

University of Florida College of Medicine
Department of Anesthesiology
Division of Critical Care Medicine
Fellow Goals and Objectives

The Fellow will be evaluated on the six core competencies required by the ACGME (described below), as pertains to the care of the ICU patient and the above listed goals and objectives. It is understood that the breadth of knowledge and experience gained will be proportional to the clinical experience and reading.

ACGME Competencies:

The program must require its Fellows to obtain competence in the six areas listed below to the level expected of a new practitioner. Programs must define the specific knowledge, skills, behaviors, and attitudes required, and provide educational experiences as needed in order for their Fellows to demonstrate the following:

1. *Patient care* that is compassionate, appropriate, and effective for the treatment of health programs and the promotion of health:
 - a. Perform an appropriate history and physical examination of the critically ill patient;
 - b. Appropriateness and effectiveness of the medical plan is assessed on rounds;
 - c. Competence in the placement of invasive monitors;
 - d. Modified 360 degree evaluations are used to evaluate for compassionate care.
2. *Medical Knowledge* about established and evolving biomedical, clinical, and cognate sciences, as well as the application of this knowledge to patient care. The Fellow will understand:
 - a. The need for admission to the ICU care in postoperative or trauma patients
 - i. Physiologic instability
 1. Neurologic
 2. Respiratory
 3. Hemodynamic
 - ii. Need for close monitoring
 - iii. Neurologic status
 - iv. High risk of post-op / ongoing bleeding
 - v. Monitoring of flaps or grafts
 - vi. Poor physiologic reserve
 1. Neurologic
 2. Respiratory
 3. Hemodynamic
 - b. Fluid management principles in postoperative / trauma / burn patients
 - i. ATLS / ABLS
 1. Maintenance requirements
 2. Replacement of blood loss
 3. Third space losses
 4. Burn injury resuscitation
 - a. Resuscitation formulae (Parkland, Brooke)
 - b. Titration of resuscitation
 - c. Indication for invasive monitoring
 - c. Organ Dysfunction
 - i. Neurologic System
 1. Confusion / agitation
 2. Seizures
 3. Hydrocephalus
 4. Vasospasm
 5. Increased ICP and herniation syndromes
 - ii. Cardiovascular System

1. Hypotension
2. Hypertension
3. Arrhythmias
4. Cardiac arrest (ACLS)
5. Differential diagnosis and treatment of shock states
- iii. Respiratory System
 1. Hypoxia
 2. Hypercarbia
 3. ALI / ARDS
 4. Airway Compromise – Understand different methods for securing the airway
 5. Endotracheal intubation with and without drugs
 6. Awake fiberoptic intubation
 7. Laryngeal mask airway
 8. Indications for tracheostomy
 - a. Cricothyrotomy
 - b. Surgical tracheostomy
 9. Understand the various modes of ventilatory support
- iv. Renal System
 1. Differential diagnosis and treatment of oliguria
 2. Azotemia
 3. Common electrolyte abnormalities
 - a. Hyper / hyponatremia
 - b. Hyper / hypokalemia
 - c. Hyper / hypocalcemia
 - d. Hyper / hypophosphatemia
 - e. Hypomagnesemia
 4. Renal replacement therapy
 5. Acid-Base Disorders
- v. Hepatic System
 1. Jaundice
 2. Coagulopathy
 3. Shock liver
- vi. Hematologic System
 1. Anemia
 2. Thrombocytopenia
 3. Coagulopathy
- vii. Endocrine System
 1. Adrenal insufficiency
 2. Thyroid disorders
 3. Diabetes Insipidus
 4. Diabetes mellitus / and glycemic control
 5. SIADH
 6. Cerebral salt wasting syndrome
- d. Prevention and Management of Infectious Diseases
 - i. Evaluation and workup of fever
 - ii. Antibiotic selection
 1. Initial choice
 2. Narrowing antibiotic focus based upon sensitivities
 3. Antimicrobial drug monitoring
 4. Duration of therapy
 - iii. Prevention and Treatment of common infections
 1. Ventilator-associated pneumonia (VAP)
 2. Catheter-related bloodstream infection

