

DECISION MAKING IN EMERGENCY MEDICINE

Nadia Markovchick Dearstyne, MD and Vincent J. Markovchick, MD, FAAEM

1. Is there anything unique about emergency medicine?

Although there is significant crossover between emergency medicine and all other clinical specialties, emergency medicine approaches to patient care and the decision-making processes are unique. Emergency medicine physicians must be knowledgeable about all aspects of medical care, with an emphasis on identifying and treating acute life threats.

2. Describe the conventional method of evaluating a patient.

A comprehensive history, physical examination including vital signs, routine laboratory diagnostic studies, special diagnostic procedures, and the formulation of a problem-oriented medical record and rational course of therapy constitute the ideal approach to patient care, because it is so comprehensive.

3. Why is the conventional methodology not ideal for use in the ED?

Even though in retrospect only 10% to 20% of patients presenting to an ED truly have emergent problems, it must be presumed that every patient who comes to an ED has an emergent condition. Therefore the first and most important question that must be answered is, "What is the life threat?" The conventional approach does not ensure an expeditious answer to this question. Time constraints, multitasking, and limited resources also impede the use of conventional methodology in the ED.

4. How do I identify the patient with a life-threatening condition?

Three components are necessary to quickly identify the patient with a life-threatening condition:

1. A chief complaint and a brief, focused history relevant to the chief complaint
2. A complete and accurate set of vital signs in the field and in the ED
3. A rapid, focused physical examination that includes visualization, auscultation, palpation, and observation

5. What is so important about the chief complaint?

The chief complaint, which sometimes cannot be obtained directly from the patient but must be obtained from family members, observers, emergency medical technicians (EMTs), or others at the scene, will immediately help categorize the general type of problem (e.g., cardiac, traumatic, respiratory, or psychiatric).

6. Why are vital signs important?

Vital signs are the most reliable objective data that are immediately available to ED personnel, provided they are accurately taken and critically interpreted. Vital signs and the chief complaint, when used as triage tools, will identify the majority of patients with life-threatening conditions. Familiarity with normal vital signs for all age groups is essential.

7. What are the determinants of (normal) vital signs?

Age, underlying physical condition, medical problems (e.g., hypertension), and current medications (e.g., β -blockers) are important considerations in determining normal vital signs for a given patient. For example, a well-conditioned, young athlete who has just sustained major trauma and arrives with a resting supine pulse of 80 beats per minute may have significant blood loss because the normal pulse is probably in the range of 40 to 50 beats per minute.

8. What is the most inaccurate vital sign taken in the field and ED?

In the field the most common inaccurate vital sign is the respiratory rate, because it is sometimes estimated rather than counted. In the ED, the temperature may be inaccurate if a temporal or tympanic thermometer was used or if the patient was hyperventilating or mouth breathing when the oral temperature was taken. When either fever or hypothermia is suspected, measure a rectal temperature.

9. Why do I need to compare field vital signs with ED vital signs?

Most prehospital care systems with a level of care beyond basic transport also provide therapy to patients. Because this therapy usually makes positive changes in the patient's condition, the patient may look deceptively well on arrival in the ED. For example, a 20-year-old woman is found in the field with acute onset of left lower quadrant abdominal pain. She is cool, clammy and diaphoretic, with a pulse of 116 beats per minute and blood pressure of 78 palpable. She receives 1000 mL of intravenous (IV) fluid on route to the ED. She may arrive with

normal vital signs and no skin changes. If one does not read and pay attention to the EMT's description of the patient and the initial vital signs, the presumption may be made that this is a stable patient.

10. When are normal vital signs abnormal?

This is when the vital signs, although in the normal range, are inconsistent with the patient's chief complaint and overall clinical appearance. For example, a 20-year old man with severe asthma who presents with hours of dyspnea and poor air movement may have a "normal" respiratory rate of 14 breaths per minute. For this patient one would expect a respiratory rate of 20 to 30 breaths per minute, and thus a respiratory rate of 14 is abnormal, indicating fatigue and impending respiratory failure. This is a classic example of when "normal" is abnormal.

11. Why do I need to visualize, auscultate, and touch the patient?

In many instances these measures help to identify the life threat (e.g., Is it the upper airway, lower airway, or circulation?). Touching the skin is important to determine whether shock is associated with vasoconstriction (i.e., hypovolemic or cardiogenic) or with vasodilatation (i.e., septic, neurogenic, or anaphylactic). Auscultation will identify life threats associated with the lower airway (e.g., bronchoconstriction, tension pneumothorax).

12. Once I have identified the life threat, what do I do?

Stop immediately and intervene to reverse the life threat. For example, if the initial encounter with the patient identifies upper-airway obstruction, take whatever measures are necessary to alleviate upper-airway obstruction such as suctioning, positioning, or intubating the patient. If the problem is hemorrhage, volume restoration and hemorrhage control are indicated.

13. I have identified and stabilized or ruled out an immediate life threat in the patient. What else is unique about the approach to this patient in the ED?

The differential diagnosis formulated in the ED must begin with the most serious condition possible to explain the patient's presenting symptoms and be continued from there. An example is a 60-year-old man who exhibits nausea, vomiting, and epigastric pain. Instead of assuming the condition is caused by a gastrointestinal disorder, an acute myocardial infarction (MI) must first be considered and appropriate steps must be taken to stabilize the patient (i.e., start an IV, initiate oxygen [O₂], and place a cardiac monitor). Then, rule out an MI, aortic dissection, or surgical or other acute abdominal pathology, by completing an adequate history and physical examination, an electrocardiogram (ECG), and appropriate laboratory studies.

