

# Pediatric Learning Solutions

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## Pediatric Learning Solutions' Course Alignment with CCRN® Exam Content Outline

The following Pediatric Learning Solutions courses align to focus areas of the Pediatric CCRN® Exam Content Outline. These courses equip candidates with the foundational knowledge necessary to approach the Pediatric CCRN® exam with confidence. Go to the [Association of Critical-Care Nurses](#) site for more information on the CCRN Exam.



# Clinical Judgment

## Cardiovascular

### Cardiac Infection & Inflammatory Diseases

- ✓ Acquired Heart Disease
- ✓ Caring for the Pediatric Patient in Shock
- ✓ Congestive Heart Failure
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Cardiovascular Laboratory Procedures: Diagnostic and Interventional
- ✓ Vasoactive Medications
- ✓ Introduction to ECMO
- ✓ General Post-Op Care of the Transplant Patient

### Cardiac Malformations & Cardiac Surgery

- ✓ Congenital Heart Disease: Overview
- ✓ Congenital Heart Disease: Acyanotic Defects
- ✓ Congenital Heart Disease: Cyanotic Defects
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Vasoactive Medications
- ✓ Introduction to ECMO
- ✓ General Post-Op Care of the Transplant Patient
- ✓ Nursing Management of Chest Tubes

### Cardiogenic Shock

- ✓ Caring for the Pediatric Patient in Shock
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Vasoactive Medications
- ✓ Introduction to ECMO

### Cardiomyopathies

- ✓ Acquired Heart Disease
- ✓ Congestive Heart Failure
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Vasoactive Medications
- ✓ Introduction to ECMO
- ✓ General Post-Op Care of the Transplant Patient

### Cardiovascular Catheterization

- ✓ Cardiovascular Laboratory Procedures: Diagnostic and Interventional

### Dysrhythmias

- ✓ Arrhythmia Recognition: Just the Basics for the Pediatric Clinician
- ✓ Arrhythmia Recognition: Structure and Function of the Heart
- ✓ Arrhythmia Recognition: Electrophysiology
- ✓ Arrhythmia Recognition: The Cardiac Monitor

- ✓ Arrhythmia Recognition: Lines, Waves and Segments
- ✓ Arrhythmia Recognition: Analyzing the ECG Rhythm Strip
- ✓ Arrhythmia Recognition: Sinus Rhythms
- ✓ Arrhythmia Recognition: Atrial Arrhythmias
- ✓ Arrhythmia Recognition: Junctional Arrhythmias
- ✓ Arrhythmia Recognition: Ventricular Arrhythmias
- ✓ Arrhythmia Recognition: Atrioventricular Arrhythmias
- ✓ Arrhythmia Recognition: Channelopathies
- ✓ Arrhythmia Recognition: Temporary Pacemakers
- ✓ Arrhythmia Recognition: Permanent Pacemakers and ICDs

### Heart Failure

- ✓ Congestive Heart Failure
- ✓ Introduction to Hemodynamic
- ✓ Monitoring Vasoactive Medications
- ✓ Introduction to ECMO

### Hypertensive Crises

- ✓ Pulmonary Arterial Hypertension
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Vasoactive Medications

### Myocardial Conduction System Defects

- ✓ Acquired Heart Disease
- ✓ Arrhythmia Recognition: Just the Basics for the Pediatric Clinician
- ✓ Arrhythmia Recognition: Atrial Arrhythmias
- ✓ Arrhythmia Recognition: Junctional Arrhythmias
- ✓ Arrhythmia Recognition: Ventricular Arrhythmias
- ✓ Arrhythmia Recognition: Atrioventricular Arrhythmias
- ✓ Arrhythmia Recognition: Channelopathies

### Obstructive Shock

- ✓ Caring for the Pediatric Patient in Shock
- ✓ Introduction to Hemodynamic Monitoring

### Vascular Occlusion

- ✓ Acquired Heart Disease
- ✓ Arrhythmia Recognition: Just the Basics for the Pediatric Clinician
- ✓ Cardiovascular Laboratory Procedures: Diagnostic and Interventional

# Clinical Judgment

## Respiratory

### Acute Pulmonary Edema

- ✓ Acquired Heart Disease
- ✓ Acute Respiratory Distress Syndrome
- ✓ Advanced Concepts in Respiratory Physiology
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation
- ✓ Congestive Heart Failure
- ✓ Introduction to Arterial Blood Interpretation

- ✓ Understanding Abnormal Blood Gases
- ✓ Introduction to Hemodynamic Monitoring
- ✓ Mechanical Ventilation: Introduction to Pediatric Practices
- ✓ High-Frequency Ventilation
- ✓ Preventing Ventilator-Associated Infections
- ✓ Vasoactive Medications

