Model Curriculum for Rotating Resident Physicians in Basic Emergency Medicine

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ABSTRACT

This educational resource provides a model curriculum for rotating resident physicians completing a clinical rotation in emergency medicine. This curriculum outline is intended for use by emergency medicine faculty members who are responsible for coordinating, administering, or creating a rotation experience for physicians in training from a wide variety of clinical specialties. These "off-service residents" who may participate in such a curriculum may include first and second year residents from Anesthesiology, Family Practice, Obstetrics and Gynecology, Internal Medicine, and various surgical specialties.

The goal of this curriculum is to provide educational resources, objectives, and guidelines to faculty sponsors of these rotations in order to help enhance the educational experience provided for participating resident physicians. These materials are not currently widely available for this type of educational rotation experience, and the guidelines and supplemental materials presented here are intended to be freely modified and adapted for use in academic or community medical centers to fit the needs of the organizing faculty members.

CONDENSED ABSTRACT

This educational resource provides a model curriculum for rotating resident physicians completing a clinical rotation in emergency medicine. This curriculum outline is intended for use by faculty members who are responsible for coordinating, administering, or creating a rotation experience for physicians in training from a wide variety of clinical specialties.

Background and Significance

Post-graduate training in many medical specialties includes the emergency care of patients with undifferentiated medical conditions. Teaching hospitals in both academic and community-based medical centers often provide this kind of training for resident physicians using block rotations and clinical experiences in the Emergency Department. Published supplemental information and curriculum guidelines are available for the organization of such experiences for medical students in emergency medicine,[3] and for physicians completing an emergency medicine residency.[1, 2, 4, 5] However, similar guideline materials are not widely available for clinical rotations in basic emergency medicine that are intended for physicians in other residency training programs such as Internal Medicine or Family Practice who complete an Emergency Department rotation.

Lessons Learned and Future Directions

The materials provided in this curriculum were initiated by one of the authors (MTF) who assumed faculty supervision of a rotation in emergency medicine. Educational goals, objectives, and organized resources were developed to improve the experience for residents from seven different medical specialties who participate in this rotation each year. The template presented here was created and refined over a two year period of implementation and reflects meetings, discussions, and interactions with over 150 resident physicians who completed our rotation during that time period. Chief Residents in Emergency Medicine (including author NEK) and faculty from our department provided ongoing feedback on the process.

Lessons that we have learned during the implementation phase have led to improvements in this curriculum which have been incorporated. For example, the inclusion of lecture topics in emergency medicine (which in our program are offered in conjunction with the medical student curriculum) has allowed us to offer rotating residents a large number of options for faculty-guided learning activities. However, our experience so far has been that resident participation in these didactic activities is very low, which may be due to the busy clinical schedule or a reflection of their desire to participate in the "hands-on" activities of the clinical curriculum.

Future directions for the development of this curriculum include the newest addition to these materials, the required reading lists that are provided in Appendix C. This enhancement has only recently been instituted as a result of faculty feedback, and we anticipate that the incorporation of this scholarly activity will help advance our educational goals for the rotation.

Instructor's Guide and Adaptations

This curriculum is designed to provide the faculty instructor with a template and basic organization for a model rotation. Subheadings and supplemental materials are self-explanatory and can be used or modified as needed for each institution. Users are encouraged to modify the materials and tailor them for their own rotation environment. The authors welcome the submission of feedback and suggestions for additional supplemental materials that will further assist in the design or implementation of this kind of curriculum.

REFERENCES

The concept of a formal curriculum for training off-service residents in basic emergency medicine was inspired by the presence of related curricular materials in other areas of emergency medicine. For more information and examples, please see the following references:

1. Emergency Medicine Residency Review Committee, Program Requirements for Residency Training in Emergency Medicine. http://www.acgme.org/acWebsite/downloads/RRC_progReq/110pr905.pdf

2. Hockberger RS, Binder LS, Chisholm CD, Cushman JT, Hayden SR, Sklar DP, Stern SA, Strauss RW, Thomas HA, Viravec DR. The Model of the Clinical Practice of Emergency Medicine: A 2-Year Update. Ann Emerg Med 2005; 45: 659-674.

