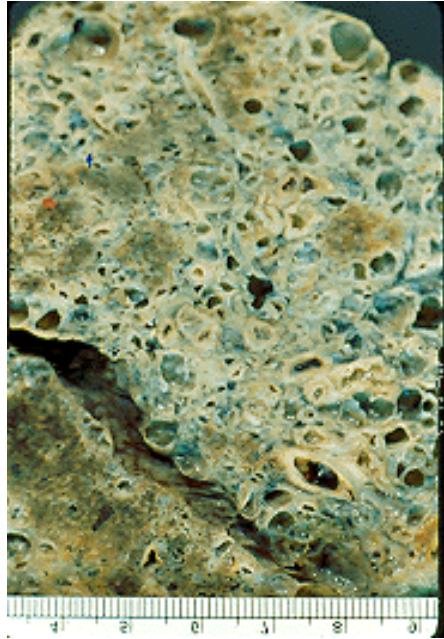


Training Program Core Curriculum Guide



**Section of Pulmonary, Critical Care and Sleep
Medicine, Department of Medicine, College of
Medicine, University of Illinois at Chicago**

**Dean Schraufnagel, MD
Program Director**

**John Christman MD
Section Chief**

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I. Introduction

A. Educational Goals

1. Overall Program Goals, Objectives and Curriculum

The goal of the Pulmonary, Critical Care and Sleep Medicine program is to develop internists into competent pulmonologists and intensivists with: a. good clinical judgment, b. extensive and well-applied medical knowledge, c. proficiency in clinical skills, d. humanistic qualities, e. professionalism, f. ability to provide excellent medical care, g. commitment to continuing scholarship, and h. moral and ethical behavior under the guidelines of the Accreditation Council for Graduate Medical Education (ACGME). The subspecialty residents, who are also termed fellows, will be well prepared for an academic or practice career in Pulmonary, Critical Care and Sleep Medicine. The Section of Pulmonary, Critical Care and Sleep Medicine with its multi-disciplinary faculty is fully committed to achieve this goal.

a. Good Clinical Judgment

The goal is to develop the ability of the residents to integrate medical facts and clinical data, weigh alternatives, understand the limitations of knowledge, recognize the complications of disease and side-effects of treatment, institute prompt measures to deal with serious or life-threatening clinical manifestations, consider the risks and benefits to the patient and develop a logical plan for evaluation of both immediate and long-term management of the patient. The knowledge base for these decisions should come from evidence in the medical literature. This ability is judged by the attending physicians during their clinical rotations and in the out-patient clinics. It is expected that all attendings evaluate the residents' clinical judgment, discuss this with them, and record their progress in the evaluation forms that are filled at the end of each rotation. The residents will be given the opportunity to evaluate and manage their patients in the critical care units, on consultation services, in the out-patient clinics, and in the case conference so that they develop a rational approach to diagnosis and treatment. These plans will be discussed with the attending physician assigned to that service and modified if necessary with detailed discussion of the reasons for such modification in order to ensure adequate feed-back to the resident in each case. The attending's supervisory role in the delivery of patient care is expected to evolve as the resident acquires necessary clinical skills.

The residents are expected to display sensitivity to the patient=s needs, validate and incorporate all diagnostic information into specific management plans, provide explicit timely notes or letters responding to the questions of the referring physician, and demonstrate excellent communication skills.

Observation by the attending physicians on consultation services, medical intensive care

units and out-patient clinics will verify the trainee=s acquisition of essential clinical skills such as medical interviewing, skillfully performing selective physical examinations, and using special procedures and tests as indicated.

The clinical skills of the residents are also evaluated by the Program Director and attending physicians in the Pulmonary and Critical Care Case Conference, where residents are expected to discuss the approach to diagnosis and treatment of the patients presented by their colleagues.

Residents identified as deficient in clinical skills are counseled by the Program Director and their progress is evaluated by repeated consultation evaluation exercises.

b. Extensive and Well-Applied Knowledge

In order to achieve the goal of specialized, current, extensive and well-applied knowledge among the residents, self-instruction is emphasized. To encourage self-instruction, the residents are expected to review the literature relevant to their patients= diagnoses and treatment during their clinical rotations before their presentations at the Pulmonary and Critical Care Case Conference, Medical-Surgical Case Conference, and other conferences. In addition, the residents are expected to participate in the Journal Club, review topics for the Pulmonary and Critical Care Grand Rounds, and present at least one topic review per year. The attending physicians are responsible to encourage and reinforce the need for self-instruction as they guide the residents towards this goal. Furthermore, the attending physicians are expected to cover the topics outlined in the curriculum during their rounds, Pulmonary and Critical Care Grand Rounds and Case Conferences.

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
- Pulmonary malignancy, 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, the vasculitiditis and pulmonary hemorrhage syndromes
- Occupational and environmental lung diseases
- Iatrogenic respiratory diseases, including drug-induced disease
- Acute lung injury, including radiation, inhalation, and trauma
- Pulmonary manifestations of systemic diseases, including collagen vascular

- diseases
- Respiratory failure, including the respiratory distress syndrome, acute and chronic respiratory failure in obstructive lung diseases and neuromuscular and respiratory drive disorders
- Disorders of the pleura and mediastinum
- Genetic and developmental disorders of the respiratory system
- Sleep disorders

Critical Care Medicine

- Physiology, pathophysiology, molecular biology, diagnosis and therapy of disorders of the following systems: a.) Cardiovascular, b.) Respiratory, c.) Renal, d.) Gastrointestinal, e.) Genitourinary, f.) Neurologic, g.) Endocrine, h.) Hematologic, i.) Musculoskeletal, j.) Immune, k.) Infectious, and l) Reproductive
- Electrolyte and acid-base physiology, pathophysiology, diagnosis and therapy
- Metabolic, nutritional and endocrine effects of critical illnesses
- Hematologic and coagulation disorders secondary to or causing critical illnesses
- Life-threatening obstetric and gynecologic disorders
- Management of the immunosuppressed patient
- Management of anaphylaxis and acute allergic reactions
- Trauma
- Pharmacokinetics, drug metabolism, and excretion in critical illness
- Use of paralytic agents
- 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

c. Proficiency in Clinical Skills

In order to achieve the goal of adequate clinical skills, residents are expected to obtain appropriately directed patient medical interviews that are precise, logical, thorough and reliable. They are expected to conduct expert examinations that elicit subtle findings and are directed toward the patients' problems. They should demonstrate understanding and proficiency while minimizing risk and discomfort to patients in the performance of diagnostic and therapeutic procedures. The attending physicians are responsible to review the performance of the residents, point out deficiencies if present, and guide them to improving their skills and achieve this goal.

All residents perform the procedures relevant to Pulmonary and Critical Care training under the supervision of the attending physicians. The American Board of Internal Medicine (ABIM) defines procedural skills as the learned manual skills (including supervision of technical aspects) necessary to perform certain diagnostic and therapeutic procedures that are requisite for Pulmonary and Critical Care Medicine. Successful mastery of these skills includes technical proficiency, an understanding of the indications, contraindications, and complications, and the ability to interpret their results.

Additional procedural skills required will be determined by the trainee=s personal preference, practice expectations, availability of other skilled professionals, and local delineation of privileges. Technical proficiency and familiarity with the indications, interpretation, contraindications, and complications of these additional procedures are essential when they are included in the curriculum. First-hand experience is highly desirable.

The American Board of Internal Medicine does not prescribe the number of times a procedure must be done to ensure competency. It recognizes that a trainee=s manual dexterity and confidence vary, and procedures should be applied for the patient=s benefit and not to fulfill an arbitrary quota.

