How to Shine and Get the Most from your EM Clerkship

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Background: The EM clerkship is an incredibly important component of a medical student's clinical education. It provides a unique learning environment and numerous clinical opportunities that are typically unavailable during other clerkships. There is no better clerkship to learn how to approach patients presenting with undifferentiated complaints. In addition, an EM rotation offers students the opportunity to learn assessment and stabilization principles for patients with acute illnesses and injuries, to develop basic procedural skills, and to acquire a clinical approach to the diagnosis and management of common patient complaints. Despite the numerous opportunities for clinical education that the ED offers, it can be a difficult place to learn due to the challenges of pace, acuity, and uncertainty of this environment. The EM clerkship is also important to decide whether or not EM is the right specialty for your career goals.

This session will provide preclinical and clinical students valuable tips to help get the most from their EM clerkship. Specific **topics** in this handout (which may serve as a useful reference) include:

1) appropriate educational goals for a rotation in EM;
2) preparation strategies to make the most of your ED experience;
3) recommended readings and resources;
4) important considerations regarding when, where, and how many EM rotations to schedule;
5) mentorship and professionalism.

Educational Objectives:
At the completion of this session, participants will be able to:
1) understand the composition of an EM clerkship and what to expect while rotating in the ED;
2) identify skills needed to gain the best educational experience during the rotation;
3) recognize standard sources of information in the field.

I. Appropriate educational goals for a rotation in emergency medicine

A. Approach to the emergency patient

a. Undifferentiated emergency patients present with symptoms, not diagnoses. The ability to generate a comprehensive differential diagnosis is extremely important. It is also one area that students are evaluated. In emergency medicine, always consider life- or limb-threatening conditions first. Whenever possible, think of a unifying diagnosis for the presenting signs & symptoms. Patients presenting with one diagnosis may have additional diagnoses that must be identified, addressed, and treated during the patient encounter. This is especially true in the intoxicated patient or the patient with abnormal behavior.

b. Sensitivity is essential when interacting with patients in the ED. Patients are generally anxious and often have pain. This may be the first time they have ever been to an ED. They do not know who you are, and most likely have no idea about the qualifications of the attending physician or resident supervising you. Patients do not typically have long-term relationships with emergency physicians (EPs), as is often the case in primary care clinics. The lack of familiarity that EPs have with most patients and their medical history creates challenges not present in office-based practices.

c. Privacy issues are important when interacting, interviewing, and examining patients. HIPAA mandates attempts to protect patients' privacy (including PHI). Unfortunately, curtains may be the only "barrier" between patients. Patients may be moved to different rooms by necessity, and a number of individuals may be involved in patient care or

handling lab results (clerks, technicians, nurses, physicians, and consultants). Additionally, patient information must be available to those providing care, but is often not kept as private as possible due to the nature of the ED environment. Patient safety and patient privacy may at times seem mutually exclusive. Remember to protect patient privacy to the best of your ability.

d. Interactions in the ED setting are intense compared to those occurring in most other areas of the hospital. This does not imply that other providers lack intense interactions with patients, or are not also pressed for time ("squeezed"). However, busy EDs commonly care for high acuity patients without the benefit of a regular scheduled interval between patients, causing these time-pressured interactions to be even more challenging.
e. Pain relief is a Joint Commission mandate, with nurses addressing patient's pain at regular intervals using an ordinal (0-10) scoring system. EPs are experts in pain management. Relief of pain, suffering, and anxiety is one area that EPs must handle with expertise.
f. EPs think differently than many other physicians. First, EPs must always consider the worst possible scenario in the differential diagnosis, and do their best to exclude this possibility. This doesn't mean that each potential diagnosis gets every study needed to absolutely rule out that possibility, but each of these dangerous conditions should be considered. For example, every patient presenting with chest pain should have one of eight life-threatening conditions considered before diagnosing a non-life threatening cause. These are: acute myocardial infarction, unstable angina, pulmonary embolism, aortic dissection, esophageal rupture or perforation, tension pneumothorax, or cardiac tamponade (**HINT:** these should be committed to memory). This is also true when determining patient dispositions – EPs do not want to send patients home who shouldn't go home, whereas most consultants do not wish to admit patients who do not require admission. Neither strategy is wrong, but this difference may at times create conflict. Students can learn both styles of practice, whether or not they ultimately practice EM.
g. Bedside teaching and learning differs in the ED than on other services, as it often includes abbreviated or interrupted educational opportunities. EM faculty use the *teachable moment* to share information with learners. Case presentations, bedside demonstrations, differential diagnoses, and discussions of management plans provide stimuli for education on *every* patient. Signout rounds (handovers) in EM differ from rounds in Internal Medicine, which do not share the time pressures inherent to the ED environment, have fewer interruptions by nurses with questions regarding patient care, and have fewer new patients. This also differs from learning during Surgery clerkships, which have ample opportunity for teaching sessions during cases, or while waiting for the next case to begin.
h. Other opportunities for learning during EM clerkships include student sessions, didactic conferences, procedure labs, simulation, and structured time with clerkship directors. Students should be encouraged to set up appointments with EM faculty for one-on-one teaching and advising away from the patient demands in the ED.

B. Specific skills to master during the EM clerkship
   a. History-taking and physical examination skills
   b. Diagnostic evaluation and treatment skills
   c. Laboratory, radiography and ECG interpretation skills
   d. Procedural skills (special labs for students, including cadaver labs, and on patients in real time). Each procedure should have the following information considered:
      i. Indications
      ii. Complications
      iii. Technique
      iv. Interpretation of results
      v. Important procedural skills include: basic and advanced airway, including but not limited to intubation, surgical airway, BMV and LMA, vascular access (peripheral IVs, central lines with Ultrasound, intraosseous lines), wound care and suturing, Foley and NG tube placement and lavage, ABG, LP, orthopedic reductions, slit lamp evaluation and tonometry, regional anesthesia, I & Ds, foreign body removal, Ultrasound, and chest tube thoracostomy. It is unlikely that thoracotomy

or cricothyrotomy skills will be obtained during a medical student clerkship, unless there is a cadaver or procedures lab. CPR is always important to practice.

e. Efficiency skills, including time and multiple patient management
f. Consultation and disposition skills (who needs consultation, learning how to speak with consultants, who needs admission, referral patterns for the hospital and ED, appropriate use of social services, establishing appropriate follow-up plans and arranging them, and conflict resolution). Don't be discouraged if policy doesn't allow students to consult – try!

