UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL
ANESTHESIOLOGY RESIDENCY PROGRAM

GOALS AND OBJECTIVES

CRITICAL CARE MEDICINE (CCM) ROTATION FOR CA-1 RESIDENTS
MEMORIAL CAMPUS

GOAL

The CCM rotation for the CA-1 residents is conducted in the surgical intensive care units (SICU) at the Memorial campus for duration of one month.

The primary goal of the rotation is to provide the CA-1 resident an environment to acquire and develop the knowledge, skills, experience, judgment and attitude necessary for the care of the critically-ill patient under the direction of intensivists from the Departments of Anesthesiology and Surgery. All residents will be expected to demonstrate competence in the six ACGME general competencies. Some assessment tools have already been developed while others are in the process of being developed in order to assess the progress of the trainee in the attainment of competence in the practice of critical care medicine.

COMPETENCIES

I. PATIENT CARE/COMMUNICATION AND INTERPERSONAL SKILLS

At the conclusion of the rotation, the resident will:

- **Cognitive Skills:**

  a. Improve the skills to deliver care to critically ill patients.
  b. Demonstrate the ability to communicate effectively with patients and their families.
  c. Demonstrate ability to ensure that information concerning their patients is relevant and accurate
  d. Demonstrate ability to develop diagnostic and therapeutic plans with guidance
  e. Demonstrate follow through in order to ensure management plans are implemented.

- **Technical Skills:**

  a. Demonstrate the ability to insert, and instruct others in the insertion of, intra-arterial (radial, femoral, axillary) and central venous catheters (internal jugular, subclavian, femoral).
  b. Demonstrate ability to manage the emergency airway

II. MEDICAL KNOWLEDGE

At the conclusion of the rotation, the resident will be able to demonstrate, through daily discussion and performance on rotation post-test , appropriate knowledge of the following:

- **Physiology of the following systems:**

a. CNS
b. Respiratory
c. Cardiovascular
d. Endocrine
e. Hematological

- **Pharmacology:**
  a. Antiarrhythmics
  b. Antihypertensives
  c. Inotropes and vasopressors
  d. Antimicrobials
  e. Antithrombotics and anticoagulants
- Sedatives, analgesics and neuromuscular blockers
- **Clinical Knowledge and Management:**
  a. Respiratory
     i. Mechanical Ventilation
     ii. Management of acute lung injury and the acute respiratory distress syndrome
     iii. Weaning from mechanical ventilation
  b. Cardiovascular
     i. Hemodynamic monitoring
     ii. Oxygen transport
     iii. Use of inotropes and vasopressors
  c. Pharmacokinetics and pharmacodynamics
  e. Management of renal insufficiency
  f. Liver failure
  g. Massive bleeding and transfusion
  h. Nutrition
  i. Infectious diseases
  j. Shock

III. PRACTICE-BASED LEARNING

By appraising and assimilating scientific evidence, residents must be able to investigate, evaluate and improve their patient care practices. At the conclusion of the rotation, the resident will be able to:

- Locate, appraise and assimilate evidence from scientific studies that are relevant to their patients' health problems
- Use information technology to manage information, access on-line medical information and support their own education
- Demonstrate ability to use electronic VISICU system to assist in provision of good patient care

IV. COMMUNICATION AND INTERPERSONAL SKILLS

Residents must be able to demonstrate interpersonal and communication skills that result in effective exchange of information and provide a framework for the development of a cohesive critical care team. Residents are expected to use effective communication techniques to:

- Deliver efficient and effective presentations during daily rounds;
- Write timely, complete and legible progress and procedure notes;
- Effectively disseminate information to consultants and allied health care providers;
- Provide updates to family members;
- Discuss end-of-life issues with families as a member of the Critical Care team

- Communicate effectively with, and receive feedback from, attending faculty, including members of the eICU team

V. PROFESSSIONALISM

Residents must demonstrate a commitment to completing their professional responsibilities, adhering to ethical principles and being sensitive to a diverse patient population. Residents are expected to:

- Demonstrate respect and compassion for patients and their families
- Treat all members of the patient care team with respect and
- Demonstrate responsiveness to the needs of patients over one's own needs self-interest
- Be accountable to their patients and to their team members
- Demonstrate a commitment to excellence
- On-going professional development
- Demonstrate a commitment to moral and ethical principles
- Demonstrate sensitivity and responsiveness to patients' age, culture, gender and disabilities.

VI. SYSTEM-BASED PRACTICE

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- Understand how their patient care affects other health care, the health care organization and the larger society
- Consider cost-effectiveness of their treatment plans
- Advocate for quality patient care and safety
- Demonstrate willingness to seek and accept guidance from attending faculty and eICU team

VII. EDUCATIONAL GOALS

A. Prerequisites for this rotation are that the resident must have successfully completed their PGY1 year prior to undertaking this critical care medicine rotation.

B. Clinical Work: Duty hours and call schedules are delineated in the resident ICU handbook. The 80-hour workweek and 24 + 6 work day must be adhered to without exception.

C. Didactic activities: Bedside teaching and/or daily lectures.
Topics include:

- Basics of mechanical ventilation
- Management of the patient with acute lung injury
- Weaning from mechanical ventilation
- Hemodynamic monitoring
- Vasopressors and inotropes
- Nutritional support
- Acute renal failure
- Sepsis and septic shock
- Antibiotics
- Pharmacology
- Acid-base balance
- Endocrine: glucose control

- Fluid therapy and transfusion

E. Directed Reading:
These should be from the Manual of Intensive Care Medicine, 5th edition, by Irwin and Rippe (Lisa Nicholson will have a copy for you to borrow for the month in case you don't already own this). Please take the initiative and go to Lisa to borrow this book prior to your SICU rotation.

- Irwin and Rippe's Intensive Care Medicine, 6th Edition, 2006
- Irwin and Rippe's Manual of Intensive Care Medicine, 4rd Edition, 2005

F. Faculty:

- Stephen Heard, M.D.
- Khaldoun Faris, M.D.
- J. Matthias Walz, M.D.
- Alan Orquiola, M.D.
- Raimondas Matulionis, M.D.
- Antonio Aponte, M.D.
- Nicholas Watson, M.D.
- Theofilos Matheos, M.D.
- Maxim Zayaruzny, M.D.

G. Evaluation and Feedback:

- Monthly evaluation of residents by attendings via E*Value
- Individual evaluations by faculty and composite evaluations by surgical faculty
- Attention paid to evaluation of Competencies
- 360 Degree evaluations by selected nurses and allied health care providers in SICU
- Evaluation by resident of each attending (anonymous)
- Evaluation by resident of the rotation
- Work hour documentation.