The attending physicians are responsible to ensure that the residents properly explain the procedure to be performed to the patient and the family, obtain a consent form before the procedure and adequately explain the risks and discomforts involved with the procedure. At the end of each clinical rotation, the attendings will evaluate the procedural skills of the residents and sign the procedure logbook of each resident documenting the procedures performed by the residents. The role of the attending during procedures is expected to evolve from performing the procedure to a critical observer of the residents as residents acquire necessary procedural skills. The degree of supervision will be individualized depending on the residents' abilities. Residents may perform certain procedures without the attending physician=s presence after developing adequate skills, as judged by the Program Director and the Resident Evaluation Committee.

Reviews of trainee consultation reports, progress notes, and letters to referring physicians are to be reviewed critically by the attending physicians to assess the trainee=s clinical reasoning and record-keeping ability, particularly responses to the questions asked by referring physicians.

Students, residents, colleagues, nurses, and others involved in patient care will be utilized informally to provide information of the trainee=s organization of work, professional attitudes and behavior towards colleagues, communication skills, procedural skills, and humanistic care of patients.

The Program will provide the environment and resources for the resident to acquire

knowledge of and competence in performing the following:

- Establishment of airway
- Maintenance of open airway in nonintubated, unconscious, paralyzed 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
- Weaning and respiratory care techniques
- Management of pneumothorax including needle insertion and drainage systems
- Thoracostomy tube insertion and drainage
- Arterial puncture and blood sampling
- 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
- Exercise testing
- Diagnostic and therapeutic procedures, including thoracentesis, pleural biopsy, flexible fiberoptic bronchoscopy and related procedures
- Examination and interpretation of sputum, bronchopulmonary secretions, pleural and lung tissue for infectious agents, cytology and histopathology

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

- Imaging procedures, including:
 - chest radiographs
 - computed axial tomograms
 - radionuclide scans
 - pulmonary angiograms
 - other radiologic procedures
- 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 residents 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

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

- Parenteral nutrition
- Monitoring and bioengineering:
 - Utilization, zeroing, calibration of transducers
 - Use of amplifiers and recorders

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

- Pericardiocentesis
- Transvenous pacemaker insertion
- Peritoneal dialysis
- Peritoneal lavage
- Insertion of chest tubes
- Aspiration of major joints
- Percutaneous needle aspiration and cutting lung biopsy
- Endobronchial laser therapy
- Intracranial pressure monitoring

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

d. Humanistic Qualities

- The residents are expected to demonstrate integrity, respect, compassion and empathy for their patients. These include the abilities to be honest, involved, and responsive to the patient=s wishes; to respect the patient=s need for information; to establish the patient=s trust; to provide empathy; and to maintain credibility and rapport with patients and their families. The primary concern is for the patient's welfare. In this respect, attending physicians are role models and they are expected to address issues regarding humanistic qualities during teaching rounds as well as in the setting of out-patient clinics. Attending physicians are expected to critically evaluate the humanistic qualities of the residents after each rotation (also see e. Professionalism below).

e. 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 educating them, their families, and other health care professionals. Professionalism includes the ability and willingness to communicate effectively, to accept responsibility, to write comprehensive 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. Skills and experience in self-assessment, system-based care, continuous quality improvement, and systematic peer-review of clinical performance are also expected.

To provide excellent patient care, physicians must have the welfare of their patients as their primary professional concern. Although during their training, internists have demonstrated integrity, respect, compassion, sensitivity to the patient=s perception of illness, acceptance of professional responsibility, and appropriate attitudes and behavior towards patients and colleagues, Pulmonary, Critical Care and Sleep specialists bear added responsibility to manifest these qualities and attitudes.

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. During the training, residents should demonstrate the capacity to provide meaningful emotional support to patients and their families. This should include the ability to provide a realistic appraisal of the patient=s condition while offering hope, thereby allowing the patients to cope optimally with their diseases. Whether to undertake expensive and uncertain therapy also requires knowledge and effectiveness in discussing the process of informed consent, clarity in enunciating the ethical issues involved, and thorough understanding of social support and palliative measures.

The ability of the trainee in these matters will be directly assessed by the Program Director and teaching faculty in the inpatient consultation services, medical intensive

care units and in the outpatient clinics. Input from nurses and peers based on their direct observation of the trainee will also be sought.

The residents are encouraged to interact with others in their profession by joining professional societies, attending local and national conferences, and becoming involved in professional societies and activities.

f. Excellent Medical Care

The outcome of the integration of the foregoing component skills is the ability to manage patients. Excellent medical care results from the consistent ability to apply appropriate, comprehensive care of high quality; to be responsive to the patient=s needs and wishes; to demonstrate cultural competency; to use therapeutic modalities, laboratory tests, consultations, and diagnostic procedures efficiently, effectively, and in the patient=s best interest; and to assure patient advocacy for optimal use of limited resources to maintain and enhance quality of care.

g. Commitment to Continuing Scholarship

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 base and clinical skills throughout their career. They must be skilled in obtaining medical information, reading it critically, interpreting it, and realizing its limitations. They should participate in scientific or clinical studies, and scientific and clinical meetings. They should be able to evaluate critically new information relevant to Pulmonary, Critical Care and Sleep Medicine.

The residents 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. They will receive written evaluations of their progress and research skills from their preceptors.

The residents are expected to supervise and teach the residents in internal medicine and medical students assigned to their services.

These qualities will be evaluated by the attending physicians and by the evaluation forms filled by medical residents and students at the end of their rotations in Pulmonary or Critical Care Medicine.

Resident=s cognitive skills, continuing scholarship and research abilities will be assessed by the Program Director and the faculty at clinical and research conferences, by the insights and documentation the trainee provides in evaluating patient=s problems, by contributions to developing research protocols and carrying out scholarly endeavors, and by presentation=s of the trainee=s work.

h. Moral and Ethical Behavior

The residents are expected to consistently demonstrate a high standard of moral and ethical behavior. In conjunction with this philosophy and expectation, ABIM considers it unethical for a physician to refuse to treat a patient solely on the basis of that patient's disease, when that disease is within the physician's area of competence.

Deficiencies in moral and ethical behavior preclude certification by the American Board of Internal Medicine. Any deficiency in this regard will be treated with utmost importance. Alleged deficiencies will be documented by the attending physician and Program Director, discussed at the Resident Evaluation Committee meeting, leading at least to counseling and careful scrutiny. Documented deficiencies in moral and ethical behavior may lead to dismissal from the training program after the resident is given an opportunity to address the issues involved and after consultation with the Graduate Medical Education Office.

