

Emergency Medicine Curriculum Clinical Base Year

Collaborating Faculty: William Rose, MD
Residency Program Director
Department of Emergency Medicine

Jack Ditty, MD
Coordinator of Rotating
Residents and Medical Students
Department of Emergency Medicine

I. Purpose and Educational Value

The purpose of the Emergency medicine rotation is to expose the resident to common, critical and urgent medical problems with the supervision of the full-time emergency medicine faculty. Residents will learn how to diagnose, manage, and/or triage patients with unselected medical problems; how to work within a health care team; and perform a variety of invasive medical procedures.

II. Principal Teaching Methods

A. Patient encounters take place in the emergency department associated with West Virginia University Residency Program in Emergency Medicine. These facilities are located in Ruby Memorial Hospital. The emergency department is associated with WVUH which is a Level I trauma center.

B. Teaching is provided on a patient-by-patient basis with direct, one-to-one interaction with the supervising attending physician. Instruction is accomplished through role modeling, discussion, observation, independent reading and consultation with supporting departments (e.g., Radiology, Vascular Surgery, ICU Medicine, Trauma, Neurology, Internal Medicine, etc).

C. Lectures

1. Conferences are available on Thursday mornings from 8-1 pm weekly for residents on the rotation. Conference topics are published at the beginning of the academic year. Attendance is recommended.

D. Independent reading is expected. The resident is expected to read from a core emergency medicine text (see attached list).

Department of Anesthesiology**III. Educational Content**

A. The WVU emergency department hosting the rotation provides most of the emergency care to the greater Morgantown area as well as southwestern PA, western MD and southeastern OH. In addition, both hospitals offer acute interventional cardiology services, and Ruby Memorial Hospital offers neuro-care services including neurosurgery and a Stroke Page team. The regional neonatal intensive care unit is also located at Ruby Memorial Hospital. WVU Hospitals is a level I trauma center.

B. The demographic characteristics of the patients using the emergency department includes all races, ages, sex, and socioeconomic strata found in the surrounding communities. There is an over-representation of working poor and uninsured seen in the emergency department.

C. As a Level 1 trauma center with an emergency air transportation system called HealthNet, the ED sees an annual patient volume of 37,000 per year. The pediatric population accounts for 28% of the patient volume each year. The trauma patients accounts for 24% of the ED visits. Approximately 23% of the ED visits are admitted to the hospital, and ICU admissions account for about 5%.

D. Types of Clinical Encounters

1. The resident will experience first contact with unselected patients in the emergency department. The residents on the rotation provide emergency care services.

2. The emergency departments serve an average of 80 - 120 patients per day. The number of clinical encounters experienced by the resident on the Emergency Medicine rotation is determined by the level of training of the resident, their previous experience and competence as judged by the supervising physician.

3. While on the Emergency Medicine rotation, residents will work an average of 18-22, 10 hour shifts. Shifts must include two (2) complete weekend shifts (three days) out of the four weekends of the rotation.

4. The Emergency Medicine rotation qualifies as a meaningful patient responsibility rotation.

D. Procedures and Services

1. The procedures that are either reinforced or learned during the Emergency Medicine rotation include: cardiopulmonary resuscitation, venous phlebotomy, arterial blood sampling, central line placement, nasogastric tube placement, lumbar puncture, arterial line placement and endotracheal intubations.

2. The interpretive skills that are either reinforced or learning during the rotation include: ECG, chest radiographs, urinalysis, head, chest and abdominal CT scans, arterial blood gases and other laboratory assays.

E. Educational Materials

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1. At the beginning of each rotation, the resident is provided with the Emergency Medicine Learning Goals and Objectives.
2. A list of topics to be studied is provided with reference citations in textbooks or emergency medicine.
3. The emergency department maintains a reference library for residents and staff, including current editions of standard Emergency Medicine texts (e.g., Tintinalli: 6th edition Textbook of Emergency Medicine).
4. An optional self-paced, on-line educational module with several complaint-based emergency medicine scenarios are available to all rotating residents.

IV. Method of Evaluation

A. Residents. All the attending physicians with whom they come in contact evaluate the residents. The final evaluation is a composite of the many individual evaluations and includes: clinical performance, attitude, and fund of knowledge, inter-personal relationships, and communication abilities. This evaluation is shared with the resident and is incorporated in the performance reviews for directed feedback, which occurs several times each year.

B. Faculty/Service. The resident completes an end of rotation evaluation of the attendings and service. This evaluation is reviewed by the Department's Director of Medical Education and is available to the program director and the training committee for their review.

