

AABIP/AIPPD/APCCMPD/ATS/CHEST Program Requirements for Graduate Medical Education in Interventional Pulmonology

Introduction

Int. A. These program requirements represent a collaborative effort between the American Association for Bronchology and Interventional Pulmonology (AABIP), American College of CHEST Physicians (CHEST), Association of Interventional Pulmonology Program Directors (AIPPD), Association of Pulmonary and Critical Care Medicine Program Directors (APCCMPD), and American Thoracic Society (ATS).

Int. B. The intent of this document is to standardize minimal requirements for IP fellowship programs until such time as the ACGME establishes accreditation standards for these programs. This document is intended solely for the standardization of IP fellowship programs within the United States. It is in no way intended to limit the current or future practice of pulmonologists who have not participated in IP fellowship training, nor is it intended to limit patient access to necessary procedures in the absence of a fellowship-trained interventional pulmonologist should those procedures be available through another competent provider. Furthermore this document is not intended to have any bearing on current or future reimbursement schedules for the procedures outlined in this document, nor is it to be used to in anyway limit reimbursement to physicians credentialed to perform these procedures even in the absence of formal IP fellowship training.

Int. C Interventional pulmonology is a subspecialty of pulmonary and critical care medicine that focuses on the evaluation and management of thoracic diseases primarily involving the airways, lung parenchyma, and pleural space, with focus on minimally invasive diagnostic and therapeutic procedural skills. Interventional pulmonology fellowships provide advanced training after completion of a standard fellowship in pulmonary medicine to allow a fellow to acquire competency in the subspecialty with sufficient expertise to act as an independent consultant and expert provider of complex and advanced interventional procedures. This document outlines the minimum core knowledge and procedural skills deemed essential to the practice of IP, and specifies a minimum didactic and experiential exposure required of IP fellowship training programs.

Int. D. Residency and fellowship programs are essential dimensions of the transformation of the medical student into an independent practitioner along the continuum of medical education. They are physically, emotionally, and intellectually demanding, and require longitudinally-concentrated effort on the part of the resident or fellow. The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the healthcare delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident and fellow physician to assume personal responsibility for the care of individual patients. For the resident and fellow, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents and fellows gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept—graded and progressive responsibility—is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident's and fellow's development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

Int. E. The educational program in interventional pulmonology must be at least 12 months in length. As such these program requirements are written based on an expected 12 month clinical experience.

Int. F. The oversight of the interventional pulmonology training requirements and this program requirement document prior to ACGME accreditation will be performed by the joint AABIP, AIPPD, CHEST, APCCMPD and ATS interventional pulmonology fellowship requirements oversight committee.

Int. G. Until ACGME accreditation, and based on the requirements established by and outlined by the joint interventional pulmonology fellowship requirements oversight committee in this document, the joint AABIP/AIPPD interventional pulmonology fellowship accreditation committee will decide to grant or deny interventional pulmonology fellowship accreditation and grant ongoing accreditation through individual program evaluations and site visits.

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to fellow assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

I.A.1. The primary clinical site of an interventional pulmonology fellowship program must also sponsor or be a participating site for an ACGME-accredited pulmonary or pulmonary and critical care medicine fellowship training program. The interventional pulmonology and pulmonary or pulmonary and critical care fellowship programs must coordinate their educational activities.

I.A.2. The sponsoring institution must provide the program director with adequate support for the administrative activities of the fellowship.

I.A.2.a) The program director must not be required to generate clinical or other income to provide this administrative support.

I.A.2.b) This support must be no less than 10% of the program director's salary, or equivalent protected time, and directly devoted to program administration and curriculum development. Any additional support must be provided in accordance with existing ACGME requirements for program directors of ACGME-accredited training programs.

I.A.2.c) The sponsoring institution must provide support for program administrator(s) and other support personnel required for operation of the program.

I.A.3. The sponsoring institution and participating sites must share appropriate inpatient and outpatient faculty performance data with the program director.

I.B. Participating Sites

I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site outlining the details of the IP fellowship. The PLA must be renewed at least every five years.

The PLA must:

I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for fellows;

I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in this document;

I.B.1.c) specify the duration and content of the educational experience; and,

I.B.1.d) state the policies and procedures that will govern fellow education during the assignment.

I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all fellows, of one month full time equivalent (FTE) or more in writing to the AABIP/AIPPD interventional pulmonology fellowship accreditation committee annually as part of their annual report.

II. Program Personnel and Resources

II.A. Fellowship Program Director

II.A.1. There must be a single fellowship program director with authority and accountability for the operation of the program. The sponsoring institution's GMEC must approve a change in program director.

II.A.1.a) The program director must submit this change to the Joint IP Fellowship Review Committee within one month of the effective date of the change.

II.A.2. Qualifications of the program director must include:

II.A.2.a) requisite specialty expertise and documented educational and administrative experience acceptable to the GMEC; and

II.A.2.a).(1) at least five years of participation as an active faculty member in an ACGME-accredited internal medicine pulmonary disease fellowship or pulmonary and critical care fellowship; and

II.A.2.b) current board certification in Interventional Pulmonology by the American Association for Bronchology and Interventional Pulmonology (AABIP) or American Board of Medical Specialties (ABMS) when available; and

II.A.2 c) devote a minimum of 50% of their clinical, research, administrative, and/or education time to the practice of IP; and

II.A.2.d) current medical licensure and appropriate medical staff appointment.