2. ACGME General Competencies

In 1999, the ACGME endorsed general competencies for residents in the areas of a. Patient Care, b. Medical Knowledge, c. Interpersonal and Communication Skills, d. Professionalism, e. Practice-based Learning and Improvement, and f. Systems-based Practice. To assure these competencies are met, the Section of Pulmonary, Critical Care and Sleep Medicine has incorporated the following as requirements in addition to the topics covered under Overall Goals and Objectives.

a. Patient Care

The residency program will ensure that its residents, by the time they graduate, provide appropriate, effective, and compassionate clinical care. Residents 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 up-to-date scientific evidence to make decisions about diagnostic and therapeutic interventions
- Develop and carry out patient management plans
- Provide education and counseling to patients
- Perform competently all medical and invasive procedures considered essential for the area of practice
- Provide health care services aimed at preventing health problems or maintaining health
- Work with other health care professionals to provide patient-focused care

b. Medical Knowledge

The program will ensure that its residents, by the time they graduate, possess knowledge in established and evolving biomedical and clinical science and apply it to clinical care. Residents are expected to:

- Demonstrate rigor in their thinking about clinical situations
- Know and apply the basic and clinically supportive sciences which are appropriate to their discipline

c. Interpersonal and Communication Skills

The residency program will ensure that its residents, by the time they graduate, can develop appropriate interpersonal relationships and communicate effectively with patients, their patient=s families, and professional associates. Residents 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, in particular a health care team that might include professionals from multiple disciplines

d. Professionalism

The residency program will ensure that its residents, by the time they graduate, demonstrate the fundamental qualities of professionalism. Residents are expected to:

- Demonstrate respect, regard, and integrity and a responsiveness to the needs of patients and society that supersedes self-interest; assume responsibility and act responsibly; and demonstrate a commitment to excellence and on-going professional development
- Demonstrate a commitment to ethical principals pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices, demonstrate sensitivity and responsiveness to cultural differences, including awareness of their own and their patients= perspectives

e. Practice-based Learning and Improvement

The residency program will ensure that its residents, by the time they graduate, are able to investigate, evaluate, and improve their patient care practices. Residents 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 their own education

f. Systems-based Practice

The residency program will ensure that its residents, by the time they graduate, 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. Residents are expected to:

- Understand how their patient care practices and related actions impact component units of the health care delivery system and the total delivery system, and how delivery systems impact 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

3. Educational Goals by Year of Training

First year specialty residents in Pulmonary and Critical Care Medicine will spend more time on Pulmonary Consultation Services at the beginning of their training. Here they will gain experience in pulmonary consultations and procedures. Along with the Critical Care Medicine and elective experience obtained during the remaining portion of the first year, the residents will acquire most of the experience necessary to become eligible for ABIM Pulmonary Disease Certification after two years.

Residents are expected to obtain appropriately 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 while they are on Medical Intensive Care Units, Pulmonary Consultation Services and Outpatient Clinics. The first

year residents will be expected to develop a meaningful approach to the diagnosis and treatment of their patients' problems. During the initial period, the residents will take call in the intensive care units under the close supervision of the attending physician of the unit in preparation for their intensive care unit rotations. More senior residents will also help orient them to their duties.

All residents perform procedures relevant to Pulmonary Disease and Critical Care Medicine under the supervision of attending physicians. The role of the attending physician during procedures is expected to evolve from performing the procedure to a critical observer of the residents as residents acquire necessary procedural skills. The degree of supervision will be individualized depending on the residents' observed abilities. The residents may perform certain procedures while the attending is present in the patient care area or within the institution after developing adequate skills, as judged by the Program Director and the Resident Evaluation Committee.

All residents are assigned to outpatient clinics (two half-day clinics per week) where they follow patients throughout their three-year training in Pulmonary and Critical Care Medicine. As in inpatient services, the residents see and follow patients under the supervision of the attending physicians.

In all of these settings, the residents will learn how to deliver appropriate, effective and compassionate clinical care while they demonstrate the fundamental qualities of professionalism. They will start learning how to investigate, evaluate, and improve their own clinical practices and learn about the intricacies of systems-based practice.

Second year specialty residents in Pulmonary and Critical Care Medicine will spend proportionally more time in the Intensive Care Units to satisfy the eligibility criteria for ABIM Critical Care Medicine Certification. The residents' ability to perform procedures is expected to evolve during this time to a level that enables them to confidently and safely perform most procedures.

A research rotation will be included in this year contingent upon the approval of the resident's proposal outlining of the research project. The residents are expected to follow their patients in their continuity clinics even during research and elective rotations.

It is expected that the residents, will be delivering appropriate, effective and compassionate clinical care with professionalism during the second year. They will start to evaluate their own clinical practices formally and define ways in which they will improve upon their clinical practices.

Third year specialty residents will complete their rotations in order to qualify for ABIM Pulmonary Disease and Critical Care Medicine Certification examination and their research rotation. The residents will continue to follow their patients in their continuity clinics during this year as well. In this year, residents often elect to take in

depth training in sleep medicine or research. If a resident enters the NIH-funded basic research track, clinical duties will be reduced to 1 half day per week.

They will have to meet all the requirements defined in detail under AOverall Program Goals, Objectives, and Curriculum@ as well as those under AACGME General Competencies.@

B. Work Hours and Moonlighting

1. Schedules

Weekdays	8:00 AM to 6:00 PM
Weekends and holidays (when rounding)	8:00 AM to 2:00 PM

All rotations are monthly. Call schedules are daily. All schedules are posted on www.amion.com. When on call, all residents must be available by telephone and area-wide pager from 6:00 PM to 8:00AM every week night and all day Saturday, Sunday, and holidays.

Duty hours are defined as all clinical and academic activities related to the residency 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 will be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities. Residents will be provided with 1 day in 7 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.

2. Moonlighting

Because residency education is a full-time endeavor, moonlighting must never interfere with the ability of the resident 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 Michael Reese, and our former institution, Kindred, and only with permission of the Program Director. Residents who receive below average clinical evaluations or have deficiencies will not be permitted to moonlight.

Moonlighting will be counted toward the 80-hour weekly limit on duty hours.

C. Resident and Attending Lines of Responsibility

1. Critical Care Inpatient Services

The attending physician of record bears ultimate responsibility for the care of patients admitted under his or her name. First-year residents work-up all patients admitted to the services to which they are assigned and report directly to the supervising (postgraduate year 3) residents. Senior medical residents report to the subspecialty resident (fellow). The Pulmonary and Critical Care fellow reports all admissions, admission requests, and consultations to the attending. In addition, 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 thought to be 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 MICU team and transported to an intensive care unit. The MICU Attending then assumes responsibility for the patient's care.

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.

2. Pulmonary Consultation Services

On Pulmonary Consultation services the medical resident generally sees the patient first, reports to the fellow, and then presents to the attending. In the interests 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 is observed obtaining consent and evaluated on this by the supervising attending physician.

3. Ambulatory Settings

In the outpatient clinics, residents and fellows see the patients first and report to the attending. The University Outpatient Clinics have only fellows. The VA has residents and fellows. 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 fellow or resident.

D. Resident Evaluation

Resident's performances are evaluated by their respective attending physicians on a monthly basis. At the end of each month, the attending physician fills out an evaluation form (online at myevaluations.com) and discusses the evaluation with the resident. The evaluation forms enable evaluation of clinical judgment, medical knowledge, clinical skills, (medical interviewing, physical examination, procedural skills), humanistic qualities, professionalism, medical care continuing scholarship and overall clinical competence. Similar evaluations forms are filled by attending physicians in the outpatient setting semiannually. Research supervisors fill out a separate form semiannually. Evaluations include an assessment of the trainee's procedural abilities and verify their technical proficiency in addition to the logbooks kept for the procedures. The attending physician supervising bronchoscopies fills out an evaluation form for each procedure. The University ICU nurses evaluate the fellows annually for communication skills, teaching, responsiveness, patient interaction and leadership. These evaluations are filed in the residents' files after being reviewed by the Program Director. The residents receive a copy of an evaluation summary that is kept in the residents' file.

The Program Director, who receives the evaluations before they are placed in the residents' files discusses any significant problem with the trainees immediately. The residents meet with the Program Director individually twice yearly when their performance and future plans are discussed. The Program Director and Section Chief also meet with the residents as a group, quarterly.

