



**ACGME International**

**Advanced Specialty Program Requirements for  
Graduate Medical Education in  
Respiratory Medicine  
(Internal Medicine)**

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**ACGME International Specialty Program Requirements for  
Graduate Medical Education  
in Respiratory Medicine (Internal Medicine)**

**Int. Introduction**

*Background and Intent: Programs must achieve and maintain Foundational Accreditation according to the ACGME-I Foundational Requirements prior to receiving Advanced Specialty Accreditation. The Advanced Specialty Requirements noted below complement the ACGME-I Foundational Requirements. For each section, the Advanced Specialty Requirements should be considered together with the Foundational Requirements.*

**Int. I. Definition and Scope of the Specialty**

The medical specialty of respiratory medicine (pulmonary disease) is a subspecialty of internal medicine that focuses on the etiology, diagnosis, prevention, and treatment management of diseases disorders affecting of the respiratory system, including the lungs, and related organs upper airways, thoracic cavity, and chest wall.

**Int. II. Duration of Education**

Int. II.A. The educational program in respiratory medicine must be 24 or 36 months in length.

**I. Institution**

**I.A. Sponsoring Institution**

I.A.1. A fellowship in respiratory medicine must function as an integral part of an ACGME-I-accredited residency in internal medicine.

**I.B. Participating Sites**

See International Foundational Requirements, Section I.B.

**II. Program Personnel and Resources**

**II.A. Program Director**

See International Foundational Requirements, Section II.A.

**II.B. Faculty**

See International Foundational Requirements, Section II.B.

~~II.B.1. Faculty members must teach and supervise the fellows in the performance and interpretation of procedures, and this must be documented in each fellow's record, including indications, outcomes, diagnoses, and supervisor(s).~~

**II.C. Other Program Personnel**

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See International Foundational Requirements, Section II.C.

## **II.D. Resources**

- II.D.1. The following facilities must be available:
- II.D.1.a) a pulmonary function testing laboratory;
  - II.D.1.b) a bronchoscopy suite, including appropriate space and staffing for pulmonary procedures; and,
  - II.D.1.c) critical care, post-operative care, and respiratory care services.
- II.D.2. The following laboratory and imaging services must be available at the primary clinical site:
- II.D.2.a) computed tomography (CT) imaging, including CT angiography; and,
  - II.D.2.b) timely bedside imaging services including portable chest x-ray (CXR), bedside ultrasound, and echocardiogram for patients in the critical care units.
  - II.D.2.c) ~~positron emission tomography (PET) scan and magnetic resonance imaging (MRI);~~
  - II.D.2.d) ~~nuclear medicine imaging capacity and ultrasonography.~~
- II.D.3. A supporting laboratory that provides complete and prompt laboratory evaluation must be available at the primary clinical site or at a participating site to allow reliable and timely return of laboratory test results.
- II.D.4. The following support services must be available:
- II.D.4.a) anesthesiology, immunology, laboratory medicine, microbiology, occupational medicine, otolaryngology, physical medicine and rehabilitation, and radiology;
  - II.D.4.b) a laboratory for sleep-related breathing disorders;
  - II.D.4.c) a thoracic surgery service and,
  - II.D.4.d) pathology services, including exfoliate cytology.
- II.D.5. There must be an average daily census of at least five patients per fellow during assignments to critical care units.

## **III. Fellow Appointment**

### **III.A. Eligibility Criteria**

- III.A.1. Prior to appointment in the program, fellows should have completed an ACGME-I-accredited residency program in internal medicine, or an  
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internal medicine residency program acceptable to the Sponsoring Institution's Graduate Medical Education Committee.

**III.B. Number of Fellows**

See International Foundational Requirements, Section III.B.

**IV. Specialty-Specific Educational Program**

**IV.A. ACGME-I Competencies**

IV.A.1. The program must integrate the following ACGME-I Competencies into the curriculum.

IV.A.1.a) Professionalism

IV.A.1.a).(1) Fellows must demonstrate a commitment to professionalism and an adherence to ethical principles.

IV.A.1.b) Patient Care and Procedural Skills

IV.A.1.b).(1) Fellows must provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows must demonstrate competence in managing care of patients:

IV.A.1.b).(1).(a) in a variety of health care settings, including inpatient and various ambulatory settings; the practice of health promotion, disease prevention, diagnosis, care, and treatment of patients of each gender, from adolescence to old age, during health and all stages of illness;

IV.A.1.b).(1).(b) using critical thinking and evidence-based tools;

IV.A.1.b).(1).(c) using population-based data; and,

IV.A.1.b).(1).(d) with whom they have limited or no physical contact, through the use of telemedicine.

