



Broward Community College

Course Outline

STATUS: ACTIVE

COMMON COURSE NUMBER: NUR2392 (NSP 2470)

COMMON COURSE TITLE: Critical Care of the Pediatric Client

PRE-REQUISITE: Current FL Nursing License; BLS Certification (Health Care Provider).

CREDIT HOURS: 5
LECTURE: 80

COURSE DESCRIPTION: This 5-credit course is designed to prepare the professional nurse to enter into practice in the pediatric intensive care setting. The program focuses on assessment skills of the various body systems, pharmacology, and nursing management of the critically ill child.

Term Offered: On Demand

UNIT TITLES:

1. Pediatric Overview
2. Psychological Issues in the Hospitalized Child
3. Respiratory Component
4. Cardiovascular Component
5. Megacode Component
6. Neurological Component
7. Metabolic Component
8. Renal Component
9. Multiple Trauma
10. Near Drown Component
11. Communicable Disease/Infection Control
12. AIDS

NUR2392 Critical Care of the Pediatric Client

I. Course Overview:

Upon successful completion of this course, the students should be able to enter into practice in the pediatric intensive care setting.

II. Units:

Unit 1. Pediatric Overview

General Outcome:

1.0 The students should be able to assess and provide care for a child in the intensive care unit.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 1.1 Identify physical assessment skills used to assess children using a systems approach.
- 1.2 Develop strategies in obtaining the health history of pediatric clients.
- 1.3 Describe variations in technique collecting baseline data and vital signs from children.
- 1.4 Identify developmental milestones appropriate to assess for the age of the child.
- 1.5 Cite four physiologic factors which make children more vulnerable to fluid imbalance.
- 1.6 Describe clinical signs of dehydration.
- 1.7 Compute IV maintenance fluid and fluid deficit replacement.
- 1.8 Identify difference between medicating techniques used for adults and children.
- 1.9 Describe the procedure of administering oral medications to infants, children, and resistant children.
- 1.10 Compute the volume of IM medication to be given to children.
- 1.11 Identify strategies to administer IM medications to children.
- 1.12 Describe the technique of accurate record keeping for the pediatric client.

NUR2392 Critical Care of the Pediatric Client

Unit 2. Psychological Issues in the Hospitalized Child

General Outcome:

2.0 The students should be able to assess the psychological status of the hospitalized child.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 2.1 Identify the psychological effects of hospitalization in a child with the following:
 - A. Congenital heart defect
 - B. Spina bifida
 - C. Down's syndrome
- 2.2 Describe the development of maternal/infant bonding and how it is affected by the hospitalization of a newborn infant.
- 2.3 Discuss the advantages and disadvantages of parental involvement in the nursing care of a child.
- 2.4 Identify the role of the genetic counselor for the family with a deformed child.
- 2.5 List four of the six consequences experienced by the family with a hospitalized child.
- 2.6 Discuss the effects of hospitalization on a sibling.
- 2.7 Discuss the role of speech therapy, occupational therapy, and physical therapy on the psychological development of the hospitalized child.
- 2.8 Compare/contrast the coping behaviors of parents with a hospitalized:
 - A. Infant
 - B. Toddler
 - C. Preschooler
 - D. School age child
 - E. Adolescent
- 2.9 Describe the significance of support groups in the management of parental stress.
- 2.10 List three of the five coping mechanisms employed by staff members when dealing with a terminally ill child.
- 2.11 Compare/contrast the effects of immobilization on the hospitalized child as related to the various stages of development.
- 2.12 Identify the major focus of infant stimulation.
- 2.13 Compare/contrast the coping behaviors of the hospitalized:
 - A. Infant
 - B. Toddler
 - C. Preschooler

NUR 2392 Critical Care of the Pediatric Client

- D. School age child
 - E. Adolescent
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- 2.14 List the criteria necessary to determine brain "death."
 - 2.15 Discuss criteria necessary to procure organs for donor transplant.
 - 2.16 List the stages in the grieving process according to Kubler-Ross.
 - 2.17 Describe various methods employed by parents to resolve grief.
 - 2.18 Compare/contrast the initial reactions of a child that has suffered child abuse.
 - 2.19 Discuss the role of HRS in child abuse cases.
 - 2.20 Identify the primary goal of discharge planning.
 - 2.21 Identify the role of social services and the need for community resources.
 - 2.22 Describe the importance of proper documentation and the consequences of improper documentation.

Unit 3. Respiratory Component

General Outcome:

- 3.0 The students should be able to assess the child's respiratory status and plan, implement, and evaluate nursing care.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 3.1 Define the components of a respiratory assessment.
- 3.2 Discuss the difference between adult and child anatomy.
- 3.3 Identify adventitious breath sounds.
- 3.4 Define epiglottitis, croup, and airway obstruction.
- 3.5 Discuss signs and symptoms, nursing intervention, and discharge teaching for diseases of upper and lower respiratory tract.
- 3.6 Define status asthmatics and pneumonia.
- 3.7 Identify respiratory distress.
- 3.8 Devise a plan of care for a child with respiratory disease.
- 3.9 Discuss indication and care of chest tubes.
- 3.10 Identify need for intubation.
- 3.11 Discuss indication for tracheostomy.
- 3.12 Identify various tracheostomy tubes.
- 3.13 Discuss post-op care, physiologic consequences of the tracheostomized child.
- 3.14 Discuss routine tracheostomy care.

