



Critical Care Medicine

Certification Examination Blueprint

What Does the Examination Cover?

The examination is designed to evaluate the extent of the candidate's knowledge and clinical judgment in the areas in which a critical care physician should demonstrate a high level of competence. Expertise in the broad domain of critical care medicine and the diagnosis and treatment of both common and rare conditions that have important consequences for patients, will be assessed.

Examination content is consistent with a pre-established blueprint, or table of specifications. The blueprint is developed by the Test and Policy Committee on Critical Care Medicine and is reviewed and revised annually to ensure that it is current. In addition, practicing critical care medicine trainees, and training program directors are surveyed periodically to provide feedback on the blueprinting process. The blueprint is used as a guide in developing the examination.

The majority of questions (over 75 percent) are based on patient presentations occurring in settings that reflect current medical practice. Questions requiring simple recall of medical facts are in the minority; the majority of questions require integration of information from several sources, prioritization of alternatives, and/or utilization of clinical judgment in reaching a correct conclusion. Some questions require interpretation of pictorial material, such as electrocardiograms, radiographs, computed tomograms, radionuclide scans, and photomicrographs.

Topics covered may include the following:

- Airway maintenance and management of mechanical ventilation
- Interpretation of data from hemodynamic monitoring devices
- Medical problems related to burns and acute illness
- Postoperative medical management, which frequently involves consultation by the internist
- Indications for and complications of surgical procedures
- Drug metabolism, toxicity, and excretion in acute illness
- Administrative and management principles and techniques
- General internal medicine as encountered in the practice of critical care medicine (including some general pediatrics with an emphasis on adolescent medicine)

The content areas covered and their relative proportions on the exam are as follows:

Medical Content Category	Relative Percentage
Pulmonary Disease	22.5%
Cardiovascular Disorders	17.5%
Renal/Endocrine/Metabolism	15%
Infectious Disease	12.5%
Neurologic Disorders	7.5%
Surgical/Trauma/Transplantation	7.5%
Gastrointestinal Disorders	5%
Hematologic/Oncologic Disorders	5%
Pharmacology/Toxicology	5%
Research/Administration/Ethics	2.5%
Total	100%

Content Outline of the Certification Examination

This content outline describes a *typical* Critical Care Medicine Certification Examination; actual content on a specific examination may vary. Each medical content category from the examination blueprint is listed in boldface below, along with target blueprint percentage and total number of questions in the category. Within each category, the approximate distribution of questions in specified areas is also listed.

Medical Content Category (Relative Percentage)	Number of Questions
Pulmonary Disease (22.5%)	46-51 as follows:
Pulmonary physiology/pathophysiology	3-8
Diagnostic and therapeutic procedures	2-6
Mechanical ventilation	15-20
Airway disease	2-3
Parenchymal lung disease	11-13
Pulmonary vascular disorders	2-6
Pleural disorders	1-2
Hemoptysis	0-1
Sleep disorder breathing	0-1

Cardiovascular Disorders (17.5%)	26-35 as follows:
Acute coronary syndromes	9-12
Arrhythmias	4-6
Congestive heart failure	0-1
Hemodynamic monitoring	6-10
Advanced cardiac life support	0-1
Vascular disorders	3-6
Valvular heart disease	1-2
Pericardial disease	0-1
Myocardial disease	1-3

Renal/Endocrine/Metabolism (15%)	30-34 as follows:
Sodium/water balance	3-7
Potassium disorders	1-2
Acid-base disorders	7-14
Calcium/phosphate/magnesium disorders	2-3
Diabetes (excluding DKA) and energy metabolism	0-1
Thyroid disorders	0-2
Adrenal disorders	0-1
Pituitary abnormalities	0-1
Tumor-related syndromes	1-3
Acute renal failure	3-7
Nutritional support	2-4

Medical Content Category (Relative Percentage)	Number of Questions
Infectious Disease (12.5%)	23-25 as follows:
Systemic infections	2-4
Central nervous system infections	3-4
Head, neck, and upper airway infections	1-2
Cardiovascular infections	2-4
Gastrointestinal and intra-abdominal infections	4-5
Genitourinary tract infections	1-2
Soft tissue, bone, and joint infections	0-1
Non-vascular transcutaneous catheters (intracranial, transhepatic, peritoneal, nephrostomy)	0-1
Antimicrobial therapy and resistance	0-2
Immunocompromised hosts	1-2
Other special hosts	0-1
Virulence factors, toxins, and bioweapons	2-4
Hospital epidemiology and infection control	0-2

Neurologic Disorders (7.5%)	12-16 as follows:
Brain death	0-1
Cerebral vascular disease	4-5
Seizures, status epilepticus, subclinical status, myoclonus	1-2
Neurogenic pulmonary edema	0-1
Neuromuscular diseases	1-3
Increased intracranial pressure and hydrocephalus	1-2
Head trauma	0-1
Spinal cord injury and spinal shock	0-1
Encephalopathy/coma/delirium	0-1
Pain control, sedation, and neuromuscular blockade	1-3
Neurosurgery	0-1

Surgical/Trauma/Transplantation (7.5%)	11-15 as follows:
Cardiovascular/vascular	1-3
Abdominal/gastrointestinal	1-2
Obstetric/genitourinary	0-1
Skin and soft tissues/extremities	0-1
Environmental injury	4-7
Postoperative management (general)/anesthesia	0-1
Trauma	2-3
Transplantation	0-1

Medical Content Category (Relative Percentage)	Number of Questions
Gastrointestinal Disorders (5%)	8-11 as follows:
Esophagus	0-1
Stomach	1-2
Small bowel	0-1
Large bowel	0-1
Liver	3-5
Pancreas	0-2
Gallbladder	0-2

Hematologic/Oncologic Disorders (5%)	10-11 as follows:
Red blood cell diseases	0-1
White blood cell diseases	0-1
Platelet disorders	1-3
Coagulopathies	3-6
Hypercoagulable states	0-2
Transfusion medicine	1-3
Solid tumors	0-1
Oncologic syndromes	0-1
Bone marrow transplant	0-1
Complications of immunosuppressive drugs and chemotherapy	0-1

Pharmacology/Toxicology (5%)	9-10 as follows:
Basic pharmacologic principles	0-2
Drug interactions	1-2
Common adverse drug interactions and allergic reactions	2-4
Toxicology, drug overdose, and poisoning	2-4

Research/Administration/Ethics (2.5%)	5-10 as follows:
Intensive care unit (ICU) administration	0-1
Continuous quality improvement/patient safety	0-1
Staffing issues	0-1
Economic considerations	0-1
Medicolegal interactions	0-1
Ethical considerations	2-6
Medical research	2-3
Teaching and education	0-1
Psychosocial issues	0-1