- ✓ Introduction to ECMO
- ✓ Lower Airway Disease
- ✓ Status Asthmaticus
- ✓ Pediatric Burns
- ✓ Pediatric Drowning

### Acute Pulmonary Embolus

- ✓ Care of the Pediatric Patient in Shock
- ✓ Understanding Abnormal Blood Gases

### Acute Respiratory Distress Syndrome (ARDS)

- ✓ Acute Respiratory Distress Syndrome
- ✓ Introduction to Arterial Blood Interpretation
- ✓ Understanding Abnormal Blood Gases
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation
- ✓ Management of the Difficult Airway
- ✓ Advanced Concepts in Respiratory Physiology
- ✓ Mechanical Ventilation: Introduction to Pediatric Practices
- ✓ High-Frequency Ventilation
- ✓ Preventing Ventilator-Associated Pneumonia
- ✓ Introduction to ECMO
- ✓ Caring for the Pediatric Patient in Shock
- ✓ Caring for a Child with a Tracheostomy

### Acute Respiratory Failure

- ✓ Acute Respiratory Distress Syndrome
- ✓ Introduction to Arterial Blood Interpretation
- ✓ Understanding Abnormal Blood Gases
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation
- ✓ Management of the Difficult Airway
- ✓ Advanced Concepts in Respiratory Physiology
- ✓ Mechanical Ventilation: Introduction to Pediatric Practices
- ✓ High-Frequency Ventilation
- ✓ Preventing Ventilator-Associated Pneumonia
- ✓ Introduction to ECMO
- ✓ Caring for the Pediatric Patient in Shock
- ✓ Caring for a Child with a Tracheostomy
- ✓ Status Asthmaticus
- ✓ Introduction to ECMO

### Acute Respiratory Infection

- ✓ Acute Respiratory Distress Syndrome
- ✓ Lower Airway Diseases
- ✓ Neonatal Sepsis
- ✓ Pediatric Sepsis
- ✓ Caring for the Pediatric Patient in Shock

### Air-leak Syndromes

- ✓ Acute Respiratory Distress Syndrome
- ✓ Neonatal Respiratory Distress Syndrome
- ✓ Pneumothorax in the Neonate
- ✓ Mechanical Ventilation: Introduction to Pediatric Practices

### Apnea of Prematurity

- ✓ Apnea of Prematurity
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation

### Aspiration

- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation
- ✓ Meconium Aspiration Syndrome

### Chronic Pulmonary Conditions

- ✓ Lower Airway Disease
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation
- ✓ Bronchopulmonary Dysplasia
- ✓ Cystic Fibrosis
- ✓ Status Asthmaticus
- ✓ Caring for the Child with a Tracheostomy

### Congenital Airway Malformations

- ✓ Congenital Diaphragmatic Hernia
- ✓ Esophageal Atresia and TE Fistula
- ✓ Management of the Difficult Airway

### Failure to Wean from Mechanical Ventilation

- ✓ Advanced Concepts in Respiratory Physiology
- ✓ Mechanical Ventilation: Introduction to Pediatric Practices
- ✓ Caring for a Child with a Tracheostomy

### Pulmonary Hypertension

- ✓ Pulmonary Arterial Hypertension
- ✓ Persistent Pulmonary Hypertension of the Newborn

### Status Asthmaticus

- ✓ Lower Airway Disease
- ✓ Status Asthmaticus
- ✓ Basic Principles of Oxygen Therapy, Specialty Gases and Noninvasive Ventilation

### Thoracic and Airway Trauma

- ✓ Pediatric Thoracic Trauma
- ✓ Management of the Difficult Airway
- ✓ The Deadly Triad of Trauma

### Thoracic Surgery

- ✓ Congenital Heart Disease: Acyanotic Defects
- ✓ Congenital Heart Disease: Cyanotic Defects
- ✓ Nursing Management of Chest Tubes
- ✓ General Post-Op Care of the Transplant Patient

# Clinical Judgment

## Endocrine/Hematology/Gastrointestinal/Renal/Integumentary

### Endocrine

#### Adrenal Insufficiency

#### Diabetes Insipidus (DI)

- ✓ Diabetes Insipidus & SIADH

#### Diabetic Ketoacidosis (DKA)

- ✓ Diabetic Ketoacidosis

#### Diabetes Mellitus

- ✓ Diabetes Mellitus

#### Hyperglycemia

- ✓ Diabetes Mellitus
- ✓ Diabetes Insipidus & SIADH
- ✓ Diabetic Ketoacidosis
- ✓ Metabolic Disorders of the Newborn

