



ACGME International

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

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**ACGME International Specialty Program Requirements for Graduate Medical Education
in Respiratory Medicine (Pulmonary Disease) (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 (pulmonary disease) must be 24 or 36 months in length.

I. Institution

I.A. Sponsoring Institution

I.A.1. A fellowship in respiratory medicine (pulmonary disease) 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

50 See International Foundational Requirements, Section II.C.

51 **II.D. Resources**

52
53 II.D.1. The following facilities must be available:

54
55 II.D.1.a) a pulmonary function testing laboratory;

56
57 II.D.1.b) a bronchoscopy suite, including appropriate space and staffing for
58 pulmonary procedures; and,

59
60 II.D.1.c) critical care, post-operative care, and respiratory care services.

61
62 II.D.2. The following laboratory and imaging services must be available at the
63 primary clinical site:

64
65 II.D.2.a) computed tomography (CT) imaging, including CT angiography;
66 and,

67 II.D.2.b) timely bedside imaging services, including portable chest x-
68 ray (CXR), bedside ultrasound, and echocardiogram for
69 patients in the critical care units.

70
71 ~~II.D.2.c) positron emission tomography (PET) scan and magnetic~~
72 ~~resonance imaging (MRI);~~

73
74 ~~II.D.2.d) nuclear medicine imaging capacity and ultrasonography.~~

75 II.D.3. A supporting laboratory that provides complete and prompt laboratory
76 evaluation must be available at the primary clinical site or at a participating
77 site to allow reliable and timely return of laboratory test results.

78
79 II.D.4. The following support services must be available:

80
81 II.D.4.a) ~~other services, including~~ anesthesiology, immunology, laboratory
82 medicine, microbiology, occupational medicine, otolaryngology,
83 physical medicine and rehabilitation, and radiology;

84 II.D.4.b) a laboratory for sleep-related breathing disorders;

85
86 II.D.4.c) a thoracic surgery service; and,

87 II.D.4.d) pathology services, including exfoliate cytology.

88
89 II.D.5. There must be an average daily census of at least five patients per fellow
90 during assignments to critical care units.

91
92 **II.E. Eligibility Criteria**

93 II.E.1. Prior to appointment in the program, fellows should have completed an
94 ACGME-I-accredited residency program in internal medicine, or an
95 internal medicine residency program acceptable to the Sponsoring
96 Institution's Graduate Medical Education Committee.

II.F. Number of Fellows

See International Foundational Requirements, Section III.B.

III. Specialty-Specific Educational Program

III.A. ACGME-I Competencies

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

III.A.1.a) Professionalism

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

III.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 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,

147		bronchiectasis, bronchitis, and emphysema;
148	IV.A.1.b).(2).(g)	occupational and environmental lung diseases;
149		
150	IV.A.1.b).(2).(h)	pulmonary embolism and pulmonary embolic disease_
151		<u>including tuberculous, fungal, and those infections in</u>
152		<u>the immunocompromised host (e.g., HIV such as</u>
153		<u>human immunodeficiency virus-related infections);</u>
154		
155	IV.A.1.b).(2).(i)	pulmonary infections, including tuberculous, fungal
156		infections, atypical mycobacterial infections, and
157		those infections in the immunocompromised host
158		(e.g., human immunodeficiency virus (HIV)-related
159		infections);
160		
161	IV.A.1.b).(2).(j)	primary and metastatic pulmonary malignancy;
162		
163	IV.A.1.b).(2).(k)	pulmonary manifestations of systemic diseases,
164		including collagen vascular disease and diseases that
165		are primary in other organs;
166		
167	IV.A.1.b).(2).(l)	pulmonary vascular disease, including primary and
168		secondary pulmonary hypertension and the vasculitis
169		and pulmonary hemorrhage syndromes;
170		
171	IV.A.1.b).(2).(m)	respiratory failure, including acute respiratory distress
172		syndrome, acute and chronic respiratory failure in
173		obstructive lung diseases, and neuromuscular
174		respiratory drive disorders; <u>and,</u>
175		
176	IV.A.1.b).(2).(n)	sarcoidosis; and,
177		
178	IV.A.1.b).(2).(n)	sleep-disordered breathing.
179		
180	<u>IV.A.1.b).(3).</u>	<u>Fellows must be able to perform all medical, diagnostic, and</u>
181		<u>surgical procedures considered essential to the subspecialty,</u>
182		<u>including:</u>
183	IV.A.1.b).(3).(a)	<u>performing diagnostic and therapeutic procedures</u>
184		<u>relevant to their individual specific planned career path,</u>
185		<u>to include:</u>
186	IV.A.1.b).(3).(a).(i)	airway management;
187	IV.A.1.b).(3).(a).(ii)	emergency cardioversion;
188	IV.A.1.b).(3).(a).(iii)	flexible fiber-optic bronchoscopy procedures,
189		including those with endobronchial and
190		transbronchial biopsies and transbronchial
191		needle aspiration;
192	IV.A.1.b).(4).(a).(v)	insertion of arterial and central venous-
193		catheters;
194	IV.A.1.b).(3).(a).(iv)	operation of bedside hemodynamic monitoring