C. Principles of emergency care
   a. Airway, Breathing, Circulation, Disability, Exposure (ABCDE)
   b. High index of suspicion for life-threatening conditions
   c. Acute medical illness, including exacerbations of chronic conditions
   d. Traumatic injuries, including intimate partner violence and abuse
   e. Pain relief
   f. Reassurance, when possible
   g. Patient satisfaction
   h. End-of-life issues, including discussions about "heroic measures", POLST, ethics
   i. Psychiatric emergency care
   j. Psychosocial care of homeless, indigent and uninsured, drug-dependent or drug-seeking patients; substance abuse and addiction
   k. Difficult and combative or violent patients
   l. Special patients (often with special needs)
   m. Ultrasound and CT, and imaging utilization
   n. ED overcrowding
   o. Disaster medicine, including mass casualty incidents and bioterrorism
   p. ACGME general (core) competencies
      i. patient care
      ii. medical knowledge
      iii. interpersonal and communication skills
      iv. professionalism
      v. practice-based learning and improvement
      vi. systems-based practice

D. Evaluation and feedback
   a. This should be pursued and welcomed, from faculty, residents, nurses, and support staff
   b. After each patient, after each procedure, after each shift, mid-point (formative), and summative (final)
   c. Schedule at least one session for confidential feedback in a private setting away from the ED, not during one of their (or your) clinical shifts (**HINT:** early during clerkship).
   d. Self-assess your performance after each case and shift – I think I did this well, but would like to improve on that…. Ask your supervisor if (s)he agrees, or has any suggestions
      i. Clinical care and procedural abilities
      ii. Case presentations, DDX abilities, and patient management
      iii. Involvement in didactic sessions
      iv. Testing
      v. Assignments
      vi. Projects, such as presentations, case reports, topic reviews
      vii. General competencies
   e. Recommendation letters (SLOR) – see page 12

II. Preparation strategies to make the most of your ED experience

A. Learn in advance what you will undoubtedly see during your clerkship
B. ACLS, ATLS, PALS
C. Top reasons for an ED visit (*National Hospital Ambulatory Medical Care Survey, 2007, published August 6, 2010* – http://www.cdc.gov/nchs/data/nhsr/nhsr026.pdf ; Accessed 4/13/13)

1. Age < 15 years – fever, cough, vomiting
2. Age 15 – 64 years – chest pain, abdominal pain
3. Age 65 years and older – chest pain, shortness of breath, abdominal pain

D. Leading primary diagnoses
   1. Age < 15 years – Acute URI, otitis media/Eustachian tube dysfunction (boys and girls)
   2. Age 15 – 64 years
      a. male - open wounds and contusion
      b. female - abdominal pain and obstetrical complications
   3. Age > 65 years – chest pain and non-ischemic heart disease (men and women)

If you consider chest pain, abdominal pain, headache, back symptoms, lacerations (perhaps), and pain as PAIN, it is clear why EPs must be experts in identifying, evaluating, and treating painful conditions.

Many EM textbooks have sections titled *Cardinal Presentations*, or are written to include chapters based on presenting symptoms (such as fever, weakness, dizziness and vertigo, confusion, coma and depressed level of consciousness, seizures, headache, dyspnea, chest pain, syncope, nausea and vomiting, abdominal pain, gastrointestinal bleeding, diarrhea, constipation, jaundice, acute pelvic pain, vaginal bleeding, and back pain).

E. Learn or review procedural skills
F. Tour the ED in advance, to find out how the rooms are numbered, how the patient's are assigned, the role of nursing and other staff, and other nuances of the ED. If possible, shadow a resident or attending physician for a few hours the day before your rotation begins. Learn how the charting, test ordering, lab and radiograph retrieval, and disposition systems work. Review an orientation video ahead of time if one exists, and any materials offered; request these in advance, if possible.
G. Attend an educational conference prior to the start of your rotation, if time permits. Resident conferences, journal club, procedure labs, interest group sessions, etc. are all reasonable possibilities, although "special" labs may have limited space. Find out when these are being held, or consider arranging one with a few of your classmates.
H. Schedule a meeting with the student clerkship director *before* your rotation begins, to discuss the rotation in general, the specialty, and the specific goals and objectives of the rotation. Learn about required special projects, or any interesting research projects ongoing. Find out the requirements for grading, and if any special requirements exist. Notify the person who makes the schedule about schedule requests or special needs BEFORE the schedule is made.
I. Review the CORD EM Standard Letter of Recommendation (SLOR) – see page 12 – which will likely be used by EM faculty should you request an evaluation letter following your rotation. See also Letters of Recommendation chapter (Chiao, Garmel, pp. 285-298) in Medical Student Educator's Handbook, 2nd edition (CDEM/SAEM publication: Rogers, Moayedi, eds) at: http://www.saem.org/sites/default/files/MSE-Handbook.pdf (accessed 4/13/13). By reviewing this, you will learn several qualities which faculty will be evaluating.
J. Speak with other students who have completed the rotation. Learn from them how to get the most out of the rotation, and who are the key faculty and best teachers.
K. Integrate skills and diagnostic approaches from previous rotations. Review notes and skills from the core rotations.
L. Be ready *before* your first shift on your first day. Simply showing up at the time assigned isn't enough anymore, as the specialty of EM is too competitive and too demanding. Find out the proper attire ahead of time (scrubs, casual, ties, etc.) and where to get them so you are ready to start. This includes photo ID badges, scrubs, and coats of the appropriate length and color.
M. Learn about a few "hot topics" in EM before your rotation begins. Investigate websites related to our specialty, EM references and student literature. If possible, review in advance any course syllabus offered by the clerkship (**HINT:** you can request this material before your first day).
   a. ACGME core competencies (see page 11)
   b. EMTALA (Emergency Medical Treatment and Active Labor Act), MSE (medical screening exam), EMC (emergency medical condition), ESI (emergency severity index)