II.A.3. The program director must administer and maintain an educational environment conducive to educating the fellows in each of the ACGME competency areas and in accordance with established milestones. ACGME competency areas include:

1. Medical knowledge
2. Patient Care and Procedural Skill
3. Communication and Interpersonal Skills
4. Professionalism
5. Practice Based Learning and Improvement
6. Systems Based Practice

The program director must:

II.A.3.a) prepare and submit all information required and requested by the Joint IP Fellowship Review Committee;

II.A.3.b) be familiar with and oversee compliance with Joint IP Fellowship Review Committee policies and procedures.

II.A.3.c) obtain review and approval of the sponsoring institution's Graduate Medical Education Committee (GMEC)/Designated Institutional Official (DIO) before submitting information or requests to the Joint IP Fellowship Review Committee, including:

II.A.3.c).(1) all applications for accreditation of new programs;

II.A.3.c).(2) changes in fellow complement;

II.A.3.c).(3) major changes in program structure or length of training;

II.A.3.c).(4) progress reports requested by the Joint IP Fellowship Review Committee;

II.A.3.c).(5) responses to all proposed adverse actions;

II.A.3.c).(6) voluntary withdrawals of ACGME-accredited parent Pulmonary or Pulmonary and Critical Care Medicine fellowship programs;

II.A.3.c).(7) requests for appeal of an adverse action; and,

II.A.3.d) obtain DIO review and co-signature on all program application forms, as well as any correspondence or document submitted to the Joint IP Fellowship Review Committee that addresses:

II.A.3.d).(1) program citations; and/or,

II.A.3.d).(2) request for changes in the program that would have significant impact, including financial, on the program or institution.

II.A.3.e) ensure that fellows' service responsibilities are predominantly limited to patients for whom the IP service has diagnostic and therapeutic responsibility;

II.A.3.f) have a close working relationship with the program director of the pulmonary disease fellowship program, and a reporting responsibility to the GMEC to ensure compliance with this document, institutional, and ACGME accreditation standards; and,

II.A.3.g) be available at the primary clinical site.

II.B. Faculty

II.B.1. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows. A minimum of two faculty members are required, one of which is the Program Director and the other designated as Key Clinical Faculty (see II.B.9 for further description of Key Clinical Faculty).

II.B.2. The faculty must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities and demonstrate a strong interest in the education of fellows.

II.B.3. The faculty must administer and maintain an educational environment conducive to educating fellows in each of the ACGME competency areas.

II.B.4. The physician faculty must have current certification in their primary subspecialty by the American Board of Internal Medicine, or of Surgery, or possess qualifications judged acceptable to the Joint IP Fellowship Review Committee. Physician faculty may practice associated specialties such as Pulmonary Medicine or Thoracic Surgery; however, they must be actively engaged in the practice of interventional pulmonology, maintain a regular supervisory responsibility for the interventional pulmonology fellow(s) and maintain board certification in area of subspecialty. Faculty should be certified in Interventional Pulmonology by AABIP/ABMS.

II.B.5. The physician faculty must possess current medical licensure and appropriate medical staff appointment.

II.B.6. The physician faculty must meet professional standards of ethical behavior.

II.B.7. The non-physician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.

II.B.8. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

II.B.8.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

II.B.8.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.8.b).(1) protected time for research;

II.B.8.b).(2) publication of original research or review articles in peer-reviewed journals or chapters in textbooks;

II.B.8.b).(3) publication or presentation of scientific abstracts at local, regional, or national professional and scientific society meetings; or,

II.B.8.b).(4) participation in national committees or educational organizations.

II.B.8.c) Faculty should encourage and support fellows in scholarly activities.

II.B.9. Key Clinical Faculty

II.B.9.a) In addition to the program director, programs are required to have at least one Key Clinical Faculty (KCF) at the sponsoring institution, and one additional KCF per participating site. For programs with more than two fellows, there must be at least one KCF for every 1.5 fellows.

II.B.9.b) KCF are attending physicians who dedicate, on average, a minimum of 10 hours per week throughout the year to the program.

II.B.9.c) Each KCF member involved in supervising fellows in the performance of interventional procedures must be actively engaged in the practice of interventional pulmonology. As such all KCF members must devote a minimum of 33% of their clinical, administrative, research, and/or educational time to interventional pulmonology.

II.B.9.e) Key Clinical Faculty Qualifications

II.B.9.e).(1) KCF must be active clinicians with knowledge of, experience with, and commitment to interventional pulmonology as a discipline.

] II.B.9.e).(2) . KCF must have current ABIM certification in pulmonary disease and be certified in Interventional Pulmonology by the AABIP/ABMS.

II.B.9.f) Key Clinical Faculty Responsibilities

II.B.9.f).(1) In addition to the responsibilities of all individual faculty members, the KCF and the program director are responsible for the planning, implementation, monitoring, and evaluation of the fellows' clinical and research education.

II.B.9.f).(2) At least 50% of the KCF must demonstrate evidence of productivity in scholarship, specifically, peer-reviewed funding; publication of original research, review articles, editorials, or case reports in peer-reviewed journals; or chapters in textbooks.

II.B.10. Other Required Faculty

II.B.10.a) Access to and interaction with faculty who have expertise in lung transplant, thoracic surgery, otolaryngology head and neck surgery, thoracic oncology, thoracic pathology, radiation oncology, anesthesiology, congenital and acquired complex airway diseases, pleural diseases, pharmacology, radiation and laser safety, and clinical, bench or translational research is required.