195		systems;
196	IV.A.1.b).(3).(a).(v)	<u>placement and management</u> use of chest
197		tubes and <u>pleural</u> drainage systems;
198	IV.A.1.b).(3).(a).(vi)	<u>skills of critical care</u> use of ultrasound
199		including <u>image acquisition, image</u>
200		<u>interpretation at the point of care, and use</u>
201		<u>of ultrasound to place intravascular and</u>
202		<u>intracavitary tubes and catheters;</u>
203		techniques to perform thoracentesis and
204		place intravascular and intracavitary tubes
205		and catheters
206	IV.A.1.b).(3).(a).(vii)	thoracentesis, endotracheal intubation, and
207		related procedures;
208	IV.A.1.b).(3).(a).(viii)	use of a variety of positive pressure ventilator
209		modes, including:
210		
211	IV.A.1.b).(3).(a).(viii).(a)	initiation and maintenance of
212		ventilator support;
213		
214	IV.A.1.b).(3).(a).(viii).(b)	respiratory care techniques; and,
215		
216	IV.A.1.b).(3).(a).(viii).(c)	withdrawal of mechanical ventilator
217		support.
218	IV.A.1.b).(3).(a).(ix)	use of reservoir masks and
219		continuous positive airway pressure
220		masks for delivery of supplemental
221		oxygen, humidifiers, nebulizers, and
222		incentive spirometry ;and,
223		
224	IV.A.1.b).(3).(a).(x)	use of transcutaneous pacemakers;
225		
226	IV.A.1.b).(3).(b)	<u>treating their patients' conditions with practices that are</u>
227		<u>patient-centered, safe, scientifically based, effective,</u>
228		<u>timely, and cost-effective; and,</u>
229	IV.A.1. b).(3).(c)	<u>using diagnostic and/or imaging studies relevant to the</u>
230		<u>care of the patient, to include:</u>
231		
232	IV.A.1.b).(3).(c).(i)	interpreting data derived from various
233		bedside devices commonly employed to
234		monitor patients, as well as from laboratory
235		studies related to sputum, bronchopulmonary
236		secretions, and pleural fluid; and,
237		
238	IV.A.1.b).(3).(c).(ii)	pulmonary function tests to assess
239		respiratory mechanics and gas exchange,
240		including spirometry, flow volume studies,
241		lung volumes, diffusing capacity, arterial
242		blood gas analysis, and exercise studies, and
243		interpretation of the results of
244		bronchoprovocation testing using

