UCLA-OLIVE VIEW INTERNAL MEDICINE RESIDENCY

INTENSIVE CARE UNIT CURRICULUM

Target: PGY 1-3
Updated August 2018

A. EDUCATIONAL OVERVIEW

The Intensive Care Unit (ICU) rotation is a rigorous clinical training experience focusing on the diagnosis and management of patients with critical medical illness and in emergent medical situations.

B. ROTATION DESCRIPTION AND STRUCTURE

The ICU rotation is based at Olive View-UCLA Medical Center. It is designed for interns (PGY 1) and residents (PGY 2-3). Rotations will be 2 or 4 weeks in length, and count towards the total 12-24 weeks of required critical care experience over the entirety of the three-year training program. Trainees will be responsible for the direct, primary care of patients assigned to them in the ICU ("closed unit"). Trainees will be an integral member of one of the care teams, consisting of one intern (PGY 1), one resident (PGY 2-3), fellow, and attending physician. Interns and residents will include trainees from the internal medicine program and other affiliated training programs. Senior medical students may function as an additional member of the care team. Trainees will take regular call to admit or transfer patients to the ICU as well as respond to emergent medical situations throughout the hospital (Rapid Response and Code Blue teams). Duty hours are designed to be compliant with the Residency Review Committee (RRC) requirements while providing "24/7" care to critically ill patients. Specific orientation materials will be provided separately.

C. GENERAL GOALS & OBJECTIVES

The goals of the ICU rotation complement the common goals and objectives of clinical care (see separate document) while extending competency in the care of the hospitalized patient to critically ill patients.

Competency in the goals and objectives is expected by the end of the three-year training program, unless otherwise noted.

1. Goal: Evaluate and manage patients requiring critical care.

- Recognize the signs, symptoms, and findings that indicate conditions requiring critical care (PGY 1). (PC1)
- Gather and present detailed, organized data that convey the patient's condition and progress on daily rounds, including hemodynamic and ventilator data (PGY 1). (PC1)
- Diagnose and manage common complications of intensive care (PGY 2-3): (PC1-3, MK1)
  - Nosocomial infection
  - ICU delirium
  - Critical illness polyneuropathy
- Select appropriate treatment and monitoring for (PGY 2-3): (PC2/3)
  - Pain control
  - Sedation
- Implement additional supportive and preventative measures for critically ill patients when appropriate, including (PGY 1): (PC2/3, MK1, SBP3)

  - Infection control strategies
  - VTE prophyalxis
  - Stress ulcer prophylaxis
  - Pressure ulcer prevention and management
  - Nutritional support
  - Glycemic control
- Seek assistance from the supervising attending, fellow, and resident appropriately (PGY 1-3). (PC3)
- Explain the patient's condition and management plan with the patient and/or family members in a timely and effective manner (PGY 1-3). (ICS1, PROF1/2)
- Transition patient care from and to other teams effectively and accurately through verbal and written communication (PGY 1). (ICS2, PROF1/2)
- Discuss code status and end-of-life issues with patients and their families (PGY 2-3). (PROF1/3)

2. Goal: Manage a unit of critically ill patients using a team-based approach.

- Prioritize patients for admission to and transfer out of the ICU (PGY 2-3). (PC3, SBP1)
- Sign-out and cross-cover on patients when other team members are not available (PGY 1). (PC3, ICS2, PROF1/2)
- Engage multidisciplinary team members to provide comprehensive care to the patient, including the patient's nurse, charge nurse, respiratory therapist, dietitian, pharmacist, and social worker (PGY 1-3). (ICS2, SBP1, PC2)
- Identify and report medical errors to the supervisor and in the Safety Intelligence system with the intention of practice or system improvement (PGY 1-3). (SBP2, PROF2/4, PBLI2, PC3)

3. Goal: Rapidly assess and direct treatment of emergent medical conditions, including those involving the Rapid Response and Code Blue teams.

The common emergent medical situations include cardiac arrest, ventricular tachyarrhythmia, other arrhythmias, respiratory failure, hemodynamic instability, acute neurological deficit, acute alteration in level of consciousness, and seizure.