c. HIPAA (Health Insurance Portability and Accountability Act), 1996
d. ED and hospital overcrowding
e. hospital and trauma center closures
f. resident duty hours (Libby Zion case)
g. resident debt
h. malpractice crisis
i. consultant on-call crisis and how it impacts EPs and patients
j. EM Milestones and Next Accreditation System (NAS)
k. scholarly activity
l. pharmaceutical industry's influence on physicians and residents
m. resident wellness, circadian rhythms, sleep hygiene, driving safety
n. career satisfaction and longevity, job security, physician burnout
o. virtual simulation training
p. political climate and organizations in EM
q. documentation guidelines, supervision, medicare/medicaid, billing, collections
r. evidence-based medicine and clinical guidelines (rules)
s. mentoring and faculty development
t. new drugs, new diseases, new treatments
u. disaster medicine, mass casualty incidents, bioterrorism
v. departmental status, academic equality, gender disparity
w. drug-drug interactions, polypharmacy, addiction/dependence
x. ethical issues in EM
y. restraints (chemical and physical)
z. lifelong learning and self-assessment (LLSA), maintenance of certification (MOC)

N. Patient safety and your own safety are at all times paramount. Don't be afraid to ask questions if you don't understand something, if you aren't comfortable performing a procedure, or if you are concerned about a patient's well being. Evaluations should not be based on the number of (appropriate) questions a student asks. In fact, asking questions demonstrates a student's commitment to learning. Pose questions that show interest and enthusiasm, and reveal that you have been reading and have considered alternate possibilities.
O. If grades are assigned at the end of the clerkship, it is reasonable to ask the clerkship director in advance (at the initial meeting) is "what will I need to do to achieve the highest final grade?" A lecture, paper, handout, EBM literature search, case presentation, or other project in addition to outstanding patient care may be required to obtain this designation, which may not be possible otherwise. Why not find out about this ahead of time?
P. Read about an EM topic daily, as this is an excellent habit to start. Read about every patient you see, on assigned topics, and on topics important in EM. Prepare for any tests, lectures, and assignments in addition to learning from every patient and each lecture. Do a GREAT job on all assigned academic tasks; not only will it be recognized, but it will add to your education!

III. Recommended textbooks, readings and resources

A. Textbooks in Emergency Medicine
   a. Rosen's Emergency Medicine: Concepts and Clinical Practice (7th ed.), 2010
   b. Harwood-Nuss' Clinical Practice of Emergency Medicine (5th ed.), 2010
   c. Mahadevan SV, Garmel GM: An Introduction to Clinical Emergency Medicine, 2nd edition, Cambridge University Press, 2012
   d. Levis JT, Garmel GM: Clinical Emergency Medicine Casebook, Cambridge University Press, 2009
   e. Adams' Emergency Medicine: Clinical Essentials, 2nd ed., 2013
   f. Tintinalli's Emergency Medicine: A Comprehensive Study Guide (7th ed.), 2011
   g. Practical Teaching in Emergency Medicine (Rogers, ed), 2013
   h. Introduction to Emergency Medicine, Mitchell/Medzon, 2005
   i. First Exposure: Emergency Medicine Clerkship, 2004

B. Textbooks Relevant to EM Practice
   a. Roberts/Hedges: Clinical Procedures in Emergency Medicine (5th ed.), 2010
   b. Auerbach's Wilderness Emergency Medicine (6th ed.), 2013
   c. ECGs for the Emergency Physician, Mattu/Brady, 2003
   d. ECG in Emergency Medicine and Acute Care, Chan, et al, 2004
   e. Electrocardiography in Emergency Medicine, Mattu, Tabas, Barish, 2007 (ACEP)
   f. Atlas of Emergency Medicine (3rd ed.), Knopp KJ, *et al*., 2010
   g. Rosen & Barkin's 5-Minute Emergency Medicine Consult (Schaider), 4th ed, 2010
   h. Color Atlas of Emergency Trauma (Mandavia, Newton, Demetriades), 2003
   i. Emergency Management of Infectious Disease (Chin), 2008
   j. Color Atlas of Emergency Department Procedures (Custalow), 2004
   k. Harris and Harris, Radiology of Emergency Medicine (4th ed.), 2000
   l. Emergency Radiology, Schwartz and Reisdorff, 2000

C. Emergency Medicine publications
   a. *Academic Emergency Medicine* (SAEM-sponsored)
   b. *American Journal of Emergency Medicine*
   c. *Annals of Emergency Medicine* (ACEP-sponsored)
   d. Critical Decisions in Emergency Medicine* (ACEP publication)
   e. *Emergency Medicine Clinics of North America*
   f. Emergency Medicine Reports* (not a journal, but nicely written)
   g. *Journal of Emergency Medicine* (AAEM-sponsored)
   h. *Western Journal Emergency Medicine (available on line, open access, peer-reviewed)*
   i. Review articles on EM topics in quality peer-review journals, such as *JAMA* or *NEJM*