II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

II.C.1. There must be services available from other healthcare professionals, including speech and language pathologists, respiratory therapists, dietitians, language interpreters, nurses, occupational therapists, physical therapists, and social workers.

II.C.2. There must be appropriate and timely consultation from other specialties.

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for fellow education.

II.D.1. Space and Equipment

There must be space and equipment for the program, including meeting rooms, examination rooms, computers, visual and other educational aids, and work/study space.

II.D.2. Facilities

II.D.2.a) Inpatient and outpatient administrative support must be in place to prevent fellows from regularly performing routine clerical functions, such as scheduling tests and appointments, and retrieving records and letters.

II.D.2.b) The sponsoring institution must provide the broad range of facilities and clinical support services required to provide comprehensive care of adult patients.

II.D.2.c) Fellows must have access to a lounge facility during assigned duty hours.

II.D.2.d) When fellows are in the hospital, assigned night duty, or called in from home, they must be provided with a secure space for their belongings.

II.D.3. Laboratory Services

Each of the following must be present at the primary clinical site:

II.D.3.a) interventional pulmonary laboratories or suites, each equipped with fluoroscopic equipment, digital imaging, recording devices, and resuscitative equipment.

II.D.4. Other Support Services

The following must be present at the primary clinical site:

II.D.4.a) active thoracic surgery, otolaryngology head and neck surgery, radiation oncology, and thoracic oncology programs;

II.D.4.b) surgical and medical intensive care units;

II.D.4.c) anatomic and cytopathology programs; and

II.D.4.d) diagnostic radiology programs.

II.D.5. Medical Records

Access to an electronic health record must be provided.

II.D.6. Patient Population

II.D.6.a) The patient population must have a variety of clinical problems and stages of diseases pertinent to the practice of IP.

II.D.6.b) There must be patients of each gender, with a broad age range, including geriatric patients.

II.D.6.c) To ensure ongoing faculty and team expertise a sufficient number of patients must be available to achieve the required educational outcomes

II.E. Medical Information Access

Fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities must be available.

III. Fellow Appointments

III.A. Eligibility Criteria

Each fellow must successfully complete an ACGME-accredited pulmonary or pulmonary-critical care fellowship program, or a Royal College of Physicians and Surgeons of Canada (RCPSC)-accredited pulmonary or pulmonary-critical care fellowship program.

III.A.1. The program must document that each fellow has met the eligibility criteria.

III.A.1.a) Prior to appointment in the fellowship, fellows should have completed a three-year ACGME-accredited pulmonary and critical care or two-year pulmonary disease program, and be ABIM board-certified or eligible in pulmonary medicine. Successful completion of a Royal College of Physicians and Surgeons of Canada (RCPSC)-accredited pulmonary or pulmonary-critical care fellowship program is considered equivalent.

III.B. Number of Fellows

The program's educational resources must be adequate to support adequate patient and procedural exposure for each of the fellows appointed to the program.

III.B.1. The program director may not appoint more fellows than approved by the Joint IP Fellowship Review Committee. Any request to increase the number of fellows must be approved in writing by the sponsoring institution's Graduate Medical Education Committee

(GMEC)/Designated Institutional Official (DIO) before submitting information or requests to the Joint IP Fellowship Review Committee.

IV. Educational Program

IV.A. The curriculum must contain the following educational components:

IV.A.1. The program must provide a description of the skills and competencies the fellow will be able to demonstrate at the conclusion of the program to fellows and faculty at least annually, in either written or electronic form.

IV.A.2. ACGME Competencies

Interventional pulmonology involves the care patients with both non-malignant and malignant airway, pleural, mediastinal and parenchymal lung diseases. Accredited training programs in interventional pulmonology must provide a broad exposure to patients suffering from both malignant and non-malignant diseases of the thorax.

The program must integrate the following ACGME competencies into the curriculum:

IV.A.2.a) Medical Knowledge

Fellows must demonstrate in depth knowledge of IP-related disease processes as well as established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, and demonstrate the ability to apply this knowledge to patient care. A didactic lecture series is required with a minimum of once monthly lectures delivered by faculty.

Fellows must:

IV.A.2.a).(1) demonstrate knowledge of the scientific method of problem solving and evidence-based decision making. This must include knowledge of study design, research ethics, and medical biostatistics.

IV.A.2.a).(2) demonstrate a knowledge of indications, contraindications, limitations, complications, techniques, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indication for and use of screening tests/procedures as well as the risks and benefits of alternative procedures;

IV.A.2.a).(3) demonstrate knowledge of anatomic, physiologic, and physical principles as they pertain to the practice of IP. Included is an understanding of:

IV.A.2.a).(3).(i) detailed tracheal, bronchial, vascular, lymphatic, pulmonary, and cardiac anatomy, physiology and pathophysiology;

IV.A.2.a).(3).(ii) pathophysiology of central airway obstruction;

IV.A.2.a).(3).(iii) wound healing and host factor responses to injury

IV.A.2.a).(3).(iv) Properties of endobronchial thermal and ablative treatment technologies to include:

- I. Laser therapy (Nd:YAG, KTP, CO₂, YAP, etc)
- II. Electrocautery
- III. Argon plasma coagulation
- IV. Cryotherapy
- V. Photodynamic therapy

IV.A.2.a).(3).(v) Principles and physical properties of airway stents

IV.A.2.a).(3).(vi) Principles of advanced airway, mediastinal, and lung parenchymal imaging enhancement techniques to include but not limited to:

- I. Autofluorescence
- II. Narrow band imaging
- III. Confocal bronchoscopy
- IV. Optical coherence tomography
- V. Endoscopic radial and convex ultrasound
- VI. Transthoracic ultrasound

IV.A.2.a).(3).(vii) Thoracic imaging modalities to include CT, MRI, PET, thoracic ultrasound

IV.A.2.a).(3).(viii) Pathophysiology and natural history of tracheal stenosis, tracheobronchomalacia, and excessive dynamic airway collapse

IV.A.2.a).(3).(ix) Diagnosis, staging, and natural history of thoracic malignancies to include, but not limited to, lung cancer, mesothelioma, thymoma

IV.A.2.a).(3).(x) Basic principles of radiotherapy to include brachytherapy

IV.A.2.a).(3).(xi) Basic principles of chemotherapy as they apply to thoracic malignancies

IV.A.2.a).(3).(xii) Evaluation, diagnosis, and management of pleural disease to include malignant pleural effusion, recurrent benign pleural effusion and pleuritis, pneumothorax, pleural space infection

IV.A.2.a).(3).(xiii). Managing moderate sedation

IV.A.2.a).(4) must demonstrate knowledge of the prevention, evaluation, and management of both inpatients and outpatients with specific disease entities pertinent to the practice of IP.

Included in this is knowledge of:

IV.A.2.a).(4).(i) malignant airway obstruction, secondary to:

- I. Intrinsic/endoluminal tumor
- II. Extrinsic/extraluminal compression by tumor
- III. Mixed intrinsic and extrinsic obstructing tumor

IV.A.2.a).(4).(ii) non-malignant airway obstruction secondary to but not limited to:

- I. Foreign body
- II. Vocal cord disorders
- III. Tracheal/bronchial obstruction secondary to, for example, granulomatosis with polyangiitis, post-intubation/tracheostomy, tuberculosis, sarcoidosis, amyloidosis, recurrent respiratory papillomatosis, broncholithiasis, Tracheal/bronchial malacia

/ excessive dynamic airway collapse secondary to relapsing polychondritis, Mounier-Kuhn syndrome, COPD

- IV. Airway complications following airway surgery/lung transplant to include anastomotic strictures/granulation
- V. Airway stent-associated granulation tissue
- VI. Extrinsic compression from, for example, goiter, mediastinal cyst, lymphadenopathy

IV.A.2.a).(4).(iii) Loss of airway integrity secondary to but not limited to;

- I. Anastomotic dehiscence
- II. Tracheo/bronchial-esophageal fistula
- III. Bronchopleural / alveolar-pleural fistula

IV.A.2.a).(4).(iv) Pre-malignant and early stage malignant airway disease

IV.A.2.a).(4).(v) The guidelines, principles, and practice of thoracic malignancy screening

IV.A.2.a).(4).(vi) Undiagnosed mediastinal and hilar lymphadenopathy

IV.A.2.a).(4).(vii) Massive hemoptysis

IV.A.2.a).(4).(viii) Solitary pulmonary nodules

IV.A.2.a).(4).(ix) Undiagnosed pleural effusions

IV .A.2.a).(4).(x) Pneumothorax

IV .A.2.a).(4).(xi) Parapneumonic effusion / Empyema

IV .A.2.a).(4).(xii) Malignant pleural effusion

IV .A.2.a).(4).(xiii) Chylothorax

IV .A.2.a).(4).(xiv) Hepatic hydrothorax / effusions due to refractory congestive heart failure

IV.A.2.a).(5) must demonstrate competence in the prevention and management of mechanical complications of interventional pulmonary procedures, which may include:

IV.A.2.a).(5).(i). Simple and tension pneumothorax, hemothorax

IV.A.2.a).(5).(ii). Airway disruption, perforation, tear

IV.A.2.a).(5).(iii). Massive hemoptysis

IV.A.2.a).(5).(iv). Refractory hypoxia / respiratory failure

IV.A.2.a).(5).(v). Injury to adjacent organs, e.g. esophageal perforation during percutaneous dilational tracheostomy placement

IV.A.2.a).(5).(vi). Airway fire

IV.A.2.a).(5).(vii). Secondary tracheal stenosis (post tracheostomy) and secondary bronchial/tracheal strictures from laser/EC /mechanical trauma/ anastomotic complications

IV.A.2.a).(6). must demonstrate knowledge of the safety, administrative, and business aspects pertinent to the practice of IP, to include:

IV.A.2.a).(6).(i). Procedural quality control management. Pursuant to this the fellow must maintain and produce a comprehensive procedural log that includes underlying diagnosis, outcomes, diagnostic yield, and complications.

IV.A.2.a).(6).(ii). Equipment maintenance and procedural suite design

IV.A.2.a).(6).(iii). OSHA and infection control regulations and policies as they pertain to procedural suite design, ventilation, and isolation

IV.A.2.a).(6).(iv) radiation physics, biology, and safety related to the use of x-ray imaging equipment;

IV.A.2.a).(6).(v) laser physics and safety

IV.A.2.b) Patient Care and Procedural Skills

Technical and procedural skills comprise a principle component of IP.

Fellows must:

IV.A.2.b).(1) demonstrate proficiency in the understanding and communicate the indications, contraindications, technical aspects, available alternative treatment options, and complications of IP procedures.

