CCRN® Exam Review (Pedatric)

Presented by

Robert Dorman, DNP, RN-BC, CCRN, C-NPT, CNL
Robert graduated from the University of Rochester School of Nursing in 1993 with a bachelor's degree. After graduation, he began working as a pediatric nurse at Strong Memorial Hospital, and transferred to the pediatric ICU in 1995. In 1998, he relocated to Maryland to pursue a career as a pediatric transport nurse at the University of Maryland Medical Center and Johns Hopkins Hospital. Returning to Rochester in 2004, Robert came back to the PICU, where he also assisted in leading the pediatric transport team and was instrumental in creating a free-standing pediatric transport team at Golisano Children's Hospital.

In 2013, he became a full-time faculty member at the University of Rochester School of Nursing, where he is currently a senior teaching associate, teaching pediatric clinical and fundamental skills in the Accelerated Bachelor's Program for Non-Nurses (ABPNN). In May 2015, Robert received his clinical nurse leader master's degree, and in May 2017, he received his Doctor of Nursing Practice, both from the University of Rochester School of Nursing. He currently serves as the pediatric trauma program manager at Golisano Children's Hospital at the University of Rochester Medical Center. In addition to teaching, Robert maintains clinical practice with the pediatric transport team, PICU and Pediatric Emergency Department at Golisano Children's Hospital, as well as serving as a flight nurse with Mercy Flight Central. Robert has spoken locally, regionally and internationally on pediatric critical care and pediatric transport nursing. He has been recognized by his students as an excellent, personable instructor who makes things easy to understand.

11.25 Contact Hours | Course Length: 638 minutes

Program Description

Critical care nurses are seeing patients with more severe and complex healthcare needs, which requires nurses to be more proficient and clinically competent. Nursing certification is considered the standard by which regulatory agencies and the public recognize quality nursing care.

The purpose of this review is to assist the participant in preparing for the Pediatric CCRN Exam. This course preparation will use a systems approach to review the essential aspects of nursing care in the Pediatric Intensive Care Unit. Teaching methods to be utilized during this review include lecture, case studies, discussion and practice questions. The information provided will benefit the critical care nurse through the enhancement of knowledge concerning the continuum of care for the pediatric critical care patient.

Program Learning Outcomes

This program prepares the learner to:

1. Review test-taking strategies.
2. Review the AACN Synergy Model.
3. Review critical physiology of each core body system.
4. Discuss significant assessment and diagnostic findings for each core body system.
5. Discuss etiology, pathophysiology, clinical presentation, diagnostic findings and specific patient management of commonly seen critical care conditions.

Topics Covered

1 CCRN Exam, Test Construction and Synergy — 28 minutes

Module Description
This module will review the basic construction of the CCRN (Pediatric) Exam and how the test is constructed. The module will also cover the American Association of Critical-Care Nurses (AACN) synergy model.

Module Learning Outcomes
This module prepares the learner to:
1. Understand the history of AACN.
2. Determine eligibility for the CCRN (Pediatric) Exam.
3. Understand the content of the CCRN (Pediatric) Exam.
4. Identify studying and test-taking skills that will benefit students.
5. Describe the seven categories of the AACN synergy model.

2 Cardiovascular — 129 minutes

Module Description
This module will review structural heart defects, cardiac surgery and cardiac-vascular catheterization. The module will also cover other cardiovascular disease processes, as well as cardiac-specific medications.

Module Learning Outcomes
This module prepares the learner to:
1. Describe developmental anatomy, fetal circulation, transitional circulation and normal anatomy and conduction of the heart.
2. Describe acyanotic and cyanotic congenital heart defects.
3. Identify the purpose, techniques and implications of cardiac-vascular catheterization, as well as the differences in diagnostic procedures.
4. Describe heart failure, acute pulmonary edema, cardiogenic shock and cardiomyopathies.
5. Describe myocardial conduction system defects, dysrhythmias, hypertensive crisis and the use of various cardiac medications.

3 Pulmonary — 101 minutes

Module Description
This module will review congenital anomalies of the pulmonary system, bronchopulmonary dysplasia, pulmonary hypertension, acute respiratory infection and chronic pulmonary conditions. The module will also review status asthmaticus, failure to wean from mechanical ventilation and use of various pulmonary medications.
Additionally, the session will review acute respiratory failure, acute respiratory distress syndrome (ARDS), acute pulmonary embolus, air-leak syndromes, aspiration, thoracic surgery and trauma, along with asphyxia.

