

# The Emergency Medicine Milestone Project

*A Joint Initiative of*

The Accreditation Council for Graduate Medical Education  
and

The American Board of Emergency Medicine



## **Emergency Medicine Milestones**

### **Working Group**

Chair: Michael Beeson, MD

Theodore Christopher, MD

Jonathan Heidt, MD

James Jones, MD

Susan Promes, MD

Lynne Meyer, PhD, MPH

Kevin Rodgers, MD

Philip Shayne, MD

Susan Swing, PhD

Mary Jo Wagner, MD

### **Advisory Group**

Timothy Brigham, MDiv, PhD

Wallace Carter, MD

Earl Reisdorff, MD

## EMERGENCY MEDICINE MILESTONES

### 1. Emergency Stabilization (PC1)

Prioritizes critical initial stabilization action and mobilizes hospital support services in the resuscitation of a critically ill or injured patient and reassesses after stabilizing intervention.								
Level 1		Level 2		Level 3		Level 4		Level 5
Recognizes abnormal vital signs		Recognizes when a patient is unstable requiring immediate intervention  Performs a primary assessment on a critically ill or injured patient  Discerns relevant data to formulate a diagnostic impression and plan		Manages and prioritizes critically ill or injured patients  Prioritizes critical initial stabilization actions in the resuscitation of a critically ill or injured patient  Reassesses after implementing a stabilizing intervention  Evaluates the validity of a DNR order		Recognizes in a timely fashion when further clinical intervention is futile  Integrates hospital support services into a management strategy for a problematic stabilization situation		Develops policies and protocols for the management and/or transfer of critically ill or injured patients
○		○		○		○		○
Comments:								

**Suggested Evaluation Methods:** SDOT, observed resuscitations, simulation, checklist, videotape review

## 2. Performance of Focused History and Physical Exam (PC2)

Abstracts current findings in a patient with multiple chronic medical problems and, when appropriate, compares with a prior medical record and identifies significant differences between the current presentation and past presentations								
Level 1		Level 2		Level 3		Level 4		Level 5
Performs and communicates a reliable, comprehensive history and physical exam		Performs and communicates a focused history and physical exam which effectively addresses the chief complaint and urgent patient issues		Prioritizes essential components of a history given a limited or dynamic circumstance  Prioritizes essential components of a physical examination given a limited or dynamic circumstance		Synthesizes essential data necessary for the correct management of patients using all potential sources of data		Identifies obscure, occult or rare patient conditions based solely on historical and physical exam findings
<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Global ratings of live performance, checklist assessments of live performance , SDOT, oral boards, simulation

### 3. Diagnostic Studies (PC3)

Applies the results of diagnostic testing based on the probability of disease and the likelihood of test results altering management.								
Level 1		Level 2		Level 3		Level 4		Level 5
Determines the necessity of diagnostic studies		Orders appropriate diagnostic studies  Performs appropriate bedside diagnostic studies and procedures		Prioritizes essential testing  Interprets results of a diagnostic study, recognizing limitations and risks, seeking interpretive assistance when appropriate  Reviews risks, benefits, contraindications, and alternatives to a diagnostic study or procedure		Uses diagnostic testing based on the pre-test probability of disease and the likelihood of test results altering management  Practices cost effective ordering of diagnostic studies  Understands the implications of false positives and negatives for post-test probability		Discriminates between subtle and/or conflicting diagnostic results in the context of the patient presentation
○		○		○		○		○
Comments:								

**Suggested Evaluation Methods:** SDOT, oral boards, standardized exams, chart review, simulation

#### 4. Diagnosis (PC4)

Based on all of the available data, narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management								
Level 1		Level 2		Level 3		Level 4		Level 5
Constructs a list of potential diagnoses based on chief complaint and initial assessment		Constructs a list of potential diagnoses, based on the greatest likelihood of occurrence  Constructs a list of potential diagnoses with the greatest potential for morbidity or mortality		Uses all available medical information to develop a list of ranked differential diagnoses including those with the greatest potential for morbidity or mortality  Correctly identifies “sick versus not sick” patients  Revises a differential diagnosis in response to changes in a patient’s course over time		Synthesizes all of the available data and narrows and prioritizes the list of weighted differential diagnoses to determine appropriate management		Uses pattern recognition to identify discriminating features between similar patients and avoids premature closure
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** SDOT as baseline, global ratings, simulation, oral boards, chart review