D. Internet Resources
   a. Website addresses for EM organizations
      i. www.aaem.org (American Academy of Emergency Medicine)
      ii. www.abem.org (American Board of Emergency Medicine)
      iii. www.acep.org (American College of Emergency Physicians)
      iv. www.emra.org (Emergency Medicine Residents' Association)
      v. www.saem.org (Society for Academic Emergency Medicine)
      vi. www.saem.org/CDEM (Clerkship Directors in Emergency Medicine)
   b. Website addresses for EM topics
      i. www.emedhome.com (sponsored by Comp Health, EM home page)
      ii. www.emedicine.com (on-line emergency medicine textbook)
      iii. www.emstudent.org (*Medical Student Rules of the Road*)
      iv. www.ncemi.org (National Center for Emergency Medicine Informatics)
      v. www.cochrane.org (Cochrane collaborative database)

E. Miscellaneous resources
   a. Wagner MJ: Peer VIII Question & Answer books (ACEP product)
   b. Wagner MJ, Promes S: Last Minute Emergency Medicine, 2007
   c. Markovchick, Pons, Bakes: Emergency Medicine Secrets, 5th ed., 2011
   d. Promes: Emergency Medicine Examination & Board Review, 2005
   e. Wald: Emergency Medicine Clerkship Primer: A Manual for Medical Students, 2012
   f. Rogers, Moayedi: Medical Students Educators' Handbook (CDEM/SAEM), 2010
   g. Radiology on-line websites or other radiology textbooks in EM (including Ultrasound)
   h. Antibiotic and pharmacologic references (Sanford, EMRA Antibiotic Guide, ePocrates Pro, Tarascon pocket pharmacopoeia)
   i. Medical school resources
      i. Radiology teaching files/library
      ii. ECG teaching files
      iii. Dermatology photos
   j. Podcasts and/or blogs related to EM
      i. EMCRIT.org (Scott Weingart)
      ii. Academic Life in EM (Michelle Lin)
      iii. EM:RAP (Mel Herbert)
      iv. EMEDHOME.com

IV. Important considerations regarding emergency medicine rotations

A. Why

a. Required clerkship
b. Tremendous learning curve for future clinical skills
c. Patient diversity and variety of presentations
d. Teaching and possible autonomy (certainly patient care responsibility)
e. Exposure to the specialty and the environment
f. Develop skills to handle urgencies and emergencies
g. Desire residency position in EM (and confirm or determine if EM best "fit")

B. When

a. Early in final year
    i. Exposure to EM, often for the first time
    ii. Gain information about future training
    iii. Opportunity to enroll in a second clerkship (different location and experience)
    iv. Ability to have evaluations submitted to ERAS by the deadline (earlier starting in 2012), demonstrating interest in the specialty, describing performance and interpersonal skills, and predicting future potential
    v. Change to another specialty if EM isn't "right" for you
b. After core clerkships have been completed
    i. May be assigned a required EM clerkship prior to all core rotations
    ii. Better able to integrate knowledge and skills from all core rotations
    iii. More involved with patient care, therefore more responsibility and autonomy
    iv. Fewer "I don't know about that" or "I haven't learned that yet" responses
c. Once emotionally ready for the challenges of emergency patients, emergency health care personnel, consultants, and environment
d. Each clerkship during your final year will result in the formation of new skills in addition to medical, personal, and professional maturation. Decisions regarding when to sign up for EM clerkships must be considered on an individual basis. (**HINT**: Seek an advisor for help.) Rotations are best if not taken too early (described above) or too late (immediately before or during interview season, generally November through January). The interview process is expensive, stressful, and time-consuming for candidates. Clerkships during the interview season may result in poor performance due to travel and fatigue, and less time with key clinical faculty who are interviewing applicants. However, the opportunity to interview before or following an elective in EM during November through January may help defray travel costs if a rotation is arranged near (or at) a program (or geographic area) of interest. Don't schedule too many interviews during your EM clerkship, however (for obvious reasons).
e. The most competitive months for EM rotations seem to be July through September. Some students elect clerkships in May or June, and many students take a second rotation between August and November. Keep in mind that the rank list submission deadlines for ERAS are in February for programs and candidates, with MSPEs ("Dean's letters") released earlier (Oct 1) beginning in 2012.

C. Where

a. Your home institution is likely to offer you the most exposure to EM faculty, particularly in the months following your clerkship. It should be much easier to maintain advisory relationships with one or more faculty members at your home institution. In addition, students are likely to have increased familiarity with the medical environment at home, eliminating one major stressor. If an EM rotation is required at your home institution, subsequent rotation(s) in EM (if planned) would be best at a different location. Even if more than one ED exists within a medical school's or residency program's structure, it is often better to plan a subsequent rotation at an alternate location. Faculty members at different institutions share information regarding student performance on a regular basis, which essentially eliminates the need to schedule clerkships at different sites within the same medical school or residency program.