14. Why does formulating a differential diagnosis sometimes lead to problems?

The natural tendency in formulating a differential diagnosis is to think of the most common or statistically most probable condition to explain the patient's initial presentation. This approach may overlook the most serious, albeit sometimes a very uncommon, problem. Therefore the practice of emergency medicine involves some degree of healthy paranoia to consider the most serious conditions compatible with the patient's presenting symptoms. Through a logical process of elimination, first rule in or out the life threats before gravitating to the more likely diagnoses.

15. Is a diagnosis always possible or necessary in the ED?

No. Patients should be informed of goals in the ED. Sometimes, the most important thing is to know that they don't have a life-threatening condition. It may take days, weeks, or months for a final diagnosis to be made. It is unreasonable to expect that every patient should or must have a diagnosis made in the ED.

16. If I cannot make the diagnosis, what do I do?

It is the role of the ED physician to rule out and stabilize serious or life-threatening conditions, not to always arrive at a definitive diagnosis. For example, a patient who comes to the ED with abdominal pain; who has had an appropriate history, physical examination, and diagnostic studies; and who in your best judgment does not have a life-threatening or acute surgical problem should be so informed. The discharge diagnosis would be abdominal pain of unknown etiology. This avoids the trap of labeling the patient with a benign diagnosis such as gastroenteritis or gastritis that is not supported by the medical record. More important, it avoids giving the patient the impression that there is a totally benign process occurring and will help to avoid the medical (and legal) problem of the patient returning 1 or 2 days later with something more serious, such as a ruptured appendix.

17. What is the most important question to ask a patient who comes to the ED with a chronic, persistent, or recurrent condition?

"What's different now?" This question should be asked of all patients who have a chronic condition that has resulted in a visit to the ED. The classic example is migraine headache. The patient with a chronic, recurrent migraine headache who is not asked this question may on this occasion have had an acute subarachnoid bleed. Such a patient may not volunteer that this headache is different from the pattern of chronic migraines unless asked.

18. How do I decide if the patient needs hospitalization?

The medical condition is the first obvious factor to consider. Beyond this, ask yourself the following questions: Is there a medical need that can be fulfilled only by hospitalization, or can the patient be safely observed in the outpatient setting? For example, does the patient need oxygen therapy or cardiac monitoring? Can patients who

have sustained head trauma adhere to head trauma precautions, or do they require in-patient care because of homelessness or living alone? The patient's ability to pay for services should not determine disposition decisions.

19. If the patient does not need admission, how do I arrange a satisfactory disposition?

All patients should be instructed to follow up or return to the ED for new or worsening symptoms. Failure to do so constitutes patient abandonment. Specific verbal and written follow-up instructions should be given to all patients.

20. What is the most important thing to document in the ED discharge instructions?

All follow-up instructions must include specific mention of the most serious potential complications of the patient's condition. For example, a patient who is being discharged home with the diagnosis of a probable herniated L4-5 intervertebral disk should be instructed to return immediately if any bowel or bladder dysfunction develops. This takes into account the most serious complication of a herniated lumbar disk, which is a central midline disk herniation (i.e., cauda equina syndrome) with bowel or bladder dysfunction, an acute neurosurgical emergency.

21. What three questions should always be asked (and answered) before a patient is discharged from the ED?

1. Why did the patient come to the ED?
2. Have all specific concerns or fears been addressed?
3. Have I made the patient feel better?

Generally, most patients come to the ED because of pain, somatic or psychological, and a reasonable expectation is that this pain will be acknowledged and appropriately treated. If such pain cannot be alleviated, a thorough explanation should be given to the patient regarding the reasons why analgesics cannot be provided. Reassurance is sometimes all that is needed to relieve anxiety about serious medical conditions.

22. Why is the previous question and answer one of the most important in this chapter?

Attention to treating and alleviating a patient's pain will dramatically reduce subsequent complaints concerning care in the ED and remove one of the significant risk factors for initiation of a malpractice suit. It may also decrease the likelihood of an unnecessary return visit to the ED. It is also how you would want to be treated.

23. What about the chart?

The chart must reflect the answers to the preceding questions in this chapter. It need not list the entire differential diagnosis, but one should be able to ascertain from reading the chart that the more serious diagnoses were indeed considered. It also must contain appropriate follow-up instructions.

24. What role do clinical decision rules have in decision making in the ED?

Evidence-based clinical decision rules (such as pulmonary embolism rule-out criteria [PERC]) should be followed unless specific circumstance makes deviation from the rule in the best interest of the patient. In such cases, document the reasoning for deviation.

25. What is the role of shared decision making in the ED?

Shared decision making can be useful in a day and age of access to too much information via the Internet. It is important to get agreement from the patient as to their course of treatment. This can be accomplished by explaining the reasons that a particular study does or does not need to be done. The patient can then feel more comfortable with the decisions made.

KEY POINTS: DECISION MAKING IN EMERGENCY MEDICINE

1. Stabilize the patient before performing diagnostic procedures.
2. Always consider the most serious possible cause of the patient's signs and symptoms.
3. Always inquire about a patient's social situation before ED discharge.
4. Remember to focus on alleviating the patient's somatic or psychological pain.

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QUESTIONS

1. When formulating a differential diagnosis on an ED patient, one should ask what is:
 - a. The most likely diagnosis
 - b. The most serious diagnosis
 - c. The most uncommon diagnosis
 - d. The most benign diagnosisThe correct answer is *b*.
2. What is the top priority in the initial encounter with a patient in the ED?
 - a. Introduce yourself.
 - b. Order appropriate diagnostic studies.
 - c. Identify and stabilize the life threat.
 - d. Obtain a past medical history.The correct answer is *c*.
3. What is the most often inaccurate vital sign obtained by EMTs in the prehospital setting?
 - a. Blood pressure
 - b. Pulse
 - c. Respiratory rate
 - d. TemperatureThe correct answer is *c*.