NUR 2392 Critical Care of the Pediatric Client

- 3.15 Discuss tracheostomy home care.
- 3.16 Identify need for emergency tracheostomy tube change.
- 3.17 Discuss normal blood gas values.
- 3.18 Identify acidosis vs alkalosis.
- 3.19 Discuss a plan of care for the ventilated patient.
- 3.20 Identify indications for ventilation.
- 3.21 Discuss types of ventilators.
- 3.22 Discuss physiologic effects of positive pressure ventilation.
- 3.23 Compare modes of ventilation.
- 3.24 Discuss necessary monitoring of the ventilated patient.
- 3.25 Discuss a care plan for the pavulonized child.
- 3.26 Discuss weaning criteria.

Unit 4. Cardiovascular Component

General Outcome:

- 4.0 The students should be able to assess the child's cardiovascular status and plan, implement, and evaluate nursing care.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 4.1 Define the components of a cardiovascular assessment on a child or infant.
- 4.2 Recognize HR and BP "normals" for various ages.
- 4.3 Place electrodes for leads I, II, and MCL1.
- 4.4 Identify normal sinus rhythm on a strip.
- 4.5 Identify life threatening dysrhythmias.
- 4.6 Compare/contrast defibrillation and cardioversion.
- 4.7 Discuss indications for arterial line placement.
- 4.8 Set up an arterial line monitoring system.
- 4.9 Identify appropriate arterial waveforms.
- 4.10 Discuss the nursing care required for an arterial line.
- 4.11 Identify the methods used for sampling an arterial line.
- 4.12 Demonstrate the set up for a CVP monitoring system.
- 4.13 Identify appropriate CVP waveform.
- 4.14 Discuss the nursing care required for a CVP line.
- 4.15 Identify the methods used for sampling a CVP line.
- 4.16 Demonstrate the set up for a thermodilutional catheter monitoring system.
- 4.17 Identify appropriate waveforms obtained from a thermodilutional catheter.

NUR 2393 Critical Care of the Pediatric Client

- 4.18 Discuss the care for a thermodilutional catheter.
- 4.19 Obtain cardiac output and cardiac index values.

- 4.20 Identify causes of congestive heart failure.
- 4.21 Recognize signs and symptoms of CHF.
- 4.22 Devise a nursing care plan for a child with CHF.
- 4.23 Identify causes of low cardiac output.
- 4.24 Recognize signs and symptoms of low cardiac output.
- 4.25 Devise a nursing care plan for a child with low cardiac output.
- 4.26 Discuss signs and symptoms of myocarditis.
- 4.27 Devise a nursing care plan for a child with myocarditis.
- 4.28 Identify common congenital heart defects.

Unit 5. Megacode Component

General Outcome:

- 5.0 The students should be able to discuss emergency code procedure for a child.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 5.1 Discuss the differences in BLS from the adult to the child and infant.
- 5.2 Differentiate between cuffed and uncuffed ETT's and identify the type appropriate for use in children.
- 5.3 Discuss the role of oxygen in the management of a pediatric code victim.
- 5.4 Calculate appropriate drug dosages using an Emergency drug Card, based on the child's weight.
- 5.5 Discuss the importance of having an Emergency Drug Card at the bedside.
- 5.6 Identify indications and actions of:
 - A. Epinephrine
 - B. Sodium Bicarbonate
 - C. Atropine
 - D. Calcium Gluconate
 - E. Lidocaine
 - F. Bretylium
 - G. Dextrose
 - H. Isoproterenol
 - I. Dopamine/Dobutamine
- 5.7 Calculate appropriate joules used to defibrillate a child.
- 5.8 Discuss alterations in wattage used on children receiving digitalis therapy.

NUR2392 Critical Care of the Pediatric Client

Unit 6. Neurological Component

General Outcome:

6.0 The students should be able to assess the child's neurological status and plan, implement, and evaluate nursing care.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 6.1 Define the components of a neurological assessment of a child or infant.
- 6.2 Discuss the differences between concussion and contusion.
- 6.3 Identify possible complications of contusions.
- 6.4 Define increased ICP.
- 6.5 Relate the significance of increased ICP to CPP.
- 6.6 Identify causes of increased ICP.
- 6.7 Discuss pharmacological treatment and fluid management of increased ICP.
- 6.8 Discuss pharmacological treatment and fluid management of increased ICP.
- 6.9 List three devices used to monitor ICP.
- 6.10 Discuss the pros and cons of each monitoring device.
- 6.11 State normal levels of ICP.
- 6.12 Define ventriculostomy.
- 6.13 Identify key components of the nursing management of a child with a ventriculostomy.
- 6.14 Define the syndrome of SIADH in relation to increased ICP.
- 6.15 Devise a care plan for nursing management of a child with increased ICP.
- 6.16 Differentiate between subdural, epidural, and subarachnoid hematoma.
- 6.17 Define hydrocephalus
- 6.18 Relate hydrocephalus to increased ICP.
- 6.19 Relate tumors to increased ICP.
- 6.20 Correlate location of tumor with symptoms to be expected.
- 6.21 Compare/contrast viral and bacteria meningitis.
- 6.22 State differences in the medical approach to viral and bacteria meningitis.
- 6.23 Identify seizures as defined by The International Classification of Epileptic Seizures.
- 6.24 Discuss pharmacological management of status epilepticus.
- 6.25 Devise a care plan for a child in status epilepticus.
- 6.26 Compare/contrast the roles of EEG, CT, and MRI in the diagnosis and management of the neurologically impaired child.

