

**The University of Alabama at Birmingham**

**Department of Medicine**

**Division of Pulmonary, Allergy, and Critical Care**

**Pulmonary and Critical Care Medicine Fellowship  
Training Program**

**FELLOWSHIP MANUAL V.2015-2016**



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## I. GLOSSARY OF SELECTED TERMS

**ABIM:** American Board of Internal Medicine

**ACGME:** Accreditation Commission for Graduate Medical Education

**ACCP:** American College of Chest Physicians

**ALA:** American Lung Association

**ATS:** American Thoracic Society

**BVAMC:** Birmingham Veterans Administration Medical Center

**CPET:** Cardiopulmonary Exercise Test

**Fellow:** Consistent with the definition provided by ACGME, subspecialty residents enrolled in the UAB Pulmonary and Critical Care Medicine Residency Program will be referred to as “fellows” (i.e. physicians in a program of graduate medical education accredited by the ACGME who have completed the requirements for eligibility for first board certification).

**LHC:** Lung Health Center

**MET:** Medical Emergency Team

**PFTs:** Pulmonary Function Tests

**Pulmonary and Critical Care Medicine Fellowship Program:** as used in this document, Pulmonary and Critical Care Medicine Fellowship Program refers to the Pulmonary and Critical Care Medicine Residency Program at the University of Alabama at Birmingham (also referred to as “the program” or “training program”).

**SCCM:** Society of Critical Care Medicine

**TKC:** The Kirklin Clinic

**UAB:** University of Alabama at Birmingham

**UH:** University Hospital

## II. OVERVIEW

The purpose of this manual is to acquaint starting Pulmonary and Critical Care Fellows with the basic mechanics of the combined Pulmonary and Critical Care Fellowship Program at UAB and to provide a reference source for teaching attendings, research mentors, upper level fellows, program staff, and all fellowship applicants. The Fellowship Program follows UAB Institutional GME Policies and Procedures (available for download at: [http://www.uab.edu/medicine/home/images/residents/gme\\_policies\\_procedures.pdf](http://www.uab.edu/medicine/home/images/residents/gme_policies_procedures.pdf) which will not be reiterated in this document. All individuals involved with the Pulmonary and Critical Care Fellowship Program must be familiar with the institutional as well as the program-specific policies and procedures.

### II.A. Program Leadership, Administration and Committee Structure

**Victor J. Thannickal, MD**, Director, Division of Pulmonary, Allergy and Critical Care Medicine.

**Joao A. de Andrade, MD**, Director, Pulmonary and Critical Care Fellowship Program. Chairman, Fellowship Program Evaluation Committee

**Tracy Luckhardt, MD**, Associate Director, Pulmonary and Critical Care Fellowship Program

**W. Steven Stigler, MD and John I. Kennedy, MD**. Co-Chairs, Clinical Competency Committee

**Kara Newton**, Division Administrator

**Cyndi Calhoun**, Program Administrator

**The Chief Fellow:** Each year, a fellow who has distinguished himself/herself academically and has demonstrated leadership skills is appointed to serve as the Chief Fellow. The Chief Fellow is responsible for developing the rotation and call schedules, and keeps track of the reference materials in the Fellows Library and requests updates as appropriate. He/she is encouraged to delegate tasks, as feasible, to develop leadership skills among more junior fellows. The Chief Fellow assists with arranging coverage when fellows unexpectedly must leave the hospital due to becoming ill, having family emergencies or being required to leave the hospital after prolonged on-call activities (24+4 rule). He/she is encouraged to hold regular meetings with the other fellows to discuss program compliance with ACGME regulations, problems on specific rotations, and conflicts with attendings, and to lead discussions about potential solutions to these issues, as well as providing a communication conduit from Fellowship administration. He/she then provides feedback to the Program Director while

preserving the anonymity of individual Fellows. The Chief Fellow sits on the Fellowship Program Evaluation Committee.

**The Fellow Representative:** each year a fellow will be elected by majority vote of his/her peers to serve as their representative in the Fellowship Program Evaluation Committee. The appointment will be for one academic year. The Fellow representative is expected to:

1. Become familiar with ACGME guidelines, GME policies and the Fellowship Program policies; (see **Appendices**)
2. Convey ideas and concerns of all the Fellows to the committee;
3. Convey the decisions of the committee to all the fellows;
4. Attend all committee meetings.
5. Assist the Chief Fellow in organizing schedules, particularly those pertaining to the educational activities of the program

## **II.B. Fellowship Program Tracks**

The Division has a long history of providing excellent training in Pulmonary and Critical Care Medicine, and the primary mission of the training program is to assist fellows in achieving the goal of acquiring the skills, attitudes and knowledge to function as a pulmonary and critical care physician in the clinical and academic setting of choice. The experience acquired during fellowship training will be both general and specific and will include what is necessary to set up and run a pulmonary laboratory, respiratory therapy service and ICU, as well as what will satisfy the requirements of the American Board of Internal Medicine for certification in Pulmonary and Critical Care Medicine.

It is recognized that fellows may plan for various careers after leaving fellowship, including pursuit of academic careers with major research activity, clinical academic careers, and private practice. In recognition of this, a two-track system has been developed to support each of these goals optimally. At the end of the first year, fellows will be placed into one of the two tracks based on their interests. The Division views the two tracks, Physician Scientist and Clinical Scholar, as equally important programs.

The **Clinical Scholar Track** is designed for fellows who wish to pursue a career in academics with a focus on teaching and clinical care, and for those who plan to enter private practice. Fellows on this track will complete 22-34 months of clinical time and have 2-14 months protected for scholarly activities. The additional clinical rotations and electives should support the fellow's clinical interests and career plans. Fellows on the Clinical Scholar Track are required to complete a mentored project and, at a minimum, will be expected to present their work in the form of an abstract at a local, regional, or national meeting, and to the

Division in the third year. Alternatively, a review paper written in collaboration with a faculty member would fulfill the requirement for mentored scholarly activity.

The **Physician Scientist Track** is designed for individuals who have an interest in pursuing a career in clinical or basic research in an academic setting. It is anticipated that the trainee will complete a minimum of 18 months of clinical time and have up to 18 months of research time. During their dedicated research time fellows may pursue a master's level degree to support their career plans. This may be in the UAB School of Public Health or in the UAB Department of Physiology with whom the Division has training agreements. Fellows may pursue basic, translational or clinical research projects but each must be under the direction of an established mentor. It is expected that, at a minimum, the fellow will have a manuscript submitted for publication by the end of the three year training program and be prepared to apply for initial grant funding. Fellows on the Physician Scientist Track are also expected to present their results at international meetings such as ATS, ERS, ACCP, and to the Division in their last year of training. Many fellows in this track may be eligible for further training under our NIH-funded T-32 *Training Program in Lung Biology and Translational Medicine*.

### **II.C. Eligibility for Pulmonary and Critical Care Fellowship Training**

At the time of application, applicants must be enrolled in or have completed an ACGME accredited Internal Medicine training program. Candidates must be clinically competent, professional, demonstrate a commitment to continuing scholarship, and have high ethical standards consistent with policies outlined in the American Medical Association Guidelines (available at <http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics.shtml>). Excellent command of the English language is mandatory. USMLE scores will be considered. Research experience prior to or during Internal Medicine Residency is desirable. Selected applicants will be invited to interview with Pulmonary Faculty, and at that time, will be provided with information about program policies and procedures, salary and benefits, and will receive a sample contract for review. Unfortunately, we are unable to fund travel expenses incurred during the interview process.

Upon enrollment in the fellowship program, Fellows must be board-eligible or board-certified in Internal Medicine and must be eligible for licensing in the State of Alabama. Applications from women and minorities are encouraged. International Medical Graduates are eligible for enrollment, but must be enrolled in or have completed an ACGME accredited Internal Medicine training program. Non US-citizens or non-permanent residents, must be eligible for J-1 or H-1 visas for the duration of training.

**After an applicant is accepted into the program, the applicant must obtain an Alabama License, Alabama Controlled Substance Certification and Federal DEA License before he/she can be appointed as a Pulmonary and**

**Critical Care Fellow. It is the fellow's responsibility to submit the application and supporting information to the State Board of Medical Examiners in a timely fashion. Pulmonary and Critical Care Fellows cannot have patient contact before the license has been issued. Appointment to the program may be delayed if a license has not been issued before the beginning of the academic year.**

All candidates for The UAB Pulmonary and Critical Care Fellowship Program must participate in the ERAS and NRMP programs.

#### **II.D. The Division of Pulmonary, Allergy and Critical Care Medicine: Clinical Services, Research, and Teaching**

The mission of the Division of Pulmonary, Allergy and Critical Care Medicine encompasses three major areas: clinical services/patient care, research programs and teaching. The Division facilities are located on the University of Alabama at Birmingham Medical Center campus on the 4<sup>th</sup> floor of the Tinsley Harrison Tower (THT); the 4<sup>th</sup> floor of the Lyons-Harrison Research Building (LHRB); and the UAB Lung Health Center. Additional facilities are located on the 6th floor of the Birmingham Veterans Administration Medical Center (BVAMC), at The Kirklin Clinic and at the McCallum Basic Health Sciences Building. A list of the attending physician faculty can be found in **Appendix 1** while essential telephone numbers and administrative contacts can be found in **Appendix 2**.

#### **Clinical Services**

##### **Inpatient services:**

- UAB Hospital Medical Intensive Care Unit (MICU)
- UAB Hospital Pulmonary Consultation Service (UHC)/UAB Hospital Intensive Care Consultation Service (ICC) and MET (UH Rapid Response Team)
- Birmingham VA Medical Center Medical Intensive Care Unit (VAICU)
- Birmingham VA Medical Center Consultation Service/Sleep Medicine (VAC)

##### **Inpatient Laboratories:**

- UAB Hospital Pulmonary Function Laboratory
- UAB Hospital Bronchoscopy Laboratory
- Birmingham VA Medical Center Pulmonary Function Laboratory
- Birmingham VA Medical Center Bronchoscopy Laboratory

## Outpatient services:

- The Cardiopulmonary Rehabilitation Program is located on the 4th floor of the Spain Rehabilitation Building (SRB). It is directed by Dr. Vera Bittner (Cardiology) and Dr. Mark Dransfield (Pulmonary Medicine).
- The Kirklin Clinic is the UAB outpatient facility. The 4th floor Pulmonary and Allergy Clinic is directed by Dr. Jack Hasson. Fellows are assigned to an attending throughout their training and see patients jointly with the attending at least one-half day every week. The Kirklin Clinic also houses Pulmonary Function, Cardiopulmonary Exercise Physiology and Bronchoscopy Laboratories.
- VA pulmonary clinic patients are seen at the BVAMC, 2nd floor subspecialty outpatient clinic area. Three fellows attend a one-half day general pulmonary clinic every week. One fellow attend the COPD subspecialty clinic. In addition, the fellow assigned to the VA consultation services attends the weekly Lung Mass Clinic and one fellow attends the weekly Interstitial Lung Disease Clinic.
- The VA Sleep Disorders Center on the 7<sup>th</sup> floor of the Birmingham VA Medical Center, is supervised by Dr. Jennifer DeWolfe and colleagues. Fellows assigned to the VA Consultation Service will be integrated in the operations of the center.
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**Note:** *Second year Fellows may choose to have an extra half a day subspecialty clinic whereas Third year Fellows are expected to do so.*

## Research

Division of Pulmonary, Allergy and Critical Care Medicine faculty members are involved in a wide variety of research programs, both basic and clinical, many of which involve close collaboration between the Division of Pulmonary, Allergy and Critical Care Medicine and other clinical and basic science departments on campus and/or at other academic institutions throughout the Nation. The program organizes an annual mini retreat so faculty members can present their research projects to our trainees. A copy of the presentations is available in the Program Office for your review.

**All pulmonary fellows are required to obtain HIPAA training and to obtain training through the UAB Institutional Review Board (IRB) during the first three months of the fellowship; IRB training must be updated annually.**

All Fellows in the Division are expected to be involved in research during their three years of training. Regardless of a fellow's career plans, participation in research is viewed as an essential part of fellowship training by both the Division faculty and the ACGME. The faculty is committed to supporting fellows in their scholarly activities and multiple systems are in place to assure their success. Dr. Tracy Luckhardt is responsible for organizing the ***“Basic/Translational/Clinical Research Methods Conference”***

The Fellowship Program Directors oversee the fellows' research progress in close collaboration to each primary mentor.

Early in each academic year, faculty will present summaries of their current research activities with suggestions of how fellows may be integrated during a mini-retreat. Fellows are also encouraged to meet individually with faculty to better understand the research opportunities that are available. They can also contact Dr. de Andrade or Dr. Luckhardt for additional guidance. It is anticipated that fellows will have identified a primary mentor by the end of their first year. The mentor should acknowledge responsibility for training the particular fellow in research. That mentor will be asked to complete evaluations of the Fellow's progress in research. Identification of a primary mentor is essential to successful research during fellowship. The mentor will be expected to supervise the fellow's research activity insuring that benchmarks for progress are met and will report to the Program Directors. Furthermore, fellows are expected to periodically report the status of their scholarly activities in the "research in progress" conference.

### **Teaching**

The teaching activities of the Division are carried out within the framework of the clinical services and via regularly scheduled teaching conferences. Pulmonary and Critical Care Fellows are encouraged to actively participate in all conferences and will be responsible for leading discussions and presenting conferences several times throughout the year. Conference presentations are to be prepared with Microsoft PowerPoint™ (or equivalent) and will be stored for self-guided teaching. These conferences are explained in further detail in Section III of this manual below. Senior Fellows are expected to teach pulmonary examination skills to medical students in the ICM course and are encouraged to volunteer as preceptors for this course. In addition, fellows are expected to serve as facilitators for small group discussions that occur during the pulmonary module of the UAB School of Medicine curriculum, as their clinical and research responsibilities allow. These activities will be coordinated by the Chief Fellow and the Fellows' Representative.

## **III. PULMONARY AND CRITICAL CARE FELLOWSHIP TRAINING CURRICULUM**

### **III.A Mission Statement**

The mission of the Division of Pulmonary, Allergy and Critical Care Medicine Fellowship Training Program is to produce physicians who are clinically competent in the broad fields of Pulmonary Disease and Critical Care; highly effective in a variety of clinical settings; and possess habits of life-long learning to allow for continued growth in knowledge, skills and other aspects of a professional career in Academic Pulmonary and Critical Care Medicine.

### III.B. Specific Goals by the 23 ACGME subspecialty milestones:

- **Patient Care (PC1-5):** Pulmonary and Critical Care fellows must provide patient care that is compassionate, appropriate, and effective for the treatment of ill health and the promotion of health. This requires competency in patient care skills such as data gathering, appropriate use of diagnostic testing, clinical decision making, appropriate use and performance of procedures, implementation of the therapeutic plan, and ability to work with others in the patient care process.
- **Medical Knowledge (MK1-3):** Pulmonary and Critical Care Fellows must demonstrate knowledge about established and evolving biomedical, clinical, and cognate sciences and must be able to apply this knowledge to patient care.
- **Systems-based Practice (SBP1-4) :** Pulmonary and Critical Care Fellows must demonstrate awareness of and responsiveness to the interdependencies in the health care system that affect quality of care and must demonstrate the ability to call effectively on other resources in the system to provide optimal health care. Important aspects are the provision of cost-effective care, advocacy for quality patient care, and working with hospital management and interdisciplinary teams to improve patient care.
- **Practice-based Learning and Improvement (PBLI 1-4):** Pulmonary and Critical Care Fellows must develop abilities to analyze practice performance and implement necessary improvements, to locate and apply scientific evidence to the care of patients, to critically appraise the scientific literature, to use the computer to support learning and patient care, and to facilitate the learning of other health care professionals.
- **Professionalism:** Pulmonary and Critical Care Fellows must be committed to professionalism. Facets of professionalism include integrity, honesty, discretion, and willingness to accept responsibility, acting in the interest of the patient and respecting his/her autonomy, with sensitivity toward patient's gender, age, culture, race, religion, disabilities and sexual orientation.
- **Interpersonal and Communication Skills:** Pulmonary and Critical Care Fellows must develop interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and other health professionals. Such skills include, but are not limited to, ability to develop a therapeutic relationship with patients and their families, ability to use both verbal and nonverbal skills to facilitate communication with patients and their families, and ability to work effectively within teams and as team leader.