The section of Pulmonary, Critical Care and Sleep Medicine's **Education Committee** meets monthly and any problem that may have arisen is discussed. Each quarter the performance of every resident is reviewed; steps are brought out that could be taken to improve performance. The residents' development and procedural skills are discussed in these meetings.

The Program Director and faculty evaluate and suggest corrective action to the residents at any time in any of the teaching settings that includes Pulmonary and Critical Care Medicine Case conferences, at which residents present interesting or problem patients along with relevant literature.

E. Resident Due Process

Whenever the professional activities, conduct, or demeanor of a resident 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 *Procedural Rights Process* detailed in the residency agreement is available to all residents who wish to appeal certain disciplinary actions, which significantly threaten the

resident=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 disciplinary action. The Program Director=s action will depend on the severity of the infraction, prior warnings, and efforts on the part of the resident to correct his or her behavior. In all cases the basis for the decision will be in the Program Director=s best judgment.

- a. Behavior that threatens the well being of patients, medical staff, employees, or the general public.
- b. Other substantial or repetitive conduct which is considered by the resident=s supervisor 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 letter of the resident agreement, or to policies and procedures of The University of Illinois, The College of Medicine, or the resident=s program.
- d. Failure to comply with the 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 duty assignments without reasonable excuse.
- i. Failure to perform the normal and customary services of a resident as defined in the ACGME AGeneral Requirements@, AGeneral Competencies@ and under the Overall Program Goals, Objectives and Curriculum Section of this document.
- j. Sexual harassment or abuse of patients, other residents, or hospital staff.

2. Disciplinary Actions

Residents may be subject to the following actions taken by the Program Director or by

the Dean, College of Medicine, or his designee. Discipline may be progressive, in that it follows the order of the actions listed below. However, if the resident=s behavior, in the judgment of the resident=s supervisor or University Administration, warrants removing the resident from normal duties, suspension or dismissal may be imposed with prior warning.

a. Written Warning

The Program Director may issue a letter to a resident in response to behavior or performance problem. The letter will detail the situation, the remedy required by the resident, and the consequences of not correcting the problem. A copy of the letter will be placed in the Program Director's file.

b. Probation

Definition: Probation is a disciplinary condition 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 a probationary status. The Resident receives credit for training time and salary and benefits remain in force during probation.

Procedure: 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 will provide the resident with a letter detailing the above points, either at the meeting or within a reasonable time following the meeting. Copies of this letter will be placed in the resident=s department file and the GME office file.

At the end of the probationary period, the Program Director meets again with the resident. Depending on the resident=s performance, the results may be:

- a. Removed from probation,
- b. Given an additional period of probation, or
- c. Entered into the termination process.

c. Suspension

Definition: Suspension is a corrective action that removes the resident from any Program duties. The resident does not receive credit for training time nor is he or she paid for the time on suspension. A continuing non-corrected suspension will lead to the initiation of the dismissal process.

Procedure: The Program Director may initiate suspension under conditions in which the resident=s behavior or competence threatens patient, staff, or employee well being, for flagrant or continued disregard for University, College of Medicine, or program rules and regulations, or where suspension is the next step in a progressive disciplinary action.

A resident may be suspended pending investigation in cases where the Program Director believes that removing the resident from duty is in the best interests of the University, but lacks detail of the problem. A resident suspended pending investigation cannot work, but will continue to be paid until the matter is resolved. Depending on the Program Director's findings, the resident may be restored to full duty, have pay reduced in relation to suspension time already served, or be terminated.

The Program Director will provide a letter to the resident detailing the reasons for suspension, its length, and the remedy necessary to remove the suspension. The letter may also indicate under what circumstances the resident may be terminated if the situation is not corrected. Copies of the letter will be filed in the resident's department and Graduate Medical Education office files.

Suspension will be removed when the initiating reason has been corrected to the satisfaction of the Program Director.

d. Dismissal

Definition: Dismissal means termination from University employment and participation in a residency training program even though the resident holds a current Resident Agreement.

Procedure: The Program Director will provide a letter to the resident detailing the reasons for dismissal, with an effective date. Copies of the letter will be filed in the resident's department and GME office files.

A dismissed resident must complete the sign-out process in order to receive his or her final paycheck.

e. Appeals

1) *The following disciplinary actions can be appealed, except where they are taken due to circumstances listed in the next section:*

- *Probation*
- *Suspension*
- *Dismissal*
- *Non-renewal of contract.*

2) *Actions that are not covered by the appeal process include:*

- *Suspension due to loss of medical license*
- *Reduction of clinical privileges or requirement of faculty supervision when stipulated*

by the Program Director or designee

- *Suspension or removal of clinical privileges due to failure to complete medical records according to institutional standards*
- *Delay or refusal by Program Director to certify clinical competence for specialty board certification*

3) Actions taken in relation to a resident=s academic performance in the program.

Procedure: The appeals process has three steps and must be made in the order listed:

a) Appeal to Departmental Committee, b) Appeal to Associate Dean for GME, and c) Appeal to Dean of the College of Medicine.

a) Appeal to Departmental Committee

A resident who is the subject of a disciplinary procedure may request a Departmental hearing. The request must be submitted in writing to the Department Head within 14 days of the resident receiving notification of the discipline.

The hearing will take place before a committee that consists of at least three faculty member=s of the resident=s department; the committee membership cannot include the Department Head or Program Director. The hearing will take place no later than 10 days following receipt of the resident=s request.

The resident and the Program Director or Department Head will make presentations to the committee members. No one else may be present at the hearing.

The committee will make its decision based on majority vote and the Department Head will be bound by the decision. The resident will receive a written copy of the decision no later than 10 days following the hearing.

b) Appeal to the Associate Dean for Graduate Medical Education

The resident may appeal the committee decision to the Associate Dean for GME, in writing, no later than 10 days following receipt of the committee decision. The Associate Dean will render a decision within 30 days of receipt of the resident=s appeal.

c) Appeal to the Dean of the College of Medicine

The resident may appeal the Associate Dean for GME=s decision to the Dean of the College of Medicine, in writing, no later than 10 days following the receipt of the Associate Dean=s decision. The Dean will render a decision within 30 days of receipt of the resident=s appeal, which will be final.

F. Faculty Teaching Evaluation

The performance of the faculty is reviewed by the Section Chief and the Program Director on an annual basis.

These evaluations are based on the results of the confidential questionnaires filled by the residents at the end of their monthly rotations. The results are tabulated on a numerical basis and the summaries are distributed to the faculty. The forms are done online at myevaluations.com and batched to ensure confidentiality.

The residents also meet with the Program Director and the Section Chief quarterly where they provide feedback on the training program and provide suggestions for change.

The evaluations of the faculty by the Department Head and the Program Director of Internal Medicine Residency Training Program include the tabulated feedback from the medical students and residents in internal medicine that are shared with the Chief and the Program Director of the Section of Pulmonary, Critical Care and Sleep Medicine.

G. Program Evaluation

Faculty meetings and resident meetings with the Section Chief and Program Director provide direct participation by both groups in the evaluation of the training program. Program planning and development are discussed in these meetings, when feedback from respective groups is received. At the fellows' quarterly meeting with the Program Director, the Program Director reviews each rotation and experience with the fellows. The Program Director, Section Chief and residents identify any problems and suggest solutions.

In addition, a "Mini-Retreat" is held annually. All available fellows and attendings meet for a half-day to review all aspects of the educational program.

The program is also evaluated by the Program Director of Internal Medicine and by the Graduate Medical Education office.