3. UTI
4. Wound infection
5. Peritonitis / Intra-abdominal abscess
6. Meningitis
7. Sepsis / septic shock
- iv. Surgical Prophylaxis
- e. Nutritional Depletion
 - i. Evaluation of nutritional status
 - ii. Enteral Nutrition
 - iii. Parenteral Nutrition
- f. The Indications for Blood Component Therapy
 - i. Packed RBCs
 - ii. Platelets
 - iii. Fresh Frozen Plasma
 - iv. Cryoprecipitate
 - v. Recombinant Factor VIIa
 - vi. Bleeding abnormalities
 - vii. Transfusion “triggers”
- g. Understand Indications and Techniques for Procedures in the ICU
 - i. Capnography
 - ii. Arterial line
 - iii. Central venous line
 - iv. Pulmonary artery catheter
 - v. Lithium dilution cardiac output (LiDCO)
 - vi. Esophageal Doppler Monitor
 - vii. Echocardiography
 - viii. Transvenous pacer
 - ix. External pacer
 - x. Chest tube
 - xi. Bronchoscopy
- h. Practice Preventive / “Proactive” Medicine
 - i. DVT prophylaxis
 - ii. Stress ulcer prophylaxis
 - iii. Pulmonary toilet / bronchodilators / VAP prophylaxis
 - iv. Perioperative heart rate and blood pressure control
 - v. Renal protection before dye load
- i. Understand Methods to Provide Sedation and Analgesia
- j. Understand Appropriate Use and Monitoring of Neuromuscular Blockade
- k. Understand the Risks of Transporting a Critically Ill Patient
- l. Rapidly Recognize Postoperative Complications
 - i. Postoperative hemorrhage
 - ii. Anastomotic bleed
 - iii. Wound infection
 - iv. Abscess
 - v. Poor graft function
- m. Understand Management of Primary / Secondary / Tertiary Survey in Traumatic Injury
 - i. Traumatic Brain Injury
 - ii. Head and Neck Injuries
 - iii. Thoracic Injuries
 - iv. Abdominal and Pelvic Injuries
 - v. Extremity Injuries
 - vi. Pregnant Trauma patient
- n. Understand Critical Care Issues in Pregnancy
 - i. Pre-eclampsia / Eclampsia

- ii. Peripartum Hemorrhage
- iii. Pulmonary and amniotic fluid embolism
- iv. Peripartum cardiomyopathy
- o. General Problem Areas
 - i. Workup of a patient with decreased urine output;
 - ii. Workup of a patient with hypotension;
 - iii. Workup and treatment of septic shock;
 - iv. Work-up of fever;
 - v. Initiation of antibiotics;
 - vi. Choices of mechanical ventilatory modes for ARF;
 - vii. Ventilator weaning;
 - viii. Algorithm for difficult airway in the ICU;
 - ix. Perioperative cardiac ischemia prevention and treatment;
 - x. Workup and treatment of a patient with coagulopathy;
 - xi. How is the need for supplemental nutrition assessed and then begun;
 - xii. Principles of ATLS / ABLIS / ACLS;
 - xiii. Invasive monitoring: interpretation and trouble shooting.
- 3. *Practice-based learning and improvement* that involves the investigation and evaluation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care:
 - a. Learn how to use evidence-based medicine to improve patient care;
 - b. Become proficient at using the electronic medical record and the use of the Internet to look up medical information;
 - c. Evaluations of assigned lectures and rounds will be used for assessment.
- 4. *Interpersonal and communication skills* that result in the effective exchange of information and collaboration with patients, their families, and other health professionals:
 - a. Understand the importance of effective communication;
 - b. Develop excellent communication skills with patients, patient families, peers, staff, and attendings;
 - c. Assessed for on rounds with attending physicians and residents, in interactions with nurses and staff, and in family interactions.
- 5. *Professionalism*, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds
 - a. Understand the ethical principles of medicine and how these impact and influence the way we treat patients.
 - b. Understand the importance of timeliness in dictations, rounding, charting.
 - c. Understand the need for showing sensitivity to patients' ethnicity, age, life-styles, and disabilities.
 - d. Learn how to practice medicine with integrity and honesty.
 - e. Assessed for on rounds with attending physicians and residents, in interactions with nurses and staff, and in family interactions.
- 6. *Systems-based practice*, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care:
 - a. Learn how to work with an interdisciplinary team in the care of the critical care patient including arranging care by consult teams.
 - b. Learn how to approach patient care problems from a systems-based approach rather than the "band-aid" approach.
 - c. Begin to develop a feel for providing cost-effective medicine without compromising patient care;
 - d. Appropriate resource utilization as determined by daily practice as well as discussion on rounds.