Principles of Patient Assessment

Education Standards

- Assessment—Scene Size-up, Primary Assessment, Secondary Assessment, Reassessment
- Use scene information and simple patient assessment findings to identify and manage immediate life threats and injuries within the scope of practice of the Emergency Medical Responder.

Competencies

The foundation of all emergency care lies in a good assessment of the patient. One of the most fundamental skills you will learn and develop is that of patient assessment. Patients cannot receive the care they need until their problems are identified. You must assess each patient to detect possible illness or injury and determine the most appropriate emergency care for the patient. This assessment must be done in a structured and orderly fashion to minimize the chance of overlooking an important sign or symptom.

Remember that a good patient assessment almost always leads to good patient care. A poor assessment almost always results in poor patient care. This chapter will assist you in learning a thorough and methodical patient assessment.

Upon successful completion of this chapter, the student should be able to:

Cognitive

1. Define the following terms:
   a. ABCs (p. 251)
   b. accessory muscle use (p. 267)
   c. AVPU scale (p. 253)
   d. baseline vital signs (p. 244)
   e. brachial pulse (p. 256)
   f. BP-DOC (p. 265)
   g. capillary refill (p. 256)
   h. carotid pulse (p. 254)
   i. chief complaint (p. 244)
   j. crepitus (p. 268)
   k. DCAP-BTLS (p. 265)
   l. dorsalis pedis pulse (p. 268)
   m. focused secondary assessment (p. 257)
   n. general impression (p. 251)
   o. guarding (p. 267)
   p. immediate life threats (p. 244)
   q. interventions (p. 241)
   r. jugular vein distention (p. 267)
   s. manual stabilization (p. 251)
   t. mechanism of injury (MOI) (p. 248)
   u. medical patient (p. 243)
   v. nature of illness (p. 248)
   w. OPQRST (p. 269)
   x. paradoxical movement (p. 267)
   y. patient assessment (p. 241)
   z. primary assessment (p. 243)
   aa. radial pulse (p. 255)
   bb. rapid secondary assessment (p. 260)
   cc. reassessment (p. 244)
   dd. SAMPLE history (p. 262)
   ee. scene size-up (p. 241)
   ff. secondary assessment (p. 243)
   gg. signs (p. 241)
   hh. symptoms (p. 241)
   ii. track marks (p. 268)
   jj. trauma patient (p. 243)
   kk. tracheal deviation (p. 267)
   ll. trending (p. 271)

2. Explain the importance that safety plays at the scene of an emergency. (p. 245)

3. Describe hazards commonly found at emergency scenes (medical and trauma). (p. 247)
4. Explain the role that the Emergency Medical Responder plays in ensuring the safety of all people at the scene of an emergency. (p. 247)