IV.A.2.b).(2) be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health

IV.A.2.b).(3). demonstrate an understanding of the principles of palliative care and end of life decision making

IV.A.2.b).(4) demonstrate competence in 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.2.b).(5) Fellows must be able to competently perform all medical, diagnostic, and surgical procedures considered essential for the practice of IP. The program director is responsible for determining fellow procedural competence based on, for example, a combination of case presentations and procedural planning, direct procedural observation, faculty evaluations, outcomes and complications tracking, procedural exposure accumulated during prior training. When available, validated assessment tools should be further utilized and documented in assessing procedural competence. To maintain staff and faculty expertise and adequate fellow exposure to relevant patient factors and complications, minimum institutional procedural volumes are required to accredit interventional pulmonology fellowship programs (appendix 1). There is no expectation that individual fellows need to meet or exceed those institutional

procedural volumes for any single procedure, nor do those volumes represent metrics for an individual's competency for any given procedure. Where designated, procedures must be performed by or under the direction of designated fellowship faculty. Institutional procedural volumes are not intended to replace institutional quality assurance programs and surveillance or other processes that assess and ensure quality care.

Fellows must be able to competently perform all medical, diagnostic and surgical procedures considered essential for the practice of interventional pulmonology. The following procedures are considered essential to the current practice of IP and IP fellows must master all essential procedures. However, competence in some of these procedures may be acquired during a preceding pulmonary or pulmonary and critical care medicine fellowship.

IV.A.2.b).(5).(i) Rigid bronchoscopy with the following associated procedures. Rigid intubation without a subsequent qualifying associated procedure is insufficient.

- I. Rigid core and mechanical debulking
- II. Placement and removal of endobronchial stents (silicone, hybrid, dynamic)
- III. Rigid sequential dilation
- IV. Foreign body removal
- V. Management of massive hemoptysis

IV.A.2.b).(5).(ii) Endobronchial stenting, silicone or self-expanding)

IV.A.2.b).(5).(iii) Thoracoscopy

IV.A.2.b).(5).(iv) Bronchoscopic navigation by one or a combination of, but not limited to the following techniques

- I. Electromagnetic / virtual bronchoscopic navigation
- II. Radial endobronchial ultrasound
- III. CT-correlated computer-assisted

IV.A.2.b).(5).(v) Endobronchial ablative techniques (employed via rigid or flexible bronchoscope) using one or more of, although not limited to the following devices

- I. Laser
- II. Argon plasma coagulation

- III. Electrocautery
- IV. Cryotherapy
- V. Photodynamic therapy

IV.A.2.b).(6) The following procedures are essential to the current practice of IP; however, competence in these procedures is often acquired during a preceding pulmonary or pulmonary and critical care medicine fellowship. As with all procedural aspects of IP outlined in this standard, it remains the responsibility of the program director to ensure and document competence in these procedures. In situations where the IP fellow is not yet competent to perform the following procedures, special care must be taken to ensure the training of the IP fellow does not interfere with the training of the Pulmonary/Pulmonary and Critical Care fellows at the program institution. In this situation, careful coordination between the IP fellowship and Pulmonary/Pulmonary and Critical Care fellowship directors is required to maintain quality training for both the IP and Pulmonary/Pulmonary and Critical Care Fellows.

IV.A.2.b).(6).(i) Mediastinal and hilar lymph node sampling using convex endobronchial ultrasound

IV.A.2.b).(6).(ii) Ultrasound-guided thoracostomy tube placement and management

IV.A.2.b).(5).(iii) Tunneled indwelling pleural catheter placement

IV.A.2.b).(7) In addition to the above required procedures, IP fellowships may choose to train fellows in the following procedures. If a program wishes to certify its IP fellows as competent in these procedures, they must obtain permission to convey that from the AABIP/AIPPD fellowship accreditation committee. This will be contingent on documentation of sufficient institutional volumes (see Appendix A) to support training in that procedure. As noted above, competence in some of these procedures may be acquired during a preceding pulmonary or pulmonary and critical care medicine fellowship.

IV.A.2.b).(7).(i) Percutaneous dilational tracheostomy placement, management

IV.A.2.b).(7).(ii) Percutaneous endoscopic gastrostomy tube placement

IV.A.2.b).(7).(iii) Bronchial thermoplasty

IV.A.2.b).(7).(iv) Endobronchial management of bronchopleural fistula or bronchoscopic lung volume reduction

IV.A.2.b).(7).(v) Endoscopic Ultrasound (EUS)

IV.A.2.b).(7).(vi) Transtracheal oxygen catheter placement and management

IV.A.2.b).(7).(vii) Image-guided percutaneous needle biopsy

IV.A.2.b).(8) All fellows must longitudinally maintain and be prepared to present their individual HIPPA compliant procedure log which, at a minimum, must include comprehensive data pertaining to:

- I. Specific procedural volumes
- II. Diagnostic yield
- III. Patient outcomes, including complications
- IV. Supervising attending

IV.A.2.c) Practice-based Learning and Improvement

Fellows are expected to develop skills and habits to be able to meet the following goals:

IV.A.2.c).(1) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and,

IV.A.2.c).(2) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.

IV.A.2.d) Interpersonal and Communication Skills

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.2.d).(1) Fellows must demonstrate competence in providing consultation and obtaining informed consent.

IV.A.2.d).(2) Fellows must demonstrate competence in addressing end of life discussions.