b. Residency training programs in EM often have excellent student rotations, serving as one manner of attracting future residents. EDs with residency programs generally attract faculty interested in teaching, and typically assign enthusiastic, energetic, and approachable faculty members to the students. In these environments geared to teaching and academics, students often have tremendous exposure to what training in EM will be like. Furthermore, academic faculty, program directors, and student clerkship directors often have more insight into the application and training process, and are likely to be better judges of future potential than EPs at non-teaching hospitals. EM residents have tremendous knowledge about the application and interview process, and are likely willing to share experiences that helped them transition from medical student to EM resident.
c. Often, students schedule *audition rotations* as clerkships in EM at residency programs where they would like to train. An outstanding performance during an audition rotation may increase the likelihood of matching at that program, although this is not a guarantee. However, a poor performance or difficult interpersonal relations may reduce the likelihood of matching at that program. If you are interested in a particular program, and are able to schedule a rotation there, be aware that all of your interactions will be assessed, not just those with the clerkship or program director. Furthermore, consider scheduling an audition clerkship after your first EM clerkship, where your clinical skills and comfort level in the ED will be greater. Programs do not exclude students simply because they were unable to schedule rotations at their institution, as many students are not allowed to do away electives, have special circumstances preventing them from leaving home, or can't schedule rotations because the start dates do not correspond with the start dates at these programs.
d. Large EDs with a high census and a broad spectrum of clinical pathology are generally accustomed to hosting a large number of student rotators. County EDs often allow students greater responsibility over patient care activities, giving students a tremendous sense of responsibility and "ownership." Many students learn best in these environments; others prefer a different learning environment.
e. Look for a clerkship with the reputation for providing students an outstanding rotation. These clerkships offer excellent bedside teaching, stellar didactic sessions, and special (additional) educational sessions for students, in addition to having dedicated faculty, breadth of pathology, and high levels of acuity. Clerkships should be avoided if students are only allowed to observe or serve as scribes. As students, you deserve time assigned with faculty, during both clinical duties and didactic sessions. Be wary of clerkships that rely exclusively on residents for your case presentations in the ED, didactic sessions, and career advice.
f. A strong elective in EM should provide the opportunity for academic exposure at a major academic site. This includes exposure to research, non-medical teaching, political issues in EM, and career counseling (including strengthening your application, how many and which programs to apply to, interview strategies, selecting a residency program, and submitting your rank list). Inquiring about competing programs in EM should not create tension or result in a poor performance evaluation.
g. Geographic location of personal or professional interest is a serious consideration, not only for scheduling elective clerkships but also for deciding where to train in EM. Many residents tend to practice EM near where they trained following graduation. This may be the reason why they chose to train in that geographic region, or may be related to contacts and friendships made in that area. As it is with students vying for residency positions, it may be easier to obtain a staff or faculty position in a location where you have trained, since you are a "known entity."
h. Clerkship intangibles are always important to consider, and may include things like expenses, housing, family, friends, significant others, geography, topography, water, weather, etc. Remember, however, that you are at the clerkship to work hard, provide outstanding patient care, participate, and learn.
i. Where to plan EM rotations also depends on the number of EM clerkship electives scheduled.

D. How many clerkships in EM

a. Each student will differ as to the number of EM clerkships that is right for him or her
   i. what is your potential for success in our specialty?
   ii. how competitive were you during your EM rotation?
   iii. what is your previous exposure to EM (paramedic, core rotations in medical school which took place in the ED, research assistant, ED tech)?
   iv. how have you performed thus far (preclinical, clinical, standardized tests)?
   v. commitment to the specialty (EM activities, organizations, clubs, meetings, conferences, etc.)?
   vi. research and/or publications in EM?
   vii. leadership positions within medical school, esp. EM?
   viii. balance as an individual?

b. ***one*** – a confident student who knows the specialty of EM is the right choice, has previous exposure, and demonstrates commitment *may* only need to schedule one EM clerkship, assuming he or she is an extremely strong applicant. This individual may take advantage of final year electives to strengthen areas that will serve patients well in the ED. If core rotations at your medical school give you a tremendous amount of exposure to the ED, consider a single clerkship at an alternate institution. However, make certain to make time to meet faculty at your institution, so that they have the opportunity to know you. They need to be aware of your interest in our specialty. Consider extra shifts on your own time at your home institution (shadowing a resident or faculty member), especially if your school allows only one EM clerkship.

c. ***two*** – often the "standard" number of clerkship rotations for several reasons. First, EM is extremely competitive, so increased exposure to more than one practice style might increase your competitiveness. Second, this is an excellent manner in which to reinforce and develop skills from the first EM clerkship. This may improve your ability to determine if EM is the right career choice. Students are often given more autonomy during a second EM clerkship, as they are more familiar with the evaluation and management of emergency patients. When two rotations are scheduled, one should be at the home institution, the other as a visiting student outside the home environment. This offers students the opportunity to compare and contrast institutions and (perhaps) residency programs.

d. ***three*** – although less common, students may choose to schedule three EM clerkship electives. Although two clerkships are generally satisfactory, three rotations might be valuable if a student's experience to this point has not been positive. Additionally, if a student is still concerned that EM is the "right" specialty, a third rotation may be helpful. Students who are not as competitive as their peers may decide on a third rotation; increased familiarity with patients typically seen in the ED may improve their performance. Finally, having the exposure to a third ED setting may help determine where a student selects to train during residency. However, a research elective or other exposure to the ED (direct or indirect), rather than a third month in the ED might better prepare students for a career in EM.

e. ***four*** – this would not usually be recommended, unless unusual circumstances exist. These circumstances might include an extended medical school career, with time for additional electives following extended leave from clinical duties, concerns about competitiveness, or a lack of alternate electives available to a student (unlikely).

V. Final comments

A. No two EM clerkships provide exactly the same educational experience for students, just as no single patient or shift provides exactly the same opportunities for different individuals. Wherever a clerkship is arranged, be sure to take advantage of all the educational opportunities available.

B. If a rotation in EM is mandatory at your medical school, consider scheduling an elective elsewhere, rather than at the same institution. However, if the mandatory rotation was only 2 weeks, came early in your training, or you felt that you did not demonstrate your best abilities, it is reasonable to schedule an EM clerkship elective in your final year at your home institution.