### **III.C. Major Clinical Rotations: Goals, Competencies, Objectives, Teaching Methods, Assessment Methods, Level of Supervision and Educational Resources.**

#### **III.C.1 UAB Hospital MICU**

##### **1. Description of Rotation**

Dr. Steven Stigler directs The UAB Hospital Medical Intensive Care Unit (MICU). Pulmonary and Critical Care Fellows will be assigned to this service for several months during their clinical training. They will be responsible for organizing the patient care activities in the MICU under the direct supervision of the Pulmonary and Critical Care Medicine faculty members assigned to the service.

The University MICU Service is a 42-bed intensive care unit typically staffed by three teams. Up to 30 patients can be admitted to the housestaff teams (Green and Gold) and up to 12 patients can be admitted to the Nurse Practitioner team (Red). Each team is led by an attending physician and housestaff from the UAB Internal Medicine Residency Program. The two Pulmonary Fellows assigned to the housestaff teams rotate the responsibility of evaluating patients from the Emergency Department, and determining bed allocation in consultation with the attending physician on call and the Nurse Resource Coordinator (NRC) whenever appropriate. Senior fellows will occasionally rotate as “sub-attendings” in the NP service. This will be encouraged particularly for those bound to clinical practice, providing the opportunity for a senior fellow to lead an ICU team under the supervision of a faculty member. Pulmonary Fellows are expected to perform daily comprehensive assessment of all patients on mechanical ventilation prior to morning rounds and anytime during the day as appropriate. Fellows will be primarily assigned to the two housestaff teams. The overall goals of the UH-MICU rotation are:

- To provide broad clinical exposure on the management of complex critically ill patients, including those on mechanical ventilation and/or hemodynamic monitoring/support.
- To provide clinical experience to develop proficiency in certain technical and organizational aspects as well as procedural skills related to critical care.

##### **2. Patient Care**

**Goals:** Fellows are expected to:

- Review history and ancillary tests of new MICU patients prior to morning rounds;
- Perform comprehensive daily evaluation of all patients on mechanical ventilation prior to morning rounds and participate in the daily “huddle”

- with the RT and the Staff RN to make decisions regarding screening for readiness to wean and the daily awakening;
- Advise the housestaff on management of ICU patients during morning rounds and through the day, as needed;
  - Advise the multidisciplinary team on the implementation of patient care protocols and clinical pathways;
  - Assist, advise and supervise the housestaff on MICU procedures as permitted by their level of proficiency, as defined by the Fellowship Program specific policy.
  - Participate in the Medical Emergency Team (UAB's rapid response team) in the evaluation, management and disposition of clinically unstable patients at UAB University Hospital.

**Competencies:** Fellows will:

- Increase knowledge and expertise in patient care through:
  - a. Reviewing history and ancillary tests of new MICU patients prior to morning rounds.
  - b. Performing comprehensive daily evaluation of all patients on mechanical ventilation prior to morning rounds.
  - c. Advising the housestaff on management of ICU patients during morning rounds and through the day, as needed.
  - d. Advising the multidisciplinary team on the implementation of patient care protocols and clinical pathways.
  - e. Assisting, advising and supervising the housestaff on MICU procedures as permitted by their level of proficiency, as defined by the Fellowship Program specific policy.
  - f. Participating in the education of patients and families on the diagnosis and management of critical care issues, including end-of-life discussions and palliative care.
- Develop proficiency in the following MICU procedures:
  - a. Airway management, including endotracheal intubation
  - b. Positive Pressure Ventilatory modes (invasive and non-invasive), including initiation, maintenance, and weaning of mechanical ventilation; respiratory care techniques and withdrawal of mechanical ventilatory support
  - c. Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - d. Insertion of arterial, central venous and pulmonary artery balloon flotation catheters
  - e. Insertion of chest tubes and management of drainage systems
  - f. Thoracentesis and related diagnostic procedures
  - g. Nutritional support
  - h. Emergency cardioversion

- i. Interpretation of intracranial pressure monitoring
- j. Operation of bedside hemodynamic monitoring systems
- k. Quality improvement and patient safety activities in the intensive care unit

**Objectives:**

Essential components of this educational experience are the development and refinement of clinical skills in the evaluation, diagnosis, treatment and follow-up of patients with critical illnesses. These skills include the development of appropriate differential diagnoses, assessing the need for hospitalization, the development of diagnostic evaluation strategies and treatment plans, and the implementation of such plans. Through this experience, the Pulmonary and Critical Care Fellow will also develop a comprehensive understanding of the indications, contraindications, techniques, and complications of the entire spectrum of diagnostic and therapeutic procedures in critical care medicine.

**3. Medical Knowledge**

**Goals:** The Fellows are expected to have:

- A basic core understanding of anatomy, histology, physiology, biochemistry, immunology, genetics, pharmacology, epidemiology, statistics, ethics and human behavior relative to the practice of critical care medicine.
- Basic core knowledge of the pathogenesis, histopathology, pathophysiology, clinical manifestations, and management of critical illnesses.
- The ability to formulate appropriate differential diagnoses and therapeutic plans based on an ability to critically analyze the clinical data and integrate this analysis with the basic fund of medical knowledge.
- The knowledge of the treatment of the common and uncommon diseases found in the practice of critical care medicine, including an understanding of the principles, indications, contra-indications, risk, cost and expected outcome of the various treatments.
- The knowledge regarding performance and/or interpretation of diagnostic and therapeutic procedures common in the practice of critical care medicine, including the understanding of the principles, indications, contraindications, risk, cost and expected outcome of these procedures.

**Competencies:** The Fellows will:

- Increase knowledge in the diagnosis and management of the following:
  - a. Circulatory disorders
  - b. Shock syndromes
  - c. Cardiovascular diseases

- d. Trauma
  - e. Neurological
  - f. Sepsis and sepsis syndrome
  - g. Hypertensive emergencies
  - h. Acute and chronic respiratory failure, including ARDS, acute and chronic respiratory failure in obstructive lung diseases and neuromuscular respiratory drive disorders
  - i. Pulmonary thromboembolism
  - j. Pneumothorax
  - k. Delirium and CNS-related critical care issues such as CVAs and status epilepticus
  - l. Critical Obstetric and gynecologic disorders
  - m. Acute metabolic disturbances, including overdosages and intoxication syndromes
  - n. Multi-organ failure
  - o. Electrolyte and acid-base disorders
  - p. Metabolic, nutritional, and endocrine disorders associated with critical illness
  - q. Hematologic and coagulation disorders associated with critical illness
  - r. Anaphylaxis and acute allergic reactions
  - s. Perioperative management of critically ill patients
  - t. Hemodynamic and ventilatory support of patients with organ damage in the post operative period
  - u. Iatrogenic and nosocomial problems in critical care medicine
  - v. Psychosocial and emotional effects of critical illness on patients and their families
  - w. End of life issues and palliative care
- Increase knowledge and demonstrate proficiency in the following procedural and technical skills:
    - a. Airway management, including endotracheal intubation
    - b. Positive Pressure Ventilatory modes (invasive and non-invasive), including initiation, maintenance, and weaning of mechanical ventilation; respiratory care techniques and withdrawal of mechanical ventilatory support

- c. Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
- d. Insertion of arterial, central venous and pulmonary artery balloon flotation catheters
- e. Insertion of chest tubes and management of drainage systems
- f. Use of paralytic agents and sedative/analgesic drugs
- g. Emergency cardioversion
- h. Interpretation of intracranial pressure monitoring
- i. Operation of bedside hemodynamic monitoring systems
- j. Quality improvement and patient safety activities in the intensive care unit
- k. Pericardiocentesis
- l. Transvenous pacemaker insertion
- m. Renal replacement therapy
- n. Pharmacokinetics, pharmacodynamics, and drug metabolism and excretion in critical illness
- o. Imaging techniques commonly employed in the evaluation of patients with critical illness and/or pulmonary disorders
- p. Principles and techniques of administration and management of an MICU
- q. Ethical, economic, and legal aspects of critical illness
- r. Recognition and management of the critically ill from disasters, including those caused by chemical and biological agents

### **Objectives**

- To master specific knowledge and competencies for the majority of diseases seen in the practice of Critical Care Medicine, including uncommon and complicated diseases.
- To develop proficiency as the primary health care provider in the acute inpatient setting, especially the intensive care unit.

### **4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning
- Participate in the education of students and residents

**Objectives:** The Fellows will:

- Evaluate and improve management of MICU patients through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Incorporate formative evaluation feedback into daily practice both by seeking/giving input from/to the attending staff and the other members of the MICU team.
- Locate, appraise and assimilate evidence from scientific studies related to MICU's patient's problems and share those with the rest of the multidisciplinary team.
- Use information technology databases available in the UAB system, such as e-journals, PubMed and UptoDate to optimize learning.
- Participate in the education of residents, students, other fellows and health care professionals by assisting with patient management, supervising procedures and assisting with interpretation of data from ancillary tests.
- Participate in the education of residents, students, other Fellows and health care professionals by delivering at least one lecture/week on relevant critical care subjects in collaboration with the attending.

## **5. Systems-Based Practice**

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Coordinate patient care within the health care system

- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Communicate with the ICU attending, other services at UAB and referring physicians/facilities regarding triage/bed allocation, admissions and disposition of critically ill patients following the medical center's policies.
- Work effectively with consultants in the UAB system to provide optimal patient care.
- Work with the MICU multidisciplinary team to enhance patient safety and improve patient care.
- Participate in regular meetings of the MICU leadership, the Division leadership as well as the UAB Hospital Critical Care Committee helping with the identification of systems errors and with the implementation of potential solutions.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity, honesty and respect to others during all clinical and educational activities of the MICU
- Demonstrate responsibility, accountability, dependability, commitment, and encourage continuity of care, always assuring appropriate "hand-off" of patient care.
- Acknowledge errors and limitations

- Always demonstrate responsiveness to patients needs that supersedes self-interest
- Always demonstrate respect for the privacy and autonomy of patients and families during procedures, daily updates and discussions regarding goals of care.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

## **7. Interpersonal and Communication Skills**

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the MICU team with important leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

1. Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds during hospital admissions, daily updates and discussions regarding goals of care as well as informed consent for procedures.
2. Communicate respectfully and effectively with ED physicians, referring physicians, consulting physicians, other health care professionals.
3. Work effectively as a member of the MICU team with important leadership responsibilities.
4. Act in an effective consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely and legible medical records.

## 8. Teaching Methods

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include teaching rounds and supervision of the fellow's clinical activities as well as attending supervision of the fellows' educational responsibilities towards the other members of the team. The attending physician is expected to assist with literature reviews, formulation of clinically relevant questions to assist the fellow with literature searches as well as assist and polish the fellows as he/she prepares didactic materials for the internal medicine housestaff and the other members of the multidisciplinary team.

## 9. Assessment Method (Fellow)

Assessment methods for this rotation will include observation of fellow's performance on daily rounds, family conferences, procedures and his/her interactions with the other members of the team and other healthcare providers such as referring physicians, ED physicians and consultants. In addition, the attending physician is expected to be present for the weekly fellow didactic lectures to the internal medicine housestaff. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms.

As part of the "360 degree" evaluation process, Fellows will be evaluated by the UAB MICU nursing staff and other members of the interdisciplinary team on a monthly basis.

## 10. Assessment Method (Program)

- Fellows will complete an evaluation of the rotation
- In-training exam scores on critical care will be reviewed annually
- ABIM scores on critical care will be reviewed annually

## 11. Level of Supervision

- Fellows are expected to evaluate all admissions to the MICU within one hour. Attending physicians are on-call and ought to be contacted if the fellow has any question regarding management or patient disposition as they interact with other services
- The attending physician will formulate daily plans of care with the fellow during morning rounds and later in the day as necessary
- Attending physicians are expected to be present for bedside bronchoscopies unless a life-threatening situation is present.

## 12. Educational Resources

Fellows' library

UAB Lister Hill Library – PubMed, E-journals and E-Books

[www.thoracic.org/education/career-development/index.php](http://www.thoracic.org/education/career-development/index.php)

[www.chestnet.org/accp/pccsu](http://www.chestnet.org/accp/pccsu)

[www.learnICU.org](http://www.learnICU.org)

[www.sccm.org](http://www.sccm.org)

### III.C.2. UAB Hospital Consultation Service (UHC) and UAB Hospital Intensive Care Consultation Service

#### 1. Description of Rotation

The Division of Pulmonary, Allergy and Critical Care Medicine provides consultative services to the following affiliated hospitals on the UAB campus: University Hospital, Spain Rehabilitation Hospital and Center for Psychiatric Medicine. Such coverage is provided 24-hours a day, seven days a week. The Consult Service consists of a Pulmonary attending, Pulmonary Fellow, Internal Medicine residents and 4th year medical students. The actual number of internal medicine residents and students on the service varies from month to month.

Pulmonary and Critical Care Fellows will be assigned to the Pulmonary Consultation Service for several months during their clinical training. During a few months of the year, there will be separate consultations services for pulmonary and intensive care. They will be responsible for organizing the patient care activities of this service under the direct supervision of an assigned Pulmonary and Critical Care faculty member. Essential skills in consultative pulmonary medicine and critical care will be developed on this service through direct exposure to patients with the full scope of pulmonary diseases and critical illnesses hospitalized on non-pulmonary/critical care services. Skills such as communication with referring physicians and support personnel and the coordination of specific procedures and therapies (e.g. bronchoscopy, thoracentesis, tube thoracostomy) with other procedures and needs of the patient will also be learned on this service. Pulmonary and Critical Care Fellows will become proficient in pre-operative risk assessment and peri-operative management of patients undergoing surgical procedures. Pulmonary and Critical Care Fellows will be called upon to perform literature searches on topics pertaining to specific patient care situations and will participate actively in the teaching of Internal Medicine Residents and Medical Students on the consultation team.

The goals of this rotation are:

- To provide broad clinical exposure on the management of complex non-medical critically ill patients, including those on mechanical ventilation and/or hemodynamic monitoring/support.
- To acquire proficiency in pre-operative respiratory risk assessment and perioperative management.
- To provide broad clinical exposure on the diagnosis and management of pulmonary disorders.
- To provide clinical experience to develop proficiency in certain technical and organizational aspects as well as procedural skills related to non-medical critical care and pulmonary medicine.

## **2. Patient Care**

**Goals.** Fellows are expected to:

- To increase knowledge of pulmonary physiology and provide opportunities to demonstrate the application of that knowledge to the interpretation of pulmonary function tests.
- To provide opportunities to develop proficiency in the use and performance of bronchoscopy as a diagnostic and therapeutic tool.
- To provide clinical exposure on the management of general pulmonary medicine and critical care problems in surgical patients.
- To provide clinical exposure on the management of inpatient medical emergencies, particularly respiratory failure and endotracheal intubation.
- To increase knowledge on the assessment of perioperative risk of respiratory failure.
- To increase knowledge and develop proficiency in the assessment and management of pulmonary perioperative complications, including failure to wean from mechanical ventilation.
- To effectively communicate with the primary team and address the issues in question

**Competencies.** Fellows will:

- Increase knowledge and expertise in patient care through:
- Evaluate all new consults with the housestaff the same day, assuring that a note is placed in the patient's chart and rounding with attending staff within 24 hours or immediately, when appropriate.
- Review radiographs with Radiology attending whenever appropriate.

- Round daily on the consultation service and discussing findings and management strategies with attending staff and the rotating housestaff.
- Perform pre-bronchoscopy evaluations at UAB University Hospital and recognize the absolute and relative contraindications for bronchoscopy and other invasive procedures such as thoracostomy tube insertions and pleural biopsies.
- Managing complications of bronchoscopy, including bleeding, pneumothorax and respiratory failure to optimize patient safety.
- Assisting faculty and other Fellows with advanced bronchoscopic procedures whenever appropriate
- Participating in the education of patients and families on the diagnosis and management of pulmonary medicine issues, including the indications, usual risks and complications and meaning of results when procedures are performed.
- Develop proficiency in the following pulmonary procedures:
  - Respiratory care techniques
  - Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - Insertion of chest tubes and management of pleural drainage systems
  - Thoracentesis and related diagnostic procedures
- Develop proficiency in the operation of a fiberoptic bronchoscope, supporting equipment and fluoroscope.
- Develop proficiency in the following bronchoscopic procedures:
  - Airway examination
  - Bronchoalveolar Lavage
  - Bronchial brushing and washing
  - Endobronchial forceps biopsy
  - Transbronchial forceps biopsy
  - Transbronchial needle aspiration and core biopsies (Wang needle aspiration)
  - Foreign body removal
- Develop proficiency in the proper use of analgesics and sedatives and in managing the complications of conscious sedation.
- Develop proficiency at appropriately selecting the sampling methods and diagnostic tests to optimize yield.