5. Describe the components of an appropriate scene size-up and the importance of each component. (p. 248)

6. Differentiate between mechanism of injury and nature of illness. (p. 248)

7. Differentiate between a significant and non-significant mechanism of injury. (p. 258)

8. Explain the purpose of the primary assessment. (p. 249)

9. Describe the components of a primary assessment. (p. 250)

10. Describe patients who are high and low priority for transport. (p. 256)

11. Explain the purpose of the secondary assessment. (p. 257)

12. Describe the components of a secondary assessment. (p. 257)

13. Describe the components of the SAMPLE history tool. (p. 262)

14. Describe the components of the BP-DOC assessment tool. (p. 268)

15. Explain the purpose of the reassessment. (p. 271)

16. Describe the unique assessment methods used for pediatric and geriatric patients. (p. 256)

**PSYCHOMOTOR**

17. Demonstrate the ability to identify immediate and potential hazards to safety.

18. Demonstrate the ability to properly perform a scene size-up.

19. Demonstrate the ability to properly perform a primary assessment.

20. Demonstrate the ability to properly perform a secondary assessment.

21. Demonstrate the ability to properly perform a reassessment.

22. Demonstrate the ability to properly identify and perform appropriate interventions during a patient assessment.

**AFFECTIVE**

23. Value the priority that safety plays in the overall assessment and care of the patient.

24. Model a caring and compassionate attitude with classmates and simulated patients.

25. Support the role of the Emergency Medical Responder with respect to patient advocacy.

26. Model an appropriate level of concern for a patient’s modesty when exposing the body during an assessment.

**FIRST ON SCENE**

“Attention all employees.” The voice from the overhead paging system in the Booker Manufacturing warehouse halts the bustle of the shipping staff. They all turn to look up at the loudspeaker. “Will all third-shift MERT members please respond to the number-seven loading dock for a medical emergency.”

Two of the warehouse employees remove their leather gloves and face shields and quickly walk to a white locker with “MERT” stenciled on its side in wide red letters. They open the cabinet, remove two nylon bags, and hurry toward the loading docks at the south end of the building.

“I’ll be the patient-care person if you’ll do scene control,” Joanie Sutter says.

“Okay,” Renee Murphy replies, fishing a pair of gloves from her bag and putting them on. Renee is actually relieved to be with an experienced Medical Emergency Response Team member. She is new to the company’s MERT, and the patient-assessment process is still a little confusing to her.

As the two pass the dock manager’s small office and turn left, they are met by a forklift operator whose name, according to his embroidered shirt, is Tariq. “I’m glad you’re here,” he says quickly. “It’s one of the truck drivers. I think he’s having a heart attack.”

**Patient Assessment**

Many EMS systems use an assessment-based approach to providing care to patients (Figure 12.1). This is to say that Emergency Medical Responders and other EMS personnel are trained to identify, prioritize, and care for major signs and symptoms. What they will not do is try to diagnose a patient’s specific problems. For example, an Emergency Medical Responder will do what he can to make sure a patient with difficulty breathing has an open airway and supplemental oxygen. What he will not do is waste critical time attempting to figure out the underlying cause of the patient’s difficulty. Once all life threats have been cared for, the Emergency Medical Responder will complete a more
thorough assessment of the patient, identify less obvious signs and symptoms, and gather a pertinent medical history.

Assessment-Based Care

A typical patient assessment contains four major components (Figure 12.2):

- **Scene size-up.** The scene size-up is an overview of the scene to identify any obvious or potential hazards.
- **Primary assessment.** This is a quick assessment of the patient’s airway, breathing, circulation, and bleeding undertaken to detect and correct any immediate life-threatening problems.
- **Secondary assessment.** The secondary assessment is a more thorough assessment of the patient and has two subcomponents:
  - **History.** This includes all the information that you can gather regarding the patient’s condition as well as any previous medical history.
  - **Physical exam.** This includes using your hands and eyes to inspect the patient for any signs of illness and/or injury.
- **Reassessment.** Monitoring the patient to detect any changes in his condition, this component repeats the primary assessment (usually done en route to the hospital), corrects any additional life-threatening problems, repeats vital signs, and evaluates and adjusts as needed any interventions performed, such as repositioning the patient or increasing supplemental oxygen. You will find that the condition of your patient will improve, stay the same, or get worse.

While the responsibilities of the Emergency Medical Responder may differ from one EMS system to another, most use an assessment-based approach to patient care. After ensuring one’s own personal safety, an Emergency Medical Responder’s first concern is to detect and begin to correct life-threatening problems in his patient. The second concern is to identify and provide care for problems that are less serious or may become serious. The third concern is to constantly monitor the patient’s condition to quickly detect any changes that may need attention.

Scene Safety

The components of patient assessment and the order in which they are performed may vary from patient to patient based on each patient’s problem. But before you study them, you must first address issues related to the safety of the scene.