## 5. Pharmacotherapy (PC5)

Selects and prescribes, appropriate pharmaceutical agents based upon relevant considerations such as mechanism of action, intended effect, financial considerations, possible adverse effects, patient preferences, allergies, potential drug-food and drug-drug interactions, institutional policies, and clinical guidelines; and effectively combines agents and monitors and intervenes in the advent of adverse effects in the ED								
Level 1		Level 2		Level 3		Level 4		Level 5
Knows the different classifications of pharmacologic agents and their mechanism of action.  Consistently asks patients for drug allergies		Applies medical knowledge for selection of appropriate agent for therapeutic intervention  Considers potential adverse effects of pharmacotherapy		Considers array of drug therapy for treatment. Selects appropriate agent based on mechanism of action, intended effect, and anticipates potential adverse side effects  Considers and recognizes potential drug to drug interactions		Selects the appropriate agent based on mechanism of action, intended effect, possible adverse effects, patient preferences, allergies, potential drug-food and drug-drug interactions, financial considerations, institutional policies, and clinical guidelines, including patient's age, weight, and other modifying factors		Participates in developing institutional policies on pharmacy and therapeutics
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** SDOT, portfolio, simulation, oral boards, global ratings, medical knowledge examinations

## 6. Observation and Reassessment (PC6)

Re-evaluates patients undergoing ED observation (and monitoring) and using appropriate data and resources, determines the differential diagnosis and, treatment plan, and disposition.								
Level 1		Level 2		Level 3		Level 4		Level 5
Recognizes the need for patient re-evaluation		Monitors that necessary therapeutic interventions are performed during a patient's ED stay		Identifies which patients will require observation in the ED  Evaluates effectiveness of therapies and treatments provided during observation  Monitors a patient's clinical status at timely intervals during their stay in the ED		Considers additional diagnoses and therapies for a patient who is under observation and changes treatment plan accordingly  Identifies and complies with federal and other regulatory requirements, including billing, which must be met for a patient who is under observation		Develops protocols to avoid potential complications of interventions and therapies
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** SDOT, multi-source feedback, oral boards, simulation



## 7. Disposition (PC7)

Establishes and implements a comprehensive disposition plan that uses appropriate consultation resources; patient education regarding diagnosis; treatment plan; medications; and time and location specific disposition instructions.								
Level 1		Level 2		Level 3		Level 4		Level 5
Describes basic resources available for care of the emergency department patient		Formulates a specific follow-up plan for common ED complaints with appropriate resource utilization		<p>Formulates and provides patient education regarding diagnosis, treatment plan, medication review and PCP/consultant appointments for complicated patients</p> <p>Involves appropriate resources (e.g., PCP, consultants, social work, PT/OT, financial aid, care coordinators) in a timely manner</p> <p>Makes correct decision regarding admission or discharge of patients</p> <p>Correctly assigns admitted patients to an appropriate level of care (ICU/Telemetry/Floor/Observation Unit)</p>		<p>Formulates sufficient admission plans or discharge instructions including future diagnostic/therapeutic interventions for ED patients</p> <p>Engages patient or surrogate to effectively implement a discharge plan</p>		Works within the institution to develop hospital systems that enhance safe patient disposition and maximizes resource utilization
○	○	○	○	○	○	○	○	○
Comments:								

**Suggested Evaluation Methods:** SDOT, shift evaluations, simulation cases / Objective Structure Clinical Exam (OSCE), multi-source feedback, chart review

## 8. Multi-tasking (Task-switching) (PC8)

Employs task switching in an efficient and timely manner in order to manage the ED								
Level 1		Level 2		Level 3		Level 4		Level 5
Manages a single patient amidst distractions		Task switches between different patients		Employs task switching in an efficient and timely manner in order to manage multiple patients		Employs task switching in an efficient and timely manner in order to manage the ED		Employs task switching in an efficient and timely manner in order to manage the ED under high volume or surge situations
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Simulation, SDOT, mock oral examination, multi-source feedback