C. If you schedule an away clerkship in EM, keep key faculty aware of your interests in and plans for a career in EM. This is especially important if an EM residency program exists at your medical school. Keep advisors, research mentors, and student clerkship directors informed as well.
D. Prepare **before** the first day of your EM clerkship. Review emergency medications and patient care strategies (ACLS, ATLS, PALS), cardinal presenting symptoms and signs of undifferentiated emergency patients, and the most common presenting complaints of emergency patients. Familiarize yourself with the ED, existing policies and procedures for students, the role of students in the ED, and the flow of patients and information (charting, lab, xrays, etc.). If possible, review an orientation video (if one exists), and/or shadow a resident before your first scheduled clinical duties.
E. At all times during your rotation, remain professional and respectful of others. Be a team player; help others with their workload if possible. Arrive on time (or early) for your shifts and didactic sessions, ready to work. Plan on staying late (or at least until all of your work is completed). Make sure your patients are appropriately "tucked in," aware of what is going on with them. Their pain should be controlled, labs checked, procedures performed, charts completed, dispositions made, and consultants called before you leave. In other words, don't leave work for others that you can do yourself! Check with your supervisor before you leave, to review plans on each patient you are following. Check to see if anyone needs help before you leave (patients, nurses, students, residents, or faculty). Not only will this be appreciated (and remembered), you might learn something extra.
F. If a policy exists which does not allow students to call consultants, ask to review the presentation with your supervisor ahead of time, and see if (s)he will allow you to call with them nearby. If this is not possible, seek approval to listen to the presentation on a second line, or simply listen to the supervisor making the call, which will still provide useful information. Make the effort to present a case to a consultant, with a well-rehearsed presentation. Make consultants aware that you are a medical student, and impress them with a well-rehearsed presentation. This may even blaze a trail for future students (or distinguish you from other students as "the student who presented to consultant X and did a great job").
G. Try to learn about other patients in the ED, provided it doesn't interfere with your ability to care for the patients who are your responsibility. Listen to case presentations and discussions of diagnostic and management strategies, review physical findings, look at ECGs and radiographs, and observe procedures. Share interesting cases and findings with your colleagues, who will appreciate this and likely return the favor.
H. Enjoy the challenges of the ED; it is not an environment for everyone. Try not to get too frustrated. Discuss these frustrations honestly with a respected faculty member, but not too often or it will seem that you aren't right for the specialty or it isn't right for you. Take on a project to change something you don't like in the ED, which may keep others from having similar frustrations in the future.
I. Enjoy the privilege of taking care of all patients at all times. Patients come to the ED for a number of reasons, but are generally in pain, anxious, apprehensive, or have some concern that needs to be addressed. If you are cynical this early in your career, how cynical will you be in 5, 10, 20 years?

Best of luck to everyone during the remainder of medical school and your training to become a physician, regardless of your ultimate career choice.
Gus M. Garmel, MD, FACEP, FAAEM

VI. Appendices
A. Nine Ps that interest EM program directors
B. Six ACGME General (Core) Competencies
C. CORD Standard Letter of Recommendation (SLOR)
D. References/Resources

What do EM program directors look for in a candidate? The "9 Ps" that interest program directors:

PERFORMANCE: in medical school, especially CORE rotations and EM clerkships (think P = Patient care). Most programs emphasize clinical over preclinical abilities and test scores.

PRODUCTIVITY: includes research projects, manuscripts, extracurricular activities, leadership roles, volunteerism, etc.

PROFESSIONALISM: attitude, interaction, appearance, etc. (MSPE [Dean's letters] and letters of recommendation often suggest strengths or weaknesses in this area.) Also, consider the importance of professionalism and being a team player during your interview.

PERSONALITY: are you a "good fit" for the specialty of EM? Similarly, are you a "good fit" for the particular program (it is mutually beneficial if this is reciprocal)?

PREPARATION: did you do your homework about our specialty and a particular program? Are you aware of "hot topics" in EM and in EM residency training? Are you aware of, a member of, or an officer in EM organizations? Did you plan one or more electives in EM to obtain a good idea about what the specialty involves, what training may entail, and what a program might have to offer? Also, what subinternship(s) and final-year electives are you planning to prepare you for the future?

PERSISTENCE: are you willing to demonstrate (appropriate) persistence? This includes learning habits, replies to interview offers, expressing interest in a program, and timely, personal thank you notes to faculty interviewers.

PUNCTUALITY: do you meet deadlines, show up early or on time for your interview, clinical duties, didactic sessions, etc.? This is very important in our specialty.

PASSION: are you passionate about training in EM? Training at that program? Or, are you passionate only about your hobbies, medical school buddies, etc…?

POTENTIAL: does the PD feel that you have the potential to represent the specialty of EM and the program well, including on off-service rotations, and to be an outstanding resident?

ACGME General (Core) Competencies*

The residency program must require its residents to obtain competencies in the 6 areas below to the level expected of a new practitioner. Toward this end, programs must define the specific knowledge, skills, and attitudes required and provide educational experiences as needed in order for their residents to demonstrate:

1. *Patient Care* that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
2. *Medical Knowledge* about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. *Practice-Based Learning and Improvement* that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
4. *Interpersonal and Communication Skills* that result in effective information exchange and teaming with patients, their families, and other health professionals.
5. *Professionalism*, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. *Systems-Based Practice*, as manifested by actions that 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.

*from ACGME website at www.acgme.org

FOR EXTRA CREDIT, LOOK AT EM MILESTONES at: *Accessed 4/25/13*
https://www.abem.org/PUBLIC/portal/alias__rainbow/lang__en-US/tabID__4341/DesktopDefault.aspx

2012-2013 APPLICATION SEASON

Emergency Medicine Residency Recommendation Form

Emergency Medicine Faculty ONLY – Read Instructions first @ www.cordem.org

Applicant's Name: AAMC ERAS ID No.

Reference Provided By:

Present Position: Email:

Institution: Telephone Number:

A. Background Information

1. How long have you known the applicant?

2. Nature of contact with applicant: (Check all that apply)

Know indirectly through others/evaluations	☐	Extended, direct observation in the ED	☐
Clinical contact outside the ED	☐	Advisor	☐
Occasional contact (<10 hours) in the ED	☐	Other	

3. If this candidate rotated in your ED, what grade was given?

Honors ☐ High Pass ☐ Pass ☐ Low Pass ☐ Fail ☐

Optional: One Key Comment from ED Faculty Eval:

4. Is this the student's first, second, or third EM rotation?

What date(s) did this student rotate at your Institution?