The conditions at a safe scene allow for rescuers to access and provide care to patients without danger to themselves. An unsafe scene is one that contains hazards that are either immediate or potential. An example may be a motor-vehicle crash site. It is not unusual to find vehicles or objects that can move or shift position (an overturned car and broken...
Perform scene size-up and ensure personal safety

Safe scene

Unsafe scene

Perform primary assessment

TRAUMA PATIENT

Re-evaluate mechanism of injury (MOI)

Significant MOI

Perform rapid assessment

Obtain baseline vital signs

Obtain SAMPLE history

Perform complete secondary assessment and reassessments as appropriate.

Hand off patient, patient information, and patient’s personal property to responding EMS unit and help ready for transport.

MEDICAL PATIENT

Re-evaluate mental status

No significant MOI

Perform focused assessment for specific injury

Obtain baseline vital signs

Obtain SAMPLE history

Responsive

Obtain history of chief complaint and SAMPLE history

Obtain baseline vital signs

Obtain history of present illness and SAMPLE history

Unresponsive

Obtain history of chief complaint

Perform rapid assessment

Obtain baseline vital signs

Unresponsive scene requires control. You may have to wait while hazards are corrected

Immediate Life Threats

The primary assessment is a set of steps meant to detect and correct life-threatening problems. The remaining components of the patient assessment change slightly with each of the four types of patient: (a) responsive medical patients, (b) unresponsive medical patients, (c) trauma patients, who have a significant mechanism of injury (MOI), and (d) trauma patients who do not have a significant MOI.
At times, the type of patient you are caring for is not so clearly defined. For example, a patient experiencing a medical problem may fall and injure himself, or a medical problem may have actually caused a car crash. Your patient assessment will need to include elements for both medical and trauma emergencies. What should guide your assessment should be the more serious of the patient’s problems.

Medical Patients
For a responsive medical patient, you will (Scan 12.1):

- Perform a scene size-up and a primary assessment.
- Perform a secondary assessment based on the patient’s chief complaint.
- Obtain baseline vital signs.
- Perform a reassessment, including the patient’s vital signs, in order to identify any changes in the patient’s condition.

For an unresponsive medical patient, you will (Scan 12.2):

- Perform a scene size-up and a primary assessment. Care for all immediate life threats first.
- Perform a rapid secondary assessment to look for signs of illness.
- Obtain baseline vital signs.
- Attempt to interview the patient’s family or bystanders to determine the patient’s chief complaint and nature of illness (NOI).
Perform a reassessment including vital signs to identify any changes in the patient’s condition.

Trauma Patients

For a trauma patient with no significant mechanism of injury, you will (Scan 12.3):

- Perform a scene size-up and a primary assessment. Include a size-up of the scene to determine the mechanism of injury (MOI).
- Conduct a secondary assessment based on the patient’s chief complaint.
- Obtain baseline vital signs.
- Perform a reassessment, including vital signs, to identify any changes in the patient’s condition.

For a trauma patient with a significant mechanism of injury, you will (Scan 12.4):

- Perform a scene size-up. Include a size-up of the scene and make note of the mechanism of injury.
- Perform a primary assessment. Manually stabilize the patient’s head and neck. Care for any life threats as you detect them.
- Perform a rapid secondary assessment to look for obvious serious injuries. Simultaneously, begin to question family and bystanders about the incident.
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12.3.1 | Perform a scene size-up as you approach the scene.

12.3.2 | Perform a primary assessment. Care for immediate life threats first.

12.3.3 | Perform a focused secondary assessment based on the patient’s injuries. Perform reassessments as often as necessary, depending on the patient’s condition.

- Obtain baseline vital signs.
- Perform a reassessment, including a reassessment of vital signs, to identify any changes in the patient’s condition.

Scene Size-up

Safety is a primary goal of the scene size-up. The scene size-up actually begins with the information you receive from dispatch before you arrive at the emergency scene. While en route, bring to mind the dispatcher’s description of the emergency. Think about the types of injuries or hazards you may find at that particular scene.

