

Proposal for a 3 week Emergency Medicine Clerkship:
Amita Sudhir, MD and Chris Ghaemmaghami, MD
Department of Emergency Medicine

A) Rationale:

Students have consistently requested more time in the Emergency Department through evaluations of the PACM clerkship. In conversations with students throughout the year and reviewing comments on the evaluations, it is apparent that they would benefit from more time spent evaluating the undifferentiated patient. In the current set up of the EM week of PACM, they do not have enough sustained clinical time to go through the whole process of evaluating a new patient on presentation to the ED, performing a thorough physical exam, generating a differential diagnosis, ordering diagnostic tests, interpreting their results and coordinating the elements of the health care system that lead to the ultimate treatment and disposition of the ED patient. We hope to familiarize students with this process with more sustained ED clinical experiences.

Furthermore, we hope that this clerkship will provide students not only with an introduction to the field of emergency medicine, but also with patient evaluation and clinical skills that will enable them to optimize their fourth year electives. Nationally, a large percentage of inpatients are first evaluated in the ED. A familiarity with the workup of these patients will be invaluable to students in understanding their subsequent care in the hospital.

A three -week EM clerkship would help students with the transition to the fourth year and subsequently to internship in the following ways.

Students will:

- have high-yield opportunities to perform histories, physical exams, and patient write-ups of undifferentiated patients.
- learn the diagnostic approach to common acute medical or surgical initial presentations: sepsis, altered mental status, appendicitis, musculoskeletal complaints, etc
- understand the decision-making process and admission criteria involved in triaging patients to inpatient vs. outpatient care plans
- be exposed to the interfaces in the healthcare system between outpatient, skilled nursing, and inpatient settings - including acute and critical care units
- be prepared to manage emergencies in clinics or in inpatient settings

B) Goals:

Students should become familiar with the following concepts:

- I. Diagnosis and workup of the undifferentiated ED patient
- II. History taking, physical exam, and documentation skills
- III. Clinical skills and medical decision-making used in the diagnosis and stabilization of patients
- IV. Responding to emergency situations such as cardiac arrest, acute trauma, hypotension and delirium
- V. The role of health care systems in the disposition and care of patients

C) Learning objectives:

1. Students will spend several shifts evaluating and treating common ED presenting complaints on shifts in the adult, pediatric and express care sections of the emergency department. At the end of the rotation, students will be familiar with the evaluation and treatment of a variety of clinical problems, including but not limited to chest pain, acute trauma, delirium, hypotension, acute fractures, pediatric fever, acute abdomen, pain management, and stroke. Experience with these will be obtained through simulation and direct clinical exposure in the ED.
2. Students will achieve familiarity with interpreting commonly ordered laboratory and radiographic studies
3. Students will have experience with the use of bedside ultrasound including: FAST exam, gallbladder US, first trimester pregnancy, aorta, and DVT. They will practice these skills on ultrasound phantoms and live models and will also be able to obtain bedside ultrasounds on patients they evaluate in the ED.
4. Students will be able to articulate the role of different elements of the health care system in the care of patients presenting to the ED, and understand the role of primary care physician, social worker, EMS, nursing home, home health, inpatient hospitalization, rehab, and family situation in the care of the patient.
5. Students will gain familiarity with patient safety concepts and quality metrics in acute care medicine.
6. Students will experience EMS care of patients as an observer on the CARS rescue squad, contributing to their understanding of how EMS providers contribute to the care and transport of patients from home, nursing home, and clinic situations.
7. Students will submit one patient write-up for each of 4 adult ED and 1 pediatric ED rotations, demonstrating development of history taking and physical exam skills. Students will be given feedback on their presentations and write-ups and will choose one to be graded. Write-ups should specifically focus on the following chief complaints:

Altered mental status

Abdominal pain

Extremity complaints

Chest pain

Hypotension

Stroke

Acute trauma

Pediatric fever

Students will gain experience with the following clinical skills, applicable to other rotations in the outpatient, floor and ICU settings:

- a. ECG recording and reading
- b. establishing IVs and performing fluid resuscitation
- c. obtaining ABGs
- d. measuring vital signs,
- e. using cardiac monitors
- f. inserting foley catheters
- g. performing urinalysis and pregnancy tests
- h. maintaining C spine precautions and evaluating patients on a backboard

- i. rectal exams
- j. administering oxygen by NC, NRB and BVM
- k. nebulizer treatments
- l. joint immobilization
- m. wound care and suturing.

These skills will be applied to both adult and pediatric patients.

D) Clinical experiences [these numbers are based on 2 weeks not 3!]

The current PACM clerkship provides the following clinical sessions during the EM week:

- Clinical Sessions: 16 hrs
- Adult ED: 4 hrs
- Peds ED: 4 hrs
- 2 out of 3: Express Care, Triage, or CARS: 8+ hrs

This would be modified to the following:

- Adult ED 3 OR 4 8 hour shifts
- Pediatric ED 1 8 hr shift
- Express Care 1 8 hr shift
- CARS observer 4 hrs
- Triage 4 hrs
- One 4 hr rotation working one on one with a patient care technician to develop skills in obtaining ECG, starting IVs, placing patient on monitor, drawing blood, obtaining vital signs, and other clinical skills.

Total: 52-60 clinical hours.

These longer ED sessions will address the current observation that students frequently leave before the completion of diagnostic workups being conducted on their patients. By extending the clinical period, students will experience the satisfaction of making the diagnosis, resolving patients' uncertainty, and initiating treatments.

E) Didactic sessions

1. The current PACM clerkship provides the following didactic experiences during the EM week:

Didactics and workshops: 21 hrs
ECG lecture 1.5 hrs
BLS/AED skills workshop 1.5 hrs
Ultrasound lecture 1 hr
Ultrasound Skills Workshop 3 hrs
Cardiac simulation session 3 hrs
EM conference 3 hrs
Ortho lecture/suturing and splinting workshop 2 hrs
Triage and DM lecture 1 hr
Trauma simulation session 3 hrs
Case Report session 2 hrs

2. Proposed changes for 3 week clerkship:

Didactics will be increased to 30-35 hrs over the two week period

21 hrs as above, plus the following new content

Lecture on Health Care Systems: 1 hr

An applied discussion of the impact of the health care financing system on access to care and the delivery of acute medical care across the entire population

Workup of the undifferentiated patient: 3 hrs

We would very much like to provide a third simulation experience focusing on the workup of the undifferentiated patient, with particular focus on altered mental status and hypotension of unknown cause. However, if resource availability does not allow this, we would create an alternate experience incorporating a web based activity* and clinical discussion.

Other proposed activities (not to exceed a total of 5 hrs)

- Web based activity*incorporating elements from the Disaster Management Clinical Connections session
- Emergency XR interpretation workshop
- Longitudinal Systems Based Practice Activity demonstrating understanding of health care systems and their role in the management of ED patients
- Extension of case presentation session to 4 hrs to include evaluation of formal patient presentation (currently an informal patient discussion focusing on constructing an evidence-based answer to a clinical question)
- Pediatric skills workshop or case discussion
- Feedback session with clerkship director to discuss clinical skills, patient write-up, and general clerkship performance.
- Only one web-based activity will be included in the final clerkship schedule
An additional 5 hrs of didactic time may be provided by EM resident conference attendance on the 2nd Wednesday of the rotation (students currently attend for 3 hrs on one Wednesday).

F) Grading:

To incorporate the following, (percentages TBD)

Exam

Case Report

Systems Based Practice Activity

Patient write-up

Evaluations of clinical performance on adult, pediatric and express care rotations

Participation in case discussions, simulation sessions

Completion of passport