5. Indicate what % of students rotating in your Emergency Department received the following grades last academic year:

Honors	%	Total # students last year:
High Pass	%	
Pass	%	
Low Pass	%	
Fail	%	
	100% Total	

B. Qualifications for EM. Compare the applicant to other EM applicants/peers.

1. Commitment to Emergency Medicine. Has carefully thought out this career choice.
   Outstanding (top 10%) ☐ Excellent (top 1/3) ☐ Very Good (middle 1/3) ☐ Good (lower 1/3) ☐

2. Work ethic, willingness to assume responsibility.
   Outstanding (top 10%) ☐ Excellent (top 1/3) ☐ Very Good (middle 1/3) ☐ Good (lower 1/3) ☐

3. Ability to develop and justify an appropriate differential and a cohesive treatment plan.
   Outstanding (top 10%) ☐ Excellent (top 1/3) ☐ Very Good (middle 1/3) ☐ Good (lower 1/3) ☐

4a. Personality; ability to interact with others.
   Superior ☐ Good ☐ Quiet ☐ Poor ☐

4b. Personality; ability to communicate a caring nature to patients
   Superior ☐ Excellent ☐ Adequate ☐ Poor ☐

5a. How much guidance do you predict this applicant will need during residency?
   Almost None ☐ Minimal ☐ Moderate ☐

5b. Given the necessary guidance, what is your prediction of success for the applicant?
   Outstanding ☐ Excellent ☐ Good ☐

C. Global Assessment

1. Compared to other EM residency candidates you have recommended as such last academic year, this candidate is ranked as:

Ranking	# Recommended in each category last academic year
Outstanding (top 10%) ☐	
Excellent (top 1/3) ☐	
Very Good (middle 1/3) ☐	
Good (lower 1/3) ☐	

Total # of letters you wrote last year:

2. How highly would you estimate the candidate will reside on your match list?

Very competitive (2x) ☐ Competitive (4x) ☐ Possible match (6x) ☐ Unlikely match at this program ☐

D. Written Comments

Signature:_____ Dated:_____:

STUDENT HAS WAIVED RIGHT TO SEE THIS LETTER ☐

***from http://www.cordem.org/i4a/pages/index/cfm?pageid=3284 (Accessed 4/13/13)**

References/Resources:

The 2011 model of the clinical practice of emergency medicine. Perina DG (Chair), et al. *Acad Emerg Med* 2012;19(7):e19-e40.

Adams J, Schmidt T, Sanders A, et al. Professionalism in Emergency Medicine. SAEM Ethics Committee. *Acad Emerg Med* 1998;5:1193-1199.

Balentine J, Gaeta T, Spevack T. Evaluating applicants to emergency medicine residency programs. *J Emerg Med* 1999;17:131-134.

Bandiera GW, Morrison LJ, Regehr G. Predictive validity of the global assessment form used in a final-year undergraduate rotation in emergency medicine. *Acad Emerg Med* 2002;9(9):889-95.

Berger TJ, Ander DS, Terrell ML, Berle DC. The impact of the demand for clinical productivity on student teaching in academic emergency departments. *Acad Emerg Med* 2004;11(12):1364-7.

Burdick WP, Jouriles NJ, D'Onofrio G, et al. Emergency medicine in undergraduate education. SAEM Education Committee, Undergraduate Subcommittee. *Acad Emerg Med* 1998;5:1105-1110.

Chiao A, Garmel GM: Letters of recommendation. *In* Medical Student Educator's Handbook. Rogers RL, Moayedi S (eds). CDEM/SAEM. Available at: www.cdemcurriculm.org/assets/other/mse_handbook.pdf (Accessed 4/13/13).

Coates WC: The Emergency medicine subinternship – An educator's guide to planning and administration. *Acad Emerg Med* 2005;12:129e1-4.

Coates WC. An educator's guide to teaching emergency medicine to medical students. *Acad Emerg Med* 2004 Mar;11(3):300-6.

Coates WC, Gendy MS, Gill AM. Emergency medicine subinternship: Can we provide a standard clinical experience? *Acad Emerg Med* 2003 Oct;10(10):1138-41.

Crane JT, Ferraro CM. Selection criteria for emergency medicine residency applicants. *Acad Emerg Med* 2000;7:54-60.

DeBehnke D, Shepherd D, Ma OJ. A case-based emergency medicine curriculum for senior medical students. *Acad Emerg Med* 1995;2(6):519-22.

DeSantis M, Marco CA. Emergency medicine residency selection: Factors influencing candidate decisions. *Acad Emerg Med* 2005;12(6):559-561.

Farrell SE. Evaluation of student performance: Clinical and professional performance. *Acad Emerg Med* 2005:12(4):302.e6-10.

Finkel MA, Adams JG. Professionalism in emergency medicine. *Emerg Med Clinics NA* 1999;17:443-450.

Garmel GM. Career Planning Guide for Emergency Medicine, 2nd ed. EMRA: Irving, TX 2007.

Garmel GM. Letters of recommendation: What does *good* really mean? *Acad Emerg Med* 1997;4:833-834.

Garmel GM: Mentoring medical students in academic emergency medicine. *Acad Emerg Med* 2004;11:1351-1357.

Girzadas DV Jr, Harwood RC, Delis SN, et al. Emergency medicine standardized letter of recommendation: Predictors of guaranteed match. *Acad Emerg Med* 2001;8(6):648-53.

Go S. A competency-based approach to clinical evaluation of students in the emergency department. *Acad Med* 2001;76(5):538.

Graber MA, Wyatt C, Kasparek L, Xu Y. Does simulator training for medical students change patient opinions and attitudes toward medical student procedures in the emergency department? *Acad Emerg Med* 2005;12(7):635-9.

Guth T (ed). Resident as Educator: A Guidebook written by Residents for Residents. EMRA. 2013.

Harkin KE, Cushman JT, Wei HG (eds). Emergency Medicine: The Medical Student Survival Guide. EMRA, 2001.

Hayden SR, Hayden M, Gamst A: What characteristics of applicants to emergency medicine residency programs predict future success as an emergency medicine resident? *Acad Emerg Med* 2005;12:206-210.