When you arrive on scene, take appropriate BSI precautions and make sure the scene is safe to enter. When the scene is safe to enter, remain cautious and continue to evaluate scene safety throughout the call. Next, look for the mechanism of injury at calls involving...
a trauma patient. Identify the nature of illness at medical emergencies (Figure 12.3). Note the number of patients, and anticipate any additional resources that may be needed. For all patients, consider the need for spinal precautions as you approach the scene.

To recap, every patient assessment begins with scene size-up, which includes (Scan 12.5):

- Taking BSI precautions.
- Determining if the scene is safe for you, other responders, the patient, and bystanders.
- Identifying the mechanism of injury or nature of illness.
- Determining the number of patients.
- Identifying any additional resources needed.
- Considering the need for spinal precautions.

**BSI Precautions**

Always take appropriate BSI precautions when assessing and caring for patients. At the very least, this includes wearing disposable synthetic gloves. Wear eye protection, and use
additional personal protective equipment as needed, depending on the patient’s problem. Remember, BSI precautions are meant to protect both you and your patient, so take precautions before you make contact.

**Scene Safety**

A dangerous and sometimes fatal mistake that responders make is entering an unsafe or hazardous scene. Never assume that any scene is safe. Take the time to stop and carefully assess the scene for yourself. If the scene is unsafe, do not enter it. For example, if a scene has the potential for violence, and you are not a law enforcement officer, do not enter it until law enforcement indicates it is safe for you to do so. If there is a potential for a hazardous materials release, remain a safe distance away. In fact, you may never actually enter such scenes. Often, appropriately trained and equipped hazardous-materials team members will bring properly decontaminated patients to you.

Examples of unsafe scenes include those involving vehicle collisions and traffic, the release of toxic substances, violence or crime, any weapon, and unsafe surfaces. Also look for signs of domestic disturbances, electrical hazards, potential for fire or explosions, and guard dogs. Use all your senses to detect unsafe scenes. Remain at a safe distance to keep yourself and others away from harm.

An important rule to remember is this: *Do not become a victim yourself.* Every year many rescuers are injured and some are killed while attempting to care for others at an emergency scene.

**OBJECTIVES**

3. Describe hazards commonly found at emergency scenes (medical and trauma).

4. Explain the role that the Emergency Medical Responder plays in ensuring the safety of all people at the scene of an emergency.
Mechanism of Injury or Nature of Illness

During the scene size-up, you must do your best to identify the mechanism of injury (MOI) for a trauma patient and the nature of illness (NOI) for a medical patient. Information may be obtained from the patient, from family members or bystanders, and by carefully looking at the scene for clues.

The mechanism of injury (MOI) is made up of the combined forces that caused the injury. Did the patient fall? Is there a penetrating wound? Was he involved in a motor-vehicle collision? A damaged steering wheel of a vehicle, for example, should lead you to consider the possibility of a chest injury. A cracked windshield could be an indication of a head injury. Consider spine injuries in a patient who experienced a fall.

Identifying the nature of illness (NOI) is similar to identifying a mechanism of injury. In most instances the NOI will be directly related to the patient's chief complaint. Common NOIs include chest pain, difficulty breathing, and abdominal pain. Look at the patient and the area in which he is found for clues to his problem. Does the patient look as if he is in distress? Does his position suggest where there might be pain or discomfort? Are there medications or is there home oxygen equipment in view? Do you detect any odors, such as vomit or urine? While diagnosing why the patient is having a particular medical problem is not necessary, the nature of illness will guide you in the appropriate direction for care.

Both the mechanism of injury for trauma patients and the nature of illness for medical patients will allow you to consider what complications may have not yet developed. For example, if the patient is complaining of chest pain, consider the possibility of a heart problem and the potential for cardiac arrest. If the patient experienced a fall, consider the forces involved and the potential for injury.

It is important to recognize that the elderly may suffer severe injuries from less significant mechanisms of injury than younger patients. Therefore, when caring for the elderly trauma victim, maintain a high index of suspicion regardless of the apparent mechanism.

Number of Patients and Need for Additional Resources

The final part of the scene size-up is to determine the number of patients and whether you have sufficient resources to handle the call.