3. Manthey DE, Coates WC, Ander DS, Ankel FK, Blumstein H, Christopher TA, Courtney JM, Hamilton GC, Kaiyala EK, Rodgers K, Schneir AB, Thomas SH. Report of the Task Force on National Fourth Year Medical Student Emergency Medicine Curriculum Guide. Academic Emergency Medicine 47:e1-7, 2006

4. Society of Academic Emergency Medicine and The Council of Residency Directors. Model Curriculum and Guidelines for Curriculum Development for Emergency Medicine Residency Training. www.saem.org; Educational Resources 2006.

5. Verdile VP, Krohmer JR, Swor RA, Spaite DW. Model Curriculum in Emergency Medical Services for Emergency Medicine Residency Programs. Acad Emerg Med 1996; 3: 716-722.

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ROTATION GOALS AND OBJECTIVES FOR ROTATING RESIDENT PHYSICIANS

1. Participate in direct patient care for individuals presenting with undifferentiated complaints in an acute care Emergency Department setting.

2. Demonstrate the use of directed history and physical examination to determine appropriate diagnostic testing appropriate for emergency care.

3. Develop a systematic approach for each patient encounter, including assessment of stability, differential diagnosis, appropriate radiologic and ancillary test ordering, formulation of treatment plans, and timely disposition.

4. Understand the importance of patient vital signs as an initial indication of potentially unstable medical conditions.

5. Incorporate information from published studies into medical decision making for important topics in emergency medicine.

6. Perform basic physician procedures, including laceration repair, abscess incision and drainage, lumbar puncture, venipuncture, nasogastric tube placement, and ACLS resuscitation.

7. Communicate with all members of the healthcare team as needed to achieve excellent patient care. This includes resident and faculty physicians from the Emergency Department, resident and faculty physicians from consulting services, and nursing and ancillary staff members.

8. Improve skills for generating medical records using current Medicare guidelines as a basis to understand physician documentation.

ORGANIZATION OF ROTATION COMPONENTS

1. **Introduction to Emergency Medicine**: Each rotating resident will attend a one hour introductory lecture at the beginning of the clinical rotation. This lecture will be presented by a faculty member or Chief Resident from the Department of Emergency Medicine. Topics will include the approach to patient care in the Emergency Department, educational goals for the rotation, medical records and documentation, and basic procedural issues for working in the acute care setting.

2. **Basic Billing and Coding**: Each resident will attend a two hour workshop session to learn highlights of current Medicare guidelines for medical documentation. The topics covered in this session are pertinent for all medical specialties and are not specific for Emergency Medicine.

3. **Educational Lecture Series**: Residents are provided with multiple opportunities for didactic learning activities. See Appendix B for a list of basic lecture topics offered during each rotation. Opportunities are also available to attend the Emergency Medicine educational conferences.

4. **Required Reading List**: Assigned articles (see Appendix C) are given to provide physicians in training with recent literature on a wide variety of basic emergency medicine topics.

5. **Patient Based Learning Opportunities**: Residents will be assigned clinical shifts throughout the rotation to allow multiple opportunities to learn basic emergency medicine through direct patient care encounters. Twenty-four hour supervision of clinical care by faculty physicians will allow one-on-one discussions about medical decision making during acute care episodes. Clinical care experiences on this rotation will allow one-on-one patient care discussions with more faculty physicians than on any other rotation during residency training.

CLINICAL SHIFT REQUIREMENTS AND EXPECTATIONS

1. All shifts on the schedule are mandatory and are the responsibility of each rotating resident physician. Contact the Chief Resident for any personal emergencies so that the clinical schedule can be modified if necessary. Residents are encouraged to check the rotation schedule as soon as it is distributed for errors or scheduling problems.

2. Resident physicians should be on time or a few minutes early for each clinical shift responsibility.

3. All patient care will be coordinated by a faculty physician or designated senior resident.

MEDICAL RECORDS AND CLINICAL DOCUMENTATION

1. All residents are responsible for completion of accurate medical records on a timely basis, and these should be completed prior to leaving the hospital after each clinical shift.

2. Elements for each patient record include the following:
   - Name of resident and faculty physicians providing patient care
   - Date of Emergency Department visit
   - Patient name and medical record number
   - Chief complaint
   - History of present illness
   - Past medical history, allergies, medications
   - Social history and family history
   - Review of systems
   - Vital signs and physical examination
   - Medical decision making
   - Diagnostic testing ordered and results
   - Treatments administered and patient response to those treatments
   - Procedure notes
   - Patient disposition and plan of care after discharge
   - Discharge diagnosis and condition at discharge

3. Please see Appendix A for a sample medical records template.

CLINICAL SHIFTS AND PATIENT BASED LEARNING

1. When working a clinical shift there will be numerous patient based learning opportunities for resident physicians as they participate in direct patient care. As new patients arrive for evaluation, residents should assign themselves as the primary physician to those patients they will be evaluating by using the tracking system specific to your institution.

