

## **GOALS AND OBJECTIVES FOR THE CRITICAL CARE MEDICINE (CCM) ROTATION FOR CA-2 RESIDENTS**

### **INTRODUCTION**

The CCM rotation is one month rotation in 3 ICU at the University campus. The resident will be mostly caring for general surgery, vascular, transplant, and trauma patients.

The primary goal of the rotation is to provide the resident an environment to acquire the knowledge, skills, experience, judgment and attitude for the care of the critically-ill patient at an expanded and more advanced rate, 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 (vide infra). 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**

##### **1. Cognitive Skills:**

- a. Improve the skills to provide optimal methodology to work up and deliver care to critically ill patients.
- b. Communicate effectively with and demonstrate empathy and respectful behavior when interacting with patients and their families.
- c. Ensure relevant and accurate information about their patients.
- d. Oversee diagnostic and therapeutic plans for their patients based on history, physical examination and laboratory data tempered with evidence-based medicine, clinical judgment and patient preference.
- e. Ensure management plans are implemented.
- f. Counsel and educate patients and their families.

##### **2. Technical Skills:**

- a. Insertion of and instruction in the insertion of intra-arterial (radial, femoral, axillary) and central venous catheters (internal jugular, subclavian, femoral).
- b. Insertion of and the instruction in the insertion of pulmonary artery catheters (internal jugular, subclavian and femoral).
- c. Emergency airway management.
- d. Insertion of chest tubes (optional).
- e. Percutaneous tracheostomies (optional).

#### **II. MEDICAL KNOWLEDGE**

Demonstrate mastery of the following by the end of the rotation (other faculty at their discretion may cover other topics):

##### **1. Physiology:**

- a. Neurology
- b. Respiratory
- c. Cardiovascular
- d. Endocrine
- e. Hematological

##### **2. Pharmacology:**

- a. Antiarrhythmics
- b. Antihypertensives

- c. Inotropes and vasopressors
  - d. Antimicrobials
  - e. Antithrombotics and anticoagulants
  - f. Sedatives, analgesics and neuromuscular blockers
- 3. 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
  - d. Management of intracranial hypertension
  - e. Management of renal insufficiency
  - f. Liver failure
    - i. Acute
    - ii. Chronic
    - iii. Care of the liver transplant patient
  - g. Massive bleeding and transfusion
  - h. Nutrition
  - i. Infectious diseases
    - i. Microbiology
    - ii. Antimicrobials
  - j. Shock
    - i. Evaluation
    - ii. Management

### III. PRACTICE-BASED LEARNING

By appraising and assimilating scientific evidence, residents must be able to investigate, evaluate and improve their patient care practices. The resident will be able to:

1. Locate, appraise and assimilate evidence from scientific studies that are relevant to their patients' health problems;
2. Use evidence-based medicine methodology to ascertain the utility and effectiveness of certain diagnostic tests and therapeutic strategies in the care of their patients;
3. Use information technology to manage information, access on-line medical information and support their own education;
4. Assist in the teaching of CA-2 residents, medical students and allied health personnel.

### 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:

1. Create and sustain a therapeutic and ethically sound relationship with their patients;
2. Use effective communication techniques to provide and elicit information:
  - a. Efficient and effective presentations during daily rounds;
  - b. Timely, complete and legible progress and procedure notes;

- c. Effective dissemination of information to consultants and allied health care providers;
- d. Providing updates to family members;
- e. As part of the CCM team, discuss end-of-life issues with families.

## **V. PROFESSIONALISM**

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:

- 1. Respect, compassion and integrity;
- 2. Responsiveness to the needs of patients and society that supercedes self-interest;
- 3. Accountability to patients, society and the profession;
- 4. Commitment to excellence;
- 5. On-going professional development;
- 6. Commitment of ethical principles:
  - a. Provision/withholding of care;
  - b. Patient confidentiality;
  - c. Informed consent;
  - d. Business practices
- 7. Sensitivity and responsiveness to patients' age, culture, gender and disabilities.

## **VI. SYSTEMS-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:

- 1. Understand how their patient care and other professional practices affect other health care, the health care organization and the larger society and how these elements of the system affect their own practice;
- 2. Practice cost-effective health care and resource allocation that does not compromise quality of care;
- 3. Advocate for quality patient care and safety;
- 4. Know how to partner with health care managers and providers to assess, co-ordinate and improve health care and know how these activities can affect system performance.

## **VII. EDUCATIONAL GOALS**

- A. Prerequisites for this rotation are that the resident must have successfully completed their PGY1 and PGY2 years 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: Formal lectures will take place every day from 7AM - 7:30AM. Topics include:
  - 1. Basics of mechanical ventilation
  - 2. Management of the patient with acute lung injury and the acute respiratory distress syndrome
  - 3. Weaning from mechanical ventilation
  - 4. Hemodynamic monitoring
  - 5. Vasopressors and inotropes
  - 6. Nutritional support
  - 7. Acute renal failure

8. Sepsis and septic shock
9. Antibiotics
10. Pharmacology
11. Brain death and organ donation; donation after cardiac death
12. Acid-base balance
13. Management of increased intracranial pressure
14. Endocrine: steroids, glucose control
15. Fluid therapy and transfusion
16. Care of the transplant patient

D. Multidisciplinary critical conferences, held at 4 PM on Wednesdays (except the third of the month):

1. Case Conference
2. SICU M & M (Morbidity and Mortality)
3. SICU Quality Assurance (QA)
4. Guest lecturers
5. Journal Club

E. Directed Reading:

1. Irwin and Rippe's Intensive Care Medicine, 5<sup>th</sup> Edition, 2003
2. Irwin and Rippe's Manual of Intensive Care Medicine, 3<sup>rd</sup> Edition, 2002
3. Critical Care Medicine

F. Faculty:

1. Stephen Heard, M.D.
2. Khaldoun Faris, M.D.
3. J. Matthias Walz, M.D.
4. Alan Orquiola, M.D.
5. Raimondas Matulionis, M.D.
6. Antonio Aponte, M.D.
7. Nicholas Watson, M.D.
8. Theofilos Matheos, M.D.
9. Maxim Zayaruzny, M.D.
10. Timothy Emhoff, MD
11. Ulises Torres, MD
12. NamHeui Kim, MD

G. Evaluation and Feedback:

1. Monthly evaluation of residents by attendings via E\*Value
  - a. Individual evaluations by faculty and composite evaluations by surgical faculty;
  - b. Attention paid to evaluation of Competencies
2. 360 Degree evaluations by selected nurses and allied health care providers in SICU in development;
3. Evaluation by resident of each attending
4. Evaluation by resident of the rotation
5. Work hour documentation.