**Objectives:** Fellows will:

- Be an effective consultant in pulmonary and critical care medicine
- Gather essential and accurate information by performing and complete a

clinically relevant history and physical examination.

- Understand how to order and interpret appropriate diagnostic tests.
- Make informed diagnostic and treatment decisions by analyzing and synthesizing information.
- Understand the limits of their knowledge and expertise.
- Develop a differential diagnosis and management plan.
- Maintain comprehensive, timely, effective and legible medical records.
- Effectively counsel patients and families
- Effectively communicate with the primary healthcare team and effectively address issues in question.

### **3. Medical Knowledge**

**Goals:** The Fellows are expected to have:

- A basic core understanding of anatomy, histology, physiology, biochemistry, immunology, genetics, pharmacology, epidemiology, statistics, ethics and human behavior relative to the practice of pulmonary and critical care medicine.
- Basic core knowledge of the pathogenesis, histopathology, pathophysiology, clinical manifestations, and management of pulmonary and critical illnesses.
- The ability to formulate appropriate differential diagnoses and therapeutic plans based on an ability to critically analyze the clinical data and integrate this analysis with the basic fund of medical knowledge.
- The knowledge of the treatment of the common and uncommon diseases found in the practice of pulmonary and critical care medicine, including an understanding of the principles, indications, contra-indications, risk, cost and expected outcome of the various treatments.
- The knowledge regarding performance and/or interpretation of diagnostic and therapeutic procedures common in the practice of pulmonary and critical care medicine, including the understanding of the principles, indications, contraindications, risk, cost and expected outcome of these procedures.

**Competencies:** The Fellows will:

- Increase knowledge in pulmonary physiology and the methods used to assess physiology in the following areas:
  - Flow volume loops and spirometry
  - Lung volumes

- Specific airway resistance and conductance
- Bronchial provocation testing
- Gas exchange and diffusion capacity
- Cardiopulmonary exercise testing
- Respiratory muscle testing
- Arterial blood gas analysis
- Lung and airway anatomy.
- Increase knowledge in the perioperative pulmonary risk assessment instruments available in the literature.
- Be able to identify the indications, limitations, complications and likelihood of successful outcome in performing bronchoscopy and advanced bronchoscopy techniques.
- Increase knowledge in the pharmacology of analgesics, topical anesthetics and sedatives.
- Increase knowledge in appropriate bronchoscopy specimen processing and handling.
- Increase knowledge in basic cytology and surgical pathology techniques and findings applied to lung specimens obtained via bronchoscopy.
- Increase knowledge in assessment of perioperative risk of respiratory failure.
- Increase knowledge in the diagnosis and management of the following:
  - Obstructive lung diseases, including asthma, bronchitis, emphysema and bronchiectasis
  - Dyspnea and prolonged cough
  - Pulmonary malignancy – primary and metastatic
  - Pulmonary infections, including tuberculosis, fungal and those in the immunocompromised host
  - Diffuse parenchymal (interstitial) lung diseases
  - Pulmonary embolism and pulmonary embolic disease
  - Pulmonary vascular disease, including primary and secondary pulmonary hypertension and vasculitis and pulmonary hemorrhagic syndromes.
  - Occupational and environmental lung diseases
  - Pneumothorax – spontaneous and iatrogenic
  - Iatrogenic respiratory disease, including drug-induced disease

- Pulmonary manifestations of systemic diseases, including collagen vascular disease and diseases that are primary in other organs
- Disorders of the pleura and mediastinum
- Perioperative respiratory failure and failure to wean from mechanical ventilation
- Increase knowledge and proficiency in the following procedural and technical skills:
  - Respiratory care techniques
  - Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - Insertion of chest tubes and management of pleural drainage systems
  - Imaging techniques commonly employed in the evaluation of patients with pulmonary disorders
  - Thoracentesis and related diagnostic procedures
  - Imaging techniques commonly employed in the evaluation of patients with pulmonary disorders

**Objectives:**

- To master specific knowledge and competencies for the majority of diseases seen in the practice of Pulmonary and Critical Care Medicine, including uncommon and complicated diseases.
- To develop proficiency as health care provider in the acute inpatient setting, especially in non-medical intensive care unit.

**4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems

- Use information technology to optimize learning
- Participate in the education of students and residents

**Objectives:** The Fellows will:

- Evaluate and improve management of Consultation patients through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Incorporate formative evaluation feedback into daily practice both by seeking/giving input from/to the attending staff and the other members of the Consultation team.
- Locate, appraise and assimilate evidence from scientific studies related to Consultation patient's problems and share those with the rest of the team.
- Use information technology databases available in the UAB system, such as e-journals, PubMed and UptoDate to optimize learning.
- Participate in the education of residents, students, other fellows and health care professionals by assisting with patient management, supervising procedures and assisting with interpretation of data from ancillary tests.

## 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems
- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Develop proficiency in patient scheduling to maximize unit throughput.
- Increase understanding of how test results influence patient care.
- Communicate with consulting physicians in a timely way.
- Work effectively with consultants in the health care delivery system to provide optimal patient care.

- Incorporate considerations of cost awareness and risk-benefit analysis, as appropriate.
- Advocate for quality patient care and optimal patient care systems.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.

Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate effective communication skills in interactions with procedure unit staff, nurses, and respiratory therapists.
- Demonstrate attendance to procedures, and inpatient rounds.
- Demonstrate dependability in the appropriate follow through of test results.
- Demonstrate effective communication with patients in delivering healthcare, and planning appropriate follow-up after procedures
- Demonstrate respect for patient privacy, autonomy and awareness during conscious sedation.
- Acknowledge errors and limitations

## 7. Interpersonal and Communication Skills

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the Consultation team with important leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health-related agencies.
- Work effectively as a member of the Consultation team with leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records, specifically the Initial Consultation Note.
- Communicate respectfully and effectively with staff, nurses and technicians in procedural units, clinics and inpatient units.
- Act in a consultative role to other physicians and effectively communicate procedure results to the appropriate caretakers, when appropriate.

## 8. Teaching Methods

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include teaching rounds and supervision of the fellow's clinical activities as well as attending supervision of the fellow's educational responsibilities towards the other members of the team. The attending physician is expected to assist with literature reviews, formulation of clinically relevant questions to assist the fellow with literature searches as well as assist and polish the fellows as he/she prepares didactic materials for the internal medicine housestaff and the other members of the multidisciplinary team.

## 9. Assessment Method (Fellow)

Assessment methods for this rotation will include observation of fellow's performance on daily rounds, family conferences, procedures and his/her interactions with the other members of the team and consulting healthcare providers. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms on MedHub.

## 10. Assessment Method (Program)

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam scores will be reviewed annually
- ABIM scores will be reviewed annually

## 11. Level of Supervision

- Fellows are expected to evaluate all consultations in a timely fashion and because this is also a teaching service for the UAB Internal Medicine Residency Program, the Fellow is encouraged to assign cases to the rotating house officers as he/she see appropriate.
- The attending physician will formulate daily plans of care with the fellow and the housestaff during rounds and whenever necessary.
- Attending physicians are expected to be present for bedside bronchoscopies and other invasive procedures.

## 12. Educational Resources

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

[www.thoracic.org/education/career-development/index.php](http://www.thoracic.org/education/career-development/index.php)

[www.chestnet.org/accp/pccsu](http://www.chestnet.org/accp/pccsu)

[www.learnICU.org](http://www.learnICU.org)

[www.sccm.org](http://www.sccm.org)

### III.C.4. Outpatient Procedures

#### 1. Description of Rotation

Dr. Jack Hasson is the director of the Pulmonary and Allergy clinic at the 4<sup>th</sup> floor of TKC. Fellows will be assigned to this rotation for several months during their clinical training. During this rotation the Fellows are responsible for the electronic interpretation of all pulmonary function tests performed both at TKC and UH. Their interpretations are supervised and confirmed by a faculty member of the Division. The Fellow will supervise all cardiopulmonary exercise tests and will discuss the interpretation with an assigned faculty member. The Fellow is also responsible for performing pre-bronchoscopy evaluations and bronchoscopy procedures at TKC on Mondays, Tuesdays, Thursdays and Fridays mornings. UAB Guidelines for bronchoscopies and the related pre and post order sets can be found in **Appendix 3** and **Appendix 4**, respectively. Early afternoons are reserved for independent review of bronchoscopically obtained specimens with the assigned attending from either Cytopathology or Surgical Pathology. In addition, the fellow assigned to that service is also expected to be available for other procedures performed at TKC such as outpatient thoracentesis, pleural biopsies, etc.

The goals of this rotation are:

- Development and refinement of knowledge as well as the clinical application of pulmonary physiology; lung and airway anatomy.
- Development and refinement of knowledge on identification of the indications, limitations, complications and outcomes in bronchoscopic and other outpatient diagnostic procedures, (including acquiring skills in educating patients and family members about procedures and obtaining informed consent).
- Understand the pharmacology of analgesics, topical anesthetics and sedatives.
- Understand appropriate biopsy and cytology specimen handling and processing as well as basic cytology and surgical pathology techniques and findings pertaining to lung specimens.
- Develop and refine communication skills with patients, families and other members of the healthcare team.

## 2. Patient Care

**Goals:** Fellows are expected to be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health care problems and the promotion of health.

**Competencies:** Fellows will:

- Increase knowledge and expertise in patient care through:
  - Interpreting the outpatient pulmonary function tests done at the UAB Kirklin Clinic.
  - Recognizing the appropriate clinical context for pulmonary function testing interpretation.
  - Supervising pulmonary function testing and cardiopulmonary exercise tests.
  - Performing pre-bronchoscopy evaluation at the UAB Kirklin clinic and demonstrate understanding of the absolute and relative contraindications for bronchoscopy.
  - Educating patients and families on the indications, usual risks and complications and meaning of results when procedures are performed
  - Demonstrate proficiency in the following bronchoscopic procedures:
    - Airway examination
    - Bronchoalveolar Lavage
    - Bronchial brushing and washing
    - Endobronchial forceps biopsy
    - Transbronchial forceps biopsy
    - Transbronchial needle aspiration and core biopsies (Wang needle aspiration)
    - Foreign body removal
- Develop proficiency in the operation of a fiberoptic bronchoscope, supporting equipment and fluoroscope.
- Demonstrate understanding of how to manage complications of bronchoscopy including bleeding, pneumothorax and respiratory failure, to optimize patient safety.
- Develop proficiency in the proper use of analgesics and sedatives and in managing the complications of conscious sedation.
- Develop proficiency at appropriately selecting the sampling methods and diagnostic tests to optimize yield.

**Objectives:** Fellows will:

- Interpret all PFTs performed at TKC
- Supervise and interpret all CPETs performed at TKC
- Perform all outpatient pre-bronchoscopy evaluations, discussing specifically the indications for the procedure with the attending physician and adhering to the UAB Bronchoscopy guidelines (see Appendix section).
- Perform and/or assist with other diagnostic outpatient procedures such as thoracentesis and pleural biopsies, always discussing the specific indications with the attending physician
- Discuss risks of procedures with patients and their family members
- Become familiar with the pharmacology of agents used for conscious sedation
- Become familiar with bronchoscopic sampling methods, specifically its indications and limitations
- Review cytopathology and surgical pathology specimens with assigned Dept. of Pathology attending on a daily basis and whenever necessary.

### **3. Medical Knowledge**

**Goals:** The Fellows must demonstrate knowledge of established and evolving bioethical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

**Competencies:** The Fellows will:

- Increase knowledge in pulmonary physiology and the methods (including its limitations and indications) used to assess physiology in the following areas:
  - Flow volume loops and spirometry
  - Lung volumes
  - Specific airway resistance and conductance
  - Bronchial provocation testing
  - Gas exchange and diffusion capacity
  - Cardiopulmonary exercise testing
  - Respiratory muscle testing
  - Arterial blood gas analysis
  - Lung and airway anatomy.

- Be able to identify the indications, limitations, complications and likelihood of successful outcome in performing bronchoscopy.
- Increase knowledge in the pharmacology of analgesics, topical anesthetics and sedatives.
- Increase knowledge in appropriate bronchoscopy specimen processing and handling.
- Increase knowledge in basic cytology and surgical pathology techniques and findings applied to lung specimens obtained via bronchoscopy.

**Objectives:**

- To understand pulmonary physiology specifically in the areas of pulmonary function testing and cardiopulmonary exercise testing.
- To understand the methodology of pulmonary function testing as well as quality assurance procedures by reviewing those with the lead RT.
- To understand the indication, limitations and potential risks associated with bronchoscopic procedures and other invasive diagnostic procedures in the outpatient setting.
- To become proficient in bronchoscopic techniques, including recognition of the airway anatomy.
- To understand appropriate specimen handling.
- To review findings of invasive procedures with Cyto and Surgical Pathologists.

**4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems

Use information technology to optimize learning

**Objectives:** The Fellows will:

- Evaluate and improve pulmonary function test and CPET interpretation through self-evaluation and feedback from attending staff.

- Improve procedural practices by following up on test results in order to identify methods of optimizing yield and to identify special circumstances that alter yield and risks.
- Improve patient care practices through education of patients and families on the indications, usual risks and complications and meaning of results when procedures are performed.

## 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems
- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.

Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Develop proficiency in patient scheduling to maximize unit throughput.
- Develop proficiency in managing a large, busy procedural unit. This includes managing nurses and technicians, patient flow and specimen collection, handling and transport.
- Demonstrate understanding of how test results influence patient care.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.

- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate effective communication skills in interactions with procedure unit staff, nurses, and respiratory therapists.
- Demonstrate attendance to procedures.
- Demonstrate dependability in the appropriate follow through of test results.
- Demonstrate effective communication with patients in delivering healthcare, and planning appropriate follow-up after procedures when appropriate.
- Demonstrate respect for patient privacy, autonomy and awareness during conscious sedation.
- Acknowledge errors and limitations

## **7. Interpersonal and Communication Skills**

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the multidisciplinary team with important leadership responsibilities.

- Act in an effective consultative role to other physicians and health professionals.

Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health-related agencies.
- Work effectively as a member of the multidisciplinary team with leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records, procedure records and interpretations.
- Communicate respectfully and effectively with staff, nurses and technicians in procedural units and clinics.
- Act in a consultative role to other physicians and effectively communicate procedure results to the appropriate caretakers, when appropriate.

## **8. Teaching Methods**

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include reviewing indications and limitations of each procedure by the supervising attending with the fellow. Attendings are present for outpatient diagnostic procedures, especially bronchoscopies and are expected to guide the fellow regarding airway anatomy and choice of appropriate sampling techniques. In addition, attending physicians will discuss the appropriate handling of specimens for each invasive procedure. PFTs are “read over” by the attending physician and any necessary corrections will be discussed with the fellow. One attending physician is responsible for reviewing and assisting with the interpretation of CPETs on a monthly basis. Fellows are expected to contact the assigned attending physician in the Dept of Pathology to review their biopsy specimens on a daily basis.

## **9. Assessment Method (Fellow)**

Assessment methods for this rotation will include observation of fellow’s performance on procedures and the fellow’s performance on interpretation of pulmonary physiology studies as well as his/her interactions with other healthcare providers. Attendings assigned to supervise invasive procedures are

expected to assure that the fellow has appropriate knowledge of indications, limitations, appropriate sampling, specimen handling as well as the related anatomy. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms.

As part of the 360 degrees evaluation process, the Program will ask the TKC Nursing Leadership as well as other members of the interdisciplinary team, particularly the lead RT, to provide a monthly evaluation of each rotating fellow.

## **10. Assessment Method (Program)**

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam pulmonary medicine scores will be reviewed annually

ABIM scores on pulmonary medicine will be reviewed annually

## **11. Level of Supervision**

- Attending physician will read over the fellow's interpretation of all PFTs and CPETs.

Attending physicians are expected to be present for bronchoscopies and other outpatient invasive procedures.

## **12. Educational Resources**

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

Murray and Nadel's Textbook of Respiratory Medicine

Wasserman's. Principles of Exercise Testing and Interpretation

2005 ERS/ETS Guidelines on Interpretation of Pulmonary Function Tests

Hyatt, Scanlon and Nakamura. Interpretation of Pulmonary Function Tests – A practical guide, 3<sup>rd</sup> Ed.