IV.A.2.e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

IV.A.2.e).(1) Fellows must demonstrate high standards of ethical behavior, including maintaining appropriate professional boundaries and relationships with patients, other physicians, and other health care team members, and avoiding conflicts of interest.

IV.A.2.f) Systems-based Practice

IV.A.2.f).(1) Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

IV.A.2.f).(2) Fellows must be knowledgeable about the organization or a bronchoscopy/advanced procedural suite including business and personnel management, care and maintenance of equipment, quality control, and specimen handling.

IV.A.3. Curriculum Organization and Fellow Experiences

IV.A.3.a) The 12 month curriculum must include ample instruction in the practice of Interventional Pulmonology, associated clinical specialties for example thoracic surgery or otolaryngology, and research. At a minimum 9 months must be devoted to direct Interventional Pulmonology clinical training.

IV.A.3.b) Fellows must participate in training using simulation. This may encompass the use of low and high fidelity simulators, cadaveric models, and animal models.

IV.A.3.c) The core curriculum must include a didactic program based upon the core knowledge content in the subspecialty area as described in section IV.A.2.b.

IV.A.3.c).(1) The program must afford each fellow an opportunity to review topics covered in conferences that he or she was unable to attend.

IV.A.3.c).(2) Fellows must participate in weekly clinical case conferences, journal clubs, research conferences, and morbidity and mortality or quality improvement conferences. Conferences included as part of the core pulmonary or pulmonary and critical care curriculum may be incorporated into the IP curriculum when appropriate.

IV.A.3.c).(3) A multidisciplinary thoracic tumor board must be conducted at the sponsoring or a participating institution at least weekly. A multidisciplinary complex airway conference must also be conducted at least monthly, although may be combined with the multidisciplinary tumor board. The fellow must attend this board regularly (at least 70% of available meetings).

IV.A.3.c).(4) All core conferences must have at least one faculty member present, and must be scheduled as to ensure peer-faculty interaction.

IV.A.3.d) Fellows must be instructed in practice management relevant to interventional pulmonology.

IV.A.3.e) Fellows must attend an outpatient clinic to provide pre-procedural evaluation and follow-up care for patients. A minimum of 44 half-day clinics must be completed during a 12 month fellowship.

IV.A.3.f) Procedures and Technical Skills

IV.A.3.f).(1) Direct supervision of procedures performed by each fellow must occur until proficiency has been acquired and documented by the program director.

IV.A.3.f).(2) Faculty members must teach and supervise the fellows in the performance and interpretation of procedures, which must be documented in each fellow's record, including indications, outcomes, diagnoses, and supervisor(s).

IV.A.3.f).(3) All fellows must:

IV.A.3.f).(3).(i) participate in pre-procedural planning, including the indications for the procedure, and the selection of the appropriate procedure or instruments;

IV.A.3.f).(3).(ii) perform the critical technical manipulations of the procedure; and,

IV.A.3.f).(3).(iii) demonstrate substantial involvement in post-procedure care.

IV.B. Fellows' Scholarly Activities

IV.B.1. Each program must provide an opportunity for fellows to participate in research or other scholarly activities, including:

IV.B.1.a) a research project (with faculty mentorship); or,

IV.B.1.b) participation with the faculty in the initiation or conduct of clinical trials within the department; or,

IV.B.1.c) participation in quality assurance/quality improvement or process improvement projects; or,

IV.B.1.d) submit and present original investigation or case reports at regional, national, or international meetings; or,

IV.B.1.e) submit original investigation in the field of IP for publication in a peer-reviewed journal

V. Evaluation

V.A. Fellow Evaluation

V.A.1. The program director must appoint a Clinical Competency Committee.

V.A.1.a) At a minimum the Clinical Competency Committee must be composed of two members of the program faculty who practice IP.

V.A.1.a).(1) Others eligible for appointment to the committee include faculty from other divisions / departments and non-physician members of the health care team.

V.A.1.b) There must be a written description of the responsibilities of the Clinical Competency Committee.

V.A.1.b).(1) The Clinical Competency Committee should:

V.A.1.b).(1).(a) review all fellow evaluations semi-annually;

V.A.1.b).(1).(b) advise the program director regarding fellow progress, including promotion, remediation, and dismissal.

V.A.2. Formative Evaluation

V.A.2.a) The faculty must evaluate fellow performance in a timely manner.

V.A.2.a).(1) The faculty must discuss evaluations with each fellow at least every three months. A quarterly summary must accompany these discussions, be signed by the faculty member and fellow, and become part of the fellow's personal file.

V.A.2.a).(2) Assessment of procedural competence must include a formal evaluation process and not be based solely on a minimum number of procedures performed.

V.A.2.b) The program must:

V.A.2.b).(1) provide assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the Internal Medicine Subspecialty Milestones.

V.A.2.b).(1).(a) Patient Care

The program must assess the fellow in data gathering, clinical reasoning, patient management, and procedures in both the inpatient and outpatient setting.

V.A.2.b).(1).(a).(i) This assessment must involve direct observation of fellow-patient encounters.

V.A.2.b).(1).(a).(ii) Each program must define criteria for competence for all required and elective procedures.

V.A.2.b).(1).(a).(iii) The record of evaluation must include the fellow's logbook or an equivalent method to demonstrate that each fellow has achieved competence in the performance of required procedures.

V.A.2.b).(1).(b) Medical Knowledge

The program must use an objective formative assessment method. The same formative assessment method must be administered at least twice during the program.