2. In many institutions, patient selection occurs in the order of presentation and may be influenced by severity of illness. Policies and procedures in your location may differ and can be modified as necessary to maintain excellent patient care. Please note that selecting patients based on their chief complaint is discouraged.

3. When first entering a patient's room, residents should introduce themselves and conduct an initial assessment of illness severity. Particular attention should be given to an evaluation of patient stability by immediately assessing the airway, breathing, and circulatory status of each patient. Any abnormalities in blood pressure, heart rate, respiratory rate, pulse oxygenation, or mental status should be addressed immediately. *If a patient appears potentially unstable or severely ill upon initial evaluation, the supervising faculty physician should be notified immediately.*

4. A directed emergency department history and physical examination is performed after the initial evaluation if the patient is stable with appropriate vital signs and has no obvious emergency medical condition that requires immediate action.

5. All patients will be presented to the supervising faculty physician after the initial evaluation is completed by the resident physician. Presentation of patient information should include chief complaint, evaluation of illness severity, historical information, and physical exam findings. Differential diagnosis, proposed diagnostic plan, and treatment options are important components to include in this discussion. Be alert for learning opportunities and be sure to ask questions during this process to maximize your clinical education utilizing direct patient care issues.

6. It is recommended that the case be discussed with a supervising physician prior to ordering diagnostic studies or medications. In some institutions, residents may be permitted to initiate orders that are clearly necessary prior to discussion with a supervisor, but it should be emphasized that excessive testing can contribute to prolonged stays in the emergency department. Typically, diagnostic testing will be limited to those studies most important for evaluation of the patient's possible emergency condition.

7. The resident physician is primarily responsible for obtaining the results of all diagnostic testing, including laboratory studies and radiologic imaging. Patients should be periodically reevaluated, particularly to assess treatment response and status of their condition while in the department. Any laboratory abnormalities or clinical deterioration of a patient should be immediately discussed with the supervising faculty physician.

8. All procedures completed on patients in the emergency department should be done under the supervision of the faculty physician. Be sure to include informed consent, indications, and the "Time Out" procedure to verify correct patient, site, procedure, position, and equipment for all procedures.

9. When the results of diagnostic testing are available, residents should discuss treatment plans and patient disposition with a supervising physician to determine possible need for admission, further diagnostic testing, or discharge from the emergency department.

10. When patients will be discharged from the emergency department, resident physicians should review discharge instructions, diagnosis, and prescriptions with the patient. Specific return precautions should be discussed with each patient and provided in written form as part of the discharge process.

11. Off service rotating residents should not carry more patients than they can safely care for at one time. This will vary slightly for each resident depending on their clinical experience and abilities, but will also depend on how busy the department is at any given moment and how many patients are waiting to be seen. In some clinical settings, managing three to four patients simultaneously is a reasonable goal to work towards during this rotation.

Consultation of Other Physicians in the Emergency Department

1. In many circumstances, consultation by physicians from other departments is necessary to provide excellent patient care. This may be for admission to the hospital, coordination of outpatient follow-up appointments, the need for specialized procedures, or advice on particular patient management issues. Once it is determined that a consultation is required, rotating residents should be sure to fully understand the reason for the consult and what is to be gained by the consultation prior to speaking with the other physician.

2. Off-Service rotating residents are reminded that the appropriate use of consultants is essential for aspects of patient care that cannot be provided by emergency medicine alone. Contact with consultants is often facilitated by emphasizing the importance of individual patient care that needs their special expertise. Conversations with consultants are typically begun by stating a brief patient history along with the reason for consultation, and some consultants may then ask for additional details.

3. In the interest of expediting patient care and providing accurate medical records, it is important to record the times that consultations were made, when calls are returned, and what time the other physician arrived to care for the patient.

4. Rotating residents should be encouraged to keep the supervising faculty physician up to date on the progress of the consult. Attending Physicians should be notified if consultants want additional tests, procedures, or labs before coming to see the patient.

5. Residents should talk with consultants about their impressions and plans for the patient after they have completed their initial evaluation.