## 9. General Approach to Procedures (PC9)

Performs the indicated procedure on all appropriate patients (including those who are uncooperative, at the extremes of age, hemodynamically unstable and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement), takes steps to avoid potential complications, and recognizes the outcome and/ or complications resulting from the procedure								
Level 1		Level 2		Level 3		Level 4		Level 5
Identifies pertinent anatomy and physiology for a specific procedure		Performs patient assessment, obtains informed consent and ensures monitoring equipment is in place in accordance with patient safety standards		Determines a backup strategy if initial attempts to perform a procedure are unsuccessful		Performs indicated procedures on any patients with challenging features (e.g., poorly identifiable landmarks, at extremes of age or with co-morbid conditions)		Teaches procedural competency and corrects mistakes
Uses appropriate Universal Precautions		Knows indications, contraindications, anatomic landmarks, equipment, anesthetic and procedural technique, and potential complications for common ED procedures		Correctly interprets the results of a diagnostic procedure		Performs the indicated procedure, takes steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure		
		Performs the indicated common procedure on a patient with moderate urgency who has identifiable landmarks and a low-moderate risk for complications						
		Performs post-procedural assessment and identifies any potential complications						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Procedural competency forms, checklist assessment of procedure and simulation lab performance, global ratings

## 10. Airway Management (PC10)

Performs airway management on all appropriate patients (including those who are uncooperative, at the extremes of age, hemodynamically unstable and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement), takes steps to avoid potential complications, and recognize the outcome and/ or complications resulting from the procedure								
Level 1		Level 2		Level 3		Level 4		Level 5
Describes upper airway anatomy		Describes elements of airway assessment and indications impacting the airway management		Uses airway algorithms in decision making for complicated patients employing airway adjuncts as indicated		Performs airway management in any circumstance taking steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure		Teaches airway management skills to health care providers
Performs basic airway maneuvers or adjuncts (jaw thrust/chin lift/oral airway/nasopharyngeal airway) and ventilates/oxygenates patient using BVM		Describes the pharmacology of agents used for rapid sequence intubation including specific indications and contraindications		Performs rapid sequence intubation in patients using airway adjuncts		Performs a minimum of 35 intubations		
		Performs rapid sequence intubation in patients without adjuncts		Implements post-intubation management		Demonstrates the ability to perform a cricothyrotomy		
		Confirms proper endotracheal tube placement using multiple modalities		Employs appropriate methods of mechanical ventilation based on specific patient physiology		Uses advanced airway modalities in complicated patients		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Airway Management Competency Assessment Tool (CORD), Airway Management Assessment Cards, SDOT, checklist, procedure log, and simulation

## 11. Anesthesia and Acute Pain Management (PC11)

Provides safe acute pain management, anesthesia, and procedural sedation to patients of all ages regardless of the clinical situation									
Level 1		Level 2		Level 3		Level 4		Level 5	
<p>Discusses with the patient indications, contraindications and possible complications of local anesthesia</p> <p>Performs local anesthesia using appropriate doses of local anesthetic and appropriate technique to provide skin to sub-dermal anesthesia for procedures</p>		<p>Knows the indications, contraindications, potential complications and appropriate doses of analgesic/sedative medications</p> <p>Knows the anatomic landmarks, indications, contraindications, potential complications and appropriate doses of local anesthetics used for regional anesthesia</p>		<p>Knows the indications, contraindications, potential complications and appropriate doses of medications used for procedural sedation</p> <p>Performs patient assessment and discusses with the patient the most appropriate analgesic/sedative medication and administers in the most appropriate dose and route</p> <p>Performs pre-sedation assessment, obtains informed consent and orders appropriate choice and dose of medications for procedural sedation</p> <p>Obtains informed consent and correctly performs regional anesthesia</p> <p>Ensures appropriate monitoring of patients during procedural sedation</p>		<p>Performs procedural sedation providing effective sedation with the least risk of complications and minimal recovery time through selective dosing, route and choice of medications</p>		<p>Develops pain management protocols/care plans</p>	
○	○	○	○	○	○	○	○	○	○
Comments:									

**Suggested Evaluation Methods:** Procedural competency forms, checklist assessment of procedure and simulation lab performance, global ratings, patient survey, chart review