Once you are certain of the number of patients involved in the emergency, you must determine if additional resources are needed. More than one EMT unit may be required to handle several patients. In fact, you may require additional resources even on calls with only one patient. You may need additional help if a heavy patient must be carried down stairs. You may require a fire services response to help with extrication or to make a collision scene safe. Or the patient may require air transport to a specialty medical facility such as a regional trauma center.

An important part of the scene size-up is recognizing the need for additional resources and calling for them early.

Arrival at the Patient’s Side

Upon arrival at the patient’s side, begin by identifying yourself, even when initially it appears that the patient may be unresponsive. Simply state your name and then the following: “I am an Emergency Medical Responder.” While many people may not know what an Emergency Medical Responder is, the statement should allow you access to the patient and the cooperation of bystanders.

Your next statement should be to the patient: “May I help you?” By answering “yes” to this question, the patient is giving you expressed consent to begin care. The patient may not answer “yes” to your question but instead may simply remain still and allow you to
provide care. A patient who is alert and does not refuse your care is said to be providing consent for your care.

**GERIATRIC FOCUS**

*Address the elderly with respect by using their last name if you know it or by asking them their name and then addressing them with Mr. or Mrs. Never use terms of endearment, such as “grandpa,” “dear,” or “honey,” and especially avoid ageism, which is reflected in terms such as “gramps” or “pop.”*

Sometimes a patient’s fear may be so great that he is confused and will answer “no” or “just leave me alone.” Gaining the patient’s confidence by talking with him is usually easy. If the patient is unresponsive or unable to give expressed consent, implied consent allows you to care for the patient. This means that if the patient were able to do so, it is assumed that he would consent to care. (Review Chapter 2 for a more detailed discussion of consent.)

Remember, upon arrival and after conducting a scene size-up, you must:

1. State your name and identify yourself as a trained Emergency Medical Responder.
   Let the patient and bystanders know that you are with the EMS system.
2. Gain consent from the patient to provide care.

If someone is already providing care to the patient when you arrive, identify yourself as an Emergency Medical Responder. If the person’s training is equal to or at a higher level than your own, ask if you may assist. You should still identify yourself to the patient and ask if he wishes you to help.

If you have more training than the person who has begun care, respectfully ask to take over care of the patient, and ask him to assist you. Never criticize or argue with anyone who may have initiated care.

**Primary Assessment**

The primary assessment is designed to help the Emergency Medical Responder detect and correct all immediate threats to life. Immediate life threats typically involve the patient’s airway, breathing, circulation, or bleeding, and each is corrected as it is found. The primary assessment begins as soon as you reach the patient and gain the patient’s consent to treat.

**OBJECTIVE**

8. Explain the purpose of the primary assessment.
The primary assessment has seven components (Scans 12.6, 12.7, and 12.8):

- Form a general impression of the patient.
- Assess the patient’s mental status. Initially, this may mean determining if the patient is responsive or unresponsive.
- Assess the patient’s airway.
- Assess the patient’s breathing.
- Assess the patient’s circulation.
- Assess for uncontrolled bleeding.
- Make a decision on the priority or urgency of the patient for transport.

While conducting the primary assessment, you will look for life-threatening problems in three major areas:

- **Airway.** Is the patient’s airway open?
- **Breathing.** Is the patient breathing adequately?
- **Circulation.** Does the patient have an adequate pulse to circulate blood? Is there serious bleeding? Did the patient lose a large quantity of blood prior to your arrival?
This assessment and the actions taken are known as the ABCs of emergency care, which stand for:

A — Airway
B — Breathing
C — Circulation

During the primary assessment, if a life-threatening problem is detected, it may be necessary to start simultaneous actions focused on the ABCs of emergency care. For example, a trauma patient may require manual stabilization of his head and neck at the same time you are opening his airway, providing ventilations, and controlling bleeding. A medical patient may require you to assess his mental status at the same time you are taking a pulse and assessing his breathing. Simultaneous actions can prove to be very challenging. The more you practice your assessment, the better you will become at completing it efficiently.

