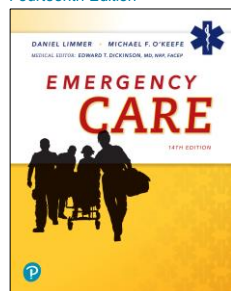


## Emergency Care

Fourteenth Edition



### Chapter 14

Principles of Assessment

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## Topics

- [Principles of Assessment](#)
- [The Physical Examination](#)
- [Body System Examinations](#)
- [Critical Thinking and Decision Making](#)

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## Principles of Assessment

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## The Patient History

- Patient history has two different components:
  - History of the present illness (HPI)
  - Past medical history (PMH)

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## History-Taking Techniques (1 of 5)

- History is obtained by talking to the patient.
- If the patient is unable to respond, gather history from:
  - Family members
  - Bystanders
  - Medications present
  - Other things you observe at the scene

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## History-Taking Techniques (2 of 5)

- Develop a rapport with the patient.
- Ask open-ended questions.
- Only use closed-ended questions if you need an immediate answer.
- History taking helps you obtain a picture of what is going on with the patient.

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## History-Taking Techniques (3 of 5)

- Use the mnemonic OPQRST to learn about the chief complaint and history of the present illness/injury.
  - Onset
  - Provocation
  - Quality
  - Region; radiation
  - Severity
  - Time



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## History-Taking Techniques (4 of 5)

- Use the mnemonic SAMPLE to learn about the patient's past medical history.
  - Signs and symptoms
  - Allergies
  - Medications
  - Pertinent past history
  - Last oral intake
  - Events leading to the injury or illness



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## History-Taking Techniques (5 of 5)

- When assessing children:
  - Preschoolers can be interviewed with simple language.
  - School-age children will be able to describe what they feel and what happened.
  - Include parents, teachers, and/or care providers in your interview.



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## The Physical Examination

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## Physical Examination Techniques (1 of 2)

- Performed before, during, or after patient history
- Three primary techniques
  - Observe – Look at the patient for an overall sense of patient condition
  - Auscultate – Listen for sounds of an abnormal condition
  - Palpate – Feel an area for deformities or other abnormal findings



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## Physical Examination Techniques (2 of 2)



Observe the patient for an overall sense of the patient's condition.



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## Pediatric Physical Exam

- Approach frightened children slowly.
- Start from the least invasive parts to the most invasive.
- Start with the toes or trunk and work your way toward the head.
- Explain all equipment to the child before use.
- Never lie to a child about something that hurts.
- Provide for the patient's privacy.



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## Body System Examinations

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## Respiratory System

- The most important determination when assessing the respiratory system is whether the patient is breathing adequately.



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## Respiratory Assessment—History

- Obtain history of existing respiratory conditions and medications taken for each.
- Determine if medications have been taken as prescribed.
- Determine if signs and symptoms of this episode match previous episodes.



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## Respiratory Assessment—Physical Examination

- Mental status
- Level of respiratory distress
- Chest wall motion
- Auscultate lung sounds
- Use pulse oximetry
- Observe edema
- Fever



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## Cardiovascular System

- Heart
- Blood vessels
- Cardiac patient and patient in shock or with a vascular problem



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## Cardiovascular System—History

- Existing cardiac conditions and medications
- Signs and symptoms of episode
- Description of chest pain using OPQRST
- Determine specific characteristics of discomfort



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## Cardiovascular System—Physical Examination

- Look for signs condition may be severe.
- Obtain pulse.
- Obtain blood pressure.
- Note pulse pressure.
- Look for jugular vein distention (JVD).
- Palpate the chest.
- Observe posture and breathing.



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## Nervous System

- Mental status
- Signs of dysfunction in the body



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## Neurologic Assessment—History

- Determine patient's mental status.
- Determine patient's normal state of mental functioning.
- Obtain history of neurologic conditions.
- Note patient's speech.



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## Neurologic Assessment—Physical Examination

- Perform a stroke scale.
- Check peripheral sensation and movement.
- Gently palpate the spine.
- Check extremity strength.
- Check patient's pupils for equality and reactivity.
- Examine the patient's gait.



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## Endocrine System

- The most common endocrine emergency is the diabetic patient.



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## Endocrine Assessment—History

- Diabetes mellitus or thyroid disease history
- Current medications and whether being taken properly
- Whether patient has eaten or exerted energy at an unusual level
- Whether patient is sick
- Whether patient has taken blood glucose or uses insulin pump



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## Endocrine Assessment—Physical Examination

- Evaluate patient's mental status.
- Observe the patient's skin.
- Obtain a blood glucose level.
- Look for an insulin pump.
- Look for medical jewelry.



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## Gastrointestinal System

- Looking for:
  - What has gone in
  - What has come out
  - What it looks like when it comes out



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## Gastrointestinal Assessment—History

- Pain or discomfort
- Oral intake
- History of gastrointestinal issues
- Vomiting
- Bowel movements



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## Gastrointestinal Assessment—Physical Examination

- Observe patient's position.
- Assess the abdomen.
- Inspect other parts of the gastrointestinal system.
- Inspect vomitus or feces if available.



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## Immune System

- Allergic reaction most relevant for EMS
  - Anaphylaxis



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## Immune System—Patient History

- History of allergies
  - Exposure to known allergens
  - What are typical reactions like?
- History of asthma
- Symptoms of tightness in chest or throat
- GI distress, itchiness, or rash
- Medications for allergic reaction



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## Immune System—Physical Examination

- Inspect point of contact with allergen.
- Inspect patient's skin for rash or hives.
- Inspect the face, lips, and mouth for swelling.
- Listen to the patient speak.
- Listen to lungs to ensure adequate breathing.