**12. Other Diagnostic and Therapeutic Procedures: Goal-directed Focused Ultrasound (Diagnostic / Procedural) (PC12)**

Uses goal-directed focused Ultrasound for the bedside diagnostic evaluation of emergency medical conditions and diagnoses, resuscitation of the acutely ill or injured patient, and procedural guidance								
Level 1		Level 2		Level 3		Level 4		Level 5
Describes the indications for emergency ultrasound		Explains how to optimize ultrasound images and Identifies the proper probe for each of the focused ultrasound applications  Performs an eFAST		Performs goal-directed focused ultrasound exams  Correctly interprets acquired images		Performs a minimum of 150 focused ultrasound examinations		Expands ultrasonography skills to include: advanced echo, TEE, bowel, adnexal and testicular pathology, and transcranial Doppler
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** OSCE, SDOT, videotape review, written examination, checklist

### 13. Other Diagnostic and Therapeutic Procedures: Wound Management (PC13)

Assesses and appropriately manages wounds in patients of all ages regardless of the clinical situation								
Level 1		Level 2		Level 3		Level 4		Level 5
Prepares a simple wound for suturing (identify appropriate suture material, anesthetize wound and irrigate)		Uses medical terminology to clearly describe/classify a wound (e.g., stellate, abrasion, avulsion, laceration, deep vs superficial)		Performs complex wound repairs (deep sutures, layered repair, corner stitch)		Achieves hemostasis in a bleeding wound using advanced techniques such as: cauterization, ligation, deep suture, injection, topical hemostatic agents, and tourniquet		Performs advanced wound repairs, such as tendon repairs and skin flaps
Demonstrates sterile technique		Classifies burns with respect to depth and body surface area		Manages a severe burn		Repairs wounds that are high risk for cosmetic complications (such as eyelid margin, nose, ear)		
Places a simple interrupted suture		Compares and contrasts modes of wound management (adhesives, steri-strips, hair apposition, staples)		Determines which wounds should not be closed primarily		Describes the indications for and steps to perform an escharotomy		
		Identifies wounds that require antibiotics or tetanus prophylaxis		Demonstrates appropriate use of consultants				
		Educates patients on appropriate outpatient management of their wound		Identifies wounds that may be high risk and require more extensive evaluation (example: x-ray, ultrasound, and/or exploration)				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Direct observation, procedure checklist, medical knowledge quiz, portfolio , global ratings, procedure log

**14. Other Diagnostic and Therapeutic Procedures: Vascular Access (PC14)**

Successfully obtains vascular access in patients of all ages regardless of the clinical situation								
Level 1		Level 2		Level 3		Level 4		Level 5
Performs a venipuncture  Places a peripheral intravenous line  Performs an arterial puncture		Describes the indications, contraindications, anticipated undesirable outcomes and complications for the various vascular access modalities  Inserts an arterial catheter  Assesses the indications in conjunction with the patient anatomy/pathophysiology and select the optimal site for a central venous catheter  Inserts a central venous catheter using ultrasound and universal precautions  Confirms appropriate placement of central venous catheter  Performs intraosseous access		Inserts a central venous catheter without ultrasound when appropriate  Places an ultrasound guided deep vein catheter (e.g., basilic, brachial, and cephalic veins)		Successfully performs 20 central venous lines  Routinely gains venous access in patients with difficult vascular access		Teaches advanced vascular access techniques
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Knowledge assessment using MCQ, checklist driven task analysis, procedure log



## 15. Medical Knowledge (MK)

Demonstrates appropriate medical knowledge in the care of emergency medicine patients								
Level 1		Level 2		Level 3		Level 4		Level 5
<p>Passes initial national licensing examinations (e.g., USMLE Step 1 and Step 2 or COMLEX Level 1 and Level 2)</p>		<p>Resident develops and completes a self-assessment plan based on the in-training examination results</p> <p>Completes objective residency training program examinations and/or assessments at an acceptable score for specific rotations</p>		<p>Demonstrates improvement of the percentage correct on the in-training examination or maintains an acceptable percentile ranking</p>		<p>Obtains a score on the annual in-training examination that indicates a high likelihood of passing the national qualifying examinations</p> <p>Successfully completes all objective residency training program examinations and/or assessments</p> <p>Passes final national licensing examination (e.g., USMLE Step 3 or COMLEX Level 3)</p>		<p>Passes ABEM certifying examinations</p> <p>Meets all the requirements for the ABEM Maintenance of Certification program set forth by national certifying agency</p>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** National licensing examinations (USMLE, COMLEX), national in-training examination (developed by ABEM & AOA), CORD Question & Answer Bank tests, MedChallenger, local residency examinations

