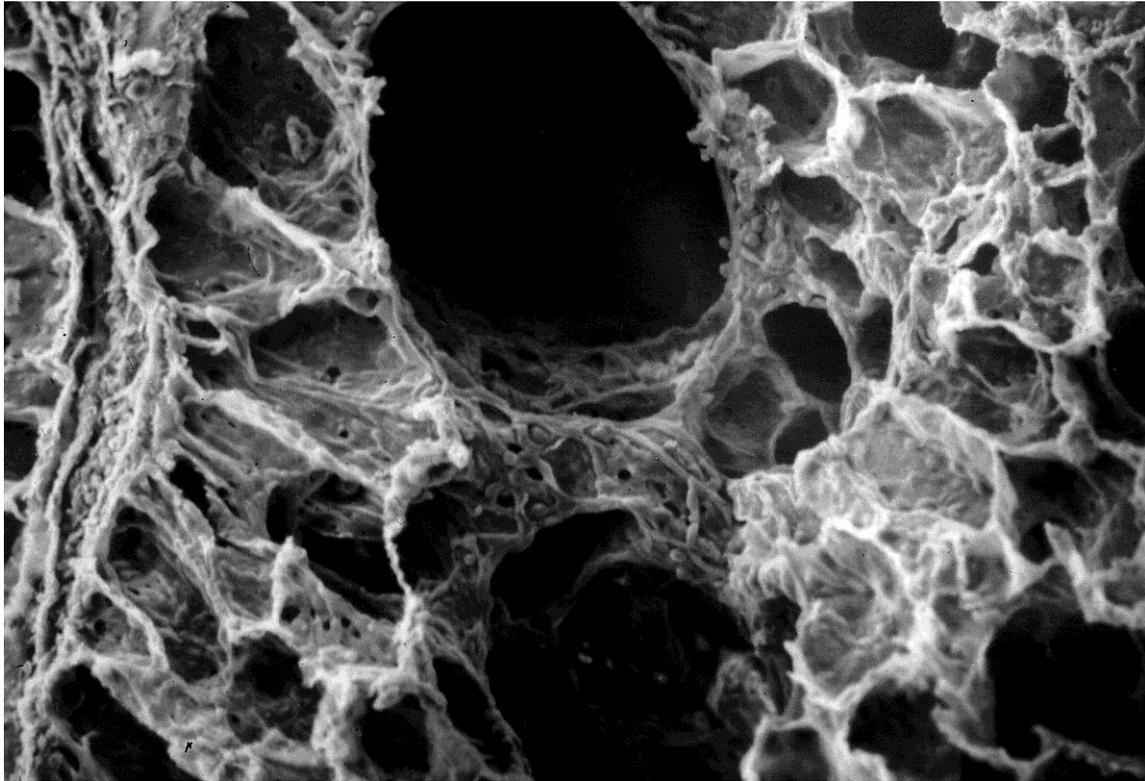


Training Program Core Curriculum Guide



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I. Vision, Mission, Program Goal of the University of Illinois at Chicago Pulmonary and Critical Care Fellowship Program

The **vision** of the Pulmonary, Critical Care fellowship is to produce the highest quality graduates who become leaders in their fields.

The **mission** is to develop outstanding pulmonary and critical care medicine physicians. On the completion of their fellowship, all graduates should be highly qualified to practice pulmonary and critical care medicine competently and independently. Research-track graduates should understand their research area and methods, have presented and published, be equipped to obtain an early career grant and be prepared to assume a successful academic leadership faculty position. Clinical-track graduates should be equipped to become leaders in the clinical arena, which includes being a leading clinician, consultant, teacher, and scholar and enhancing the programs to which they belong with leadership and life-long improvement.

The **goal** of the fellowship program is to develop internists into competent specialists in pulmonary and critical care medicine with good clinical judgment, extensive medical knowledge, clinical proficiency, humanistic qualities, commitment to continuing scholarship, and ethical behavior, in keeping with the guidelines of the Accreditation Council for Graduate Medical Education (ACGME). The Pulmonary, Critical Care, Sleep, and Allergy division is fully committed to the goal of preparing physicians for outstanding academic and practice careers.

Highly regarded **values** include problem-solving, communication skill, commitment, embracing responsibility, trustworthiness, ethical, being a team player, leadership, continuous improvement, creativity, nurturing, respectfulness, and leading by example.

II. ACGME General Competencies

ACGME has developed general competencies to guide the training of fellows. They are **A. Patient Care, B. Medical Knowledge, C. Interpersonal and Communication Skills, D. Professionalism, E. Practice-Based Learning and Improvement, and F. Systems-based Practice**. In addition, the Division of Pulmonary, Critical Care, and Sleep Medicine has added **G. Procedural Skills**. It incorporates these competencies into all aspects of its training program.

A. Patient Care

The fellows are expected to demonstrate integrity, respect, compassion, and empathy for their patients. These include being honest, involved, and responsive to the patient's wishes and to establish the patient's trust and to maintain credibility and rapport with patients and their families. During their training, fellows should provide meaningful emotional support to patients and their families.

Fellows must provide appropriate, comprehensive, and high quality care. They need to be responsive to the patient's needs and concerns, to demonstrate cultural competency, and to use laboratory tests, consultations, diagnostic procedures, and therapies efficiently, cost-effectively, and always in the patient's best interest. They should be patient advocates for optimal use of limited resources to maintain and enhance the quality of care.

Fellows are expected to:

- Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- Gather essential and accurate information about the patient and use it together with current scientific evidence to make decisions about diagnostic and therapeutic interventions
- Develop and carry out appropriate patient management plans
- Provide education and counseling to patients
- Competently perform procedures essential for the practice of pulmonary, critical care, sleep and allergy
- Provide health care services aimed at preventing health problems or maintaining health
- Work with other health care professionals to provide patient-centered care

B. Medical Knowledge

Scholarship and lifelong learning are fundamental to a successful career in medicine. Fellows must possess or develop a commitment to maintain and renew their knowledge and clinical skills throughout their career. They must be skilled in obtaining and interpreting medical information and realizing its limitations. They should participate in scientific and clinical studies and meetings. They should be able to critically evaluate new information relevant to Pulmonary and Critical Care Medicine.

Fellows are expected to perform basic or clinical research under the guidance of faculty, attend relevant research meetings, present their results at a scientific meeting and author or co-author at least one paper resulting from their research. The fellows are also expected to supervise and teach residents and medical students assigned to their services.

The program will ensure that its fellows possess knowledge in established and evolving biomedical and clinical science and apply it to clinical care. Fellows are expected to demonstrate rigor in their thinking about clinical situations.

The curriculum will cover the following topics during a three-year period:

Pulmonary Medicine

- Obstructive lung diseases including asthma, bronchitis, emphysema, bronchiectasis, bronchiolitis, and cystic fibrosis
- Thoracic malignancies, primary and metastatic
- Pulmonary infections, including pneumonia, tuberculosis, fungal infections, and those in the immunocompromised host
- Diffuse interstitial lung diseases
- Pulmonary vascular diseases, including pulmonary thromboembolism, pulmonary hypertension, and the vasculitides
- Occupational and environmental lung diseases and environmental stress conditions
- Iatrogenic respiratory diseases, including drug-induced disease
- Acute lung injury, including radiation, inhalation, and trauma
- Respiratory manifestations of systemic conditions, such as collagen vascular diseases and pregnancy
- Respiratory failure, including the respiratory distress syndrome, acute and chronic respiratory failure in pre-existing lung diseases and neuromuscular and respiratory drive disorders
- Disorders of the pleura and mediastinum

- Genetic and developmental disorders of the respiratory system
- Sleep disorders
- End of life care and palliative care
- Management aspects of medicine

Critical Care Medicine

- Physiology, pathophysiology, molecular biology, diagnosis and therapy of disorders of the cardiovascular, respiratory, renal, gastrointestinal, genitourinary, neurologic, endocrine, hematologic, musculoskeletal, immune, and reproductive systems
- Electrolyte and acid-base physiology, pathophysiology, diagnosis and therapy
- Metabolic, nutritional and endocrine effects of critical illnesses
- Hematologic and coagulation disorders associated with critical illnesses
- Life-threatening obstetric and gynecologic disorders
- Management of the immunosuppressed patients
- Management of anaphylaxis and acute allergic reactions
- Trauma
- Pharmacokinetics, drug metabolism, and excretion in critical illness
- Use of paralytic agents
- End of life care and palliation of a critically ill patient
- Ethical, economic, and legal aspects of critical illness
- Biostatistics and experimental design
- Principles and techniques of administration and management
- Psychosocial and emotional effects of critical illnesses
- Iatrogenic and nosocomial problems in critical care medicine
- Personal development, attitudes and coping skills of physicians and other health care professionals who care for critically ill patients
- Occupational Safety and Health Administration (OSHA) regulations and universal precautions and protection of health care workers

Experience will also be provided in the analysis of data pertaining to the following:

- Parenteral nutrition
- Cardiac output determinations by thermodilution and other techniques
- Evaluation of oliguria
- Management of massive transfusions
- Management of hemostatic defects
- Interpretation of antibiotic levels and sensitivities
- Monitoring and assessment of metabolism and nutrition
- Calculation of oxygen content, intrapulmonary shunt and alveolar arterial gradients
- Pharmacokinetics

The program will provide the environment and resources for the fellow to acquire knowledge of and ability to interpret the following:

- Imaging procedures, including: chest radiographs, computed axial tomograms, radionuclide scans, positron emission tomography, and other radiologic and ultrasound procedures
- Ultrasonography that is used in pulmonary and critical care medicine

- Sleep studies
- Inhalation challenge studies
- Pulmonary function tests to assess respiratory mechanics, gas exchange and respiratory drive, including spirometry, flow-volume studies, lung volumes, diffusion capacity, arterial blood gas analysis
- Cardiopulmonary exercise studies
- Slides of basic lung pathology

The program will provide the environment and resources for fellows to develop competence in monitoring and supervising special services, including:

- Critical care units
- Pulmonary function laboratories
- Respiratory physical therapy and rehabilitation services
- Respiratory care techniques and services

C. Interpersonal and Communication Skills

The emotional impact of managing the care and treatment of critically and chronically ill patients demands special sensitivity toward their needs and those of their families and friends. This should include the ability to provide a realistic appraisal of the patient's condition while offering hope, thereby allowing patients to cope optimally with their diseases. Whether to undertake expensive and uncertain therapy also requires knowledge, understanding of social support and palliative measures, and effective communication in eliciting informed consent.