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## Musculoskeletal System

- Medical diseases in this system are rare.
- Most musculoskeletal examinations will be performed as part of a complete trauma examination.



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## Musculoskeletal Assessment—History

- Prior injuries
- Whether patient takes blood-thinning medication
- Underlying diseases or conditions that make fractures more common
- History to determine if a medical problem caused the traumatic injury



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## Musculoskeletal Assessment—Physical Examination

- Inspect for signs of injury, such as deformity.
- Palpate areas with suspected injury.
- Compare sides for symmetry.
- Be alert for crepitation.
- Assess patient head-to-toe if there are multiple injuries or if the patient is unresponsive.



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## Critical Thinking and Decision Making

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## EMT Diagnosis and Critical Thinking

- Diagnosis is label for condition.
  - Based on history, physical examination, vital signs
  - Involves both physical and intellectual activity



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## How a Clinician Reaches a Diagnosis

- Clinicians have different levels of training, experience, time, technology and other resources.
- Techniques vary among types of clinicians.



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## The Traditional Approach to Diagnosis in Medicine (1 of 2)



The traditional approach to reaching a diagnosis includes interviewing the patient in the controlled environment of a clinic or office.



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## The Traditional Approach to Diagnosis in Medicine (2 of 2)

- Assess patient
- List of conditions or diagnoses
  - "Differential diagnosis" or "the differential"
- Further evaluation
  - Exclude unlikely conditions
- Final diagnosis



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## The Emergency Medicine Approach to Diagnosis (1 of 2)

- Quickly rule out or treat immediate life threats.
- Gather information from patient, family, friends.
- Perform physical exam.
- Focus on ruling out worst-case scenario.
  - Red flags suggest serious problem.
- May be responsible for multiple patients



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## The Emergency Medicine Approach to Diagnosis (2 of 2)



The emergency physician assesses patients in the busy, hectic atmosphere of an emergency department. © Edward T. Dickinson, MD



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## The EMS Approach to Diagnosis (1 of 2)

- Must be very efficient
  - Be available for another call as soon as possible.
- Work in uncontrolled environment
- Limited tools and skill set
- Narrow educational focus



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## The EMS Approach to Diagnosis (2 of 2)

- Follows same steps as emergency physician
  - Most are abbreviated or limited.
- Considers most serious conditions associated with patient
  - Rules them in or out
- Creates a diagnosis



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## Think About It 1

- You can reach a diagnosis, but your work is not done. Why?



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## Approach to Diagnosis in Medicine— Shortcuts and Biases (1 of 2)

- Experienced physicians learn heuristics (shortcuts).
  - Pattern recognition
  - Features narrow possibilities
- Reach difficult diagnoses more quickly
- Realize limitations of shortcuts
  - Understands common biases of heuristics



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## Approach to Diagnosis in Medicine— Shortcuts and Biases (2 of 2)

- Common heuristics
  - Representativeness
  - Availability
  - Overconfidence
  - Confirmation bias
  - Illusory correlation
  - Anchoring and adjustment
  - Search satisfying



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## How an EMT Can Learn to Think Like an Experienced Physician (1 of 2)

- Learn to love ambiguity.
- Understand the limitations of technology and people.
- Realize that no one strategy works for everything.
- Form a strong foundation of knowledge.



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## How an EMT Can Learn to Think Like an Experienced Physician (2 of 2)

- Organize the data in your head.
- Change the way you think.
- Learn from others.
- Reflect on what you have learned.



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## Think About It 2

- What are some of the important things to remember as you learn how to make a diagnosis and improve your critical thinking skills in EMS?



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## Chapter Review



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## Chapter Review (1 of 5)

- EMTs make diagnoses in the field, although they may not be as extensive or detailed as physicians' diagnoses.
- The traditional approach to reaching a diagnosis is to assess the patient, draw up a list of differential diagnoses, assess further to rule in or rule out different conditions, and narrow the list until you reach a conclusion.



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## Chapter Review (2 of 5)

- Highly experienced physicians don't always use the traditional approach. They use heuristics (shortcuts) in combination with their experience and training, which speeds up the process of reaching a diagnosis.



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## Chapter Review (3 of 5)

- Potential pitfalls of heuristics include representativeness, anchoring and adjustment, overconfidence, confirmation bias, illusory correlation, and search satisfying.



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## Chapter Review (4 of 5)

- Learn to think more critically by accepting the ambiguity of EMS working conditions, understanding limitations of people and technology, forming a strong foundation of knowledge, and organizing the data in your mind.



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## Chapter Review (5 of 5)

- When considering the cause of a patient's condition, don't let your search for a cause delay your treatment of the patient.



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## Remember

- Use open-ended questions when taking a patient history.
- Learn how to use three important examination techniques: Observe, auscultate, and palpate.
- Each body system has specific examination techniques to learn.
- Use critical thinking when making a field diagnosis.



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## Question to Consider

- Why is it important to obtain both the history of the present illness/injury and the past medical history when assessing a patient?



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## Critical Thinking (1 of 2)

- You have been called to the scene of a patient with an altered mental status. No one appears to know what is wrong with the patient or what happened to cause the change in mental status.



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## Critical Thinking (2 of 2)

- After performing your scene size-up and primary assessment, which body systems would you feel the need to examine further?



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