V.A.2.b).(1).(c) Practice-based Learning and Improvement

The program must use performance data to assess the fellow in:

V.A.2.b).(1).(c).(i) application of evidence to patient care;

V.A.2.b).(1).(c).(ii) practice improvement;

V.A.2.b).(1).(c).(iii) teaching skills involving peers and patients;

V.A.2.b).(1).(c).(iv) 5.d) scholarship.

V.A.2.b).(1).(d) Interpersonal and Communication Skills

The program must use both direct observation and multi-source evaluation, including patients, peers and non-physician team members, to assess fellow performance in:

V.A.2.b).(1).(d).(i) communication with patient and family;

V.A.2.b).(1).(d).(ii) teamwork;

V.A.2.b).(1).(d).(iii) communication with peers, including transitions in care; and,

V.A.2.b).(1).(d).(iv) record keeping.

V.A.2.b).(1).(e) Professionalism

The program must use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow:

V.A.2.b).(1).(e).(i) honesty and integrity;

V.A.2.b).(1).(e).(ii) ability to meet professional responsibilities;

V.A.2.b).(1).(e).(iii) ability to maintain appropriate professional relationships with patients and colleagues; and,

V.A.2.b).(1).(e).(iv) commitment to self-improvement.

V.A.2.b).(1).(f) Systems-based Practice

The program must use multi-source evaluation, including peers, and non-physician team members, to assess each fellow's:

V.A.2.b).(1).(f).(i) ability to provide care coordination, including transition of care;

V.A.2.b).(1).(f).(ii) ability to work in interdisciplinary teams;

V.A.2.b).(1).(f).(iii) advocacy for quality of care; and,

V.A.2.b).(1).(f).(iv) ability to identify system problems and participate in improvement activities.

V.A.2.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff); and,

V.A.2.b).(3) provide each fellow with documented semiannual evaluation of performance with feedback.

V.A.2.c) The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy.

V.A.2.d) In the event of substandard fellow performance the program must provide a clear remediation plan in both verbal and written form. The remediation plan must clearly articulate the area of concern, stipulate a timeline for remediation, and outline a course of action to achieve remediation. The document must be signed by both the fellow and program director, and stored in the fellow's performance file.

V.A.3. Summative Evaluation

V.A.3.a) The Internal Medicine Subspecialty Milestones must be used as one of the tools to ensure fellows are able to practice core professional activities without supervision upon completion of the program.

V.A.3.b) The program director must provide a summative evaluation for each fellow upon completion of the program.

This evaluation must:

V.A.3.b).(1) become part of the fellow's permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy;

V.A.3.b).(2) document the fellow's performance during their education; and,

V.A.3.b).(3) verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision.

V.A.3.b).(4) include a level of entrustability for each procedure in which the fellow has been trained

V.B. Faculty Evaluation

V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program.

V.B.2. These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

V.B.3. Fellows must have the opportunity to provide written confidential evaluations of each supervising faculty member at the end of each rotation, or at least quarterly.

V.B.4. To ensure confidentiality these evaluations must be sequestered for a period of time after the fellow has graduated before reviewal by faculty. Each program is responsible for creating a system to maintain confidentiality.

V.B.5. The program must designate a non-faculty member as an ombudsman to whom the fellow can address concerns about faculty without the fear of reprisals. This individual must also conduct and document an independent exit interview with the fellow prior to departure.

V.C. Program Evaluation and Improvement

V.C.1. The program director must appoint the Program Evaluation Committee (PEC).

V.C.1.a) The Program Evaluation Committee:

V.C.1.a).(1) must be composed of at least two program faculty members and should include at least one fellow;

V.C.1.a).(2) must have a written description of its responsibilities; and,

V.C.1.a).(3) should participate actively in:

V.C.1.a).(3).(a) planning, developing, implementing, and evaluating educational activities of the program;

V.C.1.a).(3).(b) reviewing and making recommendations for revision of competency-based curriculum goals and objectives;

V.C.1.a).(3).(c) reviewing the program annually using evaluations of faculty, fellows, and others, as specified below.

V.C.2. The program, through the PEC, must document formal, systematic evaluation of the curriculum at least annually, and is responsible for rendering a written and Annual Program Evaluation (APE).

The program must monitor and track each of the following areas:

V.C.2.a) fellow performance;

V.C.2.b) faculty development;

V.C.2.c) progress on the previous year's action plan(s); and,

V.C.2.d) graduate performance, including performance of program graduates on the certification examination.

VI. Fellow Duty Hours in the Learning and Working Environment

VI.A. Professionalism, Personal Responsibility, and Patient Safety

VI.A.1. Programs and sponsoring institutions must educate fellows and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.

VI.A.2. The program must be committed to and responsible for promoting patient safety and fellow well-being in a supportive educational environment.

VI.A.3. The program must provide processes for monitoring stress and provide access to confidential counseling and psychological support.

VI.A.4. The program director must ensure that fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.

VI.A.5. The learning objectives of the program must:

VI.A.5.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,

VI.A.5.b) not be compromised by excessive reliance on fellows to fulfill non-physician service obligations.

VI.A.6. The program director and sponsoring institution must ensure a culture of professionalism that supports patient safety and personal responsibility.

VI.A.7. Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:

VI.A.7.a) assurance of the safety and welfare of patients entrusted to their care;

VI.A.7.b) provision of patient- and family-centered care;

VI.A.7.c) assurance of their fitness for duty;

VI.A.7.d) management of their time before, during, and after clinical assignments;

VI.A.7.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;

VI.A.7.f) attention to lifelong learning;

VI.A.7.g) the monitoring of their patient care performance improvement indicators; and,

VI.A.7.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.