II. University of Illinois at Chicago Hospital Inpatient Services

A. Pulmonary Consultation Service

Educational Purpose

This rotation is designed to provide the residents with exposure to and experience with the diagnosis and treatment of patients with a wide range of pulmonary disease that is 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, radionuclide scans, and pulmonary angiograms, often with a radiologist. 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 residents gain experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial aspiration, intrabronchial stent placement, thoracentesis, and tube thoracostomy.

Pulmonary Function Laboratory: The residents 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 residents also develop competence in monitoring and supervising pulmonary function laboratories.

Sleep Center: The residents are expected to review along with a faculty member of the Sleep and Ventilatory Disorders Center, the results of polysomnography and multiple sleep latency tests performed on their patients with suspected sleep disorders, and discuss the therapeutic options and recommendations in detail.

In addition, all residents are presented interesting patients with discussion of diagnostic and therapeutic approach at the Sleep Conferences.

Pathology: The residents 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. Specialty residents 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. There are several Pathology Conferences held during the year. Dr. Marin Sekosan, a Pulmonary Pathologist, holds a Pulmonary Pathology course (about 10 1-hour sessions on Friday AM) every fall for Pulmonary Fellows and Pathology residents. In addition, Dr. Schraufnagel reviews all gross lung pathology at the weekly autopsy conference, when cases are available.

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, and Sleep Medicine diseases are covered in this weekly conference.

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

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

Research Conference: Research topics including literature review are discussed weekly except during the summer in this conference.

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 residents.

The residents 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.

Resident Evaluation Method

Residents 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 resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

B. Medical Intensive Care Unit

Educational Purpose

The Purpose of this rotation is to have the residents gain experience with the diagnosis and management of patients who are critically ill in the setting of a Aclosed unit,@ to gain experience with monitoring and supervision of such a unit, and to gain experience in providing consultation to physicians responsible for the care of patients in the adjacent CCU, SICU, and NICU, as well as Kidney, Liver and Bone Marrow Transplant Units.

Teaching Methods

Attending Rounds consists of conference room and bedside teaching with discussion of mechanical ventilation and weaning, theoretical and practical experience with hemodynamic monitoring, review portable chest radiographs, computed axial tomograms, radionuclide scans, electrocardiograms, pulmonary angiograms, 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 as the resident gains experience with establishment of and maintenance of open airway, intubation, invasive and non-invasive mechanical ventilation, liberating the patient from mechanical ventilation, 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, transcutaneous tracheostomy, basic and advanced cardiopulmonary resuscitation and parenteral nutrition.

Pathology: The residents 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. Specialty residents 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. Schraufnagel reviews all gross lung pathology at the weekly autopsy conference, when cases are available.

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, and Sleep Medicine diseases are covered in this weekly conference.

Principles of Practical Pulmonary Conference: Topics not identifiable as belonging a 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 all patients required by the curriculum with the exception of trauma and direct care of surgery patients. The unit is an 8-bed medical intensive care unit and when it is necessary patients can be lodged in the adjacent units. 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. The residents see transplant patients with the different conditions which they have. The role of the resident in this Aclosed unit@ is that of a junior attending physician.

Resident Evaluation Method

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

Residents evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

C. Surgical Intensive Care Unit

Educational Purpose

The Purpose of this rotation is to have the residents gain experience with the diagnosis and management of patients who are critically ill in the setting of a surgical intensive care unit and provide consultation to physicians responsible for the care of patients in these units.

Teaching Methods

Attending Rounds consists of conference room and bedside teaching with discussion of all aspect of surgical patients with critical illness. The patients are examined and discussed in conjunction with the information about them gained from their mechanical

ventilator interactions, hemodynamic monitoring, radiographs, electrocardiograms, and tests. The emphasis is to provide medical consultation and work with the primary service to consider all aspects of the patient in their diagnosis and treatment. Although the Pulmonary and Critical Care Medicine faculty are the supervising attendings, the house staff is made up of surgery and anesthesiology residents. A great value of this rotation is the intense interaction and communication between the different disciplines

Procedures: Critical care residents may perform bedside ICU procedures that are often done by the surgeons such as chest tube placement and percutaneous tracheostomy done under supervision of attending surgeons. Their interaction with anesthesiologists foster learning about use of paralytic and anesthetic agents, difficult intubations, and other points that are primarily in the realm of anesthesiology.

Pathology: The residents 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. Dr. Schraufnagel reviews all gross lung pathology at the weekly autopsy conference, when cases are available.

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, and Sleep Medicine diseases are covered in this weekly conference.

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

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

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

The patient population encountered at the surgical ICU is heterogeneous and includes direct care of surgery patients. The patients have a broad variety of surgical related disease that includes cancers, sepsis, abdominal, urological, otolaryngologic disease and many others.

Resident Evaluation Method

Residents 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 resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area

of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Residents evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

III. VA Chicago Health Care System-Westside Division in Patient Services

A. Pulmonary Consultation Service

Educational Purpose

This rotation is designed to provide the residents with exposure to and experience with the diagnosis and treatment of a wide range of pulmonary pathology that is characteristically encountered in a relatively older patient population than that encountered at the University of Illinois Hospital.

Teaching Methods

Attending Rounds include bedside teaching, review of diagnostic tests such as chest roentgenograms, computed axial tomograms, radionuclide scans, pulmonary angiograms (also discussed with the radiology attending physicians), 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 resident gains experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial aspiration, thoracentesis, and pleural biopsy.

Pulmonary Function Laboratory: The residents 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 residents also develop competence in monitoring and supervising pulmonary function laboratories.

Pathology: The residents 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, and Sleep Medicine diseases are covered in this weekly conference.

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

Medical-Surgical Case Conference: The residents, 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 residents 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 residents. Patients at this site are evaluated for lung transplantation and surgery. The fellows frequently evaluate post operative patients.

The residents 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.

Resident Evaluation Method

Residents 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 resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation

form at the end of the rotation.

B. Combined Medical and Cardiac Intensive Care Unit and Stepdown Unit

Educational Purpose

The Purpose of this rotation is to have the residents gain experience with the diagnosis and management of patients with critical illnesses as well as those with cardiac diseases in the setting of a closed unit, to gain experience with monitoring and supervision of such a unit, and to gain experience in providing consultations to the physicians responsible for the care of patients in the SICU.

Teaching Methods

Attending Rounds: Bedside teaching; review of mechanical ventilation and weaning modalities, theoretical and practical experience with hemodynamic monitoring, review of diagnostic tests such as chest roentgenograms, computed axial tomograms, radionuclide scans, pulmonary angiograms; discussion and development of a meaningful, practical and cost-effective approach to diagnosis and treatment; interaction and communication with the primary care providers.

Special emphasis is placed on cultural, socioeconomic, ethical, occupational, environmental, as well as behavioral issues by the attending physicians.

The residents have a very close interaction with the Cardiology attendings and fellows in this combined unit and therefore gain experience with cardiac patients that would not be typically encountered in an MICU.

Procedures: Performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the resident gains experience with establishment of and maintenance of open airway, intubation, 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; insertion of central venous, arterial and pulmonary artery flotation catheters; transcutaneous tracheostomy; basic and advanced cardiopulmonary resuscitation; parenteral nutrition.

Pathology: The residents 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. Specialty residents 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 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, and Sleep Medicine diseases are covered in this weekly conference.

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

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

The patient population encountered in this unit is relatively older and they present with neurologic (cerebrovascular accidents, seizures, meningitis), cardiac (myocardial infarctions, unstable angina, heart failure, cardiac arrhythmias), respiratory (acute and chronic hypoxic or hypercapnic respiratory failure), renal (acute tubular necrosis), metabolic (diabetic ketoacidosis, electrolyte disturbances), hepatic (encephalopathy), and gastrointestinal (bleeding) disturbances.