## 16. Professional values (PROF1)

Demonstrates compassion, integrity, and respect for others as well as adherence to the ethical principles relevant to the practice of medicine								
Level 1		Level 2		Level 3		Level 4		Level 5
Demonstrates behavior that conveys caring, honesty, genuine interest and tolerance when interacting with a diverse population of patients and families		Demonstrates an understanding of the importance of compassion, integrity, respect, sensitivity and responsiveness and exhibits these attitudes consistently in common/uncomplicated situations and with diverse populations		Recognizes how own personal beliefs and values impact medical care; consistently manages own values and beliefs to optimize relationships and medical care  Develops alternate care plans when patients' personal decisions/beliefs preclude the use of commonly accepted practices		Develops and applies a consistent and appropriate approach to evaluating appropriate care, possible barriers and strategies to intervene that consistently prioritizes the patient's best interest in all relationships and situations  Effectively analyzes and manages ethical issues in complicated and challenging clinical situations		Develops institutional and organizational strategies to protect and maintain professional and bioethical principles
○	○	○	○	○	○	○	○	○
Comments:								

**Suggested Evaluation Methods:** Direct observation, SDOT, portfolio, simulation, oral board, multi-source feedback, global ratings

## 17. Accountability (PROF2)

Demonstrates accountability to patients, society, profession and self								
Level 1		Level 2		Level 3		Level 4		Level 5
<p>Demonstrates basic professional responsibilities such as timely reporting for duty, appropriate dress/grooming, rested and ready to work, delivery of patient care as a functional physician</p> <p>Maintains patient confidentiality</p> <p>Uses social media ethically and responsibly</p> <p>Adheres to professional responsibilities, such as conference attendance, timely chart completion, duty hour reporting, procedure reporting</p>		<p>Identifies basic principles of physician wellness, including sleep hygiene</p> <p>Consistently recognizes limits of knowledge in common and frequent clinical situations and asks for assistance</p> <p>Demonstrates knowledge of alertness management and fatigue mitigation principles</p>		<p>Consistently recognizes limits of knowledge in uncommon and complicated clinical situations; develops and implements plans for the best possible patient care</p> <p>Recognizes and avoids inappropriate influences of marketing and advertizing</p>		<p>Can form a plan to address impairment in one's self or a colleague, in a professional and confidential manner</p> <p>Manages medical errors according to principles of responsibility and accountability in accordance with institutional policy</p>		<p>Develops institutional and organizational strategies to improve physician insight into and management of professional responsibilities</p> <p>Trains physicians and educators regarding responsibility, wellness, fatigue, and physician impairment</p>
○		○		○		○		○
Comments:								

**Suggested Evaluation Methods:** Direct observation, SDOT, portfolio, simulation, oral boards, multi-source feedback, global ratings

## 18. Patient Centered Communication (ICS1)

Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patients and their families.								
Level 1		Level 2		Level 3		Level 4		Level 5
Establishes rapport with and demonstrate empathy toward patients and their families		Elicits patients' reasons for seeking health care and expectations from the ED visit		Manages the expectations of those who receive care in the ED and uses communication methods that minimize the potential for stress, conflict, and misunderstanding		Uses flexible communication strategies and adjusts them based on the clinical situation to resolve specific ED challenges, such as drug seeking behavior, delivering bad news, unexpected outcomes, medical errors, and high risk refusal-of-care patients		Teaches communication and conflict management skills
Listens effectively to patients and their families		Negotiates and manages simple patient/family-related conflicts		Effectively communicates with vulnerable populations, including both patients at risk and their families				Participates in review and counsel of colleagues with communication deficiencies
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** Direct observation, SDOT, simulation, multi-source feedback, OSCE, global ratings, oral boards

## 19. Team Management (ICS2)

Leads patient-centered care teams, ensuring effective communication and mutual respect among members of the team.								
Level 1		Level 2		Level 3		Level 4		Level 5
Participates as a member of a patient care team		Communicates pertinent information to emergency physicians and other healthcare colleagues		Develops working relationships across specialties and with ancillary staff  Ensures transitions of care are accurately and efficiently communicated  Ensures clear communication and respect among team members		Recommends changes in team performance as necessary for optimal efficiency  Uses flexible communication strategies to resolve specific ED challenges such as difficulties with consultants and other health care providers  Communicates with out-of-hospital and nonmedical personnel, such as police, media, and hospital administrators		Participates in and leads interdepartmental groups in the patient setting and in collaborative meetings outside of the patient care setting  Designs patient care teams and evaluates their performance  Seeks leadership opportunities within professional organizations
○	○	○	○	○	○	○	○	○
Comments:								