The fellowship program will ensure that fellows develop appropriate interpersonal relationships and communicate effectively with patients, their patient's families, and professional associates. Fellows are expected to:

- Create and sustain a therapeutic and ethically sound relationship with patients
- Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- Work effectively with others as a member or leader of a professional group that might include professionals from multiple disciplines

D. Professionalism

Professionalism aspires to altruism, accountability, excellence, duty, service, honor, integrity, and respect for others. It comprises the attitudes, behavior, and interpersonal skills defined as essential in relation to patients and their families, and other health care professionals. Professionalism includes the ability and willingness to communicate effectively, to accept responsibility, to write comprehensive yet concise and timely medical records, to be available as consultants to other physicians when needed, and to evaluate critically the new medical and scientific information relevant to the practice of medicine.

The fellows are expected to demonstrate a high standard of moral and ethical behavior. A deficiency in moral and ethical behavior precludes certification by the American Board of Internal Medicine and is treated with the utmost importance. Alleged deficiencies will be documented by the attending physician and program director, and discussed at the Faculty Clinical Competency Committee meeting. This behavior will lead at the least to counseling and careful scrutiny. After the fellow is given an opportunity to address the issues involved and after consultation with the Graduate Medical Education Office, documented

deficiencies in moral and ethical behavior may lead to dismissal from the training program.

The program will ensure that its fellows demonstrate the fundamental qualities of professionalism. Fellows are expected to:

- Demonstrate respect, regard, integrity, and a responsiveness to the needs of patients and society that supersedes self-interest
- Conduct themselves in a professional manner and be properly attired and groomed
- Assume responsibility and act responsibly
- Be punctual
- Demonstrate a commitment to excellence and on-going professional development
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, and informed consent
- Demonstrate sensitivity and responsiveness to cultural differences, including awareness of their own and their patients' perspectives
- Be eminently available and responsive to colleagues, staff, and patients

E. Practice-based Learning and Improvement

The program will ensure that its fellows are able to investigate, evaluate, and improve their patient care practices. Fellows are expected to:

- Analyze practice experience and perform practice-based improvement activities using a systematic methodology
- Locate, appraise, and assimilate best practices related to their patients' health problems
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- Use information technology to manage information
- Access on-line medical information to support clinical care, patient education, and self-education
- Fellows must complete a Quality Improvement project during their clinical fellowship

F. Systems-based Practice

The program will ensure that its fellows are aware that health care is provided in the context of a larger system, and can effectively call on system resources to support the care of patients. Fellows are expected to:

- Understand how their patient care practices and related actions impact component units and the health care delivery system as a whole, and how delivery systems impact the provision of health care
- Know systems-based approaches for controlling health care costs and allocating resources; and practice cost-effective health care and resource allocation that does not compromise quality of care
- Advocate for quality patient care and assist patients in dealing with system complexities
- Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can impact system performance
- Understand and apply guidelines to the care of patients

G. Procedural skills

An essential part of critical care and pulmonary medicine is the performance of procedures. Fellows must be able to perform them expeditiously and safely.

The program will provide opportunities for fellows to learn the indications, limitations, and complications of the following critical care procedures and the technical skills necessary to perform them.

- Establishment of airway
- Maintenance of open airway in nonintubated and unconscious patients
- Oral and nasotracheal intubation
- Ventilation by bag or mask
- Mechanical ventilation using pressure-cycled, volume-cycled and negative pressure mechanical ventilators
- Noninvasive ventilation
- Use of reservoir and CPAP masks for delivery of supplemental oxygen, nebulizers and incentive spirometry
- Ventilator weaning and respiratory care techniques
- Management of pneumothorax including tube insertion and drainage systems
- Thoracostomy tube insertion and drainage
- Insertion of central venous, arterial and pulmonary artery flotation catheters
- Calibration and operation of hemodynamic recording systems
- Basic and advanced cardiopulmonary resuscitation
- Pulmonary function tests
- Inhalation challenge studies
- Cardiopulmonary exercise testing
- Flexible fiberoptic bronchoscopy and related procedures (The fellows will perform 100 bronchoscopies during their fellowship.)
- Endobronchial ultrasound node sampling
- Examination and interpretation of sputum, bronchopulmonary secretions, and lung tissue for infectious agents, cytology, and histopathology
- Utilization, zeroing, calibration of transducers and use of amplifiers and recorders for monitoring
- Ultrasound guided thoracentesis and line placement
- Ultrasound assessment of deep venous thrombosis
- Ultrasound assessment of the cardiovascular status of critically ill patients

Experience will also be provided in the analysis of data pertaining to the following:

- Cardiac output determinations by thermodilution and other techniques
- Evaluation of oliguria
- Management of massive transfusions
- Management of hemostatic defects
- Interpretation of antibiotic levels and sensitivities
- Monitoring and assessment of metabolism and nutrition
- Calculation of oxygen content, intrapulmonary shunt and alveolar arterial gradients
- Pharmacokinetics

The program will provide opportunities to learn the indications, contraindications, limitations, and complications of and, when feasible, practical experience with the following procedures:

- Percutaneous tracheostomy
- Rigid bronchoscopy
- Whole lung lavage
- Pericardiocentesis
- Transvenous pacemaker insertion
- Peritoneal dialysis
- Peritoneal lavage
- Aspiration of major joints
- Percutaneous needle aspiration and cutting lung biopsy
- Endobronchial cryotherapy, stent placement, thermoplasty, and laser ablation
- Medical thoracoscopy
- Pleurodesis
- Intracranial pressure monitoring

H. Educational Goals by Year of Training

The goals of **Orientation**, which takes place in the first weeks of the fellowship, are to prepare the new fellows for the activity they will need to carry out. These include a ventilator management curriculum, and primers on bronchoscopy, chest tube placement and other procedures, pulmonary function test interpretation, point of care ultrasound, hemodynamics, and the policies and routines of the teaching hospitals including electronic medical record, laboratory, and support function. Orientation includes the goals of the fellowship, what is expected of them, how they will be evaluated and sources of help.

First year fellows will spend most of their time on clinical services. The schedule is arranged so that they will acquire the experience necessary to become eligible for ABIM Pulmonary Disease certification after two years.

While they are on Intensive Care service, Pulmonary Consultation service, and Outpatient Clinics, fellows are expected to obtain directed patient medical interviews that are precise, logical, thorough and reliable; conduct expert, focused examinations that elicit subtle findings and are directed towards patients' problems, and demonstrate understanding and proficiency while minimizing risk and discomfort to patients in the performance of diagnostic and therapeutic procedures. The first year fellows will be expected to develop a meaningful approach to the diagnosis and treatment of their patients' problems. Senior fellows may also help orient them to their duties.

All fellows perform procedures relevant to Pulmonary Disease and Critical Care Medicine under the direct supervision of attending physicians. The role of the attending physician during procedures is expected to evolve from performing the procedure to being a critical observer of the fellows as they acquire necessary procedural skills. The degree of supervision will be individualized depending on the fellows' observed abilities. The fellows may perform certain procedures without the attending after developing adequate skills, as judged by the Program Director and the Division's Education Committee. However, the attending physician must be present during all bronchoscopy procedures and during any procedure requiring moderate sedation.

All fellows are assigned to outpatient clinics where they follow patients throughout their training program. As in inpatient services, the fellows see and follow patients under the supervision of attending physicians.

During the first year of fellowship, the primary learning responsibility is clinical pulmonary and critical care medicine, but fellows should be preparing for or beginning their research activity. They should establish collaborative and productive relationship with their mentors and co-mentors, develop plans and protocols for their projects, complete the Institutional Review Board (IRB) training modules, and submit their proposal to the IRB.

Second year fellows also spend the majority of their time in clinical duties. Some second year fellows also do a trauma rotation. The fellows' ability to perform procedures is expected to evolve during this time to a level that enables them to perform most procedures confidently and safely.

The fellows are expected to follow their patients in their continuity clinics throughout their fellowship program, with the exception of the trauma rotation.

It is expected that the fellows will be delivering appropriate, effective, and compassionate clinical care with professionalism during the second year. They will evaluate their own clinical practices and define ways to improve upon their clinical practice.

During the second year, more time may be available for research. The fellow should have an IRB submitted and approved (if indicated) and be actively engaged in a laboratory and/or clinical research program. Data collection should be underway and the fellow should continue to learn about research methods. Many fellows submit an abstract for a national meeting during this year.

Second year fellows should be in preparation to take the ABIM Pulmonary Board Examination and will need to register for this exam in the spring of their second year.

Third year fellows will complete their rotations in order to qualify for ABIM Pulmonary and Critical Care Medicine certification examination. The fellows will continue to follow their patients in their continuity clinics during this year. Third year fellows should take the Pulmonary Board Exam during the fall of this academic year.

More time is allotted to research in the third year but the fellow must still make good use of this time. During the third year, the fellow is expected to present at the division's research conference. By the end of the third year, they are expected to present their findings at a national meeting and author or co-author a paper. The project is complete when the paper is published.

Fourth year fellows spend their entire time in research except for their weekly half-day continuity clinic. They are still expected to attend all conferences and other activities of the division. The fellows usually will have joined the research (T32) track after doing 2 years of clinical duties, although they may elect to do the 2 years of research at the beginning or to split their clinical or research years. Although the two research years will be largely research, fellows must complete all program requirements even if it goes into the research years.

Before graduation, fellows will have to meet all the requirements defined in detail under "Overall Program Goals, Objectives, and Curriculum," as well as those under "ACGME General Competencies."

III. Policy with Regard to Industry

Policies relating to sources of educational support appear to affect what physicians believe and how they behave. The ACGME's competencies provide a framework guide of our relationship with industry.

A. Professionalism Requirements

1. Ethics discussions of published guidelines regarding gift-giving to physicians are distributed to the fellows in the orientation packet and discussed in patient care training.
2. Full and appropriate disclosure of sponsorship and financial interests is required at all program and institution-sponsored events, including full disclosure of research activities in keeping with the recommendation of the *AAMC Task Force on Financial Conflicts of Interest in Research*. In addition, the University of Illinois at Chicago also has Guidelines for Interactions with Industry.
3. The Pulmonary, Critical Care, Sleep, and Allergy Division accepts only unrestricted educational grants from industry and does not allow industry to influence the choice of speakers or topics at any of our conferences. The Division adheres to all university policies regarding industry sponsorship.