The role of the resident in this Aclosed unit@ is that of a junior attending physician.

The residents provide consultation to the physicians responsible for patients in the CCU and SICU setting.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

IV Michael Reese Hospital Inpatient Services

A. Pulmonary Consultation Services

Educational Purpose

This rotation is designed to provide the residents with exposure to and experience with the diagnosis and treatment of a wide range of pulmonary pathology that is characteristically encountered in a large community hospital.

Teaching Methods

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

Interaction and communication with the primary care providers as a consultant, special emphasis on health promotion, preventive medicine, and cultural, socioeconomic, ethical, occupational, environmental, as well as behavioral issues by the attending physicians.

Procedures: Performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the resident gains experience with fiberoptic bronchoscopy, bronchoalveolar lavage, bronchial and transbronchial biopsies, transbronchial aspiration, thoracentesis, and pleural biopsy.

Pulmonary Function Laboratory: The residents 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, blood gas analysis, exercise and inhalational challenge studies. During this rotation, the residents also develop competence in monitoring and supervising pulmonary function laboratories.

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, and Sleep Medicine diseases are covered in this weekly conference.

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

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

Most diseases required by the curriculum are seen at this site. However, a large patient population with acute, subacute and chronic sarcoidosis, is encountered at this institution. Pulmonary tuberculosis is also frequently encountered.

Resident Evaluation Method

Residents 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 resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback sometime during the middle of the rotation.

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

B. Combined Medical and Surgical Intensive Care Unit

Educational Purpose

The Purpose of this rotation is to have the residents gain experience with the diagnosis and management of medical and surgical patients who are critically ill in the setting of a closed unit, to benefit from multi-disciplinary faculty, to gain experience with monitoring and supervision of such a unit.

Teaching Methods

Attending Rounds: Bedside teaching; review of mechanical ventilation and weaning techniques, theoretical and practical experience with hemodynamic monitoring, review of diagnostic tests such as chest roentgenograms, computed axial tomograms, radionuclide scans, pulmonary angiograms; discussion and development of a meaningful, practical and cost-effective approach to diagnosis and treatment; interaction and communication with the primary care providers.

Special emphasis is placed on cultural, socioeconomic, ethical, occupational, environmental, as well as behavioral issues by the attending physicians.

The attending physicians rotate on a weekly basis in this unit. Pulmonary and Critical Care, Anesthesiology and Critical Care, and Surgery and Critical Care attendings alternate providing the residents with different perspectives in the management of patients with critical illnesses.

Procedures: Performed under the supervision of the attending physician whose role gradually evolves to that of a critical observer as the resident gains experience with establishment of and maintenance of open airway, intubation, 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; insertion of central venous, arterial and pulmonary artery flotation catheters; basic and advanced cardiopulmonary resuscitation; parenteral nutrition.

Pathology: The residents 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. Specialty residents 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 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, and Sleep Medicine diseases are covered in this weekly conference.

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

Medical-Surgical-Anesthesia ICU Grand Rounds: Is held once a month at this institution and it is attended by the residents and the multi-disciplinary faculty.

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

The patient population in this unit provides the necessary SICU experience for the trainees who serve as junior attendings to the medical and surgical house-staff. The surgical patients encountered are general surgery patients admitted to the unit pre- or post-operatively. In addition, patients with a wide range of critical illnesses, similar to the patient populations observed at our other MICU's are also encountered.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

V. Sleep

Educational Purpose

Fellows are assigned monthly sleep rotations and have an opportunity for in depth training to qualify them to sit for board certification. For the later they must spend at least 6 months devoted to full time sleep activity and 6 months of part-time sleep activities during their 3-4 years of training. An optional 1 year full-time Sleep Medicine Fellowship can be arranged on an individual basis. Sleep Medicine Board eligibility requires the detailed and extensive training period.

The purpose of both is to gain experience with diagnosis and management of patients with sleep disorders primarily in the out-patient setting and sleep laboratory. This involves:

Development of a body of knowledge concerning nosological characterization and treatment of particular sleep disorders using a multidisciplinary approach
Developing efficiency and facility in the diagnosis and management of chronic sleep problems for both ambulatory and hospitalized patients

Developing an appreciation of diagnostic testing available for sleep disorders

Developing 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

Residents see both inpatient and outpatient new consultations along with follow-up patients in the outpatient setting. Residents are expected to participate in at least 2-3 outpatient clinic sessions per week. Residents 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 residents and notes are reviewed.

The resident 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.

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

All diseases required by the curriculum are encountered in this clinic. A large patient population with sleep apnea is also followed in this clinic, where adherence monitoring and an individual action are developed.

Resident Evaluation Method

Residents 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 all attendings and reviewed with the resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback as soon as possible.

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

VI. University of Illinois at Chicago Outpatient Services

Educational Purpose

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

- § Development of therapeutic longitudinal relationships with patients
- § Development of a body of knowledge concerning the ambulatory care of adults
- § Developing efficiency and facility in handling acute, urgent and chronic problems in the care of ambulatory patients
- § Developing an appreciation of cost-effective, evidence-based care as well as exposure to principles of total quality management and managed care.

Teaching Methods

Two groups of residents alternate on a bi-weekly basis in this clinic where they see new consultations and build their continuity clinics. Residents are supervised by two attendings, and they present their patients to one of the attending physicians 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 residents gain experience in the out-patient pulmonary clinic.

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

The chest roentgenograms, 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.

A large patient population with bronchial asthma is also followed in this clinic, where an individual action plan for each patient's management is developed.

Resident Evaluation Method

Residents 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 resident at the completion of the rotation. If an attending physician judges that a resident is not performing adequately in any area of evaluation, he or she must explicitly provide constructive feedback as soon as possible.

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

VII. VA Chicago Health Care System - Westside Division Outpatient Services

Educational Purpose

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

- § Development of therapeutic longitudinal relationships with patients
- § Development of a body of knowledge concerning the ambulatory care of adults
- § Developing efficiency and facility in handling acute, urgent and chronic problems in the care of ambulatory patients
- § Developing 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 resident groups that attend the University of Illinois Pulmonary Continuity Clinic attends the VA Pulmonary Clinic on a bi-weekly. The residents see new consultations and build their continuity clinics. Residents are supervised by three attendings, and they present their patients to one of the attending physicians 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 residents gain experience in the out-patient pulmonary clinic.

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

The residents review in detail the pulmonary function tests, chest roentgenograms 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 predominate this clinic. The residents also gain experience with the diagnosis and management of a wide variety of patients with interstitial lung disease.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of patient mix, experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

VIII. Chicago Department of Health Tuberculosis Clinics

Educational Purpose

To gain experience with diagnosis and management of patients with pulmonary tuberculosis. This involves:

- § Development of therapeutic longitudinal relationships with patients
- § Development of a body of knowledge concerning the ambulatory care of adults with tuberculosis
- § Developing efficiency and facility in handling acute, urgent and chronic problems in the care of patients with Pulmonary Tuberculosis in the out-patient setting

Teaching Methods

Each resident attends a half-day clinic every week. The residents see, evaluate, diagnose

and treat patients with all stages of pulmonary and extra-pulmonary tuberculosis under the direct supervision of attending physicians, Drs. William Clapp, Susan Lippold and the Clinic Directors, Dr. Mamie Long at Englewood, Dr. Victoria Gomez at Uptown, and Dr. Carmen Tibayan at West Town. Residents are oriented to the Tuberculosis Clinic on July 1 by Drs. Schraufnagel, Clapp, and Lippold. They are given ATS guidelines for treatment and a chapter on Tuberculosis Treatment written by Dr. Schraufnagel. For their first eight weeks Drs. Clapp and Lippold work with the new fellows in the clinic. Thereafter, the clinical directors (Drs Long, Gomez, and Tibayan) provide on site attending coverage. All treatment is driven by protocols that are recommended by the American Thoracic Society, Center for Disease Control and Infectious Disease Society of America. Chicago tuberculosis experts (including Drs Schraufnagel, McAuley, Cook, and others) have been involved with the formulation of these guidelines. Deviations from these protocols, although encouraged in special situations, need to be discussed with Drs. Clapp, Lippold, or Schraufnagel.

