

NR 341 COMPLEX ADULT HEALTH

Exam One

Chapters 1, 2, 3, 4, 5, 9, 10, 14

This blueprint is not inclusive of all content which may be on the exam.

Chapter 1 Overview of Critical Care Nursing

- Definition of critical care nursing
- Evolution of critical care
- Professional organizations
 - American association of critical-care nurses
 - Society of critical care medicine
 - Other professional organizations
- Certification
- Standards
- Critical care nurse characteristics
- Quality and safety emphasis
- Evidence-based practice
- Healthy work environment
 - Communication
 - Collaboration
- Other trends and issues

Chapter 2 Patient and Family Response to the Critical Care Experience

- Introduction
- The critical care environment
- The critically ill patient
 - Discharge from critical care and quality of life after critical care
 - Geriatric concerns
- Family members of the critically ill patient
 - Family assessment
 - Family needs
 - Communication
 - Visitation
 - Family presence during procedures and resuscitation
 - Practice alerts

Chapter 3 Ethical and Legal Issues in Critical Care Nursing

- Introduction
- Ethical obligations and nurse advocacy
- Ethical decision making
- Ethical principles

- o Creating an ethical environment
- Increasing nurses' involvement in ethical decision making
- Selected ethical topics in critical care
 - o Informed consent
 - Elements of informed consent
 - o Decisions regarding life-sustaining treatment
 - Cardiopulmonary resuscitation decisions
 - Withholding or withdrawing life support
 - o End-of-life issues
 - Patient self-determination act
 - Advance directives
 - o Organ and tissue transplantation

Chapter 4 End-of-Life Care in the Critical Care Unit

- Introduction
 - o Effects on nurses and the healthcare team
- Dimensions of end-of-life care
 - o Palliative care
 - o Communication and conflict resolution
 - o Withholding, limiting, or withdrawing therapy
 - Ventilator withdrawal
 - Other commonly withheld therapies
 - Hospice referral
 - o Emotional and psychological care of the patient and family
 - o Caregiver organizational support
- Culturally competent end-of-life care

Chapter 5 Comfort and Sedation

- Introduction
- Definitions of pain and anxiety
- Predisposing factors to pain and anxiety
- Physiology of pain and anxiety
 - o Pain
 - o Anxiety
- Positive effects of pain and anxiety
- Negative effects of pain and anxiety
 - o Physical effects
 - o Psychological effects
- Assessment
 - o Pain measurement tools
 - o Pain measurement tools for nonverbal patients
 - o Anxiety and sedation measurement tools
 - Sedation scales

- o Continuous monitoring of sedation
- o Pain and anxiety assessment challenges
 - Delirium
 - Neuromuscular blockade
- Management of pain and anxiety
 - o Nonpharmacological management
 - Environmental manipulation
 - o Complementary and alternative therapy
 - Guided imagery
 - Music therapy
 - Animal-assisted therapy
 - o Pharmacological management
 - Opioids
 - Patient-controlled analgesia
 - Epidural analgesia
 - Nonsteroidal anti-inflammatory drugs
 - Other pain relievers
 - Sedative agents
 - Tolerance and withdrawal
- Management challenges
 - o Invasive procedures
 - o Substance abuse
 - o Restraining devices
 - o Effects of aging

Chapter 9 Ventilatory Assistance

- Introduction
- Review of respiratory anatomy and physiology
 - o Upper airway
 - o Lower airway
 - o Lungs
- Physiology of breathing
 - o Gas exchange
 - o Regulation of breathing
 - o Respiratory mechanics
 - Work of breathing
 - Compliance
 - Resistance
- Lung volumes and capacities
- Respiratory assessment
 - o Health history
 - o Physical examination
 - Inspection

- Palpation
 - Percussion
 - Auscultation
 - Breath sounds
- o Arterial blood gas interpretation
 - Oxygenation
 - Partial pressure of arterial oxygen
 - Arterial oxygen saturation of hemoglobin
 - Ventilation and acid-base status
 - PH
 - Partial pressure of arterial carbon dioxide
 - Sodium bicarbonate
 - Buffer systems
 - Base excess or base deficit
 - Compensation
 - Step 1: look at each number individually and label it
 - Step 2: evaluate oxygenation
 - Step 3: determine acid-base status
 - Step 4: determine whether primary acid-base disorder is respiratory or metabolic
 - Step 5: determine whether any form of compensatory response has taken place
- o Noninvasive assessment of gas exchange
 - Assessment of oxygenation
 - Pulse oximetry
 - Assessment of ventilation
 - End-tidal carbon dioxide monitoring
 - Colorimetric carbon dioxide detector
- Oxygen administration
 - o Humidification
 - o Oxygen deliver devices
 - Nasal cannula
 - High flox nasal cannula
 - Simple face mask
 - Face masks with reservoirs
 - Venture or air-entrainment mask
 - Aerosol and humidity delivery systems
 - Manual resuscitation bag (variable performance)
- Airway management
 - o Positioning
 - o Oral airways
 - o Nasopharyngeal airways
 - o Endotracheal intubation