245		methacholine or histamine.
246	IV.A.b).(4)	Fellows must demonstrate competence in participating in a
247		multidisciplinary team approach in the management of
248		pulmonary malignancies and complicated asthma
249		
250	III.A.1.c)	Medical Knowledge
251		
252	IV.A.1.c).(1)	Fellows must demonstrate knowledge of established and
253		evolving biomedical clinical, epidemiological, and social-
254		behavioral sciences, as well as the application of this
255		knowledge to patient care. Fellows must demonstrate
256		knowledge of:
257		
258	IV.A.1.c).(1).(a)	the scientific method of problem solving and
259		evidence-based decision-making;
260		
261	IV.A.1.c).(1).(b)	indications, contraindications, and techniques for,
262		and limitations, complications, and interpretation of
263		results of those diagnostic and therapeutic
264		procedures integral to the discipline, including the
265		appropriate indication for and use of screening tests
266		and procedures;
267		
268	IV.A.1.c).(1).(c)	imaging techniques commonly employed in the
269		evaluation of patients with respiratory (pulmonary
270		disease) or critical illness, including the use of
271		ultrasound, radiography and CT of the chest, and
272		PET scan changes for assessing pulmonary
273		neoplasms <u>technical and procedural use of</u>
274		<u>ultrasound, and interpretation of ultrasound</u>
275		<u>images at the point of care for medical decision-</u>
276		<u>making;</u>
277		
278	IV.A.1.c).(1).(d)	indications, complications, and outcomes of lung
279		transplantation;
280		
281	IV.A.1.c).(1).(e)	<u>indications, contraindications, and complications of</u>
282		<u>placement of arterial, central venous, and insertion</u>
283		<u>of pulmonary artery balloon flotation catheters;</u>
284	IV.A.1.c).(1).(f)	recognition and management of the critically ill from
285		disasters, including from disasters caused by
286		chemical and biological agents;
287	IV.A.1.c).(1).(g)	the basic sciences, with particular emphasis on:
288		
289	IV.A.1.c).(1).(g).(i)	biochemistry and physiology, including
290		cell and molecular biology and
291		immunology, as they relate to respiratory
292		medicine (pulmonary disease);
293		

294	IV.A.1.c).(1).(g).(ii)	developmental biology;
295		
296	IV.A.1.c).(1).(g).(iii)	genetics and molecular biology as they
297		relate to respiratory medicine (pulmonary
298		disease); and,
299		
300	IV.A.1.c).(1).(g).(iv)	pulmonary physiology and pathophysiology
301		in systemic diseases.
302		
303	IV.A.1.c).(1).(h)	the ethical, economic, and legal aspects of
304		critical illness; and,
305	IV.A.1.c).(1).(i)	the psychosocial and emotional effects of critical
306		illness on patients and patients' families.
307	IV.A.1.c).(2).	<u>Fellows must demonstrate sufficient knowledge specific to</u>
308		<u>respiratory medicine (pulmonary disease), including</u>
309		<u>application of technology appropriate for the clinical context,</u>
310		<u>to include evolving technologies.</u>
311		
312	IV.A.1.d)	Practice-Based Learning and Improvement
313		
314	IV.A.1.d).(1)	Fellows must demonstrate the ability to investigate and
315		evaluate their care of patients, to appraise and assimilate
316		scientific evidence, and to continuously improve patient
317		care based on constant self-evaluation and lifelong
318		learning.
319	IV.A.1.e)	Interpersonal and Communication Skills
320	IV.A.1.e).(1)	Fellows must demonstrate interpersonal and
321		communication skills that result in the effective exchange
322		of information and collaboration with patients, patients'
323		families, and health professionals.
324		
325	IV.A.1.f)	Systems-Based Practice
326		
327	IV.A.1.f).(1)	Fellows must demonstrate an awareness of and
328		responsiveness to the larger context and system of health
329		care, including the social determinates of health, as well as
330		the ability to call effectively on other resources in the
331		system to produce optimal care. Fellows must:
332		
333	IV.A.1.f).(1).(a)	acquire skills required to organize, administer, and
334		direct a critical care unit; and,
335		
336	IV.A.1.f).(1).(b)	acquire the skills required to organize, administer,
337		and direct a respiratory therapy section.
338		
339	III.B.	Regularly Scheduled Educational Activities
340	IV.B.1.	<u>The educational program must include didactic instruction based upon the</u>
341		<u>core knowledge content in respiratory medicine (pulmonary disease).</u>