The radiographs of interesting or difficult cases are reviewed weekly by Dr. Schraufnagel. Dr. Schraufnagel also provides additional supervision and education through several lectures on treatment of tuberculosis and diagnosis and treatment of environmental mycobacteria. Five city-wide, multi-institutional conferences are held at the American Lung Association and attended by Pulmonary and Infectious Disease specialists from around Chicago. The Chicago Department of Health also discuss public health aspect of tuberculosis. There is opportunity to participate in research as Chicago is involved in CDC sponsored research networks.

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

Patients have all stages and sites of active tuberculosis and latent tuberculosis. The patients extend all age ranges including infants. Patients also have other mycobacterial disease and other lung disease thought to be tuberculosis, including lung cancer. A large percentage of patients do not speak English; many have drug problems; many are homeless. The patients are put on directly observed therapy and the challenge is to make sure all the medication is taken to avoid the development of drug resistance.

Resident Evaluation Method

Dr. Clapp reviews all active cases each week and speaks with the resident and Program Director if any deviation in care is found. He performs a detailed written evaluation of each fellow semiannually. The residents evaluate the experience quarterly in their meetings with the Program Director and semiannually in the individual meetings with the Program Director. Informal verbal feedback is welcome and given at any time.

IX. Anesthesiology Elective

Educational Purpose

To provide residents additional experience with elective intubation along with experience with general anesthesia, pre- and post-operative patient care.

Teaching Methods

The residents function as first year residents in anesthesiology under the supervision of an Anesthesiology attending.

There is also a daily lecture series given by faculty from the Department of Anesthesiology during the first week of the rotation.

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

All patients undergoing general anesthesia for surgery are encountered. The residents evaluate the patients pre-operatively, give pre-operative orders pertaining to general anesthesia, receive the patient in the operating room, participate in all stages of anesthesia including the intubation of the patient, and follow the patient post-operatively in the recovery room.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

X. Trauma Service Elective

Educational Purpose

To provide residents with experience in the evaluation and management of patients with level I trauma.

Teaching Methods

The residents become a member of the Trauma Service Team at Christ Hospital. They

participate in the initial evaluation, resuscitation, stabilization and the following intensive care of trauma patients under the supervision of Chief Surgical Resident and the Attending physician.

The residents attend all educational meetings of the Trauma Service that consists of weekly Critical Care lecture, Grand Rounds and Case Discussion Conferences.

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

Level I trauma patients. 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, joint aspiration, tube thoracostomy, peritoneal dialysis and lavage, evaluation and management of oliguria, management of massive transfusions, and management of hemostatic defects.

Resident Evaluation Method

The residents 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 resident is not performing at an acceptable level, he or she must explicitly provide the resident with constructive criticism.

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

XI. Pediatric Allergy and Pulmonary Elective

Educational Purpose

To provide residents experience with pediatric patients and diseases that span from childhood to adult. Residents will have an opportunity to care for patient with a variety of pulmonary and allergic disease including cystic fibrosis.

Teaching Methods

The residents function as pediatric trainees under the supervision of a Pediatric Allergy and Pulmonary attending. They will attend lectures and other functions given by the UIC Pediatric Allergy and Pulmonary faculty.

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

The residents will see both inpatients and outpatient children with a variety of allergic and respiratory diseases including cystic fibrosis.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

XII. Occupational Lung Health Elective

Educational Purpose

To provide residents additional experience with occupational lung health and diseases related to the environment. Residents will have an opportunity to care for patients with a variety of occupationally related disease.

Teaching Methods

The residents function as a resident in occupational medicine under the supervision of an attending Occupational Medicine specialist.

There are also lectures given by the Occupation medicine faculty.

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

The residents will see outpatients in a variety of occupations.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

XIII. Thoracic Surgery Elective

Educational Purpose

To provide residents additional experience with thoracic surgery and its procedures. They will gain experience with pre- and post-operative patient care. They will care for patients who have gotten chest tubes and other thoracic procedures.

Teaching Methods

The residents function as first year residents in surgery under the supervision of a Thoracic Surgery attending. They will attend all the functions of the Department of Thoracic Surgery including lectures.

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

All patients being consulted by Thoracic Surgery are encountered. The pulmonary residents will work as part of the surgical house staff team to evaluate patients pre-operatively, write pre-operative and post operative orders and participate in the surgery and care for these patients.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end

of the rotation.

XIV. Pathology Elective

Educational Purpose

To provide the residents with experience in the evaluation of pathology tissue and correlation the clinical picture with the pathologic histology.

Teaching Methods

The residents will view a variety of pulmonary pathologic slides from the collection of slides. They will obtain review the radiographs and clinic histories of the patients from whom the biopsies were taken. They will interact with the clinicians caring for the patients. The residents will work with the Attending Pathologist at UIC or Cook County Hospital to gather scholarly information about diseases encountered.

The residents will attend all of the educational meetings of the Pathology Service.

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

All lung biopsies and the lungs from all autopsies will be studied by the residents. Cook County Hospital and UIC have a wealth of pathologic material that can be studied. They may engage in depth study or research with the attending pathologist.

Resident Evaluation Method

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

Residents in return, evaluate their attending physicians and the rotation in terms of experience as well as the number of procedures by filling in an evaluation form at the end of the rotation.

XV. Didactic Conferences

Attendance is required for all Pulmonary Critical Care and Sleep Medicine fellows and attendings unless otherwise stated. Each fellow is required to present two major

conferences in addition to the literature review (Journal Club) component of the research conference. All talks should be of high quality with understanding and citation of current medical literature.

A. 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. They are held at 4:00 PM on Mondays. This conference is attended by all residents and faculty.

B. 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 radiographs are highlighted in this conference whose aim is to develop a thorough and critical approach to the evaluation of patients.

C. 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.

D. Research Conference: This weekly conference is held from September through May and covers all aspects of research. Emphasis is on work-in-progress. Each resident engaged in research is expected to present. The conference has literature review sessions, at which fellows are expected to discuss original research papers. It is held at 12:00 PM on Fridays..

E. Medical Surgical Case Conference: This conference is held weekly and attended by the residents and attending physicians on Pulmonary Consultation Services of the University and VA services and the SICU service. Medical Oncology and Thoracic Surgery attendings and fellows also present patients who may need thoracic surgery or are of interest to this group.

F. City-Wide Tuberculosis Conference: This is held on the second Tuesday in September, November, January, March, and June at 5 PM at the American Lung Association. It is attended by Program Directors, other Pulmonary, Infectious Disease and Pediatric Infectious Disease specialists from Northwestern University and Cook County Hospitals, Chicago Department of Health, and other physicians and nurses taking care of patients with tuberculosis. Difficult and interesting cases are reviewed with a focus on the Pulmonary Fellow.