B. Practice-Based Learning and Improvement and Medical Knowledge Requirements

1. Clinical skills and judgment are taught in an objective and evidence-based learning environment.
2. Fellows learn how promotional activities can influence judgment in prescribing decisions and research activities through specific instructional activities.
3. Fellows understand the purpose, development, and application of drug formularies and clinical guidelines. Discussions include branding, use of generic drugs, off-label use, and use of free samples.

C. Systems-Based Practice Requirements

1. This UIC policy distinguishes between educational and promotional information given about drugs and devices.
2. The curricula include the importance of cost-benefit analysis in prescribing and practicing medicine.
3. Advocacy for patient rights within health care systems includes attention to pharmaceutical costs.
4. Fellows are taught the importance of cost-containment and public health in the context of comprehensive national health.

D. Interpersonal and Communication Skills Requirements:

1. Teaching includes discussion and reflection on managing encounters with industry representatives.
2. As part of communication skills education, illustrative cases of how to deal with patients' requests for medication, particularly with regard to direct-to-consumer advertising of drugs, are discussed.

E. UIC Policy Statement (39.2 UIC Guidelines)

1. Graduate Medical Education residency and fellowship programs, as well as undergraduate and continuing medical educational programs, will not participate in any UIC-sponsored events in which commercial and pharmaceutical companies provide meals, other types of food, pens, imprinted paper, or any gifts or other materials. See UIC Guidelines.

2. Other than in GME-authorized, planned activities, students, residents, and fellows will not have contact with commercial or pharmaceutical sales representatives (PSRs) during their normal workweeks.
3. Commercial and pharmaceutical companies may provide educational materials for resident use, so long as the company name does not appear on the item.
4. Companies may provide unrestricted educational grants to departments.
5. Speakers for any UIC-sponsored event must disclose any links to commercial and pharmaceutical companies.
6. Graduate Medical Education provides an educational program for all residents and fellows regarding appropriate interactions with commercial and pharmaceutical companies and the ethics of dealing with possible conflicts of interest, and the rationale behind these. This educational program includes a web-based educational module and approved alternative courses.
7. Companies may not use official University communication means to advertise or circulate information about events.
8. There will be a progressive system of corrective action for programs that fail to comply with the policy.

IV. Work Rules, Lines of Responsibility and Evaluations

A. Work Hours and Moonlighting

1. Schedules

Weekdays

Rotations are assigned by 4-week blocks that are coordinated with the other clinical services at UIC. Call schedules are daily. All schedules are posted on www.new-innov.com. When on call, all fellows must be available by telephone and area-wide pager from 5:00 PM to 8:00AM every week night and all day Saturday, Sunday, and holidays. When on call, fellows must be able to get to the hospital within 20 minutes of being called for an emergency and, therefore, must live within this area. On-call includes emergency calls from the after hour clinic service which must be answered within 10 minutes. After 10 minutes it escalates to the MICU Attending on call and then to the MICU Director. Fellows must log their work time at the hospital (and moonlighting) on New Innovations. Fellows will be compensated the next day for the time spent coming in at night.

Duty hours are defined as all clinical and educational activities related to the fellowship program, which includes patient care, administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.

Duty hours are strictly limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities. Fellows will be provided with 1 day in seven free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities. *Any deviation from this policy must be reported to the Program Director.*

2. Moonlighting

Because fellowship education is a full-time endeavor, moonlighting must never interfere with the ability of the fellow to achieve the goals and objectives of the educational program.

Working outside the program and scheduled rotations (moonlighting) is allowed only in our institutions, UIC, VA, and the DuPage TB Clinic, and only with permission of the Program Director. Fellows who receive below average clinical evaluations or have deficiencies in any area will not be permitted to moonlight. Fellows who hold a J-1 visa are not permitted to moonlight by US law. Moonlighting will be counted toward the 80-hour weekly limit on duty hours and must be logged in New Innovations as work hours.

B. Fellow and Attending Lines of Responsibility and Supervision

The program director must monitor all fellow supervision at all participating sites. It is imperative that each patient should be made aware of the respective roles of the resident, fellow and faculty when providing direct patient care.

There are levels of supervision throughout the fellowship providing growth so that ultimately the fellow will complete the fellowship program competent to manage an ICU and Pulmonary Consult Service. The classifications of supervision, which are described in the ACGME Common Program Requirements, are as follow: Direct Supervision, Indirect Supervision and Oversight.

1. Critical Care Inpatient Services

The attending physician of record bears ultimate responsibility for the care of patients admitted under his or her name. Junior residents work-up all patients admitted to the services to which they are assigned and report directly to the senior resident. Senior medical residents report to the fellow. The Pulmonary and Critical Care fellow must report all admissions, admission requests, and consultations to the attending. In addition, residents and fellows report problems as they arise, and any member may contact the attending at any time. The attending may go with the medical resident and fellow to initially evaluate and care for the patient, especially if the patient is critically ill. Otherwise, the resident and fellow first evaluate the patients and then report to the attending. Patients remain under the care of the attending physician in the Emergency Department or Hospital Service until they are accepted by the ICU team. The ICU Attending then assumes responsibility for the patient's care. The fellow must be called for all ICU admissions. On the weekend the ICU fellows are responsible for inpatient consults and procedures.

Sound medical education demands the incremental responsibility inherent in the above-described chain of command. Critical Care fellows and attendings must be available at all times. Residents write all orders on inpatients. Fellows should frequently check with the residents and come in to the hospital if there is any indication that the resident needs supervision or assistance.

2. Pulmonary Consultation and Procedure Services

On Pulmonary Consultation service, the resident generally sees the patient first, reports to the fellow, and then presents to the attending. In the interest of effective and timely patient care, any member of the health care team can page the fellow or attending physician at any time. Late or urgent consultations may go directly to the fellow. The ultimate responsible rests with the attending physician.

Pulmonary fellows obtain consent for procedures and generally write orders for procedures. The orders

must be countersigned by the Medical Service resident. The pulmonary fellow should be observed obtaining consent and evaluated by the supervising attending physician. All bronchoscopies on living patients must be done with the supervising attending physicians present for all parts of the procedure. All must be reported in Provation and signed by the attending at both the University and VA.

The Pulmonary Consultation fellow may perform right heart catheterizations with a Cardiology attending, invasive radiologic procedures with a Radiology attending or thoracic procedures with the Interventional Pulmonologist. In each case, these attending physicians will be the direct supervisor. The pulmonary fellow must follow the direction of the supervising attending. This also includes arranging and following up on the procedure and writing orders and notes. The fellow who performs the procedure is responsible for appropriate follow up with the patient either via phone call, in the hospital or clinic settings. Procedures must be logged on New Innovations. Fellows must keep a running log of procedures and show it to their Program Director before their semiannual visit.

The fellow on Procedures Service performs most procedures with the Procedure Service Attending. The backup for both the fellow and attending physician on the Procedure Service is the fellow and attending physician on the Consult Service. However, fellows or attending following outpatients may wish to do procedures on their patients themselves. See outpatient policy below.

3. Ambulatory Settings

The University Outpatient Clinics have only fellows, and the VA clinics have residents and fellows. In the outpatient clinics, residents and fellows see patients first and report to the attending. The attending then evaluates the patient with the resident or fellow. The attending reads the resident's or fellow's note and adds an additional note that includes his or her examination and agreement or disagreement with the resident or fellow.

4. Policy on leave and make-up

Fellows must complete 33 months of training (3 years with three blocks of vacation). Time off for illness or personal reasons is governed by University policy. If a fellow's leave of absence is greater than one block, the fellow must make up the missed time in complete blocks at the end of the academic year which possibly may extend to the next academic year. The expectations are that the fellows fulfill their professional clinical responsibilities, which are designated for a particular rotation. However, if there are planned or expected leave/absences from clinical responsibilities during a rotation, it is incumbent upon the fellow to find their own coverage for the duration of their absence (including continuity clinic coverage). In the event of unexpected or unplanned absence of short duration (generally less than 1 week; usually 1-2 days), the program director and the scheduling chief fellow must be notified at the earliest possible time. **Coverage arrangement for unexpected time off is at the discretion of program director and scheduling chief fellow.** However, the following is a general outline of how coverage will be managed for absences during each rotation.

UIC MICU

1. 1st back up— second MICU fellow
2. 2nd back up —Procedures fellow

UIC Consults

1. 1st back up— Procedures fellow
2. 2nd back up —one of MICU fellows

VA ICU

1. 1st back up— VA consults fellow
2. 2nd back up —Research fellow

VA Consults

1. 1st back up— VA ICU fellow
2. 2nd back up —Research fellow

Mercy

1. 1st back up— Research fellow splitting with the Mercy fellow

Procedures

1. UIC Procedures— to be covered by UIC Consult fellow
2. VA Procedures— to be covered by VA Consult fellow

Sleep

1. 1st back up— Sleep fellows will cross cover

Clinics

1. Bronchiectasis Clinics— Research Fellow
2. Allergy Clinic— No Coverage
3. Nodule Clinic— No Coverage
4. UIC Sleep Clinic— Sleep fellows
5. VA Sleep Clinic— Sleep fellows
6. PH Clinic— Research fellow
7. Sarcoidosis Clinic— No Coverage

Continuity Clinics

1. 1st back up— Clinics fellow
5. Outpatient bronchoscopy procedure policy

Whoever is taking care of a clinic patient has first preference to do the bronchoscopy (attending or fellow) on his or her patient. The next preference is for the procedure team at the outpatient institution. The first backup is the consult fellow and attending. If neither of these can perform the service, the backup is the ICU team (the first one being whoever is on call). Bronchoscopy and patient care have high priority that supersedes administrative meetings and conferences. No bronchoscopy can be performed without an attending present, with the exception for the inspection and lavage of donor lungs of an expired patient.