342	IV.B.1.a)	<u>Fellows must have a sufficient number of didactic sessions to</u>
343		<u>ensure fellow-fellow and fellow-and-faculty member interaction.</u>
344	IV.B.2.	<u>The program must ensure that fellows have an opportunity to review all</u>
345		<u>knowledge content from conferences that they could not attend.</u>
346	IV.B.3.	<u>Fellows must receive instruction in practice management relevant to</u>
347		<u>respiratory medicine (pulmonary disease), including monitoring and</u>
348		<u>supervising special services, to include:</u>
349	IV.B.3.a)	pulmonary function laboratories, including quality control, quality
350		assurance, and proficiency standards;
351	IV.B.3.b)	respiratory care techniques and services; and,
352	IV.B.3.c)	respiratory care units.
353	IV.B.4.	Fellows must have experiences that enable them to acquire knowledge in
354		the evaluation and management of patients with genetic and
355		developmental disorders of the respiratory system.
356	IV.B.5.	Fellows should have formal instruction about genetic and developmental
357		disorders of the respiratory system, including cystic fibrosis.
358	III.C.	Clinical Experiences
359	IV.C.1	<u>Assignment of rotations must be structured to minimize the frequency of</u>
360		<u>rotational transitions, and rotations must be of sufficient length to provide a</u>
361		<u>quality educational experience, defined by continuity of patient care, ongoing</u>
362		<u>supervision, longitudinal relationships with faculty members, and meaningful</u>
363		<u>assessment and feedback.</u>
364	IV.C.2.	<u>Rotations must be structured to allow fellows to function as a part of an</u>
365		<u>effective interprofessional team that works together toward the shared goals</u>
366		<u>of patient safety and quality improvement.</u>
367	IV.C.3.	<u>Rotations must be structured to minimize conflicting inpatient and outpatient</u>
368		<u>responsibilities.</u>
369		
370	IV.C.4.	At least 12 months of education must be devoted to clinical experience.
371		
372	IV.C.4.a)	At least three months must be spent in the medical intensive care
373		unit(MICU).
374		
375	IV.C.4.b)	At least nine months must be spent in non-critical care respiratory
376		medicine (pulmonary disease) rotations.
377		
378	IV.C.4.c)	Fellows should have 18 months of clinical experience.
379		
380	IV.C.5.	Fellows must be given opportunities to assume continuing responsibility
381		for both acutely and chronically ill patients to learn both the natural history
382		of respiratory medicine (pulmonary disease) and the effectiveness of
383		therapeutic programs.
384		

385	IV.C.6.	Fellows must have clinical experience in the evaluation and management
386		of patients:
387		
388	IV.C.6.a)	in pulmonary rehabilitation; and,
389	IV.C.6.b)	<u>with genetic and developmental disorders of the respiratory</u>
390		<u>system, including cystic fibrosis.</u>
391		
392	IV.C.7.	Fellows must have clinical experience in tobacco prevention and
393		cessation counseling.
394		
395	IV.C.7.	Fellows must have clinical experience in examining and recognizing
396		the histologic changes of lung tissue, becoming familiar with
397		pulmonary cytologic changes, and identifying infectious agents.
398		<u>Fellows must have clinical experience in examination and</u>
399		<u>interpretation of lung tissue for infectious agents, cytology, and</u>
400		<u>histopathology.</u>
401		
402	IV.C.8.	<u>Fellows must have clinical experience in monitoring and supervising</u>
403		<u>special services, including:</u>
404	IV.C.8.a)	<u>pulmonary function laboratories, to include quality control,</u>
405		<u>quality assurance, and proficiency standards;</u>
406		
407	IV.C.8.b)	<u>respiratory care techniques and services; and,</u>
408		
409	IV.C.8.c)	<u>respiratory care units.</u>
410		
411	IV.C.9.	<u>Fellows must be given opportunities to assume continuing responsibility</u>
412		<u>for both acutely and chronically ill patients in order to learn both the natural</u>
413		<u>history of pulmonary disease and the effectiveness of therapeutic</u>
414		<u>programs.</u>
415		
416	IV.C.10.	Each fellow must perform:
417		
418	IV.C.10.a)	a minimum of 100 flexible fiberoptic bronchoscopy procedures,
419		including those with endobronchial and transbronchial biopsies
420		and transbronchial needle aspiration; and,
421		
422	IV.C.10.b)	central line placement.
423	IV.C.10.	<u>The program must provide educational experiences in team-based care</u>
424		<u>that allow fellows to interact with and learn from other health care</u>
425		<u>professionals.</u>
426	IV.C.11.	<u>The educational program must provide fellows with elective experiences</u>
427		<u>relevant to their future practice or to further skill/competence development.</u>
428		
429	IV.C.12.	Fellows must participate in training using simulation.
430		
431	IV.C.13.	Fellows must have experience in the role of a respiratory medicine-
432		(pulmonary disease) consultant in both the inpatient and ambulatory
433		settings.