Module Learning Outcomes
This module prepares the learner to:
1. Identify congenital pulmonary anomalies such as diaphragmatic hernia, tracheoesophageal fistula, choanal astresia, tracheal malacia and tracheal stenosis.
2. Describe symptoms and management of:
   A. Bronchopulmonary dysplasia
   B. Pulmonary hypertension
   C. Acute respiratory infections
   D. Chronic respiratory conditions
3. Identify status asthmaticus, and discuss implications of respiratory treatments such as chronic ventilation and various medications.
4. Describe the causes, signs and symptoms and management of:
   A. Acute respiratory failure
   B. ARDS
   C. Acute pulmonary embolus
   D. Air leak syndrome
   E. Aspiration
   F. Thoracic surgery and thoracic trauma
   G. Asphyxia

4 Endocrine — 27 minutes

Module Description
This module will review common endocrine problems encountered in pediatric critical-care nursing.

Module Learning Outcomes
This module prepares the learner to:
1. Describe signs and symptoms of inborn errors of metabolism.
2. Recognize and differentiate between hyperglycemia and diabetic ketoacidosis, and describe appropriate treatments.
3. Recognize and treat acute hypoglycemia.
4. Describe and differentiate between diabetes insipidus and syndrome of inappropriate antidiuretic hormone secretion (SIADH).

5 Hematology and Immunology — 38 minutes

Module Description
This module will review common hematologic and immunologic concerns commonly seen in critically ill pediatric patients.

Module Learning Outcome
This module prepares the learner to:
1. Describe causes, symptoms, treatment and prevention of anemia.
2. Identify the precipitating causes and treatment of coagulopathies.
3. Identify immune deficiency disorders.
4. Identify leukopenia and thrombocytopenia.
5. Describe common complications faced by oncology patients.
6. Discuss the common effects of sickle cell anemia and crisis.
7. Identify measures taken to prevent healthcare-associated infections.
8. Describe common transmittable diseases.
9. Describe comorbidities found in patients who have had an organ transplant.

6 Renal — 45 minutes

Module Description
This module will review acute and chronic renal issues in pediatric critical care.

Module Learning Outcome
This module prepares the learner to:
1. Describe acute kidney injury (AKI), acute renal failure (ARF) and acute tubular necrosis (ATN).
2. Identify the causes and treatments for chronic kidney disease.
3. Describe common renal infections in critically ill pediatric patients.
4. Recognize life-threatening electrolyte imbalances.

7 Gastrointestinal — 41 minutes

Module Description
This module will review common gastrointestinal (GI) conditions related to pediatric critical-care nursing.

Module Learning Outcomes
This module prepares the learner to:
1. Describe congenital GI abnormalities.
2. Identify treatment priorities and common findings in abdominal trauma.
3. Identify acute GI hemorrhage.
4. Recognize conditions that place a patient at risk for bowel infarction.
5. Describe various GI surgical procedures.
6. Identify the causes, symptoms and treatment for hepatic failure.
7. Describe medications used to treat common GI disorders.

8 IV Infiltration, Psychosocial and Muscular Infections — 33 minutes

Module Description
This module will review classification and treatment of IV infiltrations and musculoskeletal infections, as well as common psychosocial issues encountered in pediatric critical-care nursing.

Module Learning Outcomes
This module prepares the learner to:
1. Describe IV infiltrations and extravasations, pressure ulcers and common wounds.
2. Identify behavioral and psychosocial issues to include abuse/maltreatment, agitation, developmental delays, failure to thrive, medical nonadherence and suicidal ideation or behaviors.
3. Describe signs and symptoms of musculoskeletal infections.

9 Neurology — 52 minutes

Module Description
This module will review neurologic conditions commonly found in pediatric critical-care nursing.

Module Learning Outcomes
This module prepares the learner to:
1. Describe congenital neurologic abnormalities.
2. Identify signs and symptoms of brain hemorrhage.
3. Describe hydrocephalus, ischemic stroke and neurologic infections disease.
4. Identify neuromuscular disorders.
5. Describe the care and possible complications of a patient undergoing spinal fusion.
6. Describe classification of seizures and seizure disorder.
7. Discuss causes of encephalopathy.
8. Describe space-occupying lesions and neurosurgical procedures.
9. Identify treatments for and complications of: acute spinal cord trauma, head trauma and traumatic brain injury.
10. Describe brain death.

10 Shock, MOSF and Trauma — 45 minutes

Module Description
This module will review shock, multiorgan system failure (MOSF) and pediatric trauma.

Module Learning Outcomes
This module prepares the learner to:
1. Identify and treat hypotension, shock states and recognize the sepsis continuum.
2. Describe the cause and significance of MOSF.
3. Describe the prevalence, causes and care priorities concerning multisystem trauma.

11 Toxicology, Near-Drowning and Multisystem — 101 minutes

Module Description
This module will review common toxic agents, near-drowning and conditions that affect multiple systems.

Module Learning Outcomes
This module prepares the learner to:
1. Identify patterns and interventions for toxin-drug exposure, as well as common toxic ingestions/inhalations.
2. Describe effects of a near-drowning accident.
3. Describe interventions concerning sleep disruption, pain management, palliative care and end-of-life issues.

Accreditation

RN/LPN/LVN/Other: 11.25 Contact Hours

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