C. Fellow Evaluation

Fellows' performances are evaluated by their attending physicians at the end of each clinical rotation or mid-rotation if needed. At the end of the rotation, the attending physician must discuss the evaluation with the fellow and fill out the evaluation form online (www.new-innov.com). The fellows should remind the attendings if they fail to do this. The attending physician on the procedure or consultation service also fills out a bronchoscopy evaluation form. The evaluation forms enable evaluation of ACGME competencies and overall clinical competence. Similar evaluations forms are filled out by attending physicians in the outpatient setting semiannually. Research supervisors of research fellows fill out a different form quarterly. Evaluations include an assessment of the trainee's procedural abilities and verify their technical proficiency,

in addition to the logs kept for the procedures. The fellows also keep their UIC Milestones report updated and send it to the program director before each semiannual interview where they are reviewed. The University Intensive Care Unit and clinic nurses evaluate the fellows annually for communication skills, teaching, responsiveness, patient interactions, and leadership. A faculty member annually observes a fellow interviewing and examining a patient. The faculty member goes over this patient encounter with the fellow particularly paying attention to communication skills, thoroughness of the history and physical exam, and diagnostic reasoning. The faculty member then fills out an ACGME competency-based report. The same faculty member also reviews six charts of patients seen by the fellow, discusses them with the fellow, and files a written report of the evaluations. The fellows are evaluated by ten of their patients annually, usually in March.

These evaluations are filed in the fellows' files after being reviewed by the Program Director. The fellows receive a copy of an evaluation summary that is kept in the fellows' file. These are discussed with the fellow at the semiannual interview and performance review. All lectures are evaluated by an evaluation sheet; the composite is returned to the lecturer. The Monday case conference is also evaluated.

The Program Director, who receives the evaluations, discusses any significant problems with the trainees as soon as possible. The Program Director and Division Chief also meet with the fellows as a group quarterly to hear the fellows' evaluations of their rotations and problems and suggestions for improvement.

The Pulmonary and Critical Care Clinical Competency Committee assesses fellows' progress and competency at least quarterly in discussion with the faculty and Program Director by reviewing each fellow's development, procedural skills, and overall performance as well as ways to improve fellows' performance. These evaluations are discussed with the fellows at their semi-annual review. The Clinical Competency Committee may ask the Program Director to develop a remedial plan for deficient fellows and may re-evaluate once the corrective action has been completed.

Semiannual interview and performance review

Fellows meet individually with your assigned Program Director or Associated Program Director twice annually. These sessions serve several purposes, which include an opportunity for fellows to express concerns or grievances that they might not have aired in their written monthly rotation evaluations, the quarterly group meetings, or annual educational retreat.

Fellows should complete the self-assessment in New Innovations prior to their meeting and bring a copy with them. It is not necessary to save in New Innovations if you prefer to keep confidential.

At this session, the Program Director reviews the fellow's Milestones report and teaching portfolio. He reminds them to be up to date on required GME core curriculum modules, and to have completed all evaluations. He asks them for an update on their research and quality improvement projects. The fellows give feedback on their recent experiences, tell how their fellowship is progressing, and indicate their future plans. The fellow is asked if there are any personal concerns or difficulties that they would like to share. The Program Director goes through the fellows' evaluations. The fellows have immediate access to the monthly evaluations online through New Innovations, but there are often summary points or areas to improve that the Program Director highlights. The Program Director reviews comments from the faculty education quarterly meetings and the fellow's performance on the in-service or board exams. The Program Director makes written notes of the interview that are kept confidential. After all interviews are complete, the Program Director reports aggregate results and problems to the Division Director, which allows for fellows' anonymity. Thus, the semiannual meeting is a private grievance airing, reminder period, counseling session, progress report, planning activity, and continuous improvement time for both the fellow and program.

D. Fellow Due Process

Whenever the professional activities, conduct, or demeanor of a fellow interfere with the discharge of assigned duties or those of other University or affiliated institution employees, or jeopardize the well-being of patients, the University, through its administration, reserves the right to correct the situation through disciplinary action as it sees fit. The Pulmonary, Critical Care, Sleep, and Allergy division follows the university procedures which supersede the notes that follow if there is discordance <https://hospital.uillinois.edu/Documents/about/GME/GME-Policy-Manual.pdf>. The University of Illinois has a Sexual Misconduct Policy <http://sexualmisconduct.uic.edu/> that emphasized that sexual misconduct will not be tolerated at UIC.

The *Procedural Rights Process* detailed in the fellowship agreement is available to all fellows who wish to appeal certain disciplinary actions, which significantly threaten the fellow's career development. The following is an overview of the process; the agreement document will rule in case of discrepancy with the overview provided here.

1. Causes for Corrective Action

The following list provides examples of resident actions that can be grounds for discipline. It is not intended to be inclusive of all reasons for a corrective action. The program director's response will depend on the severity of the infraction, prior warnings, and efforts on the part of the resident to correct his or her behavior.

- a. Behavior that threatens the well-being of patients, medical staff, employees, or the general public.
- b. Other substantial or repeated misconduct which is considered to be professionally or ethically unacceptable, or which is disruptive to the normal and orderly functioning of the institution to which the resident is assigned.
- c. Failure to conform to the terms of the Resident Agreement, or established policies and procedures.
- d. Failure to comply with federal, state, and local laws whether or not related to the medical profession.
- e. Failure to provide patient care of satisfactory quality expected for the resident's training level.
- f. Fraud by commission or omission in application for the residency position, or in completing other official University documents.
- g. Suspension, revocation, or any other inactivation, voluntary or not, of a resident's license by the State of Illinois for any reason.
- h. Continued or lengthy absence from work assignments without reasonable excuse.
- i. Failure to perform
- j. Sexual harassment or abuse.

2. Corrective Action Procedures

Corrective action may or may not be progressive, in that it follows the order of actions listed below. However, if the resident's behavior, in the judgment of the program director and/or College of Medicine or College of Dentistry/Hospital administration, warrants removing the resident from normal duties, suspension or dismissal may be imposed without prior warning.

1. Written Warning

A program director may issue a letter of warning to a resident detailing the situation, the remedy required of the resident, and the consequences of not correcting the problem. A copy of the letter will be placed in the resident's file.

2. Probation

- a. Definition: Probation is a corrective action in which the program director notifies a resident in writing of specific deficiencies that must be corrected in a stated period of time or the resident will not be allowed to continue in the program or will be continued on probationary status. The resident receives credit for training time, and salary and benefits remain in force during probation.
- b. Procedure: Prior to placing the resident on probation, the program director schedules a meeting with the resident to discuss the reasons for probation, the actions required by the resident, and the dates of probation. The program director must present a letter, reviewed in advance by the DIO, to the resident that details the above information. The distribution of the letter must be witnessed or signed by all parties and placed in the resident's file.
- c. At the end of the probationary period, the program director meets again with the resident. Depending on the resident's performance, he/she may be:
 - i Removed from probation;
 - ii) Given an additional period of probation; or,
 - iii) Entered into the termination process.

The resident shall have the right to appeal the probation in the manner set forth in the Grievances and Appeals Policy.

3. Suspension

- a. Definition: Corrective action that removes the resident from any Program duties.
- b. Process:
 - i) The program director must notify the DIO if he/she intends to suspend a resident.

(1) Summary Suspension: The program director may at any time summarily suspend a resident with pay. Within 10 days of the date of imposition of such summary suspension the program director must either reinstate the resident or provide the resident with a written notification of his/her general suspension and/or termination. The resident shall not have the right to appeal a summary suspension.

(2) General Suspension: The program director may suspend a resident with pay if he/she believes that the resident has failed to comply with the Resident's Duties in the Resident Agreement. The resident must be provided with written notification detailing the reasons for the suspension, its length, and the remedy necessary to remove the suspension. The notice may also indicate under what circumstances the resident may be terminated if the situation is not corrected. Failure to correct the infraction in the period specified may lead to further corrective action. Suspension will be removed when the initiating reason has been corrected to the satisfaction of the program director and DIO. The resident shall have the right to appeal that general suspension in the manner set forth in the Grievances and Appeals Policy.

ii) The resident does not receive credit for training time while on suspension of any kind.

4. Non-promotion or Non-renewal of Appointment

a. The program must determine the criteria for promotion and/or renewal of a resident's appointment.

b. In instances when a resident will not be promoted to the next level of training or where a resident's agreement will not be renewed the program director must notify the GME Office and provide the resident with written notice at the earliest reasonable date prior to the end of the current contract.

5. Termination

a. Definition: Termination is the removal of a resident from a training program even though the resident holds a current Resident Agreement.

b. Procedure:

i) By the University: if this Agreement is terminated by the University before the end of its term, the University shall follow the process for notification and appeal of said termination set forth in the GME Grievances and Appeals Policy. For residents whose Resident Agreement has been terminated due to his/her name appearing on any government exclusions/sanctions list, the process set forth in the GME Exclusions/Sanctions Check and Criminal Background Check shall apply.

ii) By the Resident: If the resident wishes to terminate this Agreement before the end of its term, he/she must provide advance written notice to the program director. The notice must then be forwarded to the GME Office for processing.

iii) By Mutual Agreement: If both parties agree to terminate the Resident Agreement before the end of its term, the notice must be submitted in writing and signed by both parties.

6. Appeals – as per the Resident Agreement with GME

This Procedure to Appeal a probation, general suspension, non-renewal of the Resident Agreement, or termination shall be the only means available to all medical residents of The University of Illinois at Chicago (UIC) College of Medicine or dental residents of the UIC College of Dentistry, whose paid appointments are administered through the UIC Graduate Medical Education (GME) Office, to challenge corrective actions levied during the course of

his/her graduate medical education training. Corrective Actions are defined in GME Policy: Remediation and Corrective Actions. Here, the term “resident” shall include any “intern” or “fellow”.

a. Notice of Corrective Action: The program director shall provide to the resident written notification of the intended corrective action. The notice shall include an explanation for such action and shall advise the resident of his/her right to request a hearing pursuant to this Exhibit.

b. Request for Hearing: Within 14 days of issuance of written notification of the action, a resident may request a hearing before the Hearing Committee, as more fully described below. The resident's request must be in writing and submitted to the program director.

c. Hearing Committee: The Hearing Committee shall consist of at least three faculty members from the resident's department. The program director shall not be a member of the Committee. The Committee shall elect a member from the group to preside as Chair at the hearing. Each department may have a standing committee to conduct hearings requested under this Exhibit. If there is no standing committee, an ad hoc committee shall be appointed by the Associate Dean for Graduate Medical Education for each hearing requested. For dental residents, an ad hoc committee shall be appointed by the Associate Dean for Academic Affairs for each hearing requested.

d. Conduct of Hearing:

1. The Committee shall convene the hearing within 14 days of receipt of the resident's written request and shall notify the resident in writing of the date, time, and place for the hearing as soon as reasonably possible, but no fewer than 72 hours in advance of the hearing.
2. The resident and the program director shall be present at the hearing and shall each present such information, witnesses, or materials (oral or written) as he/she wishes to support his/her position. No other representatives shall be present during the hearing, with the exception of attorneys who represent the parties or the Hearing Committee. Attorneys will be allowed to attend only in an advisory role to his/her client and shall not be allowed to address the Hearing Committee, the other party or each other directly.
3. Each party shall be permitted to review all materials submitted to the Committee during the hearing.
4. The Hearing Committee shall have the sole right to determine what information, materials and/or witnesses are relevant to the proceedings and shall consider only that which they deem to be relevant.

e. Hearing Committee Decision:

1. A majority vote of the Committee shall decide the issue(s) before it and the program shall be bound by the decision.
2. Regardless of the outcome of the hearing, the Committee will provide the resident and program director with a written statement of its decision and the reason(s) for such decision within 10 days from the date of the conclusion of the hearing. If written materials are submitted to the Committee, such materials shall be appended to the Committee's report.

f. Appeal of Hearing Committee Decision: A resident may appeal the Committee's decision to the Associate Dean for Graduate Medical Education or, for dental residents, the Associate Dean for Academic Affairs, within 10 days of issuance of the Committee's decision. The Associate Dean shall review the Committee's decision and any documentation submitted to the Committee, and may conduct his/her own investigation of the matter. The respective Associate Dean may, but need not appoint another Committee, to review and discuss the matter. He/she shall render a decision in writing within a reasonable time, but not later than 30 days after receipt of the request for appeal.

g. Final Appeal:

1. Medical Residents: The resident may appeal the Associate Dean's decision to the Senior Associate Dean for Educational Affairs of the College of Medicine within 10 days from the date of issuance of the decision. An appeal to the Senior Associate Dean is permitted only on procedural grounds and a review of the record shall be limited only to procedural matters. The Senior Associate Dean shall render his/her decision within 10 days after receipt of the request for appeal and such decision shall be final and unappealable.

2. Dental Residents: The dental resident may appeal the Associate Dean's decision to the Dean of the College of Dentistry within 10 days from the date of issuance of the decision. An appeal to the Dean is permitted only on procedural grounds and a review of the record shall be limited only to procedural matters. The Dean shall render his/her decision within 10 days after receipt of the request for appeal and such decision shall be final and unappealable.

h. UIC Student Academic Grievance Procedures: The UIC Student Academic Grievance Procedures may not be used to appeal any corrective action, nor to appeal any decision made in accordance with the procedures outlined above.

i. General Provisions:

1. All notices and decisions which are to be sent to the resident shall be sent by messenger, certified mail (return receipt requested) or by some other means wherein the date of delivery/acceptance/refusal can be determined.

2. All references in these Procedures to time periods are to calendar days, not working or business days.

j. Limitations: The procedures provided under this Exhibit do not apply to the following:

1. Departmental determinations relating to certification and/or evaluation of the resident's academic performance or clinical competence. Such certification shall be handled according to the standards of the various specialty boards.

2. The nullification of the Resident Agreement as a result of the resident's failure to meet any or all of the pre-conditions set forth in Section IV of the Resident Agreement.

3. Decisions to terminate a resident as a result of his/her name appearing on a federal, state, or other mandated governmental exclusions/sanctions listing. Instead, the procedures set forth in GME Policy: Exclusions/Sanctions Check and Criminal Background Check shall apply.

E. Faculty Teaching Evaluation

The fellows evaluate the attendings, rotations, and programs, at several times: after rotations, at quarterly and semi-annual meetings and at the annual retreat. The results of the fellows' confidential evaluations at the end of their rotations are available to the Program Director when they are posted. A summary is given to the Division Chief. The Division Chief discusses the individual faculty evaluation with each faculty at their annual performance review.

The fellows meet with the Program Director and the Division Chief quarterly where they provide feedback on the training program and provide suggestions for change. The fellows also discuss faculty and program issues with the Program Director at their semiannual interview.

The evaluations of the faculty by the medical residents and students are tabulated by the Program Director of the Internal Medicine Residency Program and shared with the division chiefs and specialty program directors, who in turn share it with the individual faculty.

F. Program Evaluation

The Program Evaluation Committee oversees the overall program quality and assesses it annually at the educational retreat, although they may become involved at anytime a program deficiency is noted. The Program Evaluation Committee consists of at least three faculty members, in addition to the Division Director and Program Director and the Chief Fellows. Program planning and development are discussed at the quarterly fellows and faculty educational meetings. At the fellows' quarterly meeting the Program Director and Division Director review each rotation and experience with the fellows. The Program Director, Division Director, and fellows identify problems and solutions.

An Educational Retreat is held annually under the supervision of the Program Evaluation Committee. The Program Director and Program Coordinator prepare surveys from faculty and fellows that have been developed or approved by the Program Evaluation Committee. The Program Director is also evaluated by this questionnaire, the results of which are collated by the Program Coordinator to preserve anonymity. The anonymous program evaluations by the fellows and faculty are reviewed by the Program Evaluation Committee prior to the retreat. The Program Director and Program Coordinator prepare reports of ACGME evaluation, fellows' achievements including board-pass rates and publications, follow-up of the action items from the previous retreat, and other evaluations requested by the Program Evaluation Committee. The results are discussed at the retreat, which is attended by all available fellows and attendings.

V. University of Illinois at Chicago Hospital Inpatient Services

A. UIH Pulmonary Consultation Service

- Educational Purpose

This rotation is designed to provide the fellows with exposure to and experience with the diagnosis and treatment of hospitalized patients with a wide range of pulmonary and allergic diseases that are characteristically encountered at a tertiary referral center.

- Teaching Methods

Attending Rounds consists of case presentations, extensive discussion of diagnostic approach and pathophysiology. These rounds include bedside teaching and review of diagnostic tests such as

chest radiographs, computed axial tomograms, and radionuclide scans. The goal is to develop a meaningful, practical, and cost-effective approach to diagnosis and treatment.

Interaction and communication with the primary care providers as a consultant are emphasized. Health promotion, preventive medicine, and cultural, socioeconomic, ethical, occupational, environmental, and behavioral issues are discussed with the attending physicians.

Procedures are performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the fellows gain experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial aspiration, thoracentesis, and tube thoracostomy.

Pulmonary Function Laboratory: The fellows learn how to perform and interpret pulmonary function tests under the supervision of the attending physician and the chief technician to assess respiratory mechanics, and gas exchange, including spirometry, flow-volume studies, lung volumes, diffusion capacity, arterial blood gas analysis, exercise, and inhalational challenge studies. During this rotation, the fellows also develop competence in monitoring and supervising pulmonary function laboratories.

Sleep Center: The fellows care for patients with sleep disorders. They are expected to review, with a faculty member, the results of polysomnography and multiple sleep latency tests performed on their patients, and discuss the therapeutic options in detail.

Allergy: The fellows on the consultation service see inpatient allergy consults and present to the allergy attending. These patients may have a range of allergic and immunologic problems.

Pathology: The fellows are expected to review the results of diagnostic studies that include bronchoalveolar and pleural fluid and tissue, and lung tissue specimens, with their attending physician and the pathology attending. Fellows are expected to review all deaths in detail. This includes obtaining and participating in the autopsy and questioning all aspects of the management of the case. Dr. Marin Sekosan, a Pulmonary Pathologist, holds a Pulmonary Pathology course (about 10 1-hour sessions) annually for Pulmonary Fellows and Pathology residents.

Case Conference: Diagnostic and therapeutic approach to pulmonary and critical care patients are discussed in detail along with the relevant literature on a weekly basis.

Disease Oriented Clinical Conference: Pulmonary, Critical Care, Sleep, and Allergy Medicine diseases are covered in this weekly conference.

Principles of Practical Pulmonary Conference: Topics not identifiable as belonging to a specific disease are covered in these weekly sessions. Subject matter includes physiology, procedures, and interpretations of tests.

Medical-Surgical Case Conference: Pulmonary, Medical and Radiation Oncology and Thoracic Surgery physicians attend this weekly conference where potential surgical candidates are discussed. Pathologists and Radiologists may also attend.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Service

The patients vary from primary care to referral patients and all diseases required by the curriculum

are encountered at this site. Exposure to a large patient population with sleep disorders, tuberculosis, and the variety of common and rare diseases provides exceptional experience to the trainees. Immunocompromised patients and their related complications provide valuable experience to the fellows.

Under the supervision of attendings, the fellows serve as consultants to the primary care teams and discuss the diagnostic and therapeutic approach to the patients' problems along with the results of the diagnostic tests.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with each fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation.

B. UIH Medical Intensive Care Units

- Educational Purpose

The educational purpose of this rotation is to have the fellows gain experience with the diagnosis and management of patients who are critically ill, monitoring and supervision of such a unit, interaction with other physicians, the health care team, and patients and their extended families. This includes the consultation on surgical patients who are critically ill.

- Teaching Methods

Attending Rounds consists of conference room and bedside teaching with discussion of mechanical ventilation, theoretical and practical experience with hemodynamic monitoring, review portable chest radiographs, computed axial tomograms, radionuclide scans, electrocardiograms, and other topics and procedures. The goal is to develop a meaningful, practical, and cost-effective approach to diagnosis and treatment of critically ill patients. Interaction and communication with the primary care providers, patients, and families are stressed. Special emphasis is placed on cultural, socioeconomic, ethical, occupational, environmental, and behavioral issues.

Attending rounds also integrate the PharmD attending, residents, and students who contribute to the teaching especially in regards to pharmacokinetics, drug interactions, paralytic agents and parenteral nutrition.

Procedures: Performed under the supervision of the attending physician, whose role gradually evolves to that of a critical observer, the fellow gains experience with establishment of and maintenance of open airway, intubation, invasive and non-invasive mechanical ventilation, liberating the patient from mechanical ventilation, ultrasonography, insertion of central venous, arterial and pulmonary artery flotation catheters, calibration and operation of hemodynamic recording systems, use of paralytic and other agents required by critically ill patients, basic and advanced cardiopulmonary resuscitation and parenteral nutrition.

Pathology: The fellows are expected to review the results of diagnostic studies that include bronchoalveolar, pleural fluid and tissue, and lung tissue specimens, with their attending physician and the pathology attending. Fellows are expected to review all deaths in detail. This includes obtaining and participating in the autopsy and questioning all aspects of the management of the case.

Case Conference: Diagnostic and therapeutic approaches to pulmonary and critical care patients are discussed in detail along with the relevant literature on a weekly basis.