6. Once patients have been consulted (for admission or otherwise) the primary treating resident is still responsible for their care while they remain in the emergency department. Patients should be periodically reassessed with repeat vital signs and serial examinations.

Professional Conduct for Resident Physicians in the Emergency Department

1. Professional appearance with clean appropriate clothing is required at all times. Clean scrubs shirts and pants are acceptable options for professional attire in the emergency department. White lab coats should be clean, and ID badges are to be worn and visible at all times. T-shirts, jeans, shorts, sandals, or other casual attire are not appropriate for wear during patient care activities.

2. In many institutions, medical students are also completing clinical rotations in the emergency department. If a student comes to a rotating resident physician for advice, he or she should be referred to the senior resident or faculty physician.

3. Food and beverages are not permitted in patient care areas. Please utilize approved break room areas for all food and drink. Breaks for an extended meal time are often not possible during a busy clinical shift, so please plan ahead by bringing snacks or other food items with you when scheduled to work.

4. Before leaving at the end of a clinical shift, all patients still in the Emergency Department should be signed out to another provider to continue care. This is true even for patients who are consulted for admission or scheduled for discharge if they are still present in the department at the time of shift change.

    - Patients should be signed out to another physician provider

    - Make sure that all of your medical documentation is completed prior to leaving the hospital

    - All necessary procedures and additional components of physical examination should be completed prior to leaving at the end of a clinical shift. It may occasionally be necessary to stay a few minutes after the scheduled time to complete this work.

    - The transfer of patient responsibility from one provider to another is one of the most important aspects of patient care. The loss of essential patient information and potential failures to communicate a clear treatment plan may cause medical errors which can endanger patient safety.

    - When receiving patient sign out from another provider, rotating resident physicians should make certain they understand the plan for patient evaluation and subsequent care. Each patient received in sign out should be reevaluated by the new provider in order to verify condition and that the proper treatment plan has been initiated.

5. All patients and families are to be treated with respect, dignity, and confidentiality. Residents may be required to inform a patient’s family of death or seek advice about a patient’s wishes or advance directives. These important aspects of care should be done with respect and compassion using guidance from the supervising faculty physician.

EDUCATION AND LEARNING IN THE EMERGENCY DEPARTMENT

1. Rotating residents are encouraged to attend the Emergency Medicine Resident lecture series and the additional didactic lectures provided on basic emergency medicine topics. Appendix B provides a suggested lecture series.

2. Assigned readings provided to rotating resident physicians will assist in developing an evidence-based approach to emergency care. Appendix C provides a list of suggested articles and textbooks.

3. Most of the education received while on an Emergency Medicine Rotation is "on the job training". Residents should be encouraged to ask questions and quickly look up differential diagnoses, clinical decision rules and medications. Rotators should also be encouraged to ask questions of different Attending Physicians to get an appreciation of the variation in styles of Emergency Medicine. This may be one of few opportunities early in residency to work intimately with an Attending Physician to discuss specific aspects of direct patient care activities.

EVALUATIONS OF ROTATING OFF-SERVICE RESIDENTS

1. Rotating residents will be evaluated based on the ACGME six core competencies:
   a. Patient Care
   b. Medical Knowledge
   c. Interpersonal and Communication Skills
   d. Professionalism
   e. Systems-Based Practice
   f. Practice-Based Learning and Improvement

2. Appendix D provides a sample evaluation based on the ACGME core competencies. Please refer to http://www.acgme.org/outcome/comp/compFull.asp for details of this portion of the ACGME Outcome Project.

APPENDIX A
SAMPLE MEDICAL DOCUMENTATION TEMPLATE

Resident physician name
Attending Physician (ED Attending who was involved with the patient's care)
Patient's name and medical record number
Date of ED visit / date of dictation
Time in, Physician Exam Time, and Initial Vital Signs

Chief Complaint:
HPI: (at least **4** items) location, severity, quality, timing, context, duration, associated, modifying factors
Past Medical History:
Medication List:
Family History:
Social History:
Allergies:
Immunizations: Be sure to include tetanus status with all injuries and burns.

REVIEW OF SYSTEMS: Complete review of systems must list >10 systems **or** state "A complete review of systems was obtained and all were negative except as noted."