VI.A.8. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. They must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.

VI.B. Transitions of Care

VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.

VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

VI.B.3. Programs must ensure that fellows are competent in communicating with team members in the hand-over process.

VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and fellows currently responsible for each patient's care.

VI.C. Alertness Management/Fatigue Mitigation

VI.C.1. The program must:

VI.C.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation;

VI.C.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and,

VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a fellow may be unable to perform his/her patient care duties.

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for fellows who may be too fatigued to safely return home.

VI.D. Supervision of Fellows

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient's care.

VI.D.1.a) This information should be available to fellows, faculty members, and patients.

VI.D.1.b) Fellows and faculty members should inform patients of their respective roles in each patient's care.

VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all fellows who care for patients. Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or fellow physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback as to the appropriateness of that care.

VI.D.3. Levels of Supervision

To ensure oversight of fellow supervision and graded authority and responsibility, the program must use the following classification of supervision:

VI.D.3.a) Direct Supervision – the supervising physician is physically present with the fellow and patient.

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

VI.D.3.b).(2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

VI.D.4. The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members.

VI.D.4.a) The program director must evaluate each fellow's abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

VI.D.4.b) Faculty members functioning as supervising physicians should delegate portions of care to fellows, based on the needs of the patient and the skills of the fellows.

VI.D.4.c) Fellows should serve in a supervisory role of residents or junior fellows in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual fellow.

VI.D.5. Programs must set guidelines for circumstances and events in which fellows must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

VI.D.5.a) Each fellow must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

VI.D.6. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each fellow and delegate to him/her the appropriate level of patient care authority and responsibility.

VI.E. Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY-level, patient safety, fellow education, severity and complexity of patient illness/condition and available support services.

VI.F. Teamwork

Fellows must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty.

VI.G. Fellow Duty Hours

VI.G.1. Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

VI.G.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by fellows in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.3. Mandatory Time Free of Duty

Fellows must be scheduled for a minimum of one day free of duty every 7-day week (when averaged over four weeks). At-home call cannot be assigned on these free days.

VI.G.4. Maximum Duty Period Length

Duty periods of fellows may be scheduled to a maximum of 24 hours of continuous duty in the hospital.

VI.G.4.a) Programs must encourage fellows to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.b) It is essential for patient safety and fellow education that effective transitions in care occur. Fellows may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.c) Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.d) In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.d).(1) Under those circumstances, the fellow must:

VI.G.4.d).(1).(a) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.d).(1).(b) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.d).(2) The program director must review each submission of additional service, and track both individual fellow and program-wide episodes of additional duty.

VI.G.5. Minimum Time Off between Scheduled Duty Periods

VI.G.5.a) Fellows must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

Internal medicine subspecialty fellows are considered to be in the final years of education.

VI.G.5.a).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that fellows have eight hours free of duty between scheduled duty periods, there may be circumstances when these fellows must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

VI.G.5.a).(1).(a) Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by fellows must be monitored by the program director.

VI.G.5.a).(1).(b) In unusual circumstances, fellows may remain beyond their scheduled period of duty or return after their scheduled period of duty to provide care to a single patient.

Justifications for such extensions of duty are limited to reasons of required continuity of care for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of the patient or family. Such episodes should be rare, must be of the fellows' own initiative, and need not initiate a new 'off-duty period' nor require a change in the scheduled 'off-duty period.'

VI.G.5.a).(1).(c) Under such circumstances, the fellow must appropriately hand over care of all other patients to the team responsible for their continuing care, and document the reasons for remaining or returning to care for the patient in question and submit that documentation to the program director.

VI.G.5.a).(1).(d) The program director must review each submission of additional service and track both individual fellows' and program-wide episodes of additional duty.

VI.G.6. Maximum Frequency of In-House Night Float

Fellows must not be scheduled for more than six consecutive nights of night float.

VI.G.7. Maximum In-House On-Call Frequency

Fellows must be scheduled for in-house call no more frequently than every-third-night

VI.G.8. At-Home Call

VI.G.8.a) Time spent in the hospital by fellows on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

VI.G.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each fellow.

VI.G.8.b) Fellows are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new "off-duty period".

Appendix A:

Minimum institutional volumes necessary for accreditation of an IP fellowship program

Procedure Type	Requisite Annual Institutional Case Volume
Demonstration of competence is mandatory for IP fellows	
Rigid Bronchoscopy	50
Endobronchial Stenting	20
Thoracoscopy	20
Bronchoscopic Navigation	20
Endobronchial Ablation	50
Endobronchial Ultrasound	100
Image-guided Thoracostomy Tube Placement	20
Tunneled Pleural Catheter Placement	20
Training to competence <i>may</i> be offered during IP fellowship*	
Percutaneous Dilational Tracheostomy	20
Percutaneous Endoscopic Gastrostomy	20
Bronchial Thermoplasty	6
Endobronchial Management of Bronchopleural Fistula or Bronchoscopic Lung Volume Reduction	5
Endoscopic Ultrasound	30
Transtracheal Oxygen Catheter	5
Image-guided Percutaneous Needle Biopsy	5

*If graduates are to be certified as competent in these procedures during IP training, the minimum institutional volumes must be available to assure sufficient opportunity for hands-on training.