The General Impression

As you approach your patient you will be forming a general impression of the patient and the patient’s environment. Your general impression is your first “informal” assessment of the patient’s overall condition. The general impression will help you decide the seriousness of the patient’s condition based on his level of distress and mental status. You also might be given information by the patient or bystanders at this time, such as the reason...
why EMS was called. In most cases, the reason EMS was called can be determined by identifying the patient’s chief complaint.

The general impression contains the following elements: approximate age, sex, and level of distress or responsiveness. Examples of a typical general impression may look something like the following: I have an approximately 30-year-old male in moderate distress. Or I have an approximately 60-year-old female who appears to be unresponsive.

From the Medical Director

General Impression

Don’t be afraid to trust your gut. If the patient’s condition makes you worried, uncomfortable, or even nervous, there must be a reason. The patient probably has a serious condition even if you cannot point to any specific finding.
Emergency Medical Responders have always formed a general impression when they first see a patient, even if they are not immediately aware of doing so. With experience, you may form one on intuition alone. You may notice if the patient looks very ill, pale, or cyanotic. You may notice unusual details such as odors, temperature, and living conditions. You may immediately see serious injuries or that the patient looks stable. This impression forms an early opinion of how seriously ill or injured the patient is.

Your decision to request immediate transport or to continue assessing the patient may be based solely on your general impression.

**Mental Status**

Your actual assessment of a patient begins by determining the patient’s level of responsiveness. You must quickly determine if he is responsive or unresponsive. Sometimes this is obvious as you approach. A responsive patient may be obviously awake and interacting with those around him. An unresponsive person may not be so obvious. You must kneel beside the patient, tap his shoulder, and state loudly something like, “Are you okay?” or “Can you hear me?” If he responds, you know he is not totally unresponsive. You will then categorize his level of responsiveness based on the AVPU scale. This will be covered in more detail below.

If it is a trauma patient or you have reason to suspect spine injury, place your hand on his forehead before attempting to illicit a response. This will help stabilize the head and prevent the patient from moving too much in response to your questioning.

Classify the patient’s mental status by using the **AVPU scale**, the letters of which stand for **alert, verbal, painful, and unresponsive**.

- **A** — *Alert*. The alert patient will be awake, responsive, oriented, and talking with you.
- **V** — *Verbal*. This is a patient who appears to be unresponsive at first but will respond to a loud verbal stimulus from you.
- **P** — *Painful*. If the patient does not respond to verbal stimuli, he may respond to painful stimuli, such as a sternal (breastbone) rub or a gentle pinch to the shoulder. Be careful not to injure the patient when applying painful stimuli. Never forcibly pinch the skin. Never stick the patient with a sharp object.
- **U** — *Unresponsive*. If the patient does not respond to either verbal or painful stimuli, he is said to be unresponsive.

Notice that the term *verbal* does not mean the patient is answering your questions or initiating a conversation. Instead, the patient may speak or grunt, groan, or say “huh.” It is possible that the patient may have a medical condition such as a stroke or a problem associated with trauma such as a head injury. Either of those examples may cause the patient to lose the ability to speak. In rare cases, a preexisting condition may have rendered the patient unable to speak prior to the emergency. Often, when such a condition is present, the patient will have a medical identification card or jewelry, such as a bracelet or necklace.

Try to assess mental status without moving the patient. But if the patient is unresponsive, you may need to reposition him to check for breathing, pulse, and serious bleeding or to perform CPR. Follow the procedures shown in Scan 12.9.

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**GERIATRIC FOCUS**

The presence of dementia in the elderly patient can make it very difficult to accurately assess mental status. You must take extra time to ask family members and/or caregivers if the patient’s mental status is normal for him or if it is different in some way. With dementia, the patient may appear alert and oriented one minute and completely confused the next. Be aware of the effects of dementia and learn to rely on family and caregivers to help establish a normal mental status baseline for the patient.
Always suspect the presence of neck or spine injuries in the unresponsive trauma patient. Moving this type of patient may cause additional injuries, but it may be necessary to check for life-threatening problems. (Moving a patient safely was covered in Chapter 5.)