## **III.C.5. Birmingham VAMC MICU**

### **1. Description of Rotation**

Dr. Joao de Andrade is the director of the BVAMC Medical Intensive Care Unit (MICU), which is located in the 6<sup>th</sup> floor of the Medical Center. It is the referral VA medical ICU for the entire State of Alabama. Pulmonary and Critical Care

Fellows will be assigned to the BVAMC MICU for several months during their clinical training. They will be responsible for organizing the patient care activities in the MICU under the direct supervision of the Pulmonary and Critical Care Medicine faculty members assigned to the service.

The goals of this rotation are:

- To provide broad clinical exposure on the management of complex critically ill patients, including those on mechanical ventilation and/or hemodynamic monitoring/support.
- To provide clinical experience to develop proficiency in certain technical and organizational aspects as well as procedural skills related to critical care.

## **2. Patient Care**

**Goals:** Fellows are expected to:

- Review history and ancillary tests of new MICU patients prior to morning rounds;
- Perform comprehensive daily evaluation of all patients on mechanical ventilation prior to morning rounds;
- Advise the housestaff on management of ICU patients during morning rounds and through the day, as needed;
- Advise the multidisciplinary team on the implementation of patient care protocols and clinical pathways;
- Assist, advise and supervise the housestaff on MICU procedures as permitted by their level of proficiency, as defined by the Fellowship Program specific policy.

Populate a quality improvement database.

**Competencies:** Fellows will:

- Increase knowledge and expertise in patient care through:
  - a. Reviewing history and ancillary tests of new MICU patients prior to morning rounds.
  - b. Performing comprehensive daily evaluation of all patients on mechanical ventilation prior to morning rounds.
  - c. Advising the housestaff on management of ICU patients during morning rounds and through the day, as needed.
  - d. Advising the multidisciplinary team on the implementation of patient care protocols and clinical pathways.

- e. Assisting, advising and supervising the housestaff on MICU procedures as permitted by their level of proficiency, as defined by the Fellowship Program specific policy.
- f. Participating in the education of patients and families on the diagnosis and management of critical care issues, including end-of-life discussions and palliative care.
- Develop proficiency in the following MICU procedures:
  - a. Airway management, including endotracheal intubation
  - b. Positive Pressure Ventilatory modes (invasive and non-invasive), including initiation, maintenance, and weaning of mechanical ventilation; respiratory care techniques and withdrawal of mechanical ventilatory support
  - c. Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - d. Insertion of arterial, central venous and pulmonary artery balloon flotation catheters
  - e. Insertion of chest tubes and management of drainage systems
  - f. Thoracentesis and related diagnostic procedures
  - g. Nutritional support
  - h. Emergency cardioversion
  - i. Interpretation of intracranial pressure monitoring
  - j. Operation of bedside hemodynamic monitoring systems

Quality improvement and patient safety activities in the intensive care unit

### **Objectives:**

Essential components of this educational experience are the development and refinement of clinical skills in the evaluation, diagnosis, treatment and follow-up of patients with critical illnesses. These skills include the development of appropriate differential diagnoses, assessing the need for hospitalization, the development of diagnostic evaluation strategies and treatment plans, and the implementation of such plans. Through this experience, the Pulmonary and Critical Care Fellow will also develop a comprehensive understanding of the indications, contraindications, techniques, and complications of the entire spectrum of diagnostic and therapeutic procedures in critical care medicine.

### **3. Medical Knowledge**

**Goal:** The Fellows are expected to have:

- A basic core understanding of anatomy, histology, physiology,

biochemistry, immunology, genetics, pharmacology, epidemiology, statistics, ethics and human behavior relative to the practice of critical care medicine.

- Basic core knowledge of the pathogenesis, histopathology, pathophysiology, clinical manifestations, and management of critical illnesses.
- The ability to formulate appropriate differential diagnoses and therapeutic plans based on an ability to critically analyze the clinical data and integrate this analysis with the basic fund of medical knowledge.
- The knowledge of the treatment of the common and uncommon diseases found in the practice of critical care medicine, including an understanding of the principles, indications, contra-indications, risk, cost and expected outcome of the various treatments.

The knowledge regarding performance and/or interpretation of diagnostic and therapeutic procedures common in the practice of critical care medicine, including the understanding of the principles, indications, contraindications, risk, cost and expected outcome of these procedures.

**Competencies:** The Fellows will:

Increase knowledge in the diagnosis and management of the following:

- Circulatory disorders
- Shock syndromes
- Cardiovascular diseases
- Trauma
- Neurological
- Sepsis and sepsis syndrome
- Hypertensive emergencies
- Acute and chronic respiratory failure, including ARDS, acute and chronic respiratory failure in obstructive lung diseases and neuromuscular respiratory drive disorders
- Pulmonary thromboembolism
- Pneumothorax
- Delirium and CNS-related critical care issues such as CVAs and status epilepticus
- Critical Obstetric and gynecologic disorders
- Acute metabolic disturbances, including overdosages and intoxication syndromes
- Multi-organ failure

- Electrolyte and acid-base disorders
- Metabolic, nutritional, and endocrine disorders associated with critical illness
- Hematologic and coagulation disorders associated with critical illness
- Anaphylaxis and acute allergic reactions
- Perioperative management of critically ill patients
- Hemodynamic and ventilatory support of patients with organ damage in the post operative period
- Iatrogenic and nosocomial problems in critical care medicine
- Psychosocial and emotional effects of critical illness on patients and their families
- End of life issues and palliative care

Increase knowledge and demonstrate proficiency in the following procedural and technical skills:

- Airway management, including endotracheal intubation
- Positive Pressure Ventilatory modes (invasive and non-invasive), including initiation, maintenance, and weaning of mechanical ventilation; respiratory care techniques and withdrawal of mechanical ventilatory support
- Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
- Insertion of arterial, central venous and pulmonary artery balloon flotation catheters
- Insertion of chest tubes and management of drainage systems
- Use of paralytic agents and sedative/analgesic drugs
- Emergency cardioversion
- Interpretation of intracranial pressure monitoring
- Operation of bedside hemodynamic monitoring systems
- Quality improvement and patient safety activities in the intensive care unit
- Pericardiocentesis
- Transvenous pacemaker insertion
- Renal replacement therapy
- Pharmacokinetics, pharmacodynamics, and drug metabolism and excretion in critical illness

- Imaging techniques commonly employed in the evaluation of patients with critical illness and/or pulmonary disorders
- Principles and techniques of administration and management of an MICU
- Ethical, economic, and legal aspects of critical illness
- Recognition and management of the critically ill from disasters, including those caused by chemical and biological agents

**Objectives:**

- To master specific knowledge and competencies for the majority of diseases seen in the practice of Critical Care Medicine, including uncommon and complicated diseases.
- To develop proficiency as the primary health care provider in the acute inpatient setting, especially the intensive care unit.

**4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning
- Participate in the education of students and residents

**Objectives:** The Fellows will:

- Evaluate and improve management of MICU patients through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Incorporate formative evaluation feedback into daily practice both by seeking/giving input from/to the attending staff and the other members of the MICU team.

- Locate, appraise and assimilate evidence from scientific studies related to MICU's patient's problems and share those with the rest of the multidisciplinary team.
- Use information technology databases available both at the VA Library system and the UAB system such as e-journals, PubMed and UptoDate to optimize learning.
- Participate in the education of residents, students, other fellows and other health care professionals by assisting with patient management, supervising procedures and assisting with interpretation of data from ancillary tests.
- Participate in the education of residents, students, other Fellows and other health care professionals by delivering at least one lecture/week on relevant critical care subjects in collaboration with the attending.

## 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems
- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Communicate with the ICU attending, other services at the BVAMC and referring physicians/facilities regarding triage/bed allocation, admissions and disposition of critically ill patients following the medical center's policies.
- Work effectively with consultants in the BVAMC to provide optimal patient care.
- Work with the MICU multidisciplinary team to enhance patient safety and improve patient care.
- Participate in regular meetings of the MICU leadership, the Division leadership as well as the BVAMC Critical Care Steering Committee helping with the identification of systems errors and with the implementation of potential solutions.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity, honesty and respect to others during all clinical and educational activities of the MICU
- Demonstrate responsibility, accountability, dependability, commitment, and encourage continuity of care, always assuring appropriate “hand-off” of patient care.
- Acknowledge errors and limitations
- Always demonstrate responsiveness to patients needs that supersedes self-interest
- Always demonstrate respect for the privacy and autonomy of patients and families during procedures, daily updates and discussions regarding goals of care.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

## 7. Interpersonal and Communication Skills

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.

- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the MICU team with important leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds during hospital admissions, daily updates and discussions regarding goals of care as well as informed consent for procedures.
- Communicate respectfully and effectively with ED physicians, referring physicians, consulting physicians, other health care professionals.
- Work effectively as a member of the MICU team with important leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible procedure and consultation records.

## **8. Teaching Methods**

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include teaching rounds and supervision of the fellow's clinical activities as well as attending supervision of the fellow's educational responsibilities towards the other members of the team. The attending physician is expected to assist with literature reviews, formulation of clinically relevant questions to assist the fellow with literature searches as well as assist and polish the fellows as he/she prepares didactic materials for the internal medicine housestaff and the other members of the multidisciplinary team.

## **9. Assessment Method (Fellow)**

Assessment methods for this rotation will include observation of fellow's performance on daily rounds, family conferences, procedures and his/her interactions with the other members of the team and other healthcare providers such as referring physicians, ED physicians and consultants. In addition, the attending physician is expected to be present for the weekly fellow didactic

lectures to the internal medicine housestaff. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms on MedHub.

As part of the "360 degree" evaluation process, the BVAMC MICU nursing staff will evaluate Fellows on a monthly basis.

## **10. Assessment Method (Program)**

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam scores on critical care will be reviewed annually
- ABIM scores on critical care will be reviewed annually

## **11. Level of Supervision**

- The attending physician will formulate daily plans of care with the fellow during morning rounds and later in the day as necessary
- Attending physicians are expected to be present for bedside bronchoscopies unless a life-threatening situation is present.

## **12. Educational Resources**

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

[www.thoracic.org/education/career-development/index.php](http://www.thoracic.org/education/career-development/index.php)

[www.chestnet.org/accp/pccsu](http://www.chestnet.org/accp/pccsu)

[www.learnICU.org](http://www.learnICU.org)

[www.sccm.org](http://www.sccm.org)

## **III.C.6. Birmingham VAMC Consultation Service**

### **1. Description of Rotation**

Pulmonary and Critical Care Fellows will be assigned to the Pulmonary Consultation Service for several months during their clinical training. They will be responsible for organizing the patient care activities of this service under the direct supervision of an assigned Pulmonary and Critical Care faculty member. Essential skills in consultative pulmonary medicine and critical care will be developed on this service through direct exposure to patients with the full scope

of pulmonary diseases and critical illnesses hospitalized on non-pulmonary/critical care services. Skills such as communication with referring physicians and support personnel and the coordination of specific procedures and therapies (e.g. bronchoscopy, thoracentesis, tube thoracostomy) with other procedures and needs of the patients will also be learned on this service. Pulmonary and Critical Care Fellows will become proficient in the pre-operative risk assessment and peri-operative management of patients undergoing surgical procedures. Pulmonary and Critical Care Fellows will be called upon to perform literature searches on topics pertaining to specific patient care situations. In addition, Fellows will also electronically interpret all PFT's (VMAX system) under the supervision of Dr. J. Allen Cooper, Jr. Fellows will also develop and refine clinical skills in the diagnosis and management of patients with thoracic malignancies by attending the weekly "Lung Mass Clinic" during months that do not have a fellow assigned to the Lung Cancer Service. Additionally, fellows assigned to this service are expected to attend the VA ILD Clinic as well as participate in the clinical and didactic activities of the VA Sleep Laboratory that is directed by Dr. Jennifer DeWolfe.

The goals of this rotation are:

- To provide broad clinical exposure on the management of complex non-medical critically ill patients, including those on mechanical ventilation and/or hemodynamic monitoring/support.
- To acquire proficiency in pre-operative respiratory risk assessment and perioperative management.
- To provide broad clinical exposure on the diagnosis and management of pulmonary disorders, particular thoracic malignancies.
- To provide clinical experience to develop proficiency in certain technical and organizational aspects as well as procedural skills related to non-medical critical care and pulmonary medicine, including interpretation of PFTs.
- Development and refinement of clinical skills in the evaluation, diagnosis, treatment and follow-up of patients with sleep disorders

## **2. Patient Care**

**Goals:** Fellows are expected to:

- To increase knowledge of pulmonary physiology and provide opportunities to demonstrate the application of that knowledge to the interpretation of pulmonary function tests.
- To provide opportunities to develop proficiency in the use and performance of bronchoscopy as a diagnostic and therapeutic tool.

- To provide clinical exposure on the management of general pulmonary medicine and critical care problems in surgical patients.
- To increase knowledge on the assessment of perioperative risk of respiratory failure.
- To increase knowledge and develop proficiency in the assessment and management of pulmonary perioperative complications, including failure to wean from mechanical ventilation.
- To effectively communicate with the primary team and address the issues in question.

**Competencies:** Fellows will:

- Increase knowledge and expertise in patient care through:
  - Evaluate all new consults the same day, assuring that a note is placed in the patient's chart (CPRS) and rounding with attending staff within 24 hours or immediately, when appropriate.
  - Review radiographs with Radiology attending whenever appropriate.
  - Round daily on the consultation service and discussing findings and management strategies with attending staff.
  - Perform pre-bronchoscopy evaluations at BVAMC and recognize the absolute and relative contraindications for bronchoscopy and other invasive procedures such as thoracostomy tube insertions and pleural biopsies.
  - Managing complications of bronchoscopy, including bleeding, pneumothorax and respiratory failure to optimize patient safety.
  - Assisting faculty and other Fellows with advanced bronchoscopic procedures whenever appropriate
  - Participating in the education of patients and families on the diagnosis and management of pulmonary medicine issues, including the indications, usual risks and complications and meaning of results when procedures are performed.
- Develop proficiency in the following pulmonary procedures:
  - Respiratory care techniques
  - Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - Insertion of chest tubes and management of pleural drainage systems
  - Thoracentesis and related diagnostic procedures
- Develop proficiency in the operation of a fiberoptic bronchoscope, supporting equipment and fluoroscope.

- Develop proficiency in the following bronchoscopic procedures:
  - Airway examination
  - Bronchoalveolar Lavage
  - Bronchial brushing and washing
  - Endobronchial forceps biopsy
  - Transbronchial forceps biopsy
  - Transbronchial needle aspiration and core biopsies (Wang needle aspiration)
  - Foreign body removal
- Develop proficiency in the proper use of analgesics and sedatives and in managing the complications of conscious sedation.
- Develop proficiency at appropriately selecting the sampling methods and diagnostic tests to optimize yield.

**Objectives:** Fellows will:

- Be an effective consultant in pulmonary and critical care medicine
- Gather essential and accurate information by performing and complete a clinically relevant history and physical examination.
- Understand how to order and interpret appropriate diagnostic tests.
- Make informed diagnostic and treatment decisions by analyzing and synthesizing information.
- Understand the limits of their knowledge and expertise.
- Develop a differential diagnosis and management plan.
- Maintain comprehensive, timely, effective and legible medical records.
- Effectively counsel patients and families
- Effectively communicate with the primary healthcare team and effectively address issues in question.

### 3. Medical Knowledge

**Goals:** The Fellows are expected to have:

- A basic core understanding of anatomy, histology, physiology, biochemistry, immunology, genetics, pharmacology, epidemiology, statistics, ethics and human behavior relative to the practice of pulmonary and critical care medicine.
- Basic core knowledge of the pathogenesis, histopathology,

- pathophysiology, clinical manifestations, and management of pulmonary and critical illnesses.
- The ability to formulate appropriate differential diagnoses and therapeutic plans based on an ability to critically analyze the clinical data and integrate this analysis with the basic fund of medical knowledge.
  - The knowledge of the treatment of the common and uncommon diseases found in the practice of pulmonary and critical care medicine, including an understanding of the principles, indications, contra-indications, risk, cost and expected outcome of the various treatments.
  - The knowledge regarding performance and/or interpretation of diagnostic and therapeutic procedures common in the practice of pulmonary and critical care medicine, including the understanding of the principles, indications, contraindications, risk, cost and expected outcome of these procedures.