- Procedure for oral endotracheal intubation
 - Procedure for nasotracheal intubation
 - Verification of endotracheal tube placement
- o Tracheostomy
 - Tracheostomy tube designs
 - Cuffed versus uncuffed tracheostomy tubes
 - Single-versus double-cannula tracheostomy tubes
 - Fenestrated tracheostomy tube
 - Speaking tracheostomy valves
- o Endotracheal suctioning
- Mechanical ventilation
 - o Indications
 - o Positive-pressure ventilation
 - o Ventilator settings
 - Fraction of inspired oxygen
 - Tidal volume
 - Respiratory rate
 - Inspiratory-to-expiratory ratio
 - Inverse inspiratory-to-expiratory ratio
 - Positive end-expiratory pressure
 - Sensitivity
 - o Patient data
 - Exhaled tidal volume
 - Peak inspiratory pressure
 - Total respiratory rate
 - o Modes of mechanical ventilation
 - Volume ventilation
 - Assist/control ventilation
 - Synchronized intermittent mandatory ventilation
 - Pressure ventilation
 - Continuous positive airway pressure
 - Pressure support
 - Pressure assist/control
 - Pressure-controlled inverse-ratio ventilation
 - Airway pressure-release ventilation
 - o Noninvasive positive-pressure ventilation
 - o High frequency oscillatory ventilation
 - o Advanced methods and modes of mechanical ventilation
 - o Respiratory monitoring during mechanical ventilation
 - Alarm systems
 - o Complications of mechanical ventilation
 - Airway problems
 - Endotracheal tube out of position

- Unplanned extubation
 - Laryngeal and tracheal injury
 - Damage to the oral or nasal mucosa
 - Pulmonary system
 - Trauma
 - Oxygen toxicity
 - Respiratory acidosis or alkalosis
 - Infection
 - Dysphagia and aspiration
 - Cardiovascular system
 - Gastrointestinal system
 - Psychosocial complications
- Nursing care
 - Communication
 - Maintaining comfort and reducing distress
 - Medications
 - Nonpharmacological interventions
 - Weaning patients from mechanical ventilation
 - Approach to weaning using best evidence
 - Assessment for readiness to wean (wean screen)
 - Weaning process (weaning trial)
 - Extubation
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Chapter 10 Rapid Response Teams and Code Management

- Introduction
- Rapid response teams
- Roles of caregivers in code management
 - Code team
 - Leader of the code
 - Code nurses
 - Primary nurse
 - Second nurse
 - Nursing supervisor
 - Anesthesiologist or nurse anesthetist
 - Respiratory therapist
 - Pharmacist or pharmacy technician
 - Electrocardiogram technician
 - Chaplain
 - Other personnel
- Equipment used in codes
- Resuscitation efforts
 - Basic life support

- Responsiveness
 - Circulation and chest compressions
 - Airway
 - Breathing
- o Advanced cardiac life support
 - Airway
 - Breathing
 - Circulation
 - Differential diagnosis
- o Recognition and treatment of dysrhythmias
 - Ventricular fibrillation and pulseless ventricular tachycardia
 - Critical actions
 - Pulseless electrical activity and asystole
 - Critical actions
 - Symptomatic bradycardia
 - Critical actions
 - Unstable tachycardia
 - Critical actions
- o Electrical therapy
 - Defibrillation
 - Definition
 - Procedure
 - Automated external defibrillation
 - Definition
 - Indications
 - Procedure
 - Cardioversion
 - Definition
 - Procedure
 - Special situations
 - Transcutaneous cardiac pacing
 - Definition
 - Procedures
- Pharmacological intervention during a code
 - o Oxygen
 - o Epinephrine (adrenalin)
 - o Vasopressin
 - o Atropine
 - o Amiodarone (cordarone)
 - o Lidocaine (xylocaine)
 - o Adenosine (adenocard)
 - o Magnesium
 - o Sodium bicarbonate

- o Dopamine (intropin)
- Documentation of code events
- Care of the patient after resuscitation
 - o Therapeutic hypothermia after cardiac arrest

Chapter 14: Acute Respiratory Failure

- Introduction
- Acute Respiratory Failure
 - o Definition
 - o Pathophysiology
 - Failure of Oxygenation
 - Hypoventilation
 - Intrapulmonary Shunting
 - Ventilation-Perfusion Mismatch
 - Diffusion Defects
 - Low Cardiac Output
 - Low Hemoglobin Level
 - Tissue Hypoxia
 - Failure of Ventilation
 - Hypoventilation
 - Ventilation-Perfusion Mismatch
 - o Assessment
 - o Effects of Aging
 - o Interventions
 - Maintaining a Patent Airway
 - Optimizing O₂ Delivery
 - Minimizing O₂ Demand
 - Treating the Cause of ARF
 - Preventing Complications
 - o Nursing Diagnoses
- Respiratory Failure in Acute Respiratory Distress Syndrome
 - o Definition
 - o Etiology
 - o Pathophysiology
 - o Assessment
 - o Interventions
 - Oxygenation
 - Sedation and Comfort
 - Prone Positioning
 - Fluids and Electrolytes
 - Nutrition
 - Pharmacological Treatment
 - Psychosocial Support

- Acute Respiratory Failure in Chronic Obstructive Pulmonary Disease
 - Pathophysiology
 - Assessment
 - Interventions
 - Oxygen
 - Bronchodilator Therapy
 - Corticosteroids
 - Antibiotics
 - Ventilator assistances
- Acute Respiratory Failure in Asthma
 - Pathophysiology
 - Assessment
 - Interventions
- Acute Respiratory Failure Resulting From Pneumonia
 - Definition and Etiology
 - Pathophysiology
 - Assessment
- Ventilator-Associated Pneumonia
 - Pathophysiology
 - Assessment
 - Interventions
 - Treatment
- Acute Respiratory Failure Resulting from Pulmonary Embolism
 - Definition/Classification
 - Etiology
 - Pathophysiology
 - Assessment
 - Diagnosis
 - D-Dimer Assay
 - Ventilation-Perfusion Scan
 - Duplex Ultrasonography
 - High-Resolution Multidetector Computed Tomography Angiography
 - Magnetic Resonance Imaging
 - Pulmonary Angiogram
 - Prevention
 - Treatment
- Acute Respiratory Failure in Adult Patients with Cystic Fibrosis
 - Etiology
 - Interventions
 - Antibiotic Therapy
 - Airway Clearance
 - Nutritional Support
 - Ventilatory Support