IV.A.1.b).(2) Fellows must demonstrate competence in prevention, evaluation, and management of patients with:

IV.A.1.b).(2).(a) acute lung injury, including inhalation and trauma;

IV.A.1.b).(2).(b) circulatory failure;

IV.A.1.b).(2).(c) diffuse interstitial lung disease;

IV.A.1.b).(2).(d) disorders of the pleura and the mediastinum;

IV.A.1.b).(2).(e) iatrogenic respiratory diseases, including drug-induced disease;

IV.A.1.b).(2).(f)	obstructive lung diseases, including asthma, bronchiectasis, bronchitis, and emphysema;
IV.A.1.b).(2).(g)	occupational and environmental lung diseases;
IV.A.1.b).(2).(h)	pulmonary embolism and pulmonary embolic disease, <u>including tuberculous, fungal, and those infections in the immunocompromised host (e.g., HIV-related infections);</u>
IV.A.1.b).(2).(i)	pulmonary infections, <del>including tuberculous, fungal infections, atypical mycobacterial infections, and those infections in the immunocompromised host (e.g., human immunodeficiency virus (HIV)-related infections);</del>
IV.A.1.b).(2).(j)	primary and metastatic pulmonary malignancy;
IV.A.1.b).(2).(k)	pulmonary manifestations of systemic diseases, including collagen vascular disease and diseases that are primary in other organs;
IV.A.1.b).(2).(l)	pulmonary vascular disease, including <del>primary and secondary</del> pulmonary hypertension and the vasculitis and pulmonary hemorrhage syndromes;
IV.A.1.b).(2).(m)	respiratory failure, including acute respiratory distress syndrome, acute and chronic respiratory failure in obstructive lung diseases, and neuromuscular respiratory drive disorders; <u>and</u>
<del>IV.A.1.b).(2).(n)</del>	<del>sarcoidosis; and,</del>
IV.A.1.b).(2).(n)	sleep-disordered breathing.
<u>IV.A.1.b).(3).</u>	<u>Fellows must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice including</u>
IV.A.1.b).(3).(a)	<u>performing diagnostic and therapeutic procedures relevant to their specific career path, including;</u>
IV.A.1.b).(3).(a).(i)	airway management;
IV.A.1.b).(3).(a).(ii)	emergency cardioversion; <del>diagnostic and therapeutic procedures, to include</del>
IV.A.1.b).(3).(a).(iii)	flexible fiber-optic bronchoscopy procedures, to include those with endobronchial and transbronchial biopsies and transbronchial needle aspiration;
IV.A.1.b).(4).(a).(iv)	insertion of arterial and central venous

- catheters;
- IV.A.1.b).(3).(a).(v) operation of bedside hemodynamic monitoring systems;
- IV.A.1.b).(3).(a).(vi) placement and management use of chest tubes and pleural drainage systems;
- IV.A.1.b).(3).(a).(vii) skills of critical care use of ultrasound including image acquisition, image interpretation at the point of care, and use of ultrasound to place intravascular and intracavitary tubes and catheters.  
~~techniques to perform thoracentesis and place intravascular and intracavitary tubes and catheters.~~
- IV.A.1.b).(3).(a).(viii) thoracentesis, endotracheal intubation, and related procedures;
- IV.A.1.b).(3).(a).(ix) use of a variety of positive pressure ventilator modes, to include:
- IV.A.1.b).(3).(a).(ix).(a) initiation and maintenance of ventilator support;
- IV.A.1.b).(3).(a).(ix).(b) respiratory care techniques;
- IV.A.1.b).(3).(a).(ix).(c) use of reservoir masks and continuous positive airway pressure masks for delivery of supplemental oxygen, humidifiers, nebulizers, and incentive spirometry;
- IV.A.1.b).(3).(a).(ix).(d) use of transcutaneous pacemakers; and,
- IV.A.1.b).(3).(a).(ix).(c) withdrawal of mechanical ventilator support.
- IV.A.1.b).(3).(b) treating their patient's conditions with practices that are patient-centered, safe, scientifically based, effective, timely and cost-effective; and,
- IV.A.1. b).(3).(c) using diagnostic and/or imaging studies relevant to the care of the patient, including.
- IV.A.1.b).(3).(c).(i) interpreting data derived from various bedside devices commonly employed to monitor patients, as well as data from laboratory studies related to sputum, bronchopulmonary secretions, and pleural fluid; and,
- IV.A.1.b).(3).(c).(ii) pulmonary function tests to assess respiratory mechanics and gas exchange, to include spirometry, flow volume studies, lung volumes, diffusing capacity, arterial blood gas analysis, exercise studies, and

interpretation of the results of bronchoprovocation testing using methacholine or histamine.