V. Strengths and Weaknesses**A. Faculty**

1. Fifteen faculty are in the Department of Emergency Medicine.
2. The faculty is all board-certified in emergency medicine. Many have published in peer-reviewed journals.

B. Facilities and Technology

1. Facilities are modern, the support staff is more than adequate. Consultation services from radiology, and all the medical subspecialties are readily available. Patient mix represents a good cross section of the general population with its acute care problems.

2. Full service 24 hour libraries are maintained at West Virginia University with onsite medical librarians. Web based searchable medical journals are available in both print and electronic formats.

In addition, all residents have 24-hour accessibility to the extensive online West Virginia University electronic library, including data bases and electronic printouts.

3. Computer based resources are available at the hospital to facilitate patient care, education, and communication. The following are made available:

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- a. Drug information including side effects and drug interactions
 - b. Electronic Medical Record (Medsite) with internet accessibility
 - c. Electronic textbooks of medicine
 - d. E-Mail service 24/7
 - e. Internet access to medical sites on the World Wide Web
 - f. Laboratory and radiology results retrieval (PACS/Medsite/CHIP)
 - g. Patient educational materials
 - h. Electronic physician ordering system (CHIP)
4. In the residency office and hospital libraries, a number of videotapes are available including:
 - a. MKSAP books and audiotapes
 - b. Assorted procedure videotapes
- C. Limitations. Lack of advanced technology such as hyperbaric chambers, and Burn Center resources require transfer to other centers.

VI. Rotation Specific Competency**A. Patient Care**

1. General physical examination with problem specific special testing should be within the capabilities of residents at all levels. PGY-2 residents should seek aid from advanced residents in carrying out and interpreting specific testing.
2. Primary and secondary survey should be part of the initial emergency evaluation of all trauma patients and completed by residents at all levels.
3. Procedures needed to treat Emergency Department patients will be known and performed by residents appropriate to the level of experience. These may include the following procedures:
 - a. Venous phlebotomy
 - b. CPR
 - c. Arterial blood sampling
 - d. Central line access
 - e. Lumbar puncture
 - f. Nasogastric tube placement
 - g. Thoracentesis
 - h. Bladder catheterization
 - i. Abdominal paracentesis

B. Medical Knowledge. Residents at all levels will be familiar with interpreting laboratory and radiological data, making logical assessments and epidemiological considerations. Tintinalli JE, Kelen GD, Stapczynski JS (Editors): Emergency Medicine: A Comprehensive Study Guide. McGraw-Hill, 6th ed. 2004. It is expected that the resident will read about the injuries and illnesses seen in the ED and use this stimulus as a means of improving knowledge of the broad spectrum of emergency medicine.

This will permit:

1. Accurate determinations of which patients need hospital admission or referral to outpatient care centers.
2. Appropriate initial management for those patients requiring stabilization in the Emergency Department prior to admission.
3. Discharge to home care with appropriate follow-up care arranged for those patients not requiring admission.

C. Interpersonal and Communication Skills. Residents at all levels will be able to provide legible records of their findings and make concise but complete oral presentations.

This will include:

1. History and physical examination findings.
2. Management of acute problems and follow up needed.
3. Written brief but pertinent notes documenting findings.

D. Professionalism. All residents will demonstrate integrity, accountability, respect, compassion, patient advocacy, and dedication to patient care that supercedes self-interest. Residents will demonstrate a commitment to excellence and continuous professional development. They will be punctual and prepared for emergency medicine shifts and teaching sessions. Residents will demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, and informed consent. Residents are expected to show sensitivity and responsiveness to patient's culture, age, gender, and disabilities.

E. Practice-Based Learning and Improvement.

1. Residents will fully support and utilize quality improvement protocols and tools developed and adopted by the emergency department.
2. Residents will use hospital and University library resources to critically appraise medical literature and apply evidence to patient care. They will use hand-held computers, desktop PC's and Internet electronic references to support patient care and self-education. They will model these behaviors to assist medical students in their own acquisition of knowledge through technology.
3. They will in addition, consistently seek out and analyze data on practice experience, identify areas for improvement in knowledge of patient care performance, and make appropriate adjustments. They will regularly demonstrate knowledge of the impact of study design on validity or applicability to individual practice.

Department of Anesthesiology**F. System-based practice**

1. Residents will be sensitive to health care costs while striving to provide quality care. They will begin to effectively coordinate care with other health professionals as required for patients needs.

Curriculum Timeline

Approved by Education Committee September 19, 2007