Hobgood C, Zink B, eds. *Emergency Medicine: An Academic Career Guide.* EMRA/SAEM. 2000.

Iserson KV. *Iserson's Getting Into a Residency: A Guide for Medical Students.* 8th ed. Tucson, AZ: Galen Press, Ltd.; 2013.

Johnson GA, Pipas L, Newman-Palmer NB, Brown LH. The emergency medicine rotation: A unique experience for medical students. *J Emerg Med* 2002;22:307-11.

Kazzi AA, Schofer JM. *Emergency Medicine: AAEM's Rules of the Road for Medical Students: The Guide for a Career in Emergency Medicine.* AAEM, 2002. www.aaemrsa.org/benefits/aaemrsa-student-benefits

Kroot LJ, Barlow W, Murphy-Spencer A. Comparison and evaluation of the clinical experience of fourth-year medical students in a mandatory emergency medicine clerkship at university and community hospitals. *Med Teach* 2001;23(3):310-312.

Lampe CJ, Coates WC, Gill AM. Emergency medicine subinternship: Does a standard clinical experience improve performance outcomes? *Acad Emerg Med* 2008;15(1):82-5.

Levis JT, Garmel GM: *Clinical Emergency Medicine Casebook.* Cambridge Univ Press, 2009.

Lubavin B, Phelps M. Pearls of wisdom for your emergency medicine rotation. *J Emerg Med* 2001;20:211-212.

Mahadaven SV, Garmel GM. The outstanding medical student in emergency medicine. *Acad Emerg Med* 2001;8:402-403.

Mahadevan SV, Garmel GM (eds): *An Introduction to Clinical Emergency Medicine, 2nd ed.* Cambridge Univ Press, 2012.

Manthey DE, Ander DS, Gordon DC, et al. Emergency medicine clerkship curriculum: An update and revision. *Acad Emerg Med* 2010;17(6):638-643.

Manthey DE, Coates WC, Ander DS, et al. Report of the task force on national fourth year medical student emergency medicine curriculum guide. *Annals Emerg Med* 2006;47:e1-7.

Martin-Lee L, Park H, Overton DT. Does interview date affect match list position in the emergency medicine national residency matching program match? *Acad Emerg Med* 2000;7:1022-26.

McGraw R, Lord JA. Clinical activities during a clerkship rotation in emergency medicine. *J Emerg Med* 1997;15(4):557-62.

McLaughlin SA, Hobgood C, Binder L, et al. Impact of the Liaison Committee on Medical Education requirements for emergency medicine education at U.S. schools of medicine. *Acad Emerg Med* 2005:12(10):1003-9.

Niska R, Bhuiya F, Xu J. National Hospital Ambulatory Medical Care Survey: 2007 Emergency Department Summary. CDC-P, August 6, 2010 (Number 26); 1-32.

Pitre CJ. The unique educational value of emergency medicine student interest groups. *J Emerg Med* 2002;22:427-8.

Pusic MV, Pachev GS, MacDonald WA. Embedding medical student computer tutorials into a busy emergency department. *Acad Emerg Med* 2007;14(2):138-48.

Rogers RL, Moayedi S (eds). Medical Student Educator's Handbook, 2nd ed. CDEM/SAEM 2010. Available at: www.cdemcurriculm.org/assets/other/mse_handbook.pdf (Accessed 4/13/13).

Rogers RL, Wald DA, Lin M, et al. Expectations of an emergency medicine clerkship director. *Acad Emerg Med* 2011;18(5):513-518.

Rosen P, Hamilton GC. 3 vs 4 year. Society for Academic Emergency Medicine Web site. Available at: http://www.saem.org/saemdnn/Home/Communities/MedicalStudents/EMApplicants/3vs4year/tabid/911/Default.aspx, *Accessed March 4, 2010.*

Schwartz LR, Fernandez R, Kouyoumjian SR, et al. A randomized comparison trial of case-based learning versus human patient simulation in medical student education. *Acad Emerg Med.* 2007;14(2):130-7.

Senecal EL, Thomas SH, Beeson MS. A Four-year perspective of Society for Academic Emergency Medicine tests: An online testing tool for medical students. *Acad Emerg Med* 2009;16(12):S42-45.

Shesser R, Smith M, Kline P, Rosenthal R, Turbiak T, Chen H. A cost-effective emergency medicine clerkship. *J Med Educ* 1985;60(4):288-92.

Tabas JA, Rosenson J, Price DD, et al. A comprehensive, unembalmed cadaver-based course in advanced emergency procedures for medical students. *Acad Emerg Med* 2005;12(8):782-5.

Ten Eyck RP, Maclean TA. Improving the quality of emergency medicine rotation/clerkship evaluations. *Am J Emerg Med* 1994;12(1):113-7.

Thurger L, Bandiera G, Lee S, Tiberius R. What do emergency medicine learners want from their teachers? A multicenter focus group analysis. *Acad Emerg Med* 2005;12(9):856-861.

Tohki, R, Garmel GM: Resident professionalism in emergency medicine. *Ca J Emerg Med* VII:3, Summer 2006,55-58.

Treadway K, Chatterjee N. Into the water – The clinical clerkships. *N Engl J Med* 2011;364(13):1190-1193.

VanderVlugt TM, Harter PM. Teaching procedural skills to medical students: One institution's experience with an emergency procedures course. *Ann Emerg Med* 2002;40:41-9.

Wald DA, Manthey DE, Kruus L, et al. The state of the clerkship: A survey of emergency medicine clerkship directors. *Acad Emerg Med* 2007;14(7):629-34.

Wald DA (ed). Emergency Medicine Clerkship Primer: A Manual for Medical Students. CDEM: 2011.

Weaver CS, Humbert AJ, Besinger BR, et al. A more explicit grading scale decreases grade inflation in a clinical clerkship. *Acad Emerg Med* 2007;14(3):283-6.