~~IV.A.b).(4) Fellows must demonstrate competence in participating in a multidisciplinary team approach in the management of pulmonary malignancies and complicated asthma~~

IV.A.1.c) Medical Knowledge

IV.A.1.c).(1) Fellows must demonstrate knowledge of established and evolving biomedical clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows must demonstrate knowledge of:

IV.A.1.c).(1).(a) the scientific method of problem solving and evidence-based decision-making;

IV.A.1.c).(1).(b) indications, contraindications, and techniques for, and limitations, complications, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indication for and use of screening tests and procedures;

IV.A.1.c).(1).(c) imaging techniques commonly employed in the evaluation of patients with respiratory (pulmonary disease) or critical illness, including the ~~use of ultrasound, radiography and CT of the chest, and PET scan changes for assessing pulmonary neoplasms~~ technical and procedural use of ultrasound, and interpretation of ultrasound images at the point of care for medical decision-making;

IV.A.1.c).(1).(d) indications, complications, and outcomes of lung transplantation;

IV.A.1.c).(1).(e) indications, contraindications, and complications of placement of arterial, central venous, and ~~insertion of~~ pulmonary artery balloon flotation catheters;

IV.A.1.c).(1).(f) recognition and management of the critically ill from disasters, including from disasters caused by chemical and biological agents;

IV.A.1.c).(1).(g) the basic sciences, with particular emphasis on:

IV.A.1.c).(1).(g).(i) biochemistry and physiology, including cell and molecular biology and immunology, as they relate to respiratory

- medicine (pulmonary disease);
- IV.A.1.c).(1).(g).(ii) developmental biology;
- IV.A.1.c).(1).(g).(iii) genetics and molecular biology as they relate to respiratory medicine (pulmonary disease); and,
- IV.A.1.c).(1).(g).(iv) pulmonary physiology and pathophysiology in systemic diseases.
- IV.A.1.c).(1).(h) the ethical, economic, and legal aspects of critical illness; and,
- IV.A.1.c).(1).(i) the psychosocial and emotional effects of critical illness on patients and their families.
- IV.A.1.c).(2). Fellows must demonstrate sufficient knowledge specific to the subspecialty of pulmonary disease including application of technology appropriate for the clinical context, including evolving technologies.
- IV.A.1.d) Practice-based Learning and Improvement
- IV.A.1.d).(1) Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.
- IV.A.1.e) Interpersonal and Communication Skills
- IV.A.1.e).(1) Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.
- IV.A.1.f) Systems-based Practice
- IV.A.1.f).(1) Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, including the social determinates of health, as well as the ability to call effectively on other resources in the system to produce optimal care. Fellows must:
- IV.A.1.f).(1).(a) acquire skills required to organize, administer, and direct a critical care unit; and,
- IV.A.1.f).(1).(b) acquire the skills required to organize, administer, and direct a respiratory therapy section.

**IV.B. Regularly Scheduled Educational Activities**



- IV.B.1. The educational program must include didactic instruction based upon the core knowledge content in the subspecialty area.
- IV.B.1.a) The program must ensure that fellows have an opportunity to review all knowledge content from conferences that they could not attend.
- IV.B.2. Fellows must have a sufficient number of didactic sessions to ensure fellow-fellow and fellow-and-faculty interaction.
- IV.B.3. Fellows must receive instruction in practice management relevant to respiratory medicine, including monitoring and supervising special services, including:
- IV.B.3.a) pulmonary function laboratories, to include quality control, quality assurance and proficiency standards;
- IV.B.3.b) respiratory care techniques and services; and,
- IV.B.3.c) respiratory care units.
- ~~IV.B.4. Fellows must have experiences that enable them to acquire knowledge in the evaluation and management of patients with genetic and developmental disorders of the respiratory system.~~
- ~~IV.B.5. Fellows should have formal instruction about genetic and developmental disorders of the respiratory system, including cystic fibrosis.~~

#### **IV.C. Clinical Experiences**

- IV.C.1 Assignment of rotations must be structured to minimize the frequency of rotational transitions, and rotations must be of sufficient length to provide a quality educational experience, defined by continuity of patient care, ongoing supervision, longitudinal relationships with faculty members, and meaningful assessment and feedback.
- IV.C.2. Rotations must be structured to allow fellows to function as a part of an effective interprofessional team that works together toward the shared goals of patient safety and quality improvement.
- IV.C.3. Rotations must be structured to minimize conflicting inpatient and outpatient responsibilities.
- IV.C.4. At least 12 months of education must be devoted to clinical experience.
- IV.C.4.a) At least three months must be spent in the medical intensive care unit (MICU).
- IV.C.4.b) At least nine months must be spent in non-critical care respiratory medicine (pulmonary disease) rotations.
- IV.C.4.c) Fellows should have 18 months of clinical experience.
- IV.C.5. Fellows must be given opportunities to assume continuing responsibility

for both acutely and chronically ill patients to learn both the natural history of respiratory medicine (pulmonary disease) and the effectiveness of therapeutic programs.

