

## Pulmonary Disease

### Maintenance of Certification Examination Blueprint

#### What Does the Examination Cover?

The exam is designed to evaluate the extent of the candidate's knowledge and clinical judgment in the areas in which a pulmonologist should demonstrate a high level of competence.

Expertise in the broad domain of Pulmonary Disease and the diagnosis and treatment of both common and rare conditions that have important consequences for patients, will be assessed.

Exam content is consistent with a pre-established blueprint, or table of specifications. The blueprint is developed by the Subspecialty Board on Pulmonary Disease and is reviewed and revised annually to ensure that it is current. In addition, practicing pulmonologists, Pulmonary Disease 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 exam.

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 imaging studies (including radiographs, computed tomograms, polysomnograms, PET scans and MRI scans) and gram stains.

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

Medical Content Category	Relative Percentage
Asthma	7
Cell/Molecular biology	3.5
Congenital/neuromuscular/Skeletal	2
COPD	7
Critical care, non-lung	4
Critical care, lung	9
Epidemiology, ethics, and statistics	4
ILD-related disorders	6
Infections	13
Neoplasms	9
Obstructive airways disease, other	2
Occupational and environmental diseases	5
Physiology and metabolism	4
Pleural diseases	5
Quality, safety and complications	5
Sleep, Non-respiratory	2
Sleep, Respiratory	8
Transplantation	2
Vascular diseases	2.5
Total	100%

## Content Outline of the Maintenance of Certification Examination

This content outline describes a *typical* Pulmonary Disease Maintenance of 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.

Medical Content Category (Relative Percentage)
<b>Asthma (7%)</b> (11-13 questions in the following areas)
ABPA
Aspirin sensitivity
Asthma, mimics
Cough, asthma-related
Exacerbation
Exercise-induced bronchospasm
General
Medications
Perioperative care
Severity

Medical Content Category (Relative Percentage)
<b>Cell/Molecular biology (3.5%)</b> (4-6 questions in the following areas)
Apoptosis
Cell adhesion
Cell function
Cell metabolism
Cell signaling
Cytokines
Extracellular matrix
Growth factors
Molecular biology
Oxidants
Products

Medical Content Category (Relative Percentage)
<b>Congenital/Neuromuscular/Skeletal (2%)</b> (3-5 questions in the following areas)
Airway
Bronchogenic cyst
Ciliary dyskinesia
Connective tissue
Cystic adenomatoid malformation
Cystic fibrosis
Diaphragmatic
Immunodeficiencies
Neurofibromatosis
Pleural
Sequestration
Sickle cell anemia
Thoracic cage abnormalities
Vascular

Medical Content Category (Relative Percentage)
<b>COPD (7%)</b> (11-13 questions in the following areas)
Acute exacerbation
Alpha-1-antitrypsin
Bronchodilators
Chronic bronchitis
Emphysema
General
Inhaled steroids
Oxygen therapy
Perioperative care
Rehabilitation
Smoking cessation
Surgery/bullectomy
Surgery/lung volume reduction
Systemic steroids

Medical Content Category (Relative Percentage)
<b>Critical care, Non-lung (4%)</b> (6-8 questions in the following areas)
Cardiopulmonary resuscitation
Cardiovascular
Drugs
Endocrine
Gastrointestinal
Hematological problems
Monitoring
Musculoskeletal
Neurological
Nutrition
Overdose and poisoning
Pregnancy
Prognosticating/severity measure systems
Psychiatric
Renal
Shock
Surgery
Thermal problems
Transplantation
Trauma

Medical Content Category (Relative Percentage)
<b>Critical care, lung (9%)</b> (15-18 questions in the following areas)
Artificial airways
Catheter
Chest trauma
Gas exchange
Hemoptysis
Mechanical ventilation
Pharmacotherapy
Pleural effusions
Pneumothorax
Pulmonary emboli
Respiratory acid-base disturbances
Respiratory failure

Medical Content Category (Relative Percentage)
<b>Epidemiology, Ethics and Statistics (4%)</b> (6-8 questions in the following areas)
Ethics
Statistics
Epidemiology