NUR2392 Critical Care of the Pediatric Client

Unit 7. Metabolic Component

General Outcome:

7.0 The students should be able to discuss poisoning of a child and the changes to the acid-base balance.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 7.1 Discuss the major systems monitored in poisonings and ingestion.
- 7.2 Outline the steps for poison identifications.
- 7.3 Indicate the two main objectives in treating poisonings.
- 7.4 List the common poisons ingestion in the child and the specific treatment for each poison and ingestion.
- 7.5 Discuss the three main pharmacology modalities in the treatment of ketoacidosis.
- 7.6 Outline the two major complications of ketoacidosis and the nursing interventions for each.
- 7.7 Discuss the family education needs for the child with ketoacidosis.
- 7.8 List the community resources available to the family for support for the child with ketoacidosis.

Unit 8. Renal Component

General Outcome:

8.0 The students should be able to assess the child's renal system and plan, implement, and evaluate nursing care.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 8.1 Complete a physical assessment of the infant and child with a renal disease.
- 8.2 State the causes of renal disease in the child.
- 8.3 Discuss the monitoring of symptoms in the child afflicted with a renal disease.
- 8.4 Identify the principles of management and care of the child with renal disease.
- 8.5 Describe the nutritional aspects of management.
- 8.6 Devise a plan of care for a child with a renal disease.

NUR2392 Critical Care of the Pediatric Client

- 8.7 Discuss the indications for peritoneal dialysis.
- 8.8 Describe the techniques for peritoneal dialysis.
- 8.9 Identify the risks and complications for peritoneal dialysis.
- 8.10 Devise a plan of care for a child receiving peritoneal dialysis.

Unit 9. Multiple Trauma

General Outcome:

- 9.0 The students should be able to identify the impact of multiple trauma situations of the child.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 9.1 List the five priorities of nursing assessment and management of a multiple trauma victim.
- 9.2 Define shock.
- 9.3 Identify signs and symptoms of shock.
- 9.4 Develop a nursing care plan for a child in shock.
- 9.5 Differentiate between hemothorax and pneumothorax.
- 9.6 Identify signs and symptoms of pneumothorax and hemothorax.
- 9.7 Identify indications for chest tube insertion.
- 9.8 Develop a care plan for nursing management of a child with a chest tube.
- 9.9 Define cardiac tamponade.
- 9.10 Identify signs and symptoms of cardiac tamponade.
- 9.11 Discuss management of cardiac tamponade.
- 9.12 Identify the major threat of abdominal wounds.
- 9.13 Develop a care plan for the nursing management of a child with abdominal trauma.

NUR2392 Critical Care of the Pediatric Client

Unit 10. Near Drown Component

General Outcome:

10.0 The students should be able to identify the systemic effects of near drowning of a child.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 10.1 List the four factors affecting prognosis.
- 10.2 Identify the primary body systems affected in near drowning.
- 10.3 Identify signs and symptoms of severe hypoxia.
- 10.4 Discuss possible pulmonary sequelae of near drowning.
- 10.5 Discuss possible neurological sequelae of near drowning.
- 10.6 Discuss possible metabolic sequelae of near drowning.
- 10.7 Discuss specific needs of the intubated near drowning victim.
- 10.8 Develop a care plan for nursing management of the near drowning victim.

Unit 11. Communicable Disease/Infection Control

General Outcome:

11.0 The students should be able to discuss common childhood communicable diseases and the infection control protocol.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 11.1 Discuss the causes of nosocomial infection in the PICU.
- 11.2 Demonstrate the technique and discuss the importance of handwashing techniques.
- 11.3 Discuss the general rules for isolating patients in P.I.C.U.
- 11.4 Outline the steps for prevention of employee infection.

NUR 2392 Critical Care of the Pediatric Client

Unit 12. AIDS

General Outcome:

12.0 The students should be able to discuss AIDS in a child.

Specific Learning Outcomes:

Upon successful completion of this unit, the students should be able to:

- 12.1 Differentiate between HIV infection, ARC and AIDS including symptoms, diagnosis, and prognosis.
- 12.2 List the major source of illness and mortality in children with AIDS.
- 12.3 Identify the major chronic problems associated with the disease and nursing interventions for each problem.
- 12.4 Recognize the need for family counseling in four major areas.
- 12.5 Identify the community resources available and the services offered.