G. Medical-Surgical-Anesthesia ICU Grand Rounds: Is held once a month at Michael Reese Hospital and Medical Center and is attended by multi-disciplinary faculty. Attendance by Pulmonary Fellows rotating at Michael Reese is required.

H. Non-mandatory Conferences

1. Lung Biology Research Conferences: Fellows are encouraged to attend the **Lung Biology Research Conferences** hosted by Dr. Asrar Malik's research group. These conferences begin in September and go through May. The **Research Seminar** is on Wednesday at 12:30 PM and features outside speakers. The Research Forum is on Monday at 12:30 and features research done at UIC by students, post-docs, or fellows and runs as a free discussion of work presented.

2. Chicago Thoracic Society monthly conferences: These are held monthly except in July and August and invite an outside speaker from the United States or abroad. These speakers cover a range of topic of interest to respiratory and critical care medicine. In addition, the April conference is an abstract session that allows those presenting research at the American Thoracic Society meeting to get local critiques first. The conferences are attended by Pulmonary, Critical Care and Sleep Medicine physicians and scientists in the metropolitan Chicago area. Attendance is strongly encouraged but not mandatory.

3. American Lung Association of Metropolitan Chicago International Conferences. The American Lung Association of Metropolitan Chicago sponsors international conferences annually usually on Critical Care Medicine and tuberculosis. These conferences go for 3 days and are attended by individuals from all over the world.

4. Department of Medicine Conferences: The Department of Medicine holds many weekly conferences. The most popular for the fellows are the weekly **Medical Grand Rounds, Department of Medicine Morbidity & Mortality Conference**, moderated by Dr. Önal, who is in the section of Pulmonary, Critical Care and Sleep Medicine. The Wednesday **UIH Autopsy Conference** reviews the gross and micro pathology of patient who have recently died. Dr. Schraufnagel, who also holds a position in the Department of Pathology, is a main discussant.

5. Society Conferences: The Pulmonary, Critical Care and Sleep Medicine residents are strongly encouraged to join professional societies and attend national meetings. Every resident 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 also attend special courses such as the ACCP Lung Pathology course as time is available. They also take advantage of the learning opportunities in several other arenas, such as WEB-based programs, CDs, audio tapes, etc.

XVI. Special Educational Requirements

A. Critical Assessment of the Literature and Journal Club

In addition to review of current literature during rounds, this educational goal is met through the research conference that has a "Journal Club" component, at which residents

and faculty discuss important recent literature. Residents may also attend the Department of Medicine Journal Club where, in the beginning of the year, didactic lectures address these topics. Recent graduates have obtained a Masters of Public Health degree during their fellowship and continue to interact with current residents. Dr. Schraufnagel, the Program Director, is also the Editor of the American Thoracic Society's Website. He asked the ATS Training Committee to develop and referee a syllabus of important journal articles that he posted on the Thoracic Society's website <<http://www.thoracic.org/fellows/syllabusintro.asp>>. The residents refer to this for key articles on specific topics. He will also ask fellows to review submission for him.

B. Medical Ethics and Legal Issues in Medicine

The topics may 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.

C. Online Graduate Medical Education Core curriculum

The Department of medical Education developed a core curriculum to address accreditation concerns of GME programs to assure that all areas are covered. It includes a review of "ethical, socioeconomic, medical/legal and cost-containment issues that affect GME and medical practice. The Core Curriculum consists of thirteen computer-based modules addressing the following topics:

- The Nature and Scope of Professionalism in Medical Practice
- The Evolution, Organization, and Financing of the U.S. Health Care System
- The Physician's Role in Effective Management of the Health Care Team
- Quality, Cost and Resource Management in Medical Practice
- Health Care Monitoring, Regulatory Systems, and Agencies
- Lifelong Learning and Evidence Based Medicine
- Teaching and Learning Skills for the Physician Educator
- Managing a Successful Medical Practice
- Fundamentals of Medical and Health Care Information Systems
- Topics in Research
- Communication Skills for Physicians
- Medical and Clinical Ethics
- Cultural Competency for Health Care Delivery

All residents are required to complete these modules during their training period.

D. Medical Informatics and Computer Skills

The residents attend both at the VA and UIH a course for 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 residents.

E. Preventive Medicine and Public Health

The residents receive instruction in the in-patient and especially in the out-patient 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.

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

These topics are covered in the curriculum of the Department of Medicine designed for all of the subspecialty residents. Some of the relevant topics are covered in the curriculum of the Department of Medicine designed for all of the subspecialty residents. Individual quality improvement issues are often raised in the various forms of evaluation. The concerns are authenticated by survey and a then an action plan is set in motion to remedy this problem. Where possible these solutions are shared with other educational groups.

G. Research Rotation

Each resident is required to develop a clinical or basic research interest and choose a research mentor from the pool of the Section, Department or the College of Medicine Faculty. Once the mentor is chosen, the resident is expected to submit to the Program Director a brief research protocol for the proposed research preferably before the beginning of the second year of training or the third year. The Program Director will schedule the research rotation accordingly. The resident is expected to complete a project before the end of training and prepare an abstract for presentation at a national or regional meeting relevant to the topic.

XVII. Physician Scientist Pathway

Fellows wishing to pursue a Physician Scientist career spend two years in clinical training and two to three additional years in a basic science laboratory. Fellows must be accepted by both Dr. Malik, Head of the Lung Biology Unit in the Department of Pharmacology and the Pulmonary, Critical Care and Sleep Medicine Program Director and be eligible for NIH funding. Fellows may chose to do either clinical or research years first and advance into the second phase automatically if they complete their first phase satisfactorily.

All fellows, whether doing research or clinical years, are under the UIC Graduate

Medical Education system and strictly follow ACGME guidelines, under the Pulmonary, Critical Care and Sleep Medicine Program Director.

During the clinical track, elective months can be spent in research. On “light rotations” the fellows can spend their free time in the lab as long as they are doing satisfactory on their clinical duties.

Research conferences are mandatory when the fellows are on the research track and encouraged on the clinic track. On UIC and VA consultation rotations, fellows should attend research conferences as often as possible. Clinical conferences are mandatory when the fellows are on the clinical track and encouraged on the research track. Research fellows should attend the mandatory clinical conferences if possible.

Fellows are required to attend their continuity clinic one half day per week during their research time.

Fellows who have papers accepted for ATS or other meetings have the highest priorities to attend even if they are on clinical service.

XVIII. Master’s of Public Health Program

Fellows interested in a clinical academic career may elect to obtain a Master’s degree in Public Health through UIC’s School of Public Health. Fellows must be accepted into the program and have approval of the Program Director. Course work is taken during the 3 years of fellowship. Fellows are advised to finish course work as early in their fellowship as possible to be able to engage in clinic research later.

XIX. Academic Sleep Specialist Pathway

A fourth year is available for those wishing to become academic sleep specialists. This individual will spend most of their third year in clinical sleep medicine and their fourth year in sleep research either in basic or clinical research. Individuals need to be accepted into the program by the Academic Sleep Specialist training committee.

XX. 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 enroll them in a subscription to the society’s journal. Fellows are expected to frequently consult the literature through searching the National Library of Medicine data bases (Pubmed, Medline, and variations) and have available many online

full-texted journals through Ovid and texts through MD Consult. These are provided for free by the University and are readily accessible in almost every room in the hospital through the internet. 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 these are related respiratory and critical care medicine topics. In addition to texts, guidelines such as developed by the American Thoracic Society <<http://www.thoracic.org/fellows/syllabusintro.asp>> are invaluable and are usually discussed when first published.

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