434	IV.C.13.	Fellows should have a structured continuity ambulatory clinic
435		experience <u>for the duration of the program</u> that exposes them to the
436		breadth and depth of respiratory medicine (pulmonary disease).
437	IV.C.13.a)	This should include an appropriate distribution of patients of each
438		gender and a diversity of ages.
439		
440	IV.C.13.a)	This experience should average one half-day each week
441		throughout the education program.
442	IV.C.13.b)	Each fellow should, on average, be responsible for four to eight
443		patients during each half-day session.
444		
445	IV.C.13.b).(1)	Each fellow should, on average, be responsible for no
446		more than eight to 12 patients during each half-day
447		ambulatory session.
448		
449	IV.C.13.b)	The continuing patient care experience should not be interrupted
450		by more than one month, excluding a fellow's vacation.
451		
452	IV.D.	Scholarly Activity
453	IV.D.1.	Fellows' Scholarly Activity
454	IV.D.1.a)	<u>While in the program, each fellow must complete at least one of the</u>
455		<u>following scholarly activities: participation in grand rounds; poster</u>
456		<u>presentations; workshops; quality improvement presentations;</u>
457		<u>podium presentations; grant leadership; non-peer-reviewed</u>
458		<u>print/electronic resources, articles or publications; book chapters;</u>
459		<u>textbooks; webinars; service on professional committees; or service</u>
460		<u>as a journal reviewer, journal editorial board member, or editor.</u>
461	IV.D.2.	Faculty Scholarly Activity
462		See International Foundational Requirements, Section IV.D.2.
463		
464	V.	Evaluation
465		
466		See International Foundational Requirements, Section V.
467		
468	VI.	The Learning and Working Environment
469		
470	VI.A.	Principles
471		
472		See International Foundational Requirements, Section VI.A.
473		
474	VI.B.	Patient Safety
475		
476		See International Foundational Requirements, Section VI.B.
477		
478	VI.C.	Quality Improvement
479		
480		See International Foundational Requirements, Section VI.C.

481		
482	VI.D.	Supervision and Accountability
483		
484	VI.D.1.	Direct supervision of procedures performed by each fellow must occur
485		until competence has been acquired and documented by the program
486		director.
487		
488	VI.E.	Professionalism
489		
490		See International Foundational Requirements, Section VI.E.
491		
492	VI.F.	Well-Being
493		
494		See International Foundational Requirements, Section VI.F.
495		
496	VI.G.	Fatigue
497		
498		See International Foundational Requirements, Section VI.G.
499	VI.H.	Transitions of Care
500		
501		See International Foundational Requirements, Section VI.H.
502		
503	VI.I.	Clinical Experience and Education
504		
505		See International Foundational Requirements, Section VI.I.
506		
507	VI.J.	On-Call Activities
508		
509		See International Foundational Requirements, Section VI.J.