Disease Oriented Clinical Conference: Pulmonary, Critical Care, Sleep, and Allergy Medicine diseases are covered in this weekly conference.

Principles of Practical Pulmonary Conference: Topics not identifiable as belonging to a specific disease are covered in these weekly sessions. Subject matter includes physiology, procedures, and interpretations of tests.

- Mix of Diseases, Patient Characteristics, and Clinical Procedures and Services

The patient population encountered at this tertiary hospital unit is very heterogeneous and includes essentially all patients required by the curriculum. Two fellows cover the 16-bed intensive care unit. Patients with cardiovascular, respiratory, renal, gastrointestinal, genitourinary, neurologic, hematologic, musculoskeletal, immune and infectious diseases, hematologic and coagulation disorders, critical obstetric and gynecological disorders, immunosuppressed patients and patients with anaphylaxis and acute allergic reactions are encountered, as well as transplant patients. The role of the fellow is that of a junior attending physician.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation. Intensive care nurses also evaluate the fellows annually.

C. UIH Airway Management

- Educational Purpose

Fellows will gain experience in the evaluation and management of the airway in operative patients. This goal will be achieved through direct participation of the fellow in the operating room at University of Illinois Hospital and Health Sciences System under the direct supervision of the attending anesthesiologist. Fellows will complete 20 morning sessions over the course of the four-week rotation with the option of returning for afternoon sessions as required by the supervising attending. Education as well as direct and indirect feedback on appropriate clinical evaluation, management decisions and procedural skills will be provided by the anesthesia attending.

- Teaching Method

Fellows:

(1) will function as a member of the designated anesthesia team, arrive punctually and help assist in pre-operative evaluations in the surgicenter. This includes obtaining/reviewing the current H&P, allergies, NPO status and verifying the correct surgery. The fellow is expected to assess the patient's airway and develop a plan for advanced airway management, which includes choosing the appropriate equipment and backup equipment, positioning, etc. The fellow will create an anesthetic induction plan for each individual patient, which will be tailored to the patient's comorbidities, airway exam and surgery. The fellow will discuss his/her plan with the attending and receive feedback.

(2) will demonstrate understanding and gain experience in the performance of procedures necessary for the evaluation and management of patients requiring advanced airways including difficult airway assessment, the appropriate use and choice as well as contraindications of anxiolytics, hypnotics and paralytics, bag-mask ventilation, direct and video laryngoscopy, troubleshooting the difficult airway, and extubation decision-making.

(3) will attend educational meetings of the anesthesia department that consist of didactic lectures as well as continue their self-study with the provided resources and lectures online.

(4) will be formally evaluated on a daily basis by anesthesia faculty.

- Mix of Diseases, Patient Characteristics, and Clinical Procedures and Services

The patient population encountered at this tertiary hospital unit is heterogeneous and includes patients who present many challenges to airway management.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Evaluation of airway management will be done following each case in the form of a paper evaluation form completed by the attending anesthesiologist.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation. Intensive care nurses also evaluate the fellows annually.

D. UIH Procedure Service

- Educational Purpose

This rotation is designed to provide the fellows with exposure to and experience with a wide range

of pulmonary procedures characteristically carried out by Pulmonary Interventionalists at a tertiary referral center.

- Teaching Methods

Attending Rounds consists of case presentations and discussion of the indications and contraindications of procedures and their diagnostic approach. This includes review of diagnostic tests, such as chest radiographs and computed axial tomograms before procedures and review of pertinent pathology after the procedure if obtained. The fellow attends and conducts the weekly Multidisciplinary conference. The goal is to develop a meaningful, practical, and cost-effective approach to diagnosis and treatment. Interaction and communication with the primary care providers as a consultant are emphasized.

Procedures are performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the fellows gain experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial needle aspiration, thoracentesis, tube thoracostomy, percutaneous tracheostomy, and ultrasound guided bronchoscopic biopsies (EBUS). The fellows will also be exposed to rigid bronchoscopy, medical thoracoscopy, endobronchial stent placement, endobronchial thermoplasty, and other interventional procedures.

Pathology: The fellows are expected to review the results of diagnostic studies that include bronchoalveolar and pleural fluid and tissue, and lung tissue specimens, with their attending physician and the pathology attending. Fellows are expected to review any complication in detail.

Medical-Surgical Case Conference: Pulmonary, Medical and Radiation Oncology, Pathology, and Thoracic Surgery physicians attend this weekly conference where potential surgical candidates are discussed.

- *Clinic:* During this rotation, the fellow is expected to attend the Interventional Pulmonary Clinic where they see patients about to undergo procedures, patients in follow up after procedures, and patient who require ongoing procedures, such as pleural fluid drainage.
- Mix of Diseases, Patient Characteristics, and Types of Clinical Service

The patients will have a condition that may warrant a pulmonary procedure.

Under the supervision of attendings, the fellows serve as consultants to the primary care teams and discuss the diagnostic and therapeutic approach to the patients' problems along with the results of the diagnostic tests.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with each fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, the attending must explicitly provide constructive feedback during the middle of the rotation. The attending also evaluated the bronchoscopy and other procedure skills.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix,

educational experience, and procedures at the end of the rotation.

VI. Jesse Brown VA Medical Center Inpatient Services

A. Pulmonary Consultation Service

- Educational Purpose

This rotation is designed to provide the fellows with exposure to and experience with the diagnosis and treatment of a wide range of pulmonary pathology that is characteristically somewhat different from the patient population encountered at the University of Illinois Hospital.

- Teaching Methods

Attending Rounds include bedside teaching, review of diagnostic tests such as chest radiographs, computed axial tomograms, and radionuclide scans, and discussion and development of a meaningful, practical and cost-effective approach to diagnosis and treatment.

Interaction and communication with the primary care providers, health promotion, preventive medicine, and cultural, socioeconomic, ethical, occupational, environmental, and behavioral issues are emphasized.

Procedures are performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the fellow gains experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial aspiration, ultrasonography, and thoracentesis.

Pulmonary Function Laboratory: The fellows learn how to perform and interpret pulmonary function tests under the supervision of the attending physician and the chief technician to assess respiratory mechanics, gas exchange and respiratory drive, including spirometry, flow-volume studies, lung volumes, diffusion capacity, arterial blood gas analysis, exercise and inhalational challenge studies.

During this rotation, the fellows also develop competence in monitoring and supervising pulmonary function laboratories.

Allergy: The fellows on the consultation service see inpatient allergy consults and present to the allergy attending. These patients may have a range of allergic or immunologic problems.

Pathology: The fellows are expected to review the results of diagnostic studies that include bronchoalveolar, pleural fluid and tissue, and lung tissue specimens, with their attending physician and the pathology attending.

Case Conference: Diagnostic and therapeutic approach to pulmonary and critical care patients are discussed in detail along with the relevant literature on a weekly basis.

Disease Oriented Clinical Conference: Pulmonary, Critical Care, Sleep, and Allergy Medicine diseases are covered in this weekly conference.

Principles of Practical Pulmonary Conference: Topics not identifiable as belonging to a specific disease are covered in these weekly sessions. Subject matter includes physiology, procedures, and

interpretations of tests.

Medical-Surgical Case Conference: The fellows, the attending physician along with the physicians from medical Oncology and Thoracic Surgery attend this weekly conference.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Procedures and Services

The patients vary from primary care to referral patients and most of the diseases required by the curriculum are encountered at this site. The fellows gain proportionately more expertise in the diagnosis and treatment of patients with lung cancer and obstructive lung disease that is frequently encountered at this institution. Pulmonary diseases that are common in patients with drug abuse and HIV are frequently observed. Patients with tuberculosis and sleep-induced respiratory disorders are often managed by the fellows. Patients at this site are evaluated for lung transplantation and surgery. The fellows frequently evaluate post-operative patients.

The fellows serve as consultants to the primary care teams and discuss the diagnostic and therapeutic approach to the patients' problems along with the results of the diagnostic tests.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, experience, and procedures at the end of the rotation.

B. Medical intensive care unit

- Educational Purpose

The educational purpose of this rotation is to have the fellows gain experience with the diagnosis and management of patients who are critically ill, monitoring and supervision of such a unit, interaction with other physicians, the health care team, and patients and their extended families.

- Teaching Methods

Attending Rounds consists of conference room and bedside teaching with discussion of mechanical ventilation, theoretical and practical experience with hemodynamic monitoring, review portable chest radiographs, computed axial tomograms, radionuclide scans, electrocardiograms, and other topics and procedures. The goal is to develop meaningful and practical approaches to the diagnosis and treatment of critically ill patients.

Procedures: Performed under the supervision of the attending physician, whose role gradually evolves to that of a critical observer, the fellow gains experience with establishment of and maintenance of open airway, intubation, invasive and non-invasive mechanical ventilation, liberating the patient from mechanical ventilation, ultrasonography, insertion of central venous, arterial and pulmonary artery flotation catheters, calibration and operation of hemodynamic

recording systems, use of paralytic and other agents required by critically ill patients, basic and advanced cardiopulmonary resuscitation and parenteral nutrition.

Pathology: The fellows are expected to review the results of diagnostic studies that include bronchoalveolar, pleural fluid and tissue, and lung tissue specimens, with their attending physician and the pathology attending. Fellows are expected to review all deaths in detail. This includes obtaining and participating in the autopsy and questioning all aspects of the management of the case.

Case Conference: Diagnostic and therapeutic approaches to pulmonary and critical care patients are discussed in detail along with the relevant literature on a weekly basis.

Disease Oriented Clinical Conference: Pulmonary, Critical Care, Sleep, and Allergy Medicine diseases are covered in this weekly conference.

Principles of Practical Pulmonary Conference: Topics not identifiable as belonging to a specific disease are covered in these weekly sessions. Subject matter includes physiology, procedures, and interpretations of tests.

- Mix of Diseases, Patient Characteristics, and Clinical Procedures and Services

The patient population encountered at this Veterans Affairs hospital includes persons with diseases common in the general population including patients with cardiovascular, respiratory, renal, gastrointestinal, genitourinary, neurologic, hematologic, musculoskeletal, immune and infectious diseases, hematologic and coagulation disorders. The role of the fellow is that of a junior attending physician.

- Fellow Evaluation Method

Fellows are evaluated by the attending physician who supervises them over the duration of the rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation. Intensive care nurses also evaluate the fellows annually.