**Competencies:** The Fellows will:

- Increase knowledge in pulmonary physiology and the methods used to assess physiology in the following areas:
  - Flow volume loops and spirometry
  - Lung volumes
  - Specific airway resistance and conductance
  - Bronchial provocation testing
  - Gas exchange and diffusion capacity
  - Cardiopulmonary exercise testing
  - Respiratory muscle testing
  - Arterial blood gas analysis
  - Lung and airway anatomy.
- Increase knowledge in the perioperative pulmonary risk assessment instruments available in the literature.
- Be able to identify the indications, limitations, complications and likelihood of successful outcome in performing bronchoscopy and advanced bronchoscopy techniques.
- Increase knowledge in the pharmacology of analgesics, topical anesthetics and sedatives.
- Increase knowledge in appropriate bronchoscopy specimen processing and handling.
- Increase knowledge in basic cytology and surgical pathology techniques and findings applied to lung specimens obtained via bronchoscopy.
- Increase knowledge in assessment of perioperative risk of respiratory failure.

- Increase knowledge in the diagnosis and management of the following:
  - Obstructive lung diseases, including asthma, bronchitis, emphysema and bronchiectasis
  - Dyspnea and prolonged cough
  - Pulmonary malignancy – primary and metastatic
  - Pulmonary infections, including tuberculous, fungal and those in the immunocompromised host
  - Diffuse interstitial lung diseases
  - Pulmonary embolism and pulmonary embolic disease
  - Pulmonary vascular disease, including primary and secondary pulmonary hypertension and vasculitis and pulmonary hemorrhagic syndromes.
  - Occupational and environmental lung diseases
  - Pneumothorax – spontaneous and iatrogenic
  - Iatrogenic respiratory disease, including drug-induced disease
  - Pulmonary manifestations of systemic diseases, including collagen vascular disease and diseases that are primary in other organs
  - Disorders of the pleura and mediastinum
  - Perioperative respiratory failure and failure to wean from mechanical ventilation
- Increase knowledge and proficiency in the following procedural and technical skills:
  - Respiratory care techniques
  - Use of reservoir masks and CPAP for delivery of supplemental oxygen, humidifiers, nebulizers and incentive spirometry
  - Insertion of chest tubes and management of pleural drainage systems
  - Imaging techniques commonly employed in the evaluation of patients with pulmonary disorders
  - Thoracentesis and related diagnostic procedures
  - Imaging techniques commonly employed in the evaluation of patients with pulmonary disorders

## Objectives

- To master specific knowledge and competencies for the majority of diseases seen in the practice of Pulmonary and Critical Care Medicine, including uncommon and complicated diseases.

- To develop proficiency as health care provider in the acute inpatient setting, especially in non-medical intensive care unit.

#### **4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning
- Participate in the education of students and residents

**Objectives:** The Fellows will:

- Evaluate and improve management of Consultation patients through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Incorporate formative evaluation feedback into daily practice both by seeking/giving input from/to the attending staff and the other members of the Consultation team.
- Locate, appraise and assimilate evidence from scientific studies related to Consultation patient's problems and share those with the rest of the team.
- Use information technology databases available in the VA Electronic Library as well as the UAB system, such as e-journals, PubMed and UptoDate to optimize learning.
- Participate in the education of residents, students, other fellows and other health care professionals by assisting with patient management, supervising procedures and assisting with interpretation of data from ancillary tests.

## 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems
- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Develop proficiency in patient scheduling to maximize unit throughput.
- Increase understanding of how test results influence patient care.
- Communicate with consulting physicians in a timely way.
- Work effectively with consultants in the health care delivery system to provide optimal patient care.
- Incorporate considerations of cost awareness and risk-benefit analysis, as appropriate.
- Advocate for quality patient care and optimal patient care systems.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate effective communication skills in interactions with procedure unit staff, nurses, and respiratory therapists.
- Demonstrate attendance to procedures, and inpatient rounds.
- Demonstrate dependability in the appropriate follow through of test results.
- Demonstrate effective communication with patients in delivering healthcare, and planning appropriate follow-up after procedures
- Demonstrate respect for patient privacy, autonomy and awareness during conscious sedation.
- Acknowledge errors and limitations

## **7. Interpersonal and Communication Skills**

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the Consultation team with important leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health-related agencies.
- Work effectively as a member of the Consultation team with leadership responsibilities.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records, specifically the Initial Consultation Note.
- Communicate respectfully and effectively with staff, nurses and technicians in procedural units, clinics and inpatient units.
- Act in a consultative role to other physicians and effectively communicate procedure results to the appropriate caretakers, when appropriate.

## **8. Teaching Methods**

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include teaching rounds and supervision of the fellow's clinical activities. The attending physician is expected to assist with literature reviews, formulation of clinically relevant questions to assist the fellow with literature searches.

## **9. Assessment Method (Fellow)**

Assessment methods for this rotation will include observation of fellow's performance on daily rounds, family conferences, procedures and his/her interactions with the other members of the team and consulting healthcare providers. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms on MedHub.

## **10. Assessment Method (Program)**

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam scores will be reviewed annually
- ABIM scores on will be reviewed annually

## 11. Level of Supervision

- The attending physician will formulate daily plans of care with the fellow during rounds and whenever necessary.
- Attending physicians are expected to be present for bronchoscopies and other invasive procedures.

## 12. Educational Resources

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

Murray and Nadel's Textbook of Respiratory Medicine, 5<sup>th</sup> Ed.

[www.thoracic.org/education/career-development/index.php](http://www.thoracic.org/education/career-development/index.php)

[www.chestnet.org/accp/pccsu](http://www.chestnet.org/accp/pccsu)

[www.learnICU.org](http://www.learnICU.org)

[www.sccm.org](http://www.sccm.org)

## III.C.7. Lung Transplant/Advanced Lung Disease Service

### 1. Description of Rotation

Dr. Enrique Diaz is the Medical Director of the UAB Lung Transplant Program. Dr. Keith Wille is the Scientific Director of the Program. This is a multidisciplinary effort of our Division and the Division of Cardiothoracic Surgery of the Dept. of Surgery. Dr. Charles Hoopes is the lead lung transplant surgeon. Other members of the transplant team include a number of dedicated Transplant Coordinators and Nurse Practitioners. Inpatient care takes place at University Hospital in both the CICU and HTICU. Outpatient care takes place at the Kirklin clinic.

Specific expectations of this rotation

- Wednesday morning Lung Transplant team meeting – JT 228 at 7:30: Here fellows will participate in weekly meetings where all patients are discussed by the transplant team including surgeons, nurses, pharmacy, ID and social worker. This time is used to determine new patient's

candidacy for transplant, other medical issues in our post transplant patients and any new protocols or systematic changes.

- Wednesday morning TKC 4<sup>th</sup> floor Post lung transplant Clinic – immediately following lung meeting: Fellows will be responsible for evaluating post-transplant patients, including review of chest radiographs, PFTs, laboratory data and discussing with the attending. Here they will learn the outpatient management of chronic immune suppression, rejection and other details of lung transplant.
- Friday morning TKC 4<sup>th</sup> floor Pre Lung Transplant Clinic: Here fellows will learn the appropriate guidelines for referral and transplantation of patients with end stage lung disease. The fellows will primarily be responsible for performing full H&Ps on new patients and then discussing with the attending. Fellows will also evaluate patients who are listed for transplant and understand their outpatient management. Clinic begins at 8am
- Daily rounds on the inpatient HTICU lung transplant service and on the ALDS service. Time of rounds will be determined by the fellow and attending daily. The fellow will be responsible for procedures such as bronchoscopy, thoracentesis, etc on these inpatients. The fellow also provides support to the nurse practitioners with procedures, critical care, notes, or admissions as needed. The fellows are not expected to write progress notes on all patients each day, but may be asked to do so based on how busy the service becomes.

Fellows have to option to participate in an organ harvest and retrieval with the surgical team during the rotation, if the opportunity arises.

The goals of this rotation are:

- To provide a comprehensive clinical experience in the management of pre- and post-lung transplant patients as well as patients undergoing ECMO.
- To provide the fellows with the opportunity of working on a non-medical ICU environment, in conjunction with nurse practitioners.
- To increase knowledge on the guidelines for referral and the appropriate timing for lung transplantation.
- To increase knowledge on the chronic management of immune suppression in the outpatient setting.
- To enhance skills on bronchoscopy and associated techniques/procedures in the lung transplant setting

## 2. Patient Care

**Goals:** Fellows are expected to provide patient care that is compassionate,

appropriate, and effective for the treatment of healthcare problems and the promotion of health

**Competencies:** Fellows will:

- Learn short and long term inpatient management of lung transplant recipients.
- Learn perioperative management of lung transplant patients, including preoperative evaluation, preparation of transplant recipients, and postoperative administration of immunosuppressants.
- Learn long term outpatient management of lung transplant recipients
- Manage post-transplant pulmonary complications, including graft dysfunction.
- Learn how to perform lung allograft biopsies.
- Learn management of immunosuppression and how to identify side effects and toxicities.
- Learn problems that require referral to a transplant center.
- Learn diagnosis and treatment of rejection and complications of such treatment.
- Learn management of co-morbid conditions requiring hospitalization, including surgical and nonsurgical complications of transplantation.
- Understand the principles of organ harvesting, preservation, and sharing

**Objectives:** Fellows will:

- Evaluate all admissions on the lung transplant service (usually in collaboration with one of the nurse practitioners).
- Perform consultation service for lung transplant patients on other inpatient services.
- Perform lung allograft biopsies on patients admitted to the service.
- Perform consultation services for all new lung transplant recipients on the cardiothoracic surgical service.
- Coordinate care for patients admitted to the lung transplant service (usually in the HTICU).
- Attend lung transplant clinic on Wednesday mornings, TKC 5<sup>th</sup> floor (transplant meeting starts at 7:30am in the 5<sup>th</sup> floor TKC conference room).
- Evaluate patients followed in the clinic, gathering data necessary for patient evaluation and present patients to the clinic attending.

- Assist in executing plans for patient care.
- Attend Transplant ID clinic (at least twice during the month)

### **3. Medical Knowledge**

**Goals:** Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

**Competencies:** The Fellows will:

- Learn short and long term inpatient and outpatient management of lung transplant recipients.
- Learn perioperative management of lung transplant patients, including preoperative evaluation, preparation of transplant recipients, and postoperative administration of immunosuppressants.
- Manage post-transplant pulmonary complications, including graft dysfunction.
- Learn management of immunosuppression and how to identify side effects and toxicities.
- Learn problems that require referral to a transplant center.
- Learn diagnosis and treatment of rejection and complications of such treatment.
- Learn management of co-morbid conditions requiring hospitalization, including surgical and nonsurgical complications of transplantation.

**Objectives:** The Fellows will:

- Evaluate all admissions on the lung transplant service (usually in collaboration with one of the nurse practitioners).
- Perform consultation service for lung transplant patients on other inpatient services.
- Perform consultation services for all new lung transplant recipients on the cardiothoracic surgical service.
- Attend lung transplant clinic on Wednesday mornings, TKC 5<sup>th</sup> floor (transplant meeting starts at 7:30am in the 5<sup>th</sup> floor TKC conference room).
- Attend Transplant ID clinic (at least twice during the month)

#### 4. Practice-Based Learning and Improvement

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning
- Participate in the education of students and residents

**Objectives:** The Fellows will:

- Evaluate and improve management of lung transplant patients through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Locate, appraise and assimilate evidence from scientific studies related to lung transplant patient's problems and share those with the rest of the multidisciplinary team.
- Use information technology databases available in the UAB system, such as e-journals, PubMed and UptoDate to optimize learning.
- Participate in the education of residents, students, other fellows and other health care professionals by assisting with patient management, supervising procedures and assisting with interpretation of data from ancillary tests.

#### 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems

- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Work with the Lung Transplant Program multidisciplinary team to enhance patient safety and improve patient care.
- Develop excellence in communication and coordination of care with referring physicians.
- Acquire skills in dealing with multiple health care systems.

## 6. Professionalism

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity, honesty and respect to others during all clinical and educational activities of the Lung Transplant Program
- Demonstrate responsibility, accountability, dependability, commitment, and encourage continuity of care, always assuring appropriate “hand-off” of patient care.
- Acknowledge errors and limitations
- Always demonstrate responsiveness to patients needs that supersedes self-interest
- Always demonstrate respect for the privacy and autonomy of patients and families during procedures, daily updates and discussions regarding goals of care.

- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

## 7. Interpersonal and Communication Skills

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the Lung Transplant multidisciplinary team.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

6. Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds during hospital admissions, daily updates and discussions regarding goals of care as well as informed consent for procedures.
7. Communicate respectfully and effectively with ED physicians, referring physicians, consulting physicians, other health care professionals.
8. Act in an effective consultative role to other physicians and health professionals.
9. Maintain comprehensive, timely and legible medical records, both in the inpatient and outpatient settings

## 8. Teaching Methods

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Specific teaching methods by the Lung Transplant Attending include teaching rounds, lectures, and supervision of clinical activities.

## **9. Assessment Method (Fellow)**

Assessment methods for this rotation will include observation of fellow's performance on daily rounds, family conferences, procedures and his/her interactions with the other members of the team and other healthcare providers such as referring physicians, ED physicians and consultants. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms on MedHub.

## **10. Assessment Method (Program)**

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam scores on the subject of lung transplantation will be reviewed annually
- ABIM Pulmonary Certification exam scores on the subject of lung transplantation will be reviewed annually

## **11. Level of Supervision**

- The attending physician will formulate daily plans of care with the fellow during CVICU and/or HTICU rounds and as necessary.
- The attending physician will formulate plans of care with the fellow for patients evaluated in the Lung Transplant Clinic.
- Attending physicians are expected to be present for bedside bronchoscopies unless a life-threatening situation is present.

## **12. Educational Resources**

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

Specific didactic materials will be distributed by the Lung Transplant faculty at the beginning of the rotation.

## **III.C.8. Sleep Medicine (Elective Rotation)**

### **1. Description of Rotation**

In addition to their exposure to Sleep Disorders as part of their VA Consultation Service, fellows also have the opportunity of having a more comprehensive experience during an elective at the UAB Sleep/Wake Disorders Center. Dr.

Susan Harding directs the UAB Sleep/Wake Disorders Center, which is located in the newly renovated quarters on the 7<sup>th</sup> floor of UAB Highlands Hospital. Its objective is to provide the highest quality evaluation and treatment to patients with sleep disorders, utilizing state of the art technology and equipment. Pulmonary and Critical Care Fellows are assigned to this rotation for about 10% of the time dedicated to their clinical training.

The goals of this rotation are:

- Development and refinement of clinical skills in the evaluation, diagnosis, treatment and follow-up of patients with sleep disorders
- Development and refinement of communication skills with patients, families, and other members of the healthcare team

## 2. Patient Care

**Goals:** Fellows are expected to be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health care problems and the promotion of health.

**Competencies:** Fellows will:

- Acquire proficiency in performing sleep history
- Elaborate differential diagnosis of sleep disorders
- Become familiar with technical aspects of polysomnographic recording
- Become familiar with appropriate prescription and management of CPAP, BiPAP and oxygen therapy

**Objectives:** Fellows will:

- Perform sleep history in the Sleep Center outpatient clinic
- Discuss differential diagnosis with attending physician
- Attend polysomnographic record review sessions with Sleep Center faculty daily
- Attend at least one nighttime hookup session
- Discuss appropriate indications for CPAP, BiPAP and oxygen therapy with Sleep Center faculty
- Participate in the education of patients and families on the management of sleep disorders

## 3. Medical Knowledge

**Goals:** The Fellows must demonstrate knowledge of established and evolving

bioethical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care.