- IV.C.6. Fellows must have clinical experience in the evaluation and management of patients
  - IV.C.6.a) in pulmonary rehabilitation; and,
  - IV.C.6.b) with genetic and developmental disorders of the respiratory system, including cystic fibrosis.
- ~~IV.C.7. Fellows must have clinical experience in tobacco prevention and cessation counseling.~~
- IV.C.7. ~~Fellows must have clinical experience in examining and recognizing the histologic changes of lung tissue, becoming familiar with pulmonary cytologic changes, and identifying infectious agents.~~ Fellows must have clinical experience in examination and interpretation of lung tissue for infectious agents, cytology, and histopathology.
- IV.C.8. Fellows must acquire knowledge regarding monitoring and supervising special services, including:
  - IV.C.8.a) pulmonary function laboratories, including quality control, quality assurance and proficiency standards;
  - IV.C.8.b) respiratory care techniques and services; and,
  - IV.C.8.c) respiratory care units.
- IV.C.9. Fellows must be given opportunities to assume continuing responsibility for both acutely and chronically ill patients, in order to learn both the natural history of pulmonary disease, and the effectiveness of therapeutic programs.
- ~~IV.C.10. Each fellow must perform:~~
  - ~~IV.C.10.a) a minimum of 100 flexible fiberoptic bronchoscopy procedures, including those with endobronchial and transbronchial biopsies and transbronchial needle aspiration; and,~~
  - ~~IV.C.10.b) central line placement.~~
- IV.C.10. The program must provide educational experiences in team-based care that allow fellows to interact with and learn from other health care professionals.
- IV.C.11. The educational program must provide fellows with elective experiences relevant to their future practice or to further skill/competence development.
- IV.C.12. Fellows must have experience in the role of a respiratory medicine

consultant in the inpatient and outpatient setting.

- IV.C.13. Fellows ~~must~~ should participate in training using simulation.
- ~~IV.C.14. Fellows must have experience in the role of a respiratory medicine (pulmonary disease) consultant in both the inpatient and ambulatory settings.~~
- IV.C.14. Fellows should have a structured continuity ambulatory clinic experience for the duration of the program that exposes them to the breadth and depth of respiratory medicine (pulmonary disease).
- ~~IV.C.14.a) This should include an appropriate distribution of patients of each gender and a diversity of ages.~~
- IV.C.14.a) This experience should average one half-day each week throughout the education program.
- ~~IV.C.14.b) Each fellow should, on average, be responsible for four to eight patients during each half day session.~~
- ~~IV.C.13.b).(1) Each fellow should, on average, be responsible for no more than eight to 12 patients during each half day ambulatory session.~~
- IV.C.14.b) The continuing patient care experience should not be interrupted by more than one month, excluding a fellow's vacation.

#### **IV.D. Scholarly Activity**

- IV.D.1. Fellows' Scholarly Activity
- IV.D.1.a) While in the program all fellows must engage in at least one of the following scholarly activities: participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor.
- IV.D.2. Faculty Scholarly Activity
- See International Foundational Requirements, Section IV.D.2.

#### **V. Evaluation**

See International Foundational Requirements, Section V.

#### **VI. The Learning and Working Environment**

##### **VI.A. Principles**

See International Foundational Requirements, Section VI.A.

**VI.B. Patient Safety**

See International Foundational Requirements, Section VI.B.

**VI.C. Quality Improvement**

See International Foundational Requirements, Section VI.C.

**VI.D. Supervision and Accountability**

VI.D.1. Direct supervision of procedures performed by each fellow must occur until competence has been acquired and documented by the program director.

**VI.E. Professionalism**

See International Foundational Requirements, Section VI.E.

**VI.F. Well-Being**

See International Foundational Requirements, Section VI.F.

**VI.G. Fatigue**

See International Foundational Requirements, Section

**VI.H. Transitions of Care**

See International Foundational Requirements, Section VI.H.

**VI.I. Clinical Experience and Education**

See International Foundational Requirements, Section VI.I.

**VI.J. On-Call Activities**

See International Foundational Requirements, Section VI.J.