**Suggested Evaluation Methods:** Direct observation, SDOT, simulation, multi-source feedback, OSCE, global ratings, oral boards

## 20. Practice-based Performance Improvement (PBI)

Participates in performance improvement to optimize ED function, self-learning, and patient care								
Level 1		Level 2		Level 3		Level 4		Level 5
Describes basic principles of evidence-based medicine		Performs patient follow-up		Performs self-assessment to identify areas for continued self-improvement and implements learning plans  Continually assesses performance by evaluating feedback and assessment  Demonstrates the ability to critically appraise scientific literature and apply evidence-based medicine to improve one's individual performance		Applies performance improvement methodologies  Demonstrates evidence-based clinical practice and information retrieval mastery  Participates in a process improvement plan to optimize ED practice		Independently teaches evidence-based medicine and information mastery techniques
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** SDOT, simulation, global ratings, checklist or ratings of portfolio work products, including a literature review, Vanderbilt matrix evaluation of a clinical issue, critical appraisal

## 21. Patient Safety (SBP1)

Participates in performance improvement to optimize patient safety.								
Level 1		Level 2		Level 3		Level 4		Level 5
Adheres to standards for maintenance of a safe working environment		Routinely uses basic patient safety practices, such as time-outs and 'calls for help'		Describes patient safety concepts		Participates in an institutional process improvement plan to optimize ED practice and patient safety		Uses analytical tools to assess healthcare quality and safety and reassess quality improvement programs for effectiveness for patients and for populations
Describes medical errors and adverse events				Employs processes (e.g., checklists, SBAR), personnel, and technologies that optimize patient safety (SBAR= Situation – Background – Assessment – Recommendation)		Leads team reflection such as code debriefings, root cause analysis, or M&M to improve ED performance		Develops and evaluates measures of professional performance and process improvement and implements them to improve departmental practice
				Appropriately uses system resources to improve both patient care and medical knowledge		Identifies situations when the breakdown in teamwork or communication may contribute to medical error		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:								

**Suggested Evaluation Methods:** SDOT, simulation, global ratings, multi-source feedback, portfolio work products, including a QI project

## 22. Systems-based Management (SBP2)

Participates in strategies to improve healthcare delivery and flow. Demonstrates an awareness of and responsiveness to the larger context and system of health care.								
Level 1		Level 2		Level 3		Level 4		Level 5
Describes members of ED team (e.g., nurses, technicians, and security)		Mobilizes institutional resources to assist in patient care  Participates in patient satisfaction initiatives		Practices cost-effective care  Demonstrates the ability to call effectively on other resources in the system to provide optimal health care		Participates in processes and logistics to improve patient flow and decrease turnaround times (e.g., rapid triage, bedside registration, Fast Tracks, bedside testing, rapid treatment units, standard protocols, and observation units)  Recommends strategies by which patients' access to care can be improved  Coordinates system resources to optimize a patient's care for complicated medical situations		Creates departmental flow metric from benchmarks, best practices, and dash boards  Develops internal and external departmental solutions to process and operational problems  Addresses the differing customer needs of patients, hospital medical staff, EMS, and the community
○	○	○	○	○	○	○	○	○
Comments:								

**Suggested Evaluation Methods:** Direct observation-SDOT, chart review, global ratings, billing records, simulation, multi-source feedback, and outcome data including throughput numbers and patients per hour



### 23. Technology (SBP3)

Uses technology to accomplish and document safe healthcare delivery									
Level 1		Level 2			Level 3		Level 4		Level 5
<p>Uses the Electronic Health Record (EHR) to order tests, medications and document notes, and respond to alerts</p> <p>Reviews medications for patients</p>		<p>Ensures that medical records are complete, with attention to preventing confusion and error</p> <p>Effectively and ethically uses technology for patient care, medical communication and learning</p>			<p>Recognizes the risk of computer shortcuts and reliance upon computer information on accurate patient care and documentation</p>		<p>Uses decision support systems in EHR (as applicable in institution)</p>		<p>Recommends systems re-design for improved computerized processes</p>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:									

**Suggested Evaluation Methods:** Direct observation-SDOT, chart review, global ratings, billing records, simulation, multi-source feedback