery
7.4 Describe the pathophysiology of head trauma and their nursing requirements demonstrating use of the small animal coma scoring scale.
7.5 Identify how to deal with thoracic trauma patients, and prioritise their treatment
7.6 Understand the principles of ultrasound imaging and be familiar with how to set up and maintain the ultrasound machine and probes
7.7 Employ the principles of FAST scanning to triage emergency cases and identify specific equipment and materials required for ultrasound-guided procedures
7.8 Explain the different radiographic techniques available, their pros and cons, and their uses in specific situations
7.9 Evaluate radiographic image quality to ensure diagnostic radiographs are available for interpretation, demonstrating basic film reading, and be able to identify radiographic artefacts and faults

(S8) CPR and key practical skills

- Placement of central lines
- Placement of nasal oxygen catheters
- Placement of feeding tubes
- Placement of chest drains
- Placement of tracheostomy tubes
- Cardiopulmonary Resuscitation (CPR)

(LO8) Key learning objectives for S8:

8.1 Discuss the new approach to veterinary CPR and implement effective CPR within a team (dry lab)

8.2 Demonstrate correct suturing techniques relevant to emergency patients including tracheostomy tube placement, thoracic drain placement – wet lab (cadavers)

8.3 Describe and demonstrate the techniques for administering/supplementing oxygen, e.g. placement of nasal oxygen cannulas, transtracheal oxygen administration – wet lab (cadavers)

8.4 Interpret and explain the correct placement of various feeding tubes, e.g. nasogastric, oesophagostomy tubes – wet lab (cadavers)

8.5 Discuss the role of the veterinary nurse and end-of-life care of a patient

(S9) Small mammal, reptile and avian Emergencies

Learning Objectives will be based on the below

- Triage of rabbits, guinea pigs, ferrets and small mammals
- Triage of the reptilian and avian patient
- Anaesthesia & Analgesia considerations of the emergency small animal patient
- Anaesthesia & Analgesia considerations of the emergency reptilian and avian patient
- Common emergency conditions of rabbits, ferrets and small mammals
- Common emergency conditions of the reptilian and avian patient
- Critical Care techniques and nursing for the avian, reptilian and small mammal emergency patient
- Poisonings in the avian patient
- CPR in exotic patients

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