Medical Content Category (Relative Percentage)
<b>ILD-related disorders (6%)</b> (10-11 questions in the following areas)
Acute interstitial pneumonia
Bronchiolitis obliterans
Connective tissue disease
Cryptogenic Organizing Pneumonia
Desquamative Interstitial Pneumonia
Drug-induced
Eosinophilic diseases
Idiopathic pulmonary fibrosis
Langerhans cell histiocytosis
Lymphangioliomyomatosis/Tuberous Sclerosis
Lymphocytic Interstitial Pneumonia
Neurofibromatosis
Non-specific Interstitial Pneumonia
Pulmonary alveolar proteinosis
Relapsing polychondritis
Respiratory bronchiolitis-associated ILD
Sarcoidosis

Medical Content Category (Relative Percentage)
<b>Infections (13%)</b> (20-24 questions in the following areas)
Antibiotics
Bronchial/bronchiolar infections
Fungus ball
HIV
Host defenses
Lung abscess
Non-pulmonary
Mycobacterial, non-tuberculous
Pneumonia
Sepsis
Septic emboli
Tuberculosis
Upper airway/cervical infections
Vaccination/Prevention

Medical Content Category (Relative Percentage)
<b>Neoplasms (9%)</b> (15-18 questions in the following areas)
General neoplasia
Intervention
Lung cancer
Lung tumors, benign
Lymphoma
Mediastinal
Metastases
Nodules
Other cancers
Paraneoplastic syndromes
Plasmacytoma
Pleural
Preoperative assessment

Medical Content Category (Relative Percentage)
<b>Obstructive airways, other than Asthma and COPD (2%)</b> (3-5 questions in the following areas)
Bronchiectasis
Other/Miscellaneous
Upper airway

Medical Content Category (Relative Percentage)
<b>Occupational and environmental diseases (5%)</b> (8-10 questions in the following areas)
Acute reactions
Barometric/thermal
Byssinosis
Hypersensitivity pneumonitis
Occupational asthma
Other
Pneumoconiosis
RADS
Work/disability evaluation

Medical Content Category (Relative Percentage)
<b>Physiology (4%)</b> (6-8 questions in the following areas)
Acid-base
Cardiopulmonary exercise
Cardiovascular
Control of breathing
Exercise
Fluid and electrolytes
Gas exchange
Hemodynamics
Lung mechanics
Nutrition
Obesity
Oxygen content and transport
Pregnancy
Pulmonary function testing

Medical Content Category (Relative Percentage)
<b>Pleural diseases (5%)</b> (8-10 questions in the following areas)
Effusion
Pleural asbestos
Pleural calcification
Pleural fibrosis
Pleural neoplasm
Pleural, other
Pleural thickening
Pneumothorax
Procedures

Medical Content Category (Relative Percentage)
<b>Quality, Safety, and Complications (5%)</b> (8-10 questions in the following areas)
Complication of care
Errors
Infection control
Practice-based learning/improvement
Systems-based practice

Medical Content Category (Relative Percentage)
<b>Sleep, non-respiratory (2%)</b> (3-5 questions in the following areas)
Circadian rhythms
Hypersomnia
Insomnia
Normal sleep physiology
Periodic limb movement disorder
Restless leg syndrome
Sleep in patients who have medical conditions
Sleep in patients who have neurological disease
Sleep in patients who have psychiatric disease
Sleep therapy, effects

Medical Content Category (Relative Percentage)
<b>Sleep, respiratory (8%)</b> (13-15 questions in the following areas)
Central sleep apnea
Nocturnal asthma
Normal physiology, Sleep and respiration
Obstructive sleep apnea
Sleep Hypoventilation

Medical Content Category (Relative Percentage)
<b>Transplantation (2%)</b> (3-5 questions in the following areas)
Complications
Drugs, immunosuppressive
General
Immunology
Infections
Patient selection

Medical Content Category (Relative Percentage)
<b>Vascular (2.5%)</b> (4-5 questions in the following areas)
Alveolar hemorrhage syndromes
Extrinsic arterial obstruction
Non-thrombotic emboli
Pulmonary hypertension
Superior vena cava syndrome
Thromboemboli, deep venous
Thrombosis, pulmonary
Vasculitis
Veno-occlusive disease