Physical Examination: (Include detailed exam of at least **8** of the following)

Constitutional (Vitals/Gen. Appearance)	Cardiovascular	Chest	Neurologic
Eyes	Respiratory	Musculoskeletal	Psychiatric
Head, Ears, Nose, Throat	GI	Lymphatic	
Neck	Genitourinary	Skin	

Medical Decision Making: Include most likely diagnoses, what tests are ordered to confirm or eliminate disease processes, your clinical impression of the patient's condition, etc…

Diagnostic Test Results: Remember to state independently visualization of EKGs, X-rays, and CT Scans

Procedures: Include a procedure note for any procedures done in the Emergency Department.
Include informed consent ("Risks and benefits were discussed; patient understands and agrees to proceed")
Include a Time Out (Document all 5 aspects: correct patient, site, procedure, position, and equipment)
Describe your sterile technique, details of the procedure, any complications, and outcome.

ED Course: ED Treatment and medications used, along with patient response to therapy
Interpretation of diagnostic tests and results
Further medical decisions including **repeat examinations** (include times of repeat exams)
Discussions with radiology, consultants, family, or others
Consultations (**document name of physician you spoke to)** and consultants' recommendations

Disposition: Admission, Operating Room, Discharged Home, etc...

Discharge time and vital signs

Discharge instructions: Include follow-up plans and medications prescribed

Discharge condition: Include the phrase "Stable for discharge" if patient is being sent home

Diagnosis: Be as specific as possible. Diagnoses such as "Fever" or "Abdominal Pain" are used when appropriate.

APPENDIX B
LECTURE TOPICS FOR OFF-SERVICE ROTATING RESIDENTS

1. Chest Pain: Coronary Artery Disease and Acute Coronory Syndrome
2. Traumatic Injuries in Adults and Children
3. Shortness of Breath
4. Basic Toxicology
5. Pediatric Emergency Care
6. Gastrointestinal Bleeding
7. Evaluation of Patients with Altered Mental Status
8. Orthopedic Emergencies
9. Airway Emergencies
10. Status Epilepticus and Seizure Disorders
11. Emergency Diagnosis and Treatment of Shock
12. Acute Back Pain
13. Abdominal Pain
14. Obstetrical and Gynecological Emergencies
15. Diagnostic Approach to Pediatric Fever
16. Reactive Airways Disease
17. Resuscitation in the Emergency Department: ACLS and PALS
18. EKG Interpretation
19. Basic Physician Procedures
20. Laceration Repair and Basic Suturing Skills Lab

APPENDIX C
READING LIST FOR OFF-SERVICE ROTATING RESIDENTS

Suggested Reference Textbooks:

- Cline DM, Ma OJ, Tintinalli JE, Kelen GD, Stapczynski JS. Just the Facts in Emergency Medicine. McGraw-Hill. 2001.
- Hamilton GC, Sanders AB, Strange G, Trott AT. Emergency Medicine: An Approach to Clinical Problem Solving, 2nd Ed. W. B. Saunders Co., 2002.
- Mahadevan SV, Garmel GM. An Introduction to Clinical Emergency Medicine. Cambridge University Press, 2005.
- Marx JA, Hocksberger RS, Walls RM. Rosen's Emergency Medicine. Mosby, Inc., 2002.
- Tintinalli JE, Kelen GD, Stapczynski JS. Emergency Medicine: A Comprehensive Study Guide. McGraw-Hill, 2003.

Cardiac Emergencies and Resuscitation:

- American Heart Association: Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2005; 112; Issue 24 Supplement.
- Gluckman TJ, Sachdev M, Schulman SP, Blumenthal RS. A Simplified Approach to the Management of Non-ST-Segment Elevation Acute Coronary Syndromes. JAMA 2005; 293: 349-357.

Vascular Emergencies:

- Klompas M. Does this patient have an acute thoracic aortic dissection? JAMA 2002; 287: 2262-2272.
- Lederle FA, Simel DL. The rational clinical examination. Does this patient have abdominal aortic aneurysm? JAMA 1999; 281: 77-82.
- Smetana GW, Shmerling RH. Does this patient have temporal arteritis? JAMA 2002; 287: 92-101.

Gastrointestinal Emergencies:

- Thielman NM, Guerrant RL. Acute Infectious Diarrhea. N Eng J Med 2004; 350: 38-47.
- Trowbridge RL, Rutkowski NK, Shojania KG. Does this patient have acute cholecystitis? JAMA 2003; 289: 80-86.
- Wagner JM, McKinney WP, Carpenter JL. Does this patient have appendicitis? JAMA 1996; 276: 1589-1594.

