

CRNI® Examination Content Outline

The CRNI® Examination is scored on 150 multiple-choice questions in eight core areas of infusion therapy. The test specifications that follow are based on a job analysis—a survey that determines the activities and job requirements for an infusion nurse. To ensure the exam is current, a job analysis is conducted approximately every five years. The findings of INCC's most recent job analysis, conducted in 2012, were implemented with the September 2013 exam.

The exam consists of four-option, multiple-choice questions written at three different cognitive levels:

1. **Recall:** The ability to recall or recognize specific information.
2. **Application:** The ability to comprehend, relate, or apply knowledge to new or changing situations.
3. **Analysis:** The ability to analyze and synthesize information, to determine solutions, and/or to evaluate the usefulness of a solution.

These categories represent an organized way to identify the performance that practitioners will use on the job.

The Content Outline includes eight content areas, compared to nine in previous exam administrations. The content area Performance Improvement has not been eliminated but incorporated into each of the core areas. In addition, the content area Pediatrics has been expanded to become Special Populations and includes Older Adult- and Pregnancy-specific complications.

1. Technology and Clinical Applications - 22% or 33 questions

- A. Anatomy and Physiology
- B. Techniques and Equipment
 1. Containers
 2. Administration sets
 3. Filters
 4. Electronic infusion devices (including pumps)
 5. Calculations
 6. Vein location devices (e.g., transillumination, ultrasound)
- C. Peripheral Access
 1. Access Devices
 - a. Short peripheral
 - b. Midline
 2. Peripheral Access
 - a. Dressings
 - b. Site preparation
 - c. Complications
 - d. Site selection
- D. Central Access
 1. Access Devices
 - a. Peripherally inserted central catheter (PICC)
 - b. Tunneled
 - c. Nontunneled
 - d. Implanted
 2. Central Access
 - a. Dressings
 - b. Site preparation
 - c. Complications
 - d. Site selection
 - e. Navigational tools (e.g., tip locating system)

- E. Nonvascular Route Access
 1. Dressings
 2. Site preparation
 3. Complications
 4. Site selection
- F. Performance Improvement

2. Fluid and Electrolyte Balance – 14% or 21 questions

- A. Acid Base Balance
- B. Fluids and Electrolytes
 1. Body composition
 2. Fluid volume excess and deficit
 3. Electrolyte Disorders
 - a. Fluid and electrolyte imbalances (e.g., hypernatremia/hyponatremia, hyperkalemia/hypokalemia)
 4. Maintenance and Replacement
 - a. Diuretics
 - b. Replacement solutions (e.g., crystalloids)
 - c. Volume expanders (e.g., colloids)
- C. Performance Improvement

3. Pharmacology – 12.7% or 19 questions
 - A. Anti-infective Agents
 - B. Central Nervous System (CNS) Agents
 1. Analgesics
 2. Steroids
 - C. Cardiovascular Agents
 1. Inotropic agents
 - D. Hematologic Agents
 1. Anticoagulants
 2. Thrombolytic
 3. Hemostatics
 - E. Gastrointestinal Agents
 1. Antiemetics
 2. Histamine (H₂) antagonists
 3. Gastric acid inhibitors
 - F. Hormones and Synthetic Substitute Agents
 1. Corticosteroids
 2. Insulin
 - G. Respiratory Agents: Antihistamines
 - H. Performance Improvement
4. Infection Prevention and Control – 14.0% or 21 questions
 - A. General
 1. Epidemiology
 2. Standard Precautions
 3. Gram-negative bacteria
 4. Gram-positive bacteria
 5. Fungus
 - B. Performance Improvement
5. Special Populations – 9.3% or 14 questions
 - A. Pediatrics
 1. Growth and development
 2. Body surface area
 3. Equipment
 4. Doses and calculations
 5. Disease states and conditions
 - B. Older Adults
 1. Cognitive function
 2. Nutritional status
 3. Doses and calculations
 4. Disease states and conditions
 - C. Pregnancy: Fluid and Nutritional Status
 - D. Performance Improvement
6. Transfusion Therapy – 9.3% or 14 questions
 - A. Transfusion Therapy
 1. ABO-Rh
 2. Red blood cells
 3. White blood cells (leukocytes)
 4. Plasma/albumin
 5. Platelets
 6. Rh immune globulin
 7. Factor products
 - B. Performance Improvement
7. Antineoplastic and Biologic Therapy – 9.3% or 14 questions
 - A. Antineoplastic Therapy
 1. Antineoplastic agents
 2. Nitrosoureas
 3. Plant (Vinca) alkaloids
 4. Anti-tumor antibiotics
 5. Antimetabolites (e.g., fluorouracil)
 6. Biological response modifiers
 7. Other antineoplastic agents (e.g., paclitaxel)
 - B. Biologic Therapy
 1. Autoimmune Disorders Anti-TNF- α Inhibitors
 - a. Monoclonal antibodies (e.g., emicade)
 2. Autoimmune Disorders
 - a. B-cell inhibitors (Rituxan)
 - b. T-cell inhibitors (Orencia)
 3. Immune Deficiency
 - a. Immunoglobulin therapy
 - C. Performance Improvement
8. Parenteral Nutrition – 9.3% or 14 questions
 - A. Parenteral Nutrition: General Solution Composition
 - B. Complications
 1. Infection
 2. Electrolyte imbalance
 3. Glucose imbalance
 4. Essential fatty acid deficiency
 5. Trace element deficiency
 6. Vitamin deficiency
 7. Refeeding syndrome
 - C. Performance Improvement