VII. Sleep Rotation

- Educational Purpose

Fellows generally are assigned one rotation on the sleep service per year. To qualify for ABIM sleep board certification, an additional 1-year full-time fellowship in sleep medicine is required. The purpose of the rotation and elective time in sleep medicine is to gain experience with diagnosis and management of patients with sleep disorders, primarily in the outpatient setting and sleep laboratory. This involves developing:

A body of knowledge concerning nosological characterization and treatment of particular sleep

disorders using a multidisciplinary approach

Efficiency and facility in the diagnosis and management of chronic sleep problems for both ambulatory and hospitalized patients

An appreciation of diagnostic testing available for sleep disorders

An understanding in the management of non-invasive positive airway pressure for the treatment of conditions such as respiratory failure and sleep-disordered breathing.

- Teaching Methods

Fellows see both inpatient and outpatient new consultations along with follow-up patients in the outpatient setting. Fellows on a sleep rotation are expected to participate in all the outpatient clinics and read sleep screening tests on a daily basis for the VA patients. Fellows are supervised by two attendings during the clinic sessions, and direct feedback is provided at the time of clinical service. A structured sleep intake form is provided to the fellows, and notes are reviewed.

The fellow is responsible for review of any diagnostic testing performed on their patients, ideally within 3 days of study completion. Polysomnogram interpretation will be reviewed with the supervising attending. Ancillary testing, such as pulmonary function tests, oxygen desaturation studies, trending oximetry, CPAP adherence downloads are to be reviewed in detail with the attending physicians. Fellows on the Sleep rotation are expected to read sleep screening tests at the VA with the attending and sleep fellow. They are expected to attend the weekly polysomnography conferences.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Services

The clinic follows a large group of patients with sleep apnea in whom adherence monitoring and individual action plans are developed. Other forms of sleep disordered breathing and sleep disorders are seen.

- Fellow Evaluation Method

Fellows are evaluated by the supervising attending physicians at the end of each rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed by the attending and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback as soon as possible.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation.

VIII. Clinics Rotation

- Educational Purpose

Fellows are assigned to attend Allergy, Bronchiectasis, Pulmonary Hypertension, Sarcoidosis and Rheumatologic Disease, and Sleep clinics in addition to their own continuity clinic weekly. They may also be asked to help at another clinic if they are needed and have available time. The purpose

of the rotation is to gain experience with diagnosis and management of specialized and usually complicated patients usually not often seen in the usual practice of pulmonary medicine. The fellows may follow interesting patients beyond the clinic and perform procedures such as right sided heart catheterization in pulmonary hypertension patients.

- Teaching Methods

Teaching is generally confined to the outpatient setting where fellows work up and manage often-complicated patient with the guidance of a specialist in this area. The clinics are at both the University and VA.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Services

Each clinic primarily sees their specialized patients that require their specialized treatments.

- Fellow Evaluation Method

Fellows are evaluated by the supervising attending physicians at the end of each rotation. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed by the attending at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, the attending must provide constructive feedback as soon as possible.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation.

IX. Trauma Service

- Educational Purpose

The purpose is to provide fellows with experience in the evaluation and management of patients with level I trauma and to allow them additional experience in invasive procedures under the supervision of trauma surgeons.

- Teaching Methods

The fellows become members of the Trauma Service Team at Christ Hospital. They take eight 24-hour rotations to give them maximum participation in the initial evaluation, resuscitation, stabilization, and the following intensive care of trauma patients under the supervision of an attending or chief surgical fellow.

The fellows attend all educational meetings of the Trauma Service that consists of weekly Critical Care lecture, Grand Rounds and Case Discussion Conferences. They take call in-house and participate fully in patients who newly arrive in the Emergency Department with trauma.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Procedures and Services

Level I trauma patients are seen. All procedures necessary for initial evaluation and management of these patients including central line placement, cut-down, establishment of airway, intubation, mechanical ventilation, maintenance of circulation, transvenous cardiac pacemaker insertion, basic

and advanced cardiac resuscitation, cardioversion, diagnostic and therapeutic thoracentesis, pericardiocentesis, paracentesis, tube thoracostomy, peritoneal dialysis and lavage, evaluation and management of oliguria, management of massive transfusions, and management of hemostatic defects.

- Fellow Evaluation Method

The fellows are evaluated by the Trauma attending responsible for their training. An ABIM-format evaluation is completed by the Trauma attending at the end of the rotation. Verbal feedback is provided continuously and if the attending judges that a fellow is not performing at an acceptable level, he or she must explicitly provide the fellow with constructive criticism.

Fellows in return, evaluate their attending physicians and the rotation in terms of patient mix, educational experience, and procedures at the end of the rotation.

X. University of Illinois Outpatient Services

A. Continuity clinics (see also VIII. Clinics Rotation)

- Educational Purpose

The purpose is to gain experience with diagnosis and management of patients with pulmonary disease in the setting of an outpatient continuity clinic. This involves developing:

- Therapeutic longitudinal relationships with patients
- A body of knowledge concerning the ambulatory care of adults
- Efficiency and facility in handling acute, urgent and chronic problems in the care of ambulatory patients
- An appreciation of cost-effective, evidence-based care as well as exposure to principles of quality management and managed care

- Teaching Methods

Two groups of fellows alternate on a bi-weekly basis in this clinic where they see new consultations and build their continuity clinics. Fellows are supervised by attendings to whom they present their patients after completing an initial evaluation. They discuss their plans for differential diagnosis and treatment with the attending physicians. The degree of the attending supervision evolves as the fellows gain experience in the outpatient pulmonary clinic.

In clinic, pharmacy consultations are provided by a PharmD who also participates in patient education.

The chest radiographs, CT scans, pulmonary function tests of the patients are reviewed in detail with the attending physicians.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Services

All diseases required by the curriculum are encountered in this clinic.

- Fellow Evaluation Method

Fellows are evaluated by the supervising attending physicians twice a year. Verbal feedback is given on an ongoing basis. An ABIM-format evaluation is completed by all attendings and reviewed with the fellow at the completion of the rotation. If an attending physician judges that a fellow is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback as soon as possible.

Fellows evaluate the clinics at the Fellows Quarterly meetings and the semi-annual personal reviews, as well as through the annual program evaluation.

XI. Jesse Brown VA Medical Center Outpatient Services

- Educational Purpose (also see VIII. Clinics Rotation)

To gain experience with diagnosis and management of patients with pulmonary disease in the setting of an outpatient continuity clinic. This involves developing:

- Therapeutic longitudinal relationships with patients
- A body of knowledge concerning the ambulatory care of adults
- Efficiency and facility in handling acute, urgent and chronic problems in the care of ambulatory patients
- An appreciation of cost-effective, evidence-based care as well as exposure to principles of total quality management and managed care

- Teaching Methods

One of the fellow groups that attend the University of Illinois Pulmonary Continuity Clinic attends the VA Pulmonary Clinic on a bi-weekly basis. The fellows see new consultations and build their continuity clinics. Fellows are supervised by attendings, to whom they present their patients after completing their initial evaluation. They discuss their plans for differential diagnosis and treatment with the attending physicians. The degree of the attending supervision evolves as the fellows gain experience in the outpatient pulmonary clinic.

In clinic, pharmacy consultations are provided by a PharmD who participates in patient education as well.

The fellows review in detail the pulmonary function tests, chest radiographs and CT scans of their patients with one of the attending physicians.

- Mix of Diseases, Patient Characteristics, and Types of Clinical Services

Patients with chronic obstructive lung disease, asthma, and lung cancer are common in this clinic. The fellows also gain experience with the diagnosis and management of a wide variety of patients with interstitial lung disease.

- Fellow Evaluation Method

Fellows are evaluated biannually by the attending physicians who supervise them. Verbal feedback is given on an ongoing basis. If an attending physician judges that a fellow is not performing

adequately in any area of evaluation, he or she must explicitly provide constructive feedback as soon as possible.

Fellows in return, evaluate their attending physicians, patient-mix, and experience quarterly and semiannually with the Program Director.

XII. Mercy ICU Service

- Educational Purpose (also see V. B. UIH ICU Rotation)

The Purpose of this rotation is for Pulmonary and Critical Care Fellows to gain experience with the diagnosis and management of medical and surgical patients who are critically ill in the setting of a closed intensive care unit. Fellows benefit from a multi-disciplinary team, Pulmonary and Critical Care faculty, and opportunities to learn procedures, monitoring, and supervision of such a unit.

- Teaching Methods

Fellows will:

- 1) demonstrate competence in mechanical ventilation and weaning techniques, hemodynamic monitoring, diagnostic tests such as chest radiographs, computed axial tomograms, ultrasonography, and Pulmonary angiograms
- 2) develop a meaningful understanding, practical and cost-effective approach to diagnosis and treatment of critically ill patients in diverse patient population
- 3) interact and communicate with the primary care providers, specialists and proceduralists
- 4) develop expertise in dealing with anesthesiology and surgical problems in a multidisciplinary fashion
- 5) perform a variety of procedures under the supervision of the attending physician, whose role gradually evolves to that of a critical observer
- 6) gain experience with establishment of and maintenance of open airway, intubation with direct laryngoscopy, video laryngoscopy and video bronchoscopy, invasive and non-invasive mechanical ventilation, liberating the patient from mechanical ventilation; calibration and operation of hemodynamic recording systems; maintenance of circulation; pharmacokinetics and dynamics, use of paralytic agents; pulmonary artery flotation catheters; basic and advanced cardiopulmonary resuscitation; and parenteral nutrition.
- 7) use of critical care ultrasonography for vascular access, hemodynamic evaluation, and thoracic ultrasonography; insertion of central venous catheters and arterial lines.

- Mix of Diseases, Patient Characteristics, and Clinical Procedures and Services

The patient population encountered at this tertiary hospital unit is very heterogeneous and includes essentially all patients required by the curriculum. Patients with cardiovascular, respiratory, renal,

gastrointestinal, genitourinary, neurologic, hematologic, musculoskeletal, immune and infectious diseases, hematologic and coagulation disorders, critical obstetric and gynecological disorders, immunosuppressed patients and patients with anaphylaxis and acute allergic reactions are encountered, as well as transplant patients. The role of the fellow is that of a junior attending physician.