Airway and Breathing

If the patient is unresponsive, check for adequate breathing by observing the chest rise and fall. The patient is not breathing if there is no chest movement. Gasping respirations are called *agonal respirations*. They should not be considered normal respirations. If there are no signs of breathing, check for a carotid pulse.

If the patient is breathing, there will be a pulse. At this point, you can check for obvious bleeding.

Circulation

Check for a Pulse

If the patient is not breathing, check for a *carotid pulse* at the neck to determine if blood is circulating (Figure 12.4). The pulse at the neck is considered more reliable than the
pulse at the wrist. A pulse at the wrist—the radial pulse—may not be present if the patient is in shock.

To assess the carotid pulse, first locate the patient’s larynx (Adam’s apple). Place the tip of your index and middle fingers directly over the midline of this structure. Now, slide your fingertips to the side of the neck closest to you. Do not slide your fingertips to the opposite side of the patient’s neck, because this may apply improper pressure and close the airway. Do not attempt to take a carotid pulse on both sides of the neck at the same time. This may interfere with circulation to the brain. You should detect a pulse in the groove between the trachea and the large muscle on the side of the neck. Only moderate pressure is needed to feel it. Check for a carotid pulse for 5 to 10 seconds. Frequent practice will make this skill easy to master.

GERIATRIC FOCUS

The elderly often have an irregular pulse. This is rarely a life-threatening condition. However, the speed of the pulse, both too fast and too slow, can be life threatening and therefore the rate is more important to notice than the regularity.

It is not important during the primary assessment to count the exact rate of the pulse. You only want to confirm the presence of a pulse. If the pulse is very rapid or weak, the patient may be in shock. If there is no pulse, alert dispatch and begin CPR.

If the patient is not breathing but does have a pulse, the patient may have an airway obstruction or he may be in respiratory arrest. You must take immediate action to ventilate the patient before the heart stops. (See Chapter 8.)

Check for Serious Bleeding

The next step in the primary assessment is checking for serious bleeding. While any uncontrolled bleeding may eventually become life threatening, you will only be concerned with profuse bleeding during the primary assessment. Blood that is bright red and spurtting may be coming from an artery. Because blood in arteries is under a great deal of pressure, large amounts of blood may be lost in a short period of time. Flowing blood that is darker in color is most likely coming from a vein. Even if the bleeding is slow, it may be life threatening if the patient has been bleeding for a long period of time. Look at the amount of blood that has been lost on the ground, in clothing, and in the hair. Your concern is for the total amount of blood that has been lost, not just how fast or slow the bleeding is. (Methods of controlling serious bleeding are covered in Chapter 17.)
Infants and Children

I have found that observing how the infant or child interacts with his or her parents is an excellent gauge of level of responsiveness. Children will maintain eye contact and can usually be soothed when they are not in great distress.

Assessment of circulation may be altered slightly when you immediately see profuse bleeding. In this case, attempt to control the bleeding as soon as it is discovered. Do what you can to control it, but never neglect the patient’s airway and breathing status.

Patient Priority

A high-priority patient should be transported immediately, with little time spent on the scene. High-priority conditions include unresponsiveness, breathing difficulties, severe bleeding or shock, complicated childbirth, chest pain, and any severe pain.

Special Considerations for Infants and Children

Your assessment of an infant or child will differ from that of an adult in a few ways. It is important for you to realize that children are not little adults. They react to illness and injury differently.

Infants and children are often shy and distrustful of strangers. A responsive infant or a child who pays no attention to you or what you are doing may be seriously ill. When checking the mental status of an unresponsive infant, talk to him and gently flick the bottoms of his feet.