Infectious Diseases in the Emergency Department:

- Call SA, Vollenweider MA, Hornung CA, Simel DL, McKinney WP. Does this patient have influenza? JAMA 2005; 293: 987-997.

- Ebell MH, Smith MA, Barry HC, Ives K, Carey M. The rational clinical examination. Does this patient have strep throat? JAMA 2000; 284: 2912-2918.

- Fine MJ, Auble TE, Yealy DM, Hanusa BH, Weissfeld LA, Singer DE, Coley CM, Marrie TJ, Kapoor WN. A prediction rule to identify low-risk patients with community-acquired pneumonia. N Eng J Med 1997; 336: 243-250.

- Frazee BW, Lynn J, Charlebois ED, Lambert L, Lowery D, Perdreau-Remington F. High prevalence of methicillin-resistant Staphylococcus aureus in emergency department skin and soft tissue infections. Ann Emerg Med 2005; 45: 311-320.

- Mandell LA, Bartlett JG, Dowell SF, File TM, Musher DM, Whitney C. Update of practice guidelines for the management of community-acquired pneumonia in immunocompetent adults. Clinical Infectious Diseases 2003; 37: 1405-1433.

- Metlay JP, Kapoor WN, Fine MJ. Does this patient have community-acquired pneumonia? Diagnosing pneumonia by history and physical examination. JAMA 1997; 278: 1440-1445.

- Nguyen HB, Rivers EP, Abrahamian FM, Moran GJ, Abraham E, Trzeciak S, Huang DT, Osborn T, Stevens D, Talan DA. Severe sepsis and septic shock: Review of the literature and emergency department management guidelines. Ann Emerg Med 2006; 48: 28-54.

- Talan DA. New Concepts in Antimicrobial Therapy for Emergency Department Infections. Ann Emerg Med 1999; 34: 503-516.

- van de Beek D, de Gans J, Spanjaard L, Weisfelt M, Reitsma JB, Vermeulen M.. Clinical features and prognostic factors in adults with bacterial meningitis. N Eng J Med 2004; 351: 1849-1859.

- Vincent MT, Celestin N, Hussain AN. Pharyngitis. American Family Physician 2004; 69: 1465-1470.

Orthopedics in the Emergency Department:

- Della-Giustina DA. Emergency department evaluation and treatment of back pain. Emerg Med Clin North Am. 1999 Nov;17(4):877-93.

- Hoffman JR, Mower WR, Wolfson AB, et al. Validity of a set of clinical criteria to rule out injury to the cervical spine in patients with blunt trauma. N Engl J Med. 2000;343:94-99.

- Panacek EA, Mower WR, Holmes JF, Hoffman JR; NEXUS Group. Test performance of the individual NEXUS low-risk clinical screening criteria for cervical spine injury. Ann Emerg Med. 2001 Jul;38(1):22-5.

- Solomon DH, Simel DL, Bates DW, Katz JN, Shaffer JL. The rational clinical examination. Does this patient have a torn meniscus or ligament of the knee? Value of the physical examination. JAMA 2001; 286: 1610-1620.

Basic Physician Procedures:

- Behrens DC. Treatment of epistaxis in the emergency department. Emerg Med J. 2006 Mar;23(3):241.
- Boon JM, Abrahams PH, Meiring JH, Welch T. Lumbar puncture: anatomical review of a clinical skill. Clin Anat. 2004 Oct;17(7):544-53.
- Hollander JE, Singer AJ. Laceration Management. Ann Emerg Med 1999; 34: 356-367.
- Roos KL. Lumbar puncture. Semin Neurol. 2003 Mar;23(1):105-14.
- **Videos in Clinical Medicine:**
  - Tegtmeyer K, Brady G, Lai S, Hodo R, Braner D. Placement of an Arterial Line. N Engl J Med 2006; 354:e13.
  - Thomsen TW, Setnik GS. Male Urethral Catheterization. N Engl J Med 2006; 354:e22.
  - Thomsen TW, Shen S, Shaffer RW, Setnik GS. Arthrocentesis of the Knee. N Engl J Med 2006; 354:e19.
  - Thomsen TW, Shaffer RW, Setnik GS. Nasogastric Intubation. N Engl J Med 2006; 354:e16.