XIII. Electives

Electives can be for an entire block or as part of another rotation. All elective activity must be approved by the Program Director and by the attending physician in the department where the elective will be held. An example of an elective experience would be getting intubation practice with anesthesiology. Anesthesia has a policy where a fellow may request to come to the operating room in the morning and perform intubation under the supervision of the attending anesthesiologist. Fellows can also request to scrub with thoracic surgeons on a particular case or to perform ultrasound or transthoracic procedures with Cardiology or Radiology at the VA, while engaged in another rotation.

XIV. Didactic Conferences

A. Required conferences

Attendance is required for all Pulmonary and Critical Care fellows and attendings for these conferences. Fellows must average at least 70% attendance of all conferences as a graduation requirement. This takes into account vacation, outside rotations, and medical urgencies as reasons for absence. Each fellow is required to present two major didactic conferences in addition to the critical review of a journal article (Journal Club) each year. Clinical fellows are expected to present at the research conference in their second and third years; research fellows are expected to present at the research conference every year. All talks should be of high quality with understanding and citation of current medical literature.

1. Disease Oriented Clinical Conference: These are designed to cover the diseases specified within the curriculum over a three-year period. Lectures are given by multi-disciplinary faculty or invited faculty from different specialties. This conference is attended by all fellows and faculty.

2. Case Conference: Diagnostic and therapeutic approaches to pulmonary, critical care and sleep patients are discussed in detail along with the relevant literature on a weekly basis. The last conference of each month is devoted to a particular theme or disease. Radiographs are often highlighted in this conference which aims to develop a thorough and critical approach to the evaluation of patients. This conference is attended by all fellows and faculty.

3. Radiology Conference: This monthly conference is held in conjunction with the Radiology residency program and held in the radiology conference room of the main hospital, UIH 2481. Cases are presented in case conference format with a more detailed review of radiographic images and a review of radiographic principles in collaboration with a radiology resident. This conference is attended by all fellows and faculty.

4. Principles of Practical Pulmonary Conference: This weekly conference begins with lectures and demonstrations on urgent ICU procedures for the first month. It then covers basic physiology, followed by interpretations of pulmonary, critical care and sleep procedures and conditions that are not generally related to one disease. The last week of each month is devoted to the *Journal Club*.

5. Research Conference: This weekly conference is held from September through May and covers all aspects of research. Emphasis is on work-in-progress. Each fellow engaged in research is expected to

present.

6. Multidisciplinary Thoracic Case Conference: This conference is held weekly and attended by the fellows and attending physicians from Pulmonary, Medical Oncology, Radiation Oncology, Radiology, Pathology, and Thoracic Surgery. Generally, fellows present patients who need work-up or management of a thoracic neoplasm.

7. Department of Medicine Conferences: The Department of Medicine a weekly **Medical Grand Rounds** and monthly **Morbidity and Mortality Conference** which is run by our pulmonary/critical care faculty.

8. Orientation Lecture series: These lectures are held in July to introduce fellows to procedures such as Advanced Cardiac Life Support, bronchoscopy, pulmonary function tests, ventilator management, hemodynamic monitoring, and give them other essential information.

9. The ventilator and ultrasound curricula are included in the above lecture series. **Lung Pathology** is covered in the case conferences and individual sessions with pathologists.

B. Non-mandatory (but encouraged) Conferences

1. Ethics Grand Rounds are held monthly and address timely problems in ethics.

2. Clinical and Translational Research Intensive Summer Program is intended for those wishing to embark on a career in clinical research. It is held in July for 1 week.

3. Introductory Bronchoscopy is a daylong course in July taught by Dr. Kovitz and other interventional bronchoscopists, for beginning fellows.

4. Lung Biology Research Conferences and Research Seminars are held in conjunction with the Department of Pharmacology from September and through May.

5. Lung Pathology course is taught annually by Dr. Sekosan at Stroger Cook County Hospital with fellows from Rush and Stroger and pathology residents. This usually occurs weekly for about 8 weeks in late summer.

6. Society Conferences: The Pulmonary and Critical Care fellows are encouraged to join professional societies and attend national meetings. Every fellow is encouraged to attend at least one conference of the American Thoracic Society, American College of Chest Physicians, or Society of Critical Care Medicine. Fellows are also encouraged to attend special conferences, such as ultrasonography, airway management, or Board Review courses as time is available. They also should take advantage of the learning opportunities in other arenas, such as WEB-based programs, CDs, etc.

XV. Special Educational Features

A. Critical Assessment of the Literature (Journal Club)

In addition to discussion of current literature during rounds, a *Journal Club* is held on the last Thursday of each month. Each fellow critically reviews one paper with a faculty member mentor. In addition, fellows may participate in a Research Journal Club held in conjunction with specific research laboratories.

The Division has developed a set of essential articles in Critical Care available on the Pulmonary, Critical Care, Sleep and Allergy website at: <http://chicago.medicine.uic.edu/gateway/Login.aspx?ReturnUrl=%2fcms%2fOne.aspx%3fportalId%3d506244%26pageId%3d4021395>.

The American Thoracic Society has developed a syllabus of important journal articles that are posted on its website <<http://www.thoracic.org/go/atsreadinglist/>>. The fellows can refer to this for key articles on specific topics.

In addition, faculty members who are editors or reviewers may ask fellows to referee articles or to write review articles and mentor them in these processes.

B. Medical Ethics, Management, and Legal Issues in Medicine

These topics are covered in Pulmonary and Critical Care Medicine Grand Rounds and are continuously addressed by the attending physicians in the ICU setting. These topics are also covered in the curriculum developed by the Department of Medical Education. The University Medical Ethics Department has monthly grand rounds on ethics that fellows are encouraged to attend.

C. Medical Informatics and Computer Skills

Both at the VA and UIH, the fellows attend a course on the use of our computerized patient care records. They have access to the internet at both VA and the UIH for search purposes. Some of the relevant topics are covered in the curriculum of the Department of Medicine designed for all of the subspecialty fellows.

D. Preventive Medicine and Public Health

The fellows receive instruction in the in-patient and especially in the outpatient setting from their attendings. These topics are also covered in our Pulmonary and Critical Care Grand Rounds. The fellows have an opportunity to obtain a Master's of Public Health through the UIC School of Public Health during their three-year fellowship.

E. Quality Assessment, Quality Improvement, Risk Management, and Cost Effectiveness in Medicine

Quality improvement is a central theme to the teaching at UIC. The University Hospital has had Patient Safety Day and frequently has lectures and discussions on these topics. These topics are also covered in the curriculum of the Department of Medicine. Separate online ethics programs are mandated by the University, State of Illinois, Veteran Administration, and Institution Review Board. The main purpose of the annual retreat is quality improvement. The Program Director is part of a national network of program directors whose main focus is quality improvement. Fellows are required to have completed at least one quality improvement project that would affect their practice during their fellowship. They are also encouraged to attend their unit's quality improvement conferences. The division's policy of *continuous improvement* allows anyone at any time to suggest improvements or to question current policy. These suggestions are taken seriously, usually discussed with both fellows and faculty, and usually acted upon.

F. Research experience

There is a great variety of research opportunities at the University of Illinois. The Pulmonary, Critical Care, Sleep and Allergy division has an NIH T32 grant to train persons to become physician-scientists. The University has more than 200 doctoral researchers engaged in some form of respiratory or lung research.

Fellows may join the program and start as a T32 research fellowship for the first two years and then go to a clinical fellowship or begin in the clinical program and move to the research fellowship for their final two years. (See below.)

Each clinical fellow is required to develop a clinical or basic research project and choose a research mentor. Even in their pre-research first clinic year, the fellows hold meetings with their Research Advisory Committee. The Research Advisory Committee meetings review plans and progress of research, strategy, and resources. The committee advises and encourages the research as well as evaluating it and suggesting directions to the fellow and mentor. All fellows are expected to complete a research project that includes presenting and publishing the work in a peer-reviewed journal.

G. Physician Wellness, Alertness, Fatigue Awareness and Mitigation

Standards for well-being are based on recommendations by the Institute of Medicine (IOM). It is meant to set specific requirements for alertness management and fatigue mitigation to ensure continuity of patient care, patient safety and fellow safety. Throughout the year, conferences will address this issue so you can recognize signs of fatigue and sleep deprivation. Faculty and fellows must be mindful of their professional responsibilities as physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients. For more information you can review the GME Policy and Procedure XIV-A. Alertness and Fatigue Mitigation.

XVI. Physician Scientist Program

The fellowship has two tract, clinical and research. The research tract enrolls fellows for 4 years, with 2 years devoted to research. Fellows eligible for the division's NIH (T-32 grant) program must be accepted into it carry out clinical or basic research under the guidance of an NIH funded member of the Division. This is usually in addition to 2 years of clinical training. Individuals may also enter the physician-scientist pathway directly after their Internal Medicine residency program or choose it after their clinic experience in the fellowship.

All fellows, whether in research or clinical years, are under the UIC Graduate Medical Education system and strictly follow ACGME guidelines, under the Pulmonary and Critical Care Program Director. Fellows are required to attend their continuity clinic one half day per week during their research time.

In addition to carrying out research these fellows may attend classes at the University.

XVII. Masters of Public Health Programs

The University offers a Masters of Public Health (MPH) and Masters of Science (MSc) in the school of Public Health. Both programs have several subdivisions, including Epidemiology-Biostatistics, Health Policy Administration, Community Health Sciences, and Environmental and Occupational Health Sciences. The new program in the MSc track is the Clinical Translational Science Program that is popular with Pulmonary and Critical Care fellows. Fellows must be accepted into the program and have approval of the Program Director. Course work can be taken during the fellowship. Fellows are expected to engage in research in addition to the course work. Generally, this requires 1 or 2 additional years of fellowship.

XVIII. Bibliography and Medical Literature

Fellows are strongly encouraged to join the American Thoracic Society, the American College of Chest Physicians, and Society for Critical Care Medicine. Joining these societies automatically enrolls them in a

subscription to the society's journal. Fellows are expected to consult the literature frequently through searching the National Library of Medicine databases (Pub med, Medline, and variations) and online full-texted journals through Ovid and texts through MD Consult. These are provided free of charge by the University and are readily accessible while on campus. The fellows are required to have at least one textbook of Pulmonary, Critical Care and Sleep Medicine, Critical Care Medicine, Exercise Testing, and Radiology. Most have many texts on respiratory and critical care medicine topics, although an increasing amount of material is available on line. In addition to texts, guidelines such as those developed by the American Thoracic Society <http://www.thoracic.org/> are recommended reading.

All literature must be evaluated carefully, and this citation does not endorse all aspects of these works.