**Competencies:** The Fellows will:

- Increase knowledge in the recognition, differential diagnosis and management of common sleep disorders.
- Increase knowledge in the management of sleep-disordered breathing.
- Increase knowledge in the following procedural and technical skills:
  - Polysomnographic recording
  - Sleep technology and scoring
  - Sleep staging; respiratory, PLMS and Arousal Event Recognition
  - Record review with CPAP/BiPAP titration
  - Record review with Multiple Sleep Latency Test
  - Hooking up monitoring system for a Polysomnographic recording
  - Setting up CPAP/BiPAP

**Objectives:** The Fellows will:

- Discuss differential diagnosis with attending physician during sleep clinic
- Attend polysomnographic record review sessions with Sleep Center faculty daily becoming familiar with the scoring system.
- Attend at least one nighttime hookup session
- Discuss appropriate indications for CPAP, BiPAP and oxygen therapy with Sleep Center faculty
- Participate in the education of patients and families on the management of sleep disorders

#### **4. Practice-Based Learning and Improvement**

**Goals:** Fellows are expected to demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

**Competencies:** The Fellows will:

- Identify strengths, deficiencies and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities

- Incorporate formative evaluation feedback into daily practice
- Locate, appraise and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning

**Objectives:** The Fellows will:

- Evaluate and improve management of patients with sleep disorders through self-evaluation and feedback from attending staff.
- Set learning and improvement goals based on self-evaluation and feedback from attending staff.
- Identify and perform appropriate learning activities based on specific objectives of the rotation.
- Attend didactic teaching and discussion session with Sleep Center faculty.
- Set up time with sleep technologist once/week to review the following topics: sleep staging; respiratory, PLMS and Arousal Event Recognition; Entire record review with CPAP/BiPAP titration; Entire record review with Multiple Sleep Latency Test.
- Systematically analyze practice, both regarding direct patient care and procedures, identifying methods to optimize yield, efficiency and safety.
- Incorporate formative evaluation feedback into daily practice both by seeking/giving input from/to the attending staff and the other members of the Sleep Center
- Locate, appraise and assimilate evidence from scientific studies related to Sleep Medicine and share those with the rest of the multidisciplinary team.
- Use information technology databases available in the UAB system, such as e-journals, PubMed and UptoDate to optimize learning.

## 5. Systems-Based Practice

**Goals:** Fellows must demonstrate awareness and responsiveness to the larger context and system of healthcare, as well as the ability to call effectively on other resources in the system to provide optimal health care.

**Competencies:** The Fellows will:

- Work effectively in various health care delivery systems
- Coordinate patient care within the health care system
- Work in interprofessional teams to enhance patient safety and improve patient care quality.
- Participate in identifying systems errors and in implementing potential systems solutions.

**Objectives:** The Fellows will:

- Incorporate considerations of cost awareness and risk-benefit analysis as appropriate.
- Participate in regular meetings of the Sleep Center leadership, whenever appropriate, helping with the identification of systems errors and with the implementation of corrective measures.

## **6. Professionalism**

**Goals:** Fellows must demonstrate commitment to carrying out professional responsibilities and adherence to ethical principles.

**Competencies:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.

**Objectives:** The Fellows will:

- Demonstrate compassion, integrity and respect for others.
- Demonstrate responsiveness to patient needs that supersedes self-interest.
- Demonstrate respect for patient privacy and autonomy.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity on gender, age, culture, race, religion, disabilities and sexual orientation.
- Demonstrate effective communication skills in interactions with procedure unit staff, nurses, and respiratory therapists.
- Demonstrate attendance to all activities of the Sleep Center.
- Demonstrate dependability in the appropriate follow through of test results.

- Demonstrate effective communication with patients in delivering healthcare, and planning appropriate follow-up after procedures when appropriate.
- Demonstrate respect for patient privacy, autonomy and awareness during conscious sedation.
- Acknowledge errors and limitations

## 7. Interpersonal and Communication Skills

**Goals:** Fellows must demonstrate interpersonal and communications skills that result in the effective exchange of information with patients, their families as well as other healthcare professionals.

**Competencies:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health related agencies.
- Work effectively as a member of the multidisciplinary team.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records.

**Objectives:** The Fellow will:

- Communicate respectfully and effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate respectfully and effectively with other physicians, other health care professionals and health-related agencies.
- Work effectively as a member of the multidisciplinary team.
- Act in an effective consultative role to other physicians and health professionals.
- Maintain comprehensive, timely and legible medical records, procedure records and interpretations.
- Communicate respectfully and effectively with staff, nurses and technicians in procedural units and clinics.

- Act in a consultative role to other physicians and effectively communicate procedure results to the appropriate caretakers, when appropriate.

## **8. Teaching Methods**

All Attending physicians are expected to discuss the goals and objectives of this rotation with the fellow at the beginning of the month. Teaching methods for this rotation will include daily one-to-one interactions between Sleep Center faculty during record review sessions as well as during the clinics. In addition, a series of lectures on the subject of sleep disorders are delivered through the month by the Sleep Center faculty.

## **9. Assessment Method (Fellow)**

Assessment methods for this rotation will include observation of fellow's performance on clinics and record review sessions as well as his/her interactions with other healthcare providers. At the end of the month, attendings are expected to give the fellow one-one feedback on their performance and complete the evaluation forms on MedHub.

## **10. Assessment Method (Program)**

- Fellows will complete an evaluation of the rotation on MedHub
- In-training exam scores on the subject of sleep disorders will be reviewed annually
- ABIM Pulmonary Certification exam scores on sleep disorders will be reviewed annually

## **11. Level of Supervision**

- Attending physician will be present in the Sleep Center outpatient clinic and will discuss all cases evaluated by the fellow.

## **12. Educational Resources**

Fellows' library – JT N 621

UAB Lister Hill Library – PubMed, E-journals and E-Books

Specific Educational resources for Sleep Medicine will be provided to the fellow during the first day of the rotation.

### **III.C.9. Outpatient/Ambulatory Medicine Experience (TKC and BVAMC)**

All Fellows will be required to maintain the equivalent of a half-day continuity clinic (bi-weekly) at TKC or (weekly) at the BVAMC during each year of Fellowship to evaluate patients with pulmonary diseases and problems related to pulmonary disease. Clinics evaluate new outpatient consultations as well as established patients. This experience will continue with progressive responsibility through the Fellowship and will be appropriately supervised by dedicated attending faculty members. The goal of this experience will be for the Fellows to gain expertise in the outpatient evaluation and management of pulmonary problems. The experience provides an opportunity to develop an understanding of the natural history of these conditions over an extended period of time. Each Fellow should, on average, be responsible for four to eight patients during each half-day session. After initially evaluating the patient, Fellows will present the patient to the clinic attending, discuss the patient, and then evaluate the patient with the clinic attending. Fellows are responsible for transcribing patient encounters at TKC and for typing notes using the CPRS system at the BVAMC. The notes are electronically signed both at TKC and at the BVAMC; the Attending physician is expected to type an addendum to each note on CPRS and on IMPACT to document appropriate supervision. Each fellow will have the same panel of patients for the duration of their training. Until we can accommodate a weekly clinic at TKC, fellows are expected to also attend a bi weekly subspecialty clinic of their choice, for at least 6 months

### **III.C.10 Interdisciplinary interactions**

The Fellow also will be provided with opportunity to pursue experiences in other disciplines whose expertise is required in the care of patients with Pulmonary Diseases and Critical Illnesses. These disciplines include: 1) non-medical ICU settings such as Surgical ICUs, Neuro ICUs, Heart and Lung Transplantation ICUs, 2) Cardiology, including Coronary Care ICUs (CCU) and the Advanced Heart Failure Program 3) Thoracic Radiology, 4) Thoracic Surgery, and 5) Interventional Bronchoscopy. The goal of these experiences is for the Fellow to appreciate the approach to the specific conditions that relate to Pulmonary disorders and critical care within these subspecialties. These interdisciplinary interactions can occur in the form of a clinical rotation, multidisciplinary conference, etc. Clinical experiences will be under the direction of attending physicians in the respective specialty or subspecialty that participate fully in the development and implementation of the educational goals of the rotation. A formal agreement with a designated supervisor for these additional rotations needs to be in place prior to the Fellow's participation.

### **III.D. Research Experience**

The goal of the research experience is for the Pulmonary and Critical Care Fellow to learn sound methodology in designing and performing research studies

and to learn how to correctly interpret and synthesize research data. During this phase of training, the Pulmonary Fellow will work under close guidance of the research mentor. Refer to **Section II.D** above for more details on the expectations and different tracks.

### **III.E. Continuing Medical Education and Society Memberships**

In addition to participating in the organized didactic conferences established within the Fellowship program all Fellows will become members of the American College of Chest Physicians ([www.chestnet.org](http://www.chestnet.org)) and the American Thoracic Society ([www.thoracic.org](http://www.thoracic.org)). Fellows are also encouraged to become members of the Society of Critical Care Medicine ([www.sccm.org](http://www.sccm.org)) Participation in the continuing medical education activities of these professional organizations will help foster the standards of professionalism and augment the process of lifelong learning. The Fellowship Program Coordinator can provide instruction on obtaining these memberships.

### **III.F. Development of Teaching Skills**

All Pulmonary Fellows will be encouraged to educate medical students, resident physicians and other allied health personnel, as well as patients and families. These teaching activities may include formal presentations at conferences, informal case-based discussions in small group settings, didactic teaching in small group sessions (such as small group discussions in the annual Pulmonary Module of the current curriculum of the School of Medicine) and one-on-one interactions. Fellows will learn to effectively use presentation software, such as Microsoft Powerpoint, and be able to troubleshoot necessary hardware. Fellows will be required to teach chest exam techniques to medical students enrolled in the ICM course every year and are strongly encouraged to volunteer as preceptors for this course.

### **III.G. Development of Leadership Skills**

Each year, a Chief Fellow is appointed who serves a critical role in the leadership structure of the Pulmonary and Critical Care Program as described above. The Chief Fellow is appointed by the Program Director. All Pulmonary Fellows are encouraged to participate in Divisional and Institutional Committees and to actively participate in committees of professional societies. One peer-appointed Fellow represents his/her peers on the Fellowship Education Committee whenever discussions regarding ACGME compliance occur. One Fellow each year represents the Pulmonary and Critical Care Fellows on the UAB House Staff Council and is encouraged to actively participate in the affairs of the Council. The House Staff Council meets on a monthly basis and provides residents with a system to communicate and exchange information on their work environment and their programs. The meetings are attended by the Designated Institutional Official and a member of the Graduate Medical Education Department (the latter

also provides administrative support). The officers of the Council serve as voting members of the Dean's Council for Graduate Medical Education. The role of the House Staff Council is described in detail in the UAB GME Policies and Procedures. Fellows are also encouraged to actively participate as resident reviewers in Internal Reviews of other UAB Residency Programs.

### **III.H Methods of evaluation**

An evaluation process, including evaluations of individual Pulmonary and Critical Care Fellows (formative and summative evaluation), evaluations of the program, and evaluations of individual faculty members has been designed to facilitate the Pulmonary and Critical Care Fellowship Program in assessing how well it meets set goals and objectives. Fellow, Faculty, and Program Evaluation Forms can be found in **Appendix 5**.

The Fellowship Program has implemented the electronic MedHub system with evaluations structured according to the six competencies. MedHub was chosen to provide consistency with the Internal Medicine parent program and many other residencies and fellowships across the Institution. MedHub has many advantages over the previous pen and paper evaluation system including, but not limited to:

- The system provides summaries of evaluations for each Fellow to facilitate review of progress during Committee meetings and one-on-one meetings with the Program Director.
- Automatic notifications are sent to the Program Director for scores below program standards. The Program Director reviews these notifications in timely fashion and meets with the Fellow as necessary to identify causes for the poor performance and the means for improving the deficiency.
- Pulmonary Fellows are able to access their evaluation as soon as completed and have full access to all their evaluations throughout their training.
- The system provides for anonymous evaluation of attendings / rotations by the Fellows. Summaries of these evaluations are accessible to the individual attendings who then can use the constructive feedback to improve their teaching skills.
- Evaluations are also accessible to the Division Director for use during faculty reviews. Feedback on specific rotations is used to guide changes / improvements to program content and logistics.
- Reminders about evaluations due are sent automatically, and repeated automatically, if the evaluations are not completed in timely fashion. This should allow for timely and complete assessment.

For each clinical rotation, the supervising faculty member will complete an MedHub evaluation. Since one-on-one feedback is most valuable if provided in person, attending physicians are required to discuss, in person, their evaluation

with the respective Fellow. Fellows are strongly encouraged to seek face-to-face feedback if not offered spontaneously. For the outpatient ambulatory care experience, faculty members are asked to complete an evaluation every six months. Similarly, research mentors are asked to complete an evaluation of their mentees every six months. Fellows meet with the Program Director semi-annually to review all their evaluations and report on their clinical and research progress. These sessions are also designed to elicit Fellow feedback on program content and structure.

As part of the "360 degree" evaluation process, members of the many multidisciplinary teams they will be working with will evaluate Fellows.

Additionally, the ACGME has recently requested that each program establish milestones so that the evaluation system can be tailored to each level of training.

**Our Program's milestone chart can be reviewed in the Appendix section.**

**Procedure logs:** Each Pulmonary Fellow is required to keep a log of the supervised procedures performed during the course of his/her Fellowship, which will document progression in skills and training. Fellows are expected to log their procedures in MedHub.

**Summative Evaluation of Pulmonary Fellows.** When Pulmonary Fellows meet individually with the Program Director for their semi-annual meeting, both formative and summative feedback on their performance will be given. A summary of the content of the meeting, including plans for remediation of any deficiencies identified, prepared by the Program Director, is signed by the Program Director and the Pulmonary Fellow. Similar minutes will be prepared should formal interim meetings be necessary.

The Pulmonary and Critical Care Fellowship Education Committee reviews the overall performance of each Pulmonary Fellow once or twice a year. This committee monitors the performance of the Pulmonary Fellows and assesses the level of competence for each Fellow beyond the individual faculty evaluations documented in each Fellow's file. The committee's assessment is summarized in writing and recorded in the program files for future reference purposes.

Any adverse judgments or evaluations regarding a Pulmonary Fellow's level of performance or competence will first be directed to the Program Director, who then will discuss the situation with the specific Fellow in a timely manner. It is expected that most issues can be resolved at that level. The Pulmonary and Critical Care Fellowship Program Executive Committee will discuss serious grievances or repeated offenses. The committee in turn will develop a specific plan and timeline for remediation, which will be communicated to the Fellow by the Program Director and/or Division Director both verbally and in writing. The committee will reassess the Fellow's performance as outlined in the remediation timeline. Unsatisfactory performance may lead to probationary status,

suspension, or termination from the training program as outlined in the UAB GME Policies and Procedures. Such measures can be appealed by the Fellow in a multi-stage process according to the procedures outlined in the UAB GME Policies and Procedures. Fellows graduating from the program receive a Final Evaluation regarding their demonstration of sufficient professional ability to practice competently and independently.

**ABIM tracking:** The Program Director is required to submit annual evaluations of each Fellow to the ABIM. This evaluation represents a composite of rotation-specific evaluations by faculty, performance in teaching conferences, strengths and weaknesses identified at the Education Committee meetings, and personal interactions with the Program Director. The evaluation will be discussed with each Fellow in a one-on-one meeting with the Program Director in June of each academic year.

**Conditions for Advancement During Training.** Conditions for initial appointment to the program are delineated in Section II.C. of this manual. Advancement from year to year is governed by UAB “*GME Policies and Procedures*” and by Divisional Policy. Advancement is contingent upon satisfactory performance on clinical and research rotations as assessed by individual faculty, the Program Director and the Pulmonary and Critical Care Education Committee as outlined above.

**Evaluation of the Faculty and Program:** After each clinical rotation, each Pulmonary Fellow is required to complete an evaluation of the faculty and the specific rotation on MedHub

. Evaluations of Faculty and rotations in MedHub are anonymous to allow candid feedback without fear of repercussions.

Additional feedback from Fellows will be sought during the semi-annual one-on-one meetings with the Program Director. Fellows who do not wish to communicate their comments verbally, are encouraged to put them in writing and give them to the Chief Fellow who will then pass the comments on to the Program Director without revealing the identity of the Fellow providing the feedback. Fellows can also informally voice any concerns to the Chief Fellow who will then communicate these concerns directly to the Program Director.

The Program Director and Division Director will review evaluations of the Faculty and Program in an on-going basis. Teaching faculty are encouraged to view their personal evaluations and modify their teaching content and methods, as necessary, based on the feedback provided. Faculty evaluations will be discussed with faculty members during meetings with the Division Director annually, or as appropriate.

**Communication:** Pulmonary Fellows are encouraged to maintain a high level of communication with the Program Director and teaching faculty, including research faculty. Monthly (on the last Monday of the month), group meetings will be held between the Fellows and the Program Director, and other faculty, as deemed appropriate. These meetings will be used to disseminate information, receive timely feedback, etc.

The feedback received through formal evaluations and during formal and informal meetings will be discussed by the Pulmonary and Critical Care Fellowship Program Executive Committee and used to make programmatic changes as appropriate.

#### IV. TEACHING CONFERENCES

Weekly teaching conferences in the Division of Pulmonary, Allergy and Critical Care Medicine are scheduled as outlined in Table 1 and described in more detail below. Attendance is monitored carefully on a prospective basis, especially for Core Clinical Conferences. Sign-up sheets are available and over the course of any given academic year, 70% of core conferences attendance is expected.

Excused absences (vacation, out of town meetings, research responsibilities, patient care and extenuating circumstances) are deducted from the denominator to compute this percentage. Therefore, it is very important that the Fellow notify the Fellowship Administrator by email about specific dates of planned absence. All teaching attendings are encouraged to release the Fellow from routine clinical responsibilities during conference hours. Fellows are encouraged to report failure to do so to the Program Director. Fellows involved in the care of acutely ill patients are excused from conference, but should notify the Program Director via email following the missed conference.

**Table 1. Teaching Conferences for Pulmonary Fellows**

| DAY       | WEEK  | CONFERENCE                    | TIME           | LOCATION         |
|-----------|---|-------------------------------|----------------|------------------|
| Monday    | 1 <sup>st</sup> , 3 <sup>rd</sup> & 4 <sup>th</sup> | *Pulmonary Case Conference    | Noon – 1:00pm  | THT 428          |
| Monday    | 2 <sup>nd</sup>                                     | Faculty Meeting               | Noon – 1:00pm  | Finley           |
| Tuesday   | 1 <sup>st</sup>                                     | *Journal Club                 | Noon – 1:00pm  | THT 428          |
| Tuesday   | 2 <sup>nd</sup> , 3 <sup>rd</sup> & 4 <sup>th</sup> | *Research Conference          | Noon – 1:00pm  | THT 428          |
| Wednesday | Every   | Medical Grand Rounds          | Noon – 1:00pm  | Spain Auditorium |
| Thursday  | Every   | ILD Conference                | 7:30 – 8:30am  | THT 513-D        |
| Thursday  | 1 <sup>st</sup> , 2 <sup>nd</sup> & 4 <sup>th</sup> | *Pulmonary & CCM Grand Rounds | Noon – 1:00pm  | Finley           |
| Thursday  | 3 <sup>rd</sup>                                     | *Critical Care Grand Rounds   | Noon – 1:00pm  | Finley           |
| Friday    | Every   | MICU M&M Conference           | 7:30 – 8:30am  | UH MICU Conf Rm  |
| Friday    | 1st   | Divisional M&M Conference     | Noon – 1:00 pm | THT 428          |

|        |                                   |                                |               |         |
|--------|-----------------------------------|--------------------------------|---------------|---------|
| Friday | 2 <sup>nd</sup> , 4 <sup>th</sup> | *Critical Care Case Conference | Noon – 1:00pm | THT 428 |
| Friday | 3 <sup>rd</sup>                   | Pulmonary/ID Conference        | Noon – 1:00pm | THT 215 |

\*core conference

Content of the conferences is monitored on an ongoing basis to assure that all content areas required by ACGME and ABIM, are covered during each Fellows' training.

You can find the list of specific topics that will make up the ABIM examination in Pulmonary Disease and Critical Care Medicine in the following sites:

[http://www.abim.org/pdf/blueprint/pulm\\_cert.pdf](http://www.abim.org/pdf/blueprint/pulm_cert.pdf)

[http://www.abim.org/pdf/blueprint/ccm\\_cert.pdf](http://www.abim.org/pdf/blueprint/ccm_cert.pdf)

#### **IV.A. Fellows' Conference**

This conference is given by faculty or Pulmonary Fellows. Speakers from other Departments are invited as appropriate (e.g., Thoracic Radiology and Surgery, Neurology ICU, Trauma, etc.). The goal is to cover all topics relevant to ABIM Board Certification in Pulmonary Disease and Critical Care Medicine either through a formal lecture or a pulmonary/critical care case-based discussion.

#### **IV.B. Journal Club**

Under the guidance of an assigned faculty mentor, Pulmonary Fellows present pertinent research articles from the current literature preceded by a brief overview of the field to put the article in perspective. Interaction between presenter and audience (Fellows and faculty) are strongly encouraged. Discussion emphasizes methodological aspects of these papers (design, analysis, interpretation of the data) and implications for clinical care including the practice of cost-effective care.

#### **IV.C. Multidisciplinary Chest Conference**

This conference's main objective is as a forum for dynamic interaction of pulmonologists, thoracic radiologists and lung pathologists. The conference series aims to cover all major pulmonary diseases during the course of a two-year cycle. Second year pulmonary Fellows select recent cases and present those to faculty and other fellows from all three departments in a format that encourages faculty participation and discussion. Fellows will choose on aspect of one of the cases Presentations and cases are discussed one week in advance with Dr. Joao de Andrade to assure that the presentations are appropriate and objective. In addition, the Radiology attending assigned to each conference presents "classical" chest x-ray findings during a brief "intermission" between cases.

#### **IV.D. Town hall Meeting**

This meeting is designed to facilitate and promote communication between Fellowship leadership and Fellows. This meeting provides a forum to discuss changes, problems, and other information that is of mutual interest.

#### **IV.E. Pulmonary Grand Rounds**

Topics of clinical relevance and cutting edge research are presented by UAB faculty from within and outside of the Division of Pulmonary, Allergy and Critical Care Medicine and Visiting Professors from institutions across the World. Attendance is mandatory for Pulmonary Fellows and Faculty. Second year Fellows are expected to present their research project (usually two Fellows will be assigned each a 30-minute session), and Third year Fellows, especially those in the Physician Scientist Track, are expected to present their research results in a one-hour session towards the second half of their third year. This conference is CME accredited.

#### **IV.F. Department of Medicine Grand Rounds**

This is a weekly conference for the Department of Medicine at large. Topics vary widely, but speakers with topics relevant to subspecialty training in pulmonary disease and critical care medicine from within and outside the institution are featured frequently. Attendance by Pulmonary Fellows and pulmonary attending is encouraged. This conference is CME accredited.

#### **IV.G. Critical Care Conference**

Fellows assigned to the UAB MICU service are responsible for presenting cases to the faculty and other Fellows. The presentation is followed by an open discussion as cases usually represent common ICU problems with diagnostic and management dilemmas. Attending physicians from other critical care services (i.e., Neuron ICU, CCU, Trauma/Burn, etc) are periodically invited to lecture (or discuss cases in a morbidity and mortality discussion format) on topics relevant to their areas of expertise so Pulmonary Fellows and faculty can receive the necessary critical care interdisciplinary training.

#### **IV.H. Interstitial Lung Disease Conference**

This conference, coordinated by Dr. Joao de Andrade is attended by the Pulmonary Fellows and faculty from the Interstitial Lung Disease Program (Drs. Joseph Barney, Tracy Luckhardt and Victor Thannickal), and, as opportunity permits, by other pulmonary faculty and invited faculty from the Depts. of Radiology and Pathology. This is a faculty-driven case presentation and is aimed at exposing Pulmonary Fellows to issues pertaining to the diagnosis and management of Interstitial Lung Diseases.

#### **IV.I. Pulmonary/ID Conference**

This conference is directed by Dr. Marty Solomon and UAB Division of Infectious Diseases. The Pulmonary Fellows, Infectious Diseases Fellows, ID faculty and Pulmonary faculty attend it, as opportunity permits. The conference features faculty presenting interesting cases with emphasis on diagnostic and management issues of patients with Mycobacterial diseases.

#### **IV.J. Nuts and Bolts Series**

From early July to mid-August each year, daily noon conferences are held instead of the regularly scheduled conferences. These “nuts & bolts” conferences cover key topics in pulmonary disease and critical care and are aimed at introducing Pulmonary Fellows to policies and procedures in the Division.

**Attendance by first year Pulmonary Fellows is mandatory** and encouraged for all other trainees. Topics for this conference can be found in **Appendix 6**.

#### **IV. K. Lung Cancer Conference**

This conference, coordinated by Dr. Mark Dransfield, is attended by the Pulmonary Fellows and faculty from the Thoracic Neoplasm and Interventional Bronchoscopy Programs, and, as opportunity permits, by other Pulmonary faculty and invited faculty from the Departments of Radiology and Pathology. This is a faculty-driven case presentation and is aimed at exposing Pulmonary Fellows to issues pertaining to the diagnosis and management of Lung Cancer and other thoracic neoplasms.

#### **IV.L. Pleural Disease Conference**

This conference will be coordinated and led by Drs. Veena Antony and Jason Zolak. It will be attended by the Pulmonary Fellows and faculty as well as Internal Medicine house officers. This conference is aimed at exposing pulmonary fellows to cutting edge concepts in the management of pleural diseases via case discussions and reviews of the literature.

#### **IV.L. Other mandatory conferences**

**Dean’s Council Lectures:** The Dean’s Council for GME has developed a lecture series to assist residents and Fellows in meeting the ACGME Common Program requirements. Lectures will be held approximately four to five times per year with all topics completed over a two-year period. The lecture series will be repeated biannually. Topics will include: sleep deprivation, stress and substance abuse, depression/anxiety/stress, ethics and professionalism, ACGME competencies and compliance. Future topics are still under discussion.

Attendance is mandatory for all Fellows by either attending the lecture, viewing the presentation, or completing the education on a web-based application. Each topic will be presented twice (same presentation, but different time of day). For Fellows unable to attend the lecture, the information will be available on HealthStream, an education software package implemented by the Health System as a mechanism for various required educational training. Instructions on how to access HealthStream can be obtained with the Fellowship Program Coordinator.

**Vocabulary of Clinical and Translational Science (CTS)** is a 20-hour course that includes fundamental information on hypothesis generation and testing; informatics; biostatistics; epidemiology and population research; clinical trials; ethics; overviews of translational and outcomes research; accessing information; the IRB and oversight of research; and critical review of clinical and translational literature. **The Vocabulary course is required for all School of Medicine Fellows who are in Fellowship programs longer than one year** and serves as the introductory coursework for the Clinical and Translational Science Training Program. The Vocabulary of CTS course is held for two consecutive weeks in September of each year. The objectives of this course are three-fold:

- To facilitate understanding of clinical and translational science in a way that participants are better prepared to read and interpret the medical literature through their understanding of types of research design, conduct, analysis, and interpretation.
- To prepare attendees to make informed decisions regarding whether or not to pursue clinical and translational science as part of their career path.
- To provide a foundation for further clinical training for participants in UAB's Clinical and Translational Science Training Program.

## **V. PULMONARY FELLOW SUPPORT SERVICES AND FACILITIES**

### **V.A. Pulmonary Fellows Office Suite**

Office space has been made available for each Pulmonary Fellow in the Jefferson Tower, room JT N621. The office is equipped with two personal computers, which are connected to the Division of Pulmonary, Allergy and Critical Care Medicine network that also gives access to both UAB and UAB-hospital networks.

### **V.B. Reference Materials**

Reference materials are available in a variety of formats in the Pulmonary Fellows' office, in the Lister Hill Extension library (24 hour access available) and

online through Lister Hill library and websites of professional organizations. Available hard-copy materials in the office include common textbooks of Pulmonary and Critical Care, the ACCP Board Review Courses in both Pulmonary Disease and Critical Care as well as several ACCP SEEK book series with commented questions to assist Fellows in their preparation for ABIM exams. Fellows monitor the content of the library and request additions / replacements as indicated. Requests have to be approved by the Program Director before additional purchases are made.

Fellows are encouraged to save a copy of their conference Powerpoint presentations in fellows' office computer and to save relevant "pdf" files from their literature searches. This presentation repository with reference files can be used by Fellows and faculty for self-teaching and slides can be used for future presentations within and outside the Division.

## **V.C. Computer Support**

### **1. Division of Pulmonary, Allergy and Critical Care Medicine**

Pulmonary Fellows have password-protected access to The Division of Pulmonary, Allergy and Critical Care computer network. Two PC's are located in the Fellows' office suite and provide access to email (Groupwise software), Internet, and the online resources of the Lister Hill Library, which include an online catalog, electronic full text journal access, and links to various search engines. Microsoft Office is installed on both computers and available for word-processing, limited data analysis, and creation of slides and overheads. Fellows are required to check their email daily as many announcements, some of which may be time-sensitive, are distributed through the Division via email. Fellows should use their UAB email for work related activities, in accordance with the UAB SOM policy on Internet and email use (see **Appendix 7**). The Division has access to several full-time computer specialists available to help with computer software and hardware problems. If a Fellow has any computer-related problems, he or she should contact the Fellowship Program Coordinator (934-4328).

The pulmonary computer network is HIPAA compliant. Emails with patient health information may be sent from Groupwise to Groupwise server to facilitate communication within the Medical Center. **Emails to patients or referring physicians outside the UAB system are prohibited by HIPAA regulations.** All Fellows have to undergo HIPAA training upon enrollment in the Fellowship program and access to the pulmonary server will be contingent on successful completion of this training.

### **2. UAB Hospital and The Kirklin Clinic**

Medical records are available through several computerized data retrieval systems. Access is contingent on successful completion of HIPAA training.

- The **IMPACT system** can be accessed from terminals on the hospital

units. An individual password is required and is to be kept confidential. Patient data, including all laboratory reports and many radiology test results are available on IMPACT. Doctor's orders are placed directly into the IMPACT system.

- **CDA and Horizon** can be accessed from terminals throughout the hospital and from selected on-campus and off-campus computers. Use of a VPN dialer may be necessary from various locations. Records available on this system include hospital discharge summaries, radiology reports, laboratory data, clinic notes, stress test reports, etc. An individual password is required and is to be kept confidential.
- High resolution viewing terminals are placed at strategic locations throughout the hospital which permit viewing of digital radiographs. Access is via Horizon.

### 3. BVAMC

Medical records are available through "CPRS." The same system is used for order entry and retrieval of test results. An individual password is required and must be kept confidential. **The VA system does not allow for USB drives to be used in its computer network.** It is important that all notes be signed after completing. If notes are left unsigned the Fellow will be contacted and it is requested that those notes be signed within 24 hours of being contacted.

#### V.D. Copies

Office copiers are available to Pulmonary Fellows on the 4<sup>th</sup> floor of THT. Administrative support for Fellows can be obtained through the Fellowship Program Coordinator (Cyndi Calhoun, extension 4-4328) or through the assigned continuity clinic attending's administrative assistant.

#### V.E. Libraries

The Lister Hill Library is the main medical library for UAB and is located within a couple of blocks from the BVAMC and University Hospital. The Library maintains a large collection of books, journals, audiovisual materials, and, increasingly, online resources. Catalogs are computerized and the library provides free access to Medline, other relevant databases, full-text retrieval sites, and on-line textbooks. Access to these resources is via Blazer ID, a university wide password system. The Lister Hill Extension Library is a branch office of the Lister Hill Library located within University Hospital. This branch maintains a collection of key textbooks, provides access to recent key journals, provides computer access for literature searching, and has facilities for study and copying of materials. The extension library is accessible 24 hours per day with a numerical access code.

## **V.F. Phones**

Local calls: Local calls can be placed from any UAB phone by dialing 9 and the phone number.

Long distance calls outside Alabama: These business calls (to other physicians or to patients) should be placed through the UAB's Medical Information Service via Telephone (MIST) system. The MIST operator can be accessed by Pulmonary Fellows by dialing 4- 6478 from any campus phone or by dialing 205-934-6478 from any phone outside campus. Operators will assist in locating referring physicians

Incoming calls from referring physicians: Physicians calling into UAB can contact the MIST office by dialing 1-800-822-6478 (1-800-UAB-MIST). Incoming MIST calls generally involve referral of patients to the Pulmonary Service or the MICU from outside UAB and will be handled by the MICU Fellows and/or the attending on-call when appropriate.

Personal long-distance calls should be via one's personal cellular telephone or charged to a personal credit card.

## **V.G. Presentation materials**

Slides can be created using Powerpoint software on the two PC's in the Pulmonary Fellows' office suite. Posters for research presentations should be created on PowerPoint and can be imaged on hard-copy by web-based suppliers or one of the many specialized facilities on UAB campus. Funding for these posters should be arranged through the research mentor whenever possible. General Division resources are usually not available, but special requests can be made to the Program Director.

## **V.H. Malpractice Insurance**

Graduate Medical Education pays malpractice insurance for Fellows (not applicable for any moonlighting activities outside the UAB system or the BVAMC).

## **V.I. White Coats**

GME will provide Fellows with white coats. The drop-box for having coats cleaned is located in THT 422.

## **V.J. Pagers**

Pagers should be worn at all times during working hours. Batteries are available in the Division Office at THT 422.

## VI. PULMONARY FELLOW PROCEDURE LOGS

### VI.A. ABIM Requirements

Requirements for the **American Board of Internal Medicine** certification in the subspecialty of Pulmonary Disease and Critical Care Medicine require demonstration of competence in the following procedures and technical skills (numbers in parentheses indicate numerical requirements per ACGME guidelines, [see **Appendix 11**] where applicable):

- Airway management including endotracheal intubation
- Fiberoptic bronchoscopy and accompanying procedures (100)
- Noninvasive and invasive ventilator management
- Thoracentesis
- Arterial puncture
- Placement of arterial, central venous and pulmonary artery balloon flotation catheters
- Calibration and operation of hemodynamic recording systems
- Supervision of the technical aspects of pulmonary function testing
- Progressive exercise testing
- Insertion and management of chest tubes
- Moderate sedation
- Use of ultrasound to guide central line placement and thoracentesis
- Advanced Cardiac Life Support

Additionally, Fellows should know the indications, contraindications, complications, and limitations of the following procedures: pericardiocentesis, transvenous pacemaker insertion, continuous renal replacement therapy (CRRT) and hemodialysis.

Attending faculty must be present for procedures to be counted towards certification. For additional and up-to date information on training requirements and certification, Pulmonary Fellows should consult the following web pages: [www.abim.org](http://www.abim.org) and [www.acgme.org](http://www.acgme.org).

### VI.B. Record Keeping

All Pulmonary Fellows are required to keep a log of clinical procedures performed, identifying the type of procedure, date performed, indications and complications. Procedures should also be entered into MedHub. It is up to each Fellow to develop a system to track their procedures. An updated log will be reviewed at each six month meeting with the Program Director to identify potential deficiencies and is included in the minutes from these meetings. At the end of training, the contents of the procedure log will be summarized and documented in the final evaluation letter which will be made available to hospitals, licensing boards, or other outside credentialing bodies as required.

Pulmonary and Critical Care Fellows will not be given credit for procedures performed but not documented in this procedure log – meticulous documentation of procedures is thus critical for future attainment of clinical privileges. Fellows are encouraged to keep copies of their original procedure data and are required to maintain these files according to HIPAA guidelines.

## **VII. DUTY HOURS, CALL ON WEEKNIGHTS AND WEEKENDS, MOONLIGHTING**

### **VII.A. Duty hours**

Duty hours are defined as all clinical and academic activities related to the residency program, i.e., patient care (both inpatient and outpatient), 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 must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities. The Fellowship program monitors duty hours following the latest guidelines. **Fellows must record their duty hours (time in/time out) on MedHub on a daily basis.** Members of the Education Committee and the Chief Fellow are responsible for reporting any violations to the Program Director for immediate remediation.

Consistent with ACGME requirements, Pulmonary Fellows are provided with a minimum of one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call (one day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities). Additionally, assuring a 10-hour time period between all daily duty periods provides adequate time for rest and personal activities.

### **VII.B. On-Call Activities**

Pulmonary Fellows are allowed to take call from home as the MICU census allows. The weekend/weeknight call schedule is made several months in advance by the Chief Fellow. Both weekend and weeknight call frequency decrease as the Pulmonary Fellow rises in seniority and varies depending on the number of first year fellows in a given year. Approximately 45% of calls are divided among 1<sup>st</sup> year fellows, 35% of calls are divided among 2<sup>nd</sup> year fellows, and 20% of calls are divided among 3<sup>rd</sup> year fellows. **ACGME guidelines are implemented to ensure that Pulmonary Fellows abide by the 80-hour weekly limit and 24+4 in-house limit.**

Check-in/check-out must be performed at the beginning and end of each call period to assure continuity of care.

Weeknight call (Monday-Friday) starts at 5:00 pm and ends at 7:00 am. Call on consecutive weeknights is not permitted. The weekend coverage consists of 2 fellows: one “night fellow” and one “day fellow”. The “night fellow” covers Friday (5:00 pm to 7:00 am) & Saturday (7:00 pm to 7:00 am). The “day fellow” covers Saturday and Sunday from 7:00 am to 7:00 pm. The “day fellow” may choose to round with one of the MICU teams if his/her call duties allow.

Call can be switched among Pulmonary Fellows. If the switch occurs after the call schedule is made, the fellow requesting the switch must notify the Chief Fellow as well as the Fellowship Program Coordinator via email. If the fellow makes a switch to take call on a night prior to that fellow’s continuity clinic, he/she must arrange clinic coverage as well.

The duties of the on-call Pulmonary Fellow include:

- a. Triage of patients for admission to the MICU from UH Emergency Department. No patient can be admitted to the MICU service without approval from the Pulmonary Fellow on call.
- b. The Attending physician on call is responsible for answering MIST calls from referring physicians requesting transfers to the UAB Pulmonary/MICU services. The Attending must confer with the fellow on call prior to accepting a transfer to ensure bed availability and facilitate transition of care. The fellow on call will collaborate with the Attending physician on call and the Nurse Resource Coordinator, following both hospital and statewide policies (see specific documents and regulations in the appendix section). Whenever a question arises on how to best deal with the specific case, the Attending on call must be notified for guidance.
- c. Evaluate all admissions to the MICU within one hour. Fellows must discuss diagnosis and formulate a plan of care with the Internal Medicine Residents on call and document their assessment and plan on a succinct note. Fellows do not have to personally evaluate patients admitted to the BVAMC MICU but may be called to assist with unstable patients if they are already on campus.
- d. Serve as a backup person for questions from the IM Residents covering the Pulmonary Inpatient Service (6-South), UH MICU, and BVAMC MICU.
- e. Assist IM Residents with procedures in the MICU services, as appropriate.
- f. Evaluate emergent consultations at UH or the BVAMC called after 5:00 pm and on weekends. He/She will notify the appropriate Consultation Fellow the following weekday so the consultation can be staffed and followed up. On weekends, the Attending assigned to the BVAMC MICU service will staff new consultations both at the BVAMC and University Hospital.

- g. Answer phone calls from the TKC Pulmonary patients. A record of the call must be forwarded to the Pulmonary Attending who cares for the patient the following day (either by direct contact with said Attending or via the Fellowship Coordinator).
- h. Perform emergent bronchoscopies at UH. A bronchoscopy technician is on call to assist with such procedures. The Attending on call should be present for emergent bronchoscopies when possible.
- i. Perform emergent bronchoscopies at BVAMC. The Respiratory Therapy Supervisor will assist with the procedure. The Attending on call should be present for emergent bronchoscopies when possible.

On many occasions, call nights may get so busy that the Pulmonary Fellow spends most of the night in-house. In addition, if the MICU census approaches the resident cap, the Pulmonary Fellow may choose to stay in the hospital for assistance (the Chief Fellow, Program Director, and MICU Director will keep fellows abreast of this cap). When this occurs, ACGME regulations covering in-house call go into effect. The Pulmonary Fellow in question must notify the Chief Fellow and the Program Director so that appropriate coverage can be arranged and the post-call Fellow must go home in accordance with the 24+4 rule (“**24+4 rule**”: start work at 8 AM on the on-call day, leave by noon post call). The Chief Fellow and members of the Education Committee will re-emphasize the importance of tracking time spent in-house on call throughout the year and will report any concerns to the Program Director. Attendings who observe apparent violations of work-hour rules are encouraged to report these to the Program Director.

Even when adhering to work hour regulations, fatigue among Fellows may occur. Signs and symptoms of fatigue may include:

- Inability to stay attentive and awake during conferences, procedures, or clinical duties;
- Communication problems or conflict with other members of the health care team, patients, or families;
- Declining performance in executing clinical duties and in professionalism (conduct and appearance);
- Obsession with sleep, headache, forgetfulness, use of pharmacological stimulants;

Fellows and attendings who observe fatigue sufficient to affect Fellow performance are asked to report such instances to the Program Director who will discuss the situation with the Fellow in question and make schedule adjustments as necessary. A lecture about recognition of signs and symptoms of fatigue is given annually as part of the “Dean’s Council Lectures” series.

### **VII.C. Holidays**

Pulmonary Fellow duties on Holidays are identical to those on weekends and are included in the call frequency calculations detailed above. The Chief Fellow will arrange specific clinical service and call coverage by Pulmonary Fellows around the Christmas and New Years Holidays for the year (half the Fellows are off for the first Holiday period, the other half for the second Holiday period). True holidays are designated by the UAB calendar.

### **VII.D. Coverage for Internal Medicine Residents**

Twice a year, subspecialty Fellows are asked to assume the responsibilities of the medicine residents. For the Internal Medicine Program Retreat (“Camp Dismukes”), Pulmonary Fellows will cover one Saturday in the Fall starting at 8 AM and ending on Sunday morning at 8 AM. For the Spring Party, coverage starts at 5 PM on Saturday and ends at 8 AM on Sunday morning. Coverage will occur both at the UH (MICU, 6-S) and the BVAMC (MICU).

### **VII.E. Moonlighting**

Because Pulmonary and Critical Care Fellowship is a full-time endeavor, the Program Director must ensure that moonlighting does not interfere with the ability of the Fellow to achieve the goals and objectives of the educational program. The Pulmonary and Critical Care Fellowship Program complies with UAB’s written policies and procedures regarding moonlighting, in compliance with the ACGME Institutional Requirements (see UAB GME policies in **Appendix 12**). Any hours a Fellow works for compensation at UAB or any of UAB’s primary clinical sites must be considered part of the 80-hour weekly limit on duty hours. See the Moonlighting and Duty hours Report form in **Appendix 13**.

**Moonlighting for the first year is strongly discouraged and not allowed during inpatient clinical months.** First year fellows may apply for moonlighting after six months of training. **Prior approval of all moonlighting activities by the Program Director is mandatory.** All Fellows are required to sign the Fellowship Moonlighting Policy and Procedures Form by the end of the first week of orientation. The form can be obtained from the Fellowship Program Coordinator (see **Appendix 14**).

## **VIII. VACATIONS and MEETINGS**

### **VIII.A. Vacation time**

Pulmonary Fellows have a total of three weeks of paid personal vacation time annually, including two weeks that can be schedule year round and one week around the Christmas or New Years Holidays. Fellows also have time off on other Holidays on which they are not on call. The following apply:

## 1. General Rules and Principles

- Vacation time must be approved **at least one month in advance** by the Pulmonary and Critical Care Fellowship Director.
- Vacation time must be requested in writing using the Fellow Official Travel and Vacation Form (see **Appendix 15**).
- Advance notice of vacation dates must be given to the Third year Fellow's Continuity Clinic Attending and their Administrative Assistant **at least one month in advance**. This allows the attending to adjust his/her clinic schedule so no coverage is needed by another Fellow. However, the Pulmonary Fellow must find coverage for absences from the VA clinics, or from clinical rotations as appropriate – see items 2 and 3 below. Fellows assigned to their own continuity clinic at TKC will need to either ensure coverage of their clinic by another fellow or have a make up clinic before or after their vacation. They must notify their assigned Administrative Assistance of the planned vacation time so that any changes in the schedule can be done according to TKC policies. **Any changes in the schedule must occur with at least one month in advance**.
- Advance notice must also be given to the Fellowship Program Coordinator, and the Chief Fellow so adjustments can be made to the call schedule and written notices can be sent by the Fellow's clinical secretary, to the Pulmonary faculty, other Fellows, administrative staff, and secretaries as well as the pager operators.
- Vacation time should be taken during a month in which no coverage is needed or coverage can be easily arranged (see items 2, 3 and 4 below).
- Policies regarding medical leave, family leave, maternity leave, leave for examinations, educational leave, physician impairment and disability, jury duty, counseling services, and grievance procedures can be found in the **UAB Graduate Medical Education Policies and Procedures Manual**. This manual is distributed to all new Fellows at orientation. See **Appendix 16** for Internal Medicine Residency Parental Leave/Long Term Leave Policy

## 2. Clinical time

With the exception of ICU months and December, vacation is allowed any month. However, vacation for 1<sup>st</sup> year Fellows is generally best arranged on either months when two fellows are assigned to the UH Consultation Service or Outpatient Procedures. No vacation will be permitted during December as specific arrangements are made each year for coverage of the clinical services during the Christmas and New Year's Holidays.

Fellows taking vacation during Outpatient Procedures must arrange coverage for interpretation of *all* PFTs and for scheduled bronchoscopies

### **3. Research time**

The Research Mentor and the Chief Fellow must approve vacation time in advance. Conflicts will be resolved by the Program Director. No vacations will be permitted during December as specific arrangements are made each year for coverage of the clinical services during the Christmas and New Year's Holidays.

Coverage arrangements have to be recorded in the Program Office in the Sign-out log. Fellows agreeing to provide this coverage have to co-sign the log to minimize any chance for miscommunication. Beepers should be reprogrammed to the Fellow providing the coverage.

### **VIII.B. National Meetings**

Pulmonary Fellows are encouraged to attend National Meetings and to submit their research results for presentation. The following travel guidelines must be observed:

- Pulmonary Fellows who are presenting abstracts have first priority to attend meetings. Such time is considered “educational leave” and does not count towards one’s personal vacation time and travel is expected to be funded by the primary mentor. It is the responsibility of these Fellows to arrange coverage for call and clinical rotations. If they are unable to find coverage, the Program Director or Chief Fellow will designate another Fellow to cover in their absence.
- All other Fellows wishing to attend meetings may do so with prior approval provided that all clinical duties are appropriately covered (including call), but expenses are the responsibility of the Fellow. Fellows currently doing research have priority, but they must still take responsibility in assuring that the clinical schedule including calls is covered.
- Second year fellows will be given preference to attend CHEST or the annual meeting of the SCCM.
- Third year fellows will be given preference to attend ATS or the ERS.

### **VIII.C. Regional Meetings**

First year Pulmonary Fellows are expected to attend the Annual Tri-State Conference in January. Two to three cases are selected for presentation. Such time is considered “educational leave” and does not count towards one’s

personal vacation time and travel and registration for the conference will be funded by Divisional or Training Grant funds, as appropriate and depending on the availability of such funds.

## **IX. RELATIONSHIPS WITH THE PHARMACEUTICAL INDUSTRY**

Over the years, pharmaceutical representatives have been very generous by providing text books and other teaching materials, lunches for the Division's didactic conferences, unrestricted educational grants to fund outside speakers, travel funds (through company sponsored national travel programs) that have allowed Pulmonary Fellows to attend important educational and scientific meetings, and funding for investigator-initiated and industry-initiated collaborative research projects.

In recent years, there has been growing concern about actual or perceived conflict of interest because of this close relationship between industry and physicians, including residents in training. The Division encourages all Pulmonary Fellows to carefully review the "**University of Alabama at Birmingham School of Medicine and UAB Health System Guidelines for Relationships with Industry** (See *Appendix 17*).

## **X. APPENDICES**

Appendix 1. Pulmonary and Critical Care Attendings (office, beeper numbers, email Essential Telephone Numbers and Administrative Contacts)

Appendix 2. UAB Bronchoscopy Guidelines

Appendix 3. Fellow, Faculty, and Program Evaluation Forms

Appendix 4. Nuts & Bolts Conference Topics

Appendix 5. UAB SOM Policy on internet and email use

Available at: <http://www.uab.edu/policies/content/Pages/UAB-AD-POL-0000723.aspx>

Appendix 6 UAB Adult ICU Patient Transfer Acceptance Policy (includes EMTALA)

Appendix 7. MICU Overflow Policy

Appendix 8. Capped Medical Services Policy

Appendix 9. ACGME Policies and Procedures Available at:

Appendix 10. UAB GME Policies Available at:  
[http://www.uab.edu/medicine/home/images/residents/Electronic\\_Version\\_PP\\_14-15.pdf](http://www.uab.edu/medicine/home/images/residents/Electronic_Version_PP_14-15.pdf)

Appendix 11. Internal Medicine Residency Parental Leave/Long Term Leave Policy  
<http://www.uab.edu/policies/content/Pages/UAB-AA-HBK-0000564.aspx>

Appendix 12. UAB SOM Guidelines for Relationships with Industry  
[http://www.uab.edu/medicine/home/images/faculty/Guidelines\\_for\\_Relationships\\_with\\_Industry.pdf](http://www.uab.edu/medicine/home/images/faculty/Guidelines_for_Relationships_with_Industry.pdf)