Neurologic Emergencies:

- American College of Emergency Physicians. Clinical policy for the initial approach to patients presenting with altered mental status. Ann Emerg Med. 1999 Feb;33(2):251-81.
- American College of Emergency Physicians. Clinical policy for the initial approach to patients presenting with a chief complaint of seizure who are not in status epilepticus. Ann Eme rg Med. 1997 May;29(5):706-24.
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- Demaerschalk, B. Diagnosis and Management of Stroke (Brain Attack). Seminars Neuro. 2003; 23(3): 241-252.
- Shah KH, Edlow JA. Transient ischemic attack: review for the emergency physician. Ann Emerg Med 2004; 43: 592-604.
- Wilber ST. Altered mental status in older emergency department patients. Emerg Med Clin North Am. 2006 May;24(2):299-316.

Respiratory Emergencies:

- Blanda M, Gallo UE. Emergency airway management. Emerg Med Clin North Am. 2003 Feb;21(1):1-26.
- Sigillito RJ, DeBlieux PM. Evaluation and initial management of the patient in respiratory distress. Emerg Med Clin North Am. 2003 May;21(2):239-58.

Thromboembolic Disease:

- Chunilal SD, Eikelboom JW, Attia J, Miniati M, Panju AA, Simel DL, Ginsberg JS. Does this patient have pulmonary embolism? JAMA 2003; 290: 2849-2858.
- Wells PS, Anderson DR, Rodger M, et al. Excluding pulmonary embolism at the bedside without diagnostic imaging: management of patients with suspected pulmonary embolism presenting to the emergency department by using a simple clinical model and D-dimer. Ann Intern Med 2001; 135: 98-107.
- Wells PS, Anderson DR, Rodger M, et al. Evaluation of d-Dimer in the diagnosis of suspected deep-vein thrombosis. N Engl J Med 2003; 349: 1227-1235.
- Wells PS, Owen C, Doucette S, Fergusson D, Tran H. Does this patient have deep vein thrombosis? JAMA 2006; 295: 199-207.

Other Topics in Emergency Medicine:

- Claster S, Vichinsky EP. Managing Sickle Cell Disease. BMJ 2003; 327: 1151-1155.
- Gregory RJ, Nihalani ND, Rodriguez E. Medical screening in the emergency department for psychiatric admissions: a procedural analysis. General Hospital Psychiatry 2004; 26: 405-410.
- Mokhlesi B, Leiken JB, Murray P, Corbridge TC. Adult Toxicology in Critical Care: Part I: General Approach to the Intoxicated Patient. Chest 2003; 123: 577-592.

APPENDIX D
SAMPLE RESIDENT EVALUATION FORM
BASED ON ACGME CORE COMPETENCIES

Emergency Medicine Clinical Rotation

Resident Physician: ______________________ **Dates of Rotation: ____________________**

Patient Care

	Poor	Fair	Good	Very Good	Outstanding
Exhibits caring and respectful behaviors towards patients					
Uses directed history and physical examination in patient evaluation					
Demonstrates a systematic approach to developing basic treatment plans					
Demonstrates competence when performing basic procedures					

Medical Knowledge

	Poor	Fair	Good	Very Good	Outstanding
Understands the importance of vital signs in initial patient evaluation					
Generates a differential diagnosis based on patient history and physical exam					
Demonstrates a basic understanding of common disease processes					
Uses an analytic approach to evaluate undifferentiated complaints					

Practice-Based Learning and Improvement

	Poor	Fair	Good	Very Good	Outstanding
Appropriate use of information from published studies for patient care					
Facilitates the learning of students and colleagues					
Uses appropriate electronic resources to manage information and education					
Critically analyzes management decisions based on published literature					

Interpersonal and Communication Skills

	Poor	Fair	Good	Very Good	Outstanding
Uses effective techniques of communication with patients					
Works effectively with other members of the health care team					
Demonstrates ability to convey patient information to consulting physicians					
Facilitates conflict resolution using appropriate interpersonal skills					

Professionalism

	Poor	Fair	Good	Very Good	Outstanding
Demonstrates respect, compassion, and integrity when caring for patients					
Demonstrates a commitment to ethical principles in patient care activities					
Responsive and sensitive to patients' culture, age, gender, and disabilities					
Interacts with colleagues and other healthcare providers appropriately					

Systems-Based Practice

	Poor	Fair	Good	Very Good	Outstanding
Understands the community healthcare resources available for patients					
Practices cost-effective health care without compromising quality					
Advocates for patients and helps to arrange appropriate follow-up care					
Utilizes consulting services and resources appropriately in patient care					

	Poor	Fair	Good	Very Good	Outstanding
Overall performance on rotation					

Comments: