CLINICAL NURSING II – CRITICAL CARE NURSING

PLACEMENT: 2ND YEAR

HOURS OF INSTRUCTION: Theory 150 hours + Practical 800 hours = 950 hours

PURPOSE: Develop in depth understanding and competency in the care of patients with problems requiring critical care

SPECIFIC OBJECTIVES:

At the end of the course the students will be able to:

1. Discuss anatomy and physiology of vital organs.
2. Describe physiological and pathological responses relating to conditions requiring critical care.
3. Describe conditions requiring critical care and their management.
4. Discuss various diagnostic tests performed for critically ill patients.
5. Use nursing process in meeting comprehensive needs of the critically ill patient including emotional and spiritual needs.
6. Demonstrate skill in handling different equipment used for critical care.
7. Demonstrate competency in handling emergencies.
8. Participate in prevention and control of conditions leading to life threatening situations.
9. Describe various drugs used in critical care.
10. Participate in rehabilitating patients recovering from critical conditions.
11. Appreciate the role of alternative therapies in critical care.
12. Practice as advance practitioner in critical care nursing
13. Participate in planning and designing of Critical Care Units.
14. Discuss the ethical and legal issues in critical care.
15. Conduct clinical research studies in critical care nursing.
16. Develop standards of critical care nursing practice
17. Plan and conduct in service education program in critical care nursing

CONTENT OUTLINE

Unit I Introduction:

- Historical perspective, scope of critical care nursing.
- Epidemiological transitions in the world and in India
- Future challenges for critical care nursing
- Legal and ethical issues
- Principles of critical care nursing

Unit II Review of anatomy and physiology of vital organs/ systems

- Brain, Heart, lung, kidney, endocrine glands, pancreas, liver etc.

UNIT III Physiological and pathologic responses

- Hematopoesis and coagulation
- Fluid and electrolyte balance and imbalance
- Acid- base balances and imbalances
- Physiologic adaptations with aging
- Brain Death

UNIT IV Assessment:

- History taking and physical examination
- Indications, purposes, preparation, pre and post procedure care in laboratory Tests: Blood-Hematologic studies, Arterial Blood gases, Blood Chemistry, Serum concentration of selected drugs, cardiac markers
- Radiological studies
- Electrocardiography
- Arrhythmias and conduction disturbances
- Electro-physiology study-Heart and brain
- Echocardiography, Radioisotope studies, Electron beam computed Tomography, magnetic resonance imaging and Phonocardiography
- Angiographies-heart, brain and pulmonary
- Ultrasonography- Doppler studies
- Exercise testing-TMT, Holter
- Cardiac catheterization
- Pulse oximetery
- End-tidal carbon dioxide monitoring
- Pulmonary function test
- Ventilation perfusion scan
- Endoscopies
- Lung ventilation scan
- Haemodynamic monitoring
- Electro Myelogram

Units V Management of patient with cardiovascular emergencies**:** causes, pathophysiology, clinical features, diagnosis and management of cardiovascular emergencies

- Cardiac arrest,
- Congestive Heart Failure
- Coronary Artery disease

- Acute MI
- Pulmonary edema
- Cardiogenic shock
- Pulmonary embolism
- DVT
- Hypertensive crisis
- Advanced Life support measures
- arrhythemias, complete heart block
- Pacemaker failure
- Congenital defects,
- Heart transplantation etc

Unit VI Emergencies of respiratory system-Causes, pathophysiology, clinical features diagnosis and management of respiratory emergencies

- Atelectasis of lung
- Pneumonia
- Bronchospasm
- Pulmonary embolism
- Hemothorax/Pneumothorax
- Pleural effusion
- Chest Trauma-Flail chest
- Acute respiratory failure
- Interstitial lung disease
- COPD-Status asthamaticus
- Adult Respiratory Distress Syndrome
- D.V.T.

UNIT VII Renal emergencies: causes, pathophysiology, clinical features, diagnosis and management of renal emergencies

- Acute renal failure
- Chronic renal failure
- Acute tubular Necrosis
- Bladder trauma
- Hemo dialysis
- Peritoneal dialysis
- Renal transplantation

UNIT VIII Neurological emergencies: causes, pathophysiology, clinical features, diagnosis and management of neurological emergencies

- Hypo & hyperthermia
- Head injury
- Spinal cord injury
- Stroke
- L.G.B. syndrome
- Seizure disorders
- Myasthenia gravis
- Coma
- Persistent vegetative state

UNIT IX Gastro- intestinal emergencies: causes, pathophysiology, clinical features, diagnosis and management of G I emergencies

- Acute GI bleeding
- Acute pancreatitis
- Cirrhosis of liver
- Hepatic failure
- Hepatic enchephalopathy
- Biliary obstruction
- Perforated peritonitis
- Acute intestinal obstruction

UNIT X Endocrine emergencies: causes, pathophysiology, clinical features, diagnosis and management of Endocrine emergencies

- Diabetic ketoacidosis
- Non ketotic coma
- Hypoglycemia
- Thyroid crisis
- Myxedema Coma
- Adrenal crisis
- Syndrome of inappropriate antidiuretic hormone secretion (SIADH)

UNIT XI Ophthalmic emergencies:-causes, pathophysiology, clinical features, diagnosis and management of Ophthalmic emergencies

- Glaucoma
- Retinal detachment
- Eye injuries

UNIT XII Gynaecological emergencies:

- Ectopic pregnancy
- Rupture of Uterus
- APH & PPH
- Injury to genital tract
- Amniotic fluid embolism

UNIT XIII Emergencies due to Multi system organ failure: causes, pathophysiology, clinical features, diagnosis and management of emergencies

- Multi system organ failure
- Shock
- DIC
- Hemolysis Elevated Liver enzymes & Low Platelets Syndrome (HELLP Syndrome)
- Trauma- multiple (thoracic, abdominal, pelvic) & Fractures
- Burns
- Poisoning, drug over dose
- Immune system compromising condition -multiple organ dysfunction syndrome
- AIDS
- Superior vena cava syndrome

UNIT XIV Neonatal & Pediatric Emergencies

- Asphyxia, neonatal seizures, Respiratory Distress Syndrome, neonatal sepsis, intra cranial hemorrhage
- Congenital disorders-cyanotic heart disease, imperforated anus, tracheo-esophageal fistula, diaphragmetic hernia, congenital hypertrophic pyloric stenosis
- Pediatric emergencies-dehydration, acute broncho-pneumonia, ARDS, Poisoning, foreign bodies, seizures, trauma

UNIT XV Nutritional management of critically ill patients:

- Assessment of nutritional status
- Fluid and electrolyte management
- Administering nutritional support
- Therapeutic Diets
- Total parenteral nutrition

UNIT XVI Psychosocial issues in critical care:

- Assessment of patients and risk factors
- Psychosocial factors affecting the outcome of critical care patients, Acute confusion, Sensory input, Sleep and Periodicity
- Prevention and nursing care of patients affected with psychosocial and psycho-physiological problems of critical care units

- Caring for patient's family and counseling of family
- Critical care Psychosis
- Loss, grief & bereavement: Bereavement process,
- Caring and touch
- Near death experiences
- Meeting spiritual needs of patient/family
- Care of dying patients

UNIT XVII Professional practice issues in the Critical Care Unit:

- Ethical Issues in Critical Care: Ethics, Ethical principles, Withholding & withdrawing treatment, Euthanasia, Ethical decision making
- Organ donation
- Legal issues in critical care: Patients' Bill of rights
- Legal responsibilities of a nurse

UNIT XVIII Geriatric considerations in Critical care unit

- Psychosocial aspect of aging,
- Physiological changes in old age
- Problems due to the aging process
- Older adult in critical care setting

UNIT XIX Pharmacological Management

- Drugs used in critical care unit, Calculations of drugs, Standing orders of drug administration, Maintenance of Records for drug administration.
- Pain management and sedation for critically ill patients

Unit XX Critical care units

- Organizational set up of critical care units
- Philosophy, aims and objectives, Policies of Critical Care Unit
- Design and plan of Critical Care Units: Physical Layout, Equipment
- Management of critical care unit
- Safety precautions, Infection control
- Critical care team approach, staffing, functions
- Communication in Critical care units
- In service education
- Burnout Syndrome

Unit XXI Quality assurance in critical care nursing practice

- Role of advance practitioner in critical care nursing
- Professional practice standards
- Quality control in critical care nursing
- Nursing audit