#### Hypoglycemia

- ✓ Diabetes Mellitus
- ✓ Metabolic Disorders of the Newborn

#### Inborn Errors of Metabolism

- ✓ Metabolic Disorders of the Newborn

#### Syndrome of Inappropriate Secretion of Antidiuretic Hormone (SIADH)

- ✓ Diabetes Insipidus & SIADH

### Hematology & Immunology

#### Anemia

- ✓ Anemia and Polycythemia in the Newborn

#### Coagulopathies

- ✓ Disseminated Intravascular Coagulation
- ✓ Thrombocytopenia: ITP and HIT/T

#### Immune Deficiencies

- ✓ Diabetes Mellitus
- ✓ Metabolic Disorders of the Newborn Pediatric
- ✓ Sepsis

#### Myelosuppression (thrombocytopenia, neutropenia)

- ✓ Disseminated Intravascular Coagulation
- ✓ Blood Administration: Exchange Transfusion
- ✓ Thrombocytopenia: ITP and HIT/T

#### Oncologic Complications

- ✓ Oncologic Emergencies

#### Sickle Cell Crisis

- ✓ Sickle Cell Crisis

#### Transfusion Reactions

- ✓ Blood Transfusion Reaction

### Gastrointestinal

#### Abdominal Compartment Syndrome

- ✓ Abdominal Emergencies
- ✓ Gastroschisis and Omphalocele

#### Abdominal Trauma

- ✓ Pediatric Abdominal Trauma
- ✓ Abdominal Emergencies
- ✓ The Deadly Triad of Trauma

#### Bowel Infarction, Obstruction and Perforation

- ✓ Abdominal Emergencies
- ✓ Pediatric Abdominal Trauma

#### Gastroesophageal reflux

- ✓ Nutrition in the Critically Ill Child

#### GI Hemorrhage

- ✓ Abdominal Emergencies
- ✓ Pediatric Abdominal Trauma
- ✓ The Deadly Triad of Trauma

#### GI Surgery

- ✓ Abdominal Emergencies
- ✓ Congenital Diaphragmatic Hernia
- ✓ Gastroschisis and Omphalocele
- ✓ Liver Transplant
- ✓ General Post-Op Care of the Transplant Patient

#### Liver Disease and Failure

- ✓ Liver Transplant
- ✓ General Post-Op Care of the Transplant Patient

#### Malnutrition and Malabsorption

- ✓ Nutrition in the Critically Ill Child
- ✓ Neonatal Nutrition
- ✓ Pediatric Nutrition Overview

#### Necrotizing Enterocolitis (NEC)

- ✓ Necrotizing Enterocolitis (NEC)

#### Peritonitis

- ✓ Abdominal Emergencies

### Renal/Genitourinary

#### Acute Kidney Injury

- ✓ Pediatric Assessment: The Genitourinary System
- ✓ Renal Failure in the Pediatric Patient
- ✓ Pediatric Abdominal Trauma
- ✓ Hemodialysis
- ✓ Peritoneal Dialysis
- ✓ Continuous Renal Replacement Therapy

#### Chronic Kidney Disease

- ✓ Pediatric Assessment: The Genitourinary System
- ✓ Renal Failure in the Pediatric Patient
- ✓ Hemodialysis

- ✓ Peritoneal Dialysis
- ✓ General Post-Op Care of the Transplant Patient

### Hemolytic Uremic Syndrome (HUS)

- ✓ Renal Failure in the Pediatric Patient

### Kidney Transplant

- ✓ Renal Failure in the Pediatric Patient
- ✓ General Post-Op Care of the Transplant Patient

### Life-threatening Electrolyte Imbalances

- ✓ Fluids and Electrolytes Imbalance: Dehydration
- ✓ Fluids and Electrolytes: Laboratory Assessment
- ✓ Fluids and Electrolytes: Physical Assessment
- ✓ Fluids and Electrolytes: Physiological Differences
- ✓ Fluids and Electrolytes: Replacement Therapy
- ✓ Fluids and Electrolytes: Water Intoxication and Fluid Shift

### Renal/Genitourinary Infections

- ✓ Pediatric Assessment: The Genitourinary System
- ✓ Preventing Catheter-Associated Urinary Tract Infections

### Renal/Genitourinary Surgery

- ✓ Pediatric Assessment: The Genitourinary System
- ✓ Pediatric Abdominal Trauma
- ✓ General Post-Op Care of the Transplant Patient

### Integumentary

#### IV Infiltration

- ✓ Pediatric Peripheral IV Care & Management
- ✓ Management of PIV Complications in the Pediatric Patient

#### Pressure Injury

- ✓ Introduction to Pediatric Pressure Injuries
- ✓ Pressure Injuries in the Pediatric Population: Staging and Care
- ✓ Pressure Injury Staging Assessment

#### Skin Failure (e.g., hypoperfusion)

- ✓ Care of the Pediatric Patient in Shock

#### Wounds

- ✓ Preventing Surgical Site Infections
- ✓ Pediatric Burns

## Clinical Judgment

### Musculoskeletal/Neurological/Behavioral & Psychosocial

#### Musculoskeletal

##### Compartment Syndrome

- ✓ Pediatric Orthopedic Trauma

##### Musculoskeletal Surgery

- ✓ Pediatric Orthopedic Trauma

##### Musculoskeletal Trauma

- ✓ Pediatric Orthopedic Trauma
- ✓ The Deadly Triad of Trauma

##### Rhabdomyolysis

- ✓ Pediatric Orthopedic Trauma

#### Neurologic

##### Acute Spinal Cord Injury

- ✓ Pediatric Spinal Column/Cord Injuries

##### Brain Death

- ✓ Pediatric Traumatic Brain Injury
- ✓ Pediatric Stroke
- ✓ Intracranial Pressure Monitoring and Management
- ✓ Organ and Tissue Donation: The Gift of Life

##### Congenital Neurologic Abnormalities

- ✓ Craniotomy
- ✓ Hydrocephalus
- ✓ Neonatal Cranial Hemorrhage
- ✓ Pediatric Stroke

#### Agitation

- ✓ Sedation and Analgesia in the ICU
- ✓ Anxiety and Obsessive-Compulsive Disorders (OCD)
- ✓ Attention-Deficit/Hyperactivity Disorder (ADHD)
- ✓ Autism Spectrum Disorder (ASD)
- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Caring for the Behaviorally Challenged Patient
- ✓ Crisis Prevention through Verbal and Nonverbal De-escalation Strategies
- ✓ Effective Use of Psychotropic Medications in the Prevention and Management of Disruptive Behavior
- ✓ Oppositional Defiant Disorder (ODD)
- ✓ Pediatric Mood Disorders
- ✓ Pediatric Restraint and Seclusion
- ✓ Psychotic Disorders Trauma-Informed Practice: Concepts, Goals and Key Principles
- ✓ Implementing Trauma-Informed Sensitive Practice

#### Encephalopathy

- ✓ Meningitis and Encephalitis
- ✓ Intracranial Pressure Monitoring and Management

#### Head Trauma

- ✓ Pediatric Traumatic Brain Injury
- ✓ Intracranial Pressure Monitoring and Management
- ✓ Craniotomy
- ✓ The Deadly Triad of Trauma



## Hydrocephalus

- ✓ Hydrocephalus

## Intracranial Hemorrhage

- ✓ Intracranial Pressure Monitoring and Management
- ✓ Craniotomy
- ✓ Neonatal Cranial Hemorrhage
- ✓ Pediatric Stroke

## Neurogenic Shock

- ✓ Care of the Pediatric Patient in Shock
- ✓ Pediatric Spinal Column/Cord Injuries

## Neurologic Infectious Disease

- ✓ Meningitis and Encephalitis

## Neuromuscular Disorders

- ✓ Pediatric Assessment: The Neurological System

## Neurosurgery

- ✓ Craniotomy
- ✓ Pediatric Traumatic Brain Injury

## Seizure Disorders

- ✓ Status Epilepticus
- ✓ Neonatal Seizures

## Space-Occupying Lesions

- ✓ Craniotomy
- ✓ Intracranial Pressure Monitoring and Management
- ✓ Solid Tumors: CNS and Brain Tumors

## Pain (acute, chronic)

- ✓ Pain Management: Assessment of Pain
- ✓ Pain Management: Non-Pharmacological Therapies in the Management of Pediatric Pain
- ✓ Pain Management: Pain Pathophysiology
- ✓ Pain Management: Pharmacological Management of Pediatric Pain
- ✓ Pain Technologies: PCA & Epidural Analgesia
- ✓ Procedural Sedation in the Pediatric Patient
- ✓ Sedation and Analgesia in the ICU

## Spinal Fusion

- ✓ Pediatric Spinal Column/Cord Injuries

## Stroke

- ✓ Pediatric Stroke

## Traumatic Brain Injury (TBI)

- ✓ Pediatric Traumatic Brain Injury
- ✓ Intracranial Pressure Monitoring and Management
- ✓ Craniotomy

## Behavioral & Psychosocial

### Abuse and Neglect

- ✓ Child Abuse and Neglect
- ✓ Intimate Partner Violence
- ✓ Trauma-Informed Practice: Concepts, Goals and Principle
- ✓ Implementing Trauma-Informed Sensitive Practice

### Post-Traumatic Stress Disorder (PTSD)

- ✓ Trauma-Informed Practice: Concepts, Goals and Key Principles
- ✓ Implementing Trauma-Informed Sensitive Practice
- ✓ Trauma- and Stressor-related Disorders
- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Crisis Prevention through Verbal and Nonverbal De-escalation Strategies
- ✓ Effective Use of Psychotropic Medications in the Prevention and Management of Disruptive Behaviors
- ✓ Pediatric Restraint and Seclusion
- ✓ Anxiety Disorders and Obsessive-Compulsive Disorder

### Post-Intensive Care Syndrome (PICS)

- ✓ Trauma-Informed Practice: Concepts, Goals and Key Principles
- ✓ Implementing Trauma-Informed Sensitive Practice
- ✓ Trauma- and Stressor-related Disorder

### Self-Harm

- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Anxiety and Obsessive-Compulsive Disorders (OCD)
- ✓ Pediatric Mood Disorders

### Suicidal Ideation and Behavior

- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Caring for the Behaviorally Challenged Patient
- ✓ Crisis Prevention through Verbal and Nonverbal De-escalation Strategies
- ✓ Effective Use of Psychotropic Medications in the Prevention and Management of Disruptive Behaviors
- ✓ Pediatric Mood Disorders
- ✓ Psychotic Disorders
- ✓ Trauma and Stress-related Disorders
- ✓ Trauma-Informed Practice: Concepts, Goals and Key Principles
- ✓ Implementing Trauma-Informed Sensitive Practice

# Clinical Judgment

## Multisystem

### Acid-base Balance

- ✓ Introduction to Arterial Blood Interpretation
- ✓ Understanding Abnormal Blood Gases
- ✓ Advanced Concepts in Respiratory Physiology

### Anaphylactic Shock

- ✓ Care of the Pediatric Patient in Shock

### Death and Dying

- ✓ Care of the Dying Child: Care Issues
- ✓ Care of the Dying Child: Grief
- ✓ Care of the Dying Child: The Dying Process
- ✓ Health Care Advance Directives: Communicating Wishes
- ✓ Organ and Tissue Donation: The Gift of Life

### Toxin and Drug Exposure

- ✓ Pediatric Toxicology Exposure
- ✓ Blood Administration: Exchange Transfusion

### Hyperthermia and Hypothermia

- ✓ Care of the Pediatric Patient in Shock
- ✓ The Deadly Triad of Trauma
- ✓ Thermoregulation of the Newborn Infant

### Suicidal Ideation and Behavior

- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Caring for the Behaviorally Challenged Patient
- ✓ Crisis Prevention through Verbal and Nonverbal De-escalation Strategies
- ✓ Effective Use of Psychotropic Medications in the Prevention and Management of Disruptive Behaviors
- ✓ Pediatric Mood Disorders
- ✓ Psychotic Disorders
- ✓ Trauma and Stress-related Disorders
- ✓ Trauma-Informed Practice: Concepts, Goals and Key Principles
- ✓ Implementing Trauma-Informed Sensitive Practice

### Self-Harm

- ✓ Care of the Pediatric Patient with Suicidal Ideation
- ✓ Anxiety and Obsessive-Compulsive Disorders (OCD)
- ✓ Pediatric Mood Disorders

# Professional Caring and Ethical Practice

## Advocacy/Moral Agency

- ✓ Introduction to Ethics
- ✓ Family-Centered Care in the ICU
- ✓ Therapeutic Relationships and Professional Behavior

## Caring Practices

- ✓ Introduction to Ethics
- ✓ Family-Centered Care in the ICU

## Response to Diversity

- ✓ Introduction to Workplace Diversity

## Facilitation of Learning

- ✓ Precepting: Adult Learners
- ✓ Preceptor Roles and Responsibilities

## Collaboration

- ✓ Building Effective Teams
- ✓ Clinical Delegation
- ✓ Coaching
- ✓ Empowering Teams
- ✓ Giving and Receiving Feedback
- ✓ Therapeutic Relationships and Professional Behavior

## Systems Thinking

- ✓ Building Effective Teams
- ✓ Empowering Teams
- ✓ Introduction to Finance

## Clinical Inquiry

- ✓ Introduction to Research