- Ensure availability and respond promptly to calls to the Rapid Response Team and Code Blue (PGY 1-3). (PROF2, SBP1)
- Identify, clarify and/or assign roles to members of the response team, and engage them with effective communication (PGY 2-3). (PROF1, ICS1)
- Quickly gather and interpret focused information to identify and prioritize the most acute condition (PGY 2-3). (PC1)
- Select appropriate interventions, including ACLS, pharmacotherapy, diagnostic labs or tests, and emergent consultation (PGY 1-3). (PC2/3)
- Execute the advance cardiac life support (ACLS) algorithm as a participant (PGY 1) and/or leader (PGY 2-3). (PC2/3, SBP1, ICS2)
- Select an appropriate level of care for patient disposition (PGY 2-3). (PC2/3, PROF2)

D. PROBLEM-BASED GOALS & OBJECTIVES

1. **Goal: Diagnose and treat Acute Respiratory Distress Syndrome (ARDS) using up-to-date evidence and guidelines.**
    - Quickly identify ARDS using clinical and diagnostic data and determine need for endotracheal intubation (PGY 1-3). (PC1/2/5, MK2, PROF1)
    - Understand the potential benefits of various interventions (PGY 2-3). (MK1, PBLI1)
    - Communicate effectively with patients, families, and multidisciplinary representatives to inform them of the condition, rationale for treatment decision, and prognosis (PGY 1-3). (PROF1/2, ICS2)

2. **Goal: Use non-invasive and invasive positive pressure ventilation to manage respiratory failure.**
    - Explain the indications and contraindications of non-invasive positive pressure ventilation (PGY 1-3). (MK1, PC3)
    - Accurately and quickly interpret blood gases, radiographs, and clinical findings to determine the need for endotracheal intubation (PGY 1-3). (PC1/5, MK1)
    - Explain basic ventilator physiology and its role in oxygenation and ventilation (PGY 1). (MK1, PC2)
    - Implement and monitor daily spontaneous breathing trials to determine candidacy for extubation (PGY 1-3). (PBLI1, PROF2)
    - Evaluate for complications of endotracheal intubation including peak/plateau pressures, auto-PEEP, ICU delirium, and critical illness polyneuropathy (PGY 2-3). (MK1/2, PBLI1, SBP1)

3. **Goal: Evaluate and treat shock according to the underlying mechanism.**
    - Differentiate between common mechanisms of shock including cardiogenic and septic shock (PGY 1-3). (PC1, MK1/2)
    - Explain the basics of hemodynamic monitoring and implement in patients that will benefit, including central venous access, right heart catheterization, and arterial blood pressure monitoring (PGY 2-3). (PC, MK2)
    - Compare the indications and contraindications for initiating vasopressors and inotropic medications, and select the appropriate one(s) for patients (PGY 2-3). (PC2/3)
    - Successfully insert central venous catheters and arterial lines (PGY 2-3). (PC4)

E. CORE TOPICS IN CRITICAL CARE MEDICINE

- Hypoxic and Hypercapneic Respiratory Failure, including ARDS
- Shock
    - Sepsis

  - Hemorrhage
  - Anaphylaxis
  - Cardiogenic shock
  - Pulmonary embolism
  - Cardiac tamponade
- Cardiac Arrest
- Gastrointestinal bleeding
- Acute coronary syndrome (ACS)
- Hypertensive emergency
- Diabetic ketoacidosis (DKA)
- Adrenal crisis
- Thyroid storm
- Myxedema coma
- Status epilepticus
- Toxic ingestion and poisoning

F. TEACHING METHODS

Clinical education is primarily provided delivered through direct patient care and attending rounds with the supervising attending and fellow physician. Didactic teaching is provided with morning didactic lectures led by the fellow or attending and focusing on critical care skills. Housestaff are expected to supplement their learning with additional reading. Additional training through simulation of patient cases and procedures may be scheduled as permitted by clinical duties.

Housestaff are required to attend Noon Conference when permitted by patient care duties during this rotation.

G. SUPERVISION AND EVALUATION

All housestaff and patient care will be supervised by the attending physician and fellow.

Residents will be evaluated by the supervising attending. Direct verbal feedback may be provided throughout the rotation, and a written evaluation will be submitted electronically in MedHub at the end of the rotation. These can be reviewed by the resident at any time and will be reviewed with the housestaff during the Clinical Competency Committee meeting.

Direct observation and feedback of interviewing, examination, and/or counseling skills may be documented with the Mini-CEX.

H. EDUCATIONAL RESOURCES

Electronic resources are also available through the internet at Olive View-UCLA Medical Center and through UCLA.

- UpToDate
- Dynamed (coming)
- Harrison’s Principles of Internal Medicine

- PubMed
- Visual Diagnosis (VisualDx)