Opening the airway of an infant involves moving the head into a neutral position, not tilting it back, as with an adult. Opening the airway of a child requires only a slight extension.

Breathing and pulse rates are faster in infants and children than in adults. The pulse to check in an infant or a small child is the \textit{brachial pulse} (Figure 12.5). It is taken at the brachial artery in the upper arm, not at the neck or wrist.

An additional part of checking an infant’s or a child’s circulation is called \textit{capillary refill}. When the end of a fingernail is gently pressed, it turns white because blood flow is restricted. When the pressure is released, the nail bed turns pink again, usually in less than two seconds. This is a good way to evaluate the circulation of blood in an infant or a child. If it takes longer than two seconds for the nail bed to become pink again or if it does not return to pink at all, there may be a problem with circulation, such as shock or blood loss. If the infant’s nail beds are too small, you may perform the same test on the top of his foot or back of his hand. To judge the amount of time it takes for the blood to flow back, count “one-one thousand, two-one thousand,” or simply say “capillary refill.”

Usually, when adult patients have a serious problem, they become worse gradually. The downward trend often can be spotted in time to take appropriate action. However, an infant’s or child’s body can compensate so well for a problem such as blood loss that he may appear stable for some time and then suddenly become much worse. Children can actually maintain a near-normal blood pressure up to the time when almost half of their total blood volume is gone. That is why blood pressure is not a reliable assessment of a child’s circulation. Checking capillary refill time is more reliable.

A child’s condition can change very quickly. It is vital for the Emergency Medical Responder to recognize the seriousness of a child’s illness or injury early, before it is too late. You will learn about other considerations in approaching and assessing infants and children in Chapter 23.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{brachial_pulse.png}
\caption{Checking for the presence of a brachial pulse in an infant.}
\end{figure}
Alerting Dispatch

If you have called for additional resources, such as an ambulance or helicopter, it may be helpful to give them an update of the patient's condition. Your update should include information about the patient such as mental status, age, sex, chief complaint, airway and breathing status, circulation status, and interventions and his results.

Secondary Assessment

A secondary assessment should be performed only after the primary assessment and all immediate life threats have been found and corrected. If you have a patient with a life-threatening problem that you must continually care for (performing CPR on a cardiac-arrest patient, for example), you may not get to complete a secondary assessment.

The main purpose of the secondary assessment is to discover and care for the patient's specific injuries or medical problems. It is a very systematic approach to patient assessment. It also may tell the patient, family, and bystanders that there is concern for the patient and that something is being done for the patient immediately.

The secondary assessment includes a physical examination that focuses in on a specific injury or medical complaint, or it may be a rapid exam of the entire body. It includes obtaining a patient history and taking vital signs. The order in which the steps are accomplished is based on the type of the patient's emergency (Table 12.1).

Some important terms associated with patient assessment are introduced below. There is more about each one later in the chapter. They include:

- **Patient history.** A patient history includes any information relating to the patient's current complaint or condition, as well as information about past medical problems that could be related.
- **Rapid secondary assessment.** This is a quick, less detailed head-to-toe assessment of the most critical patients.
- **Focused secondary assessment.** The focused secondary assessment is conducted on stable patients. It focuses on a specific injury or medical complaint.
- **Vital signs.** These include pulse, respirations, skin signs, and pupils. In some areas, Emergency Medical Responders also include assessment of blood pressure. The first set of vital signs taken on any patient is referred to as the baseline vital signs. All subsequent vital signs should be compared to the baseline set to identify developing trends.
- **Symptoms.** Reported by the patient, symptoms such as chest pain, dizziness, and nausea are felt by the patient. They are also called subjective findings.
- **Signs.** These are what you see, feel, hear, and smell as you examine the patient, such as cool, clammy skin or unequal pupils. They are also called objective findings.

### TABLE 12.1 | Secondary Assessment

<table>
<thead>
<tr>
<th>TRAUMA PATIENT</th>
<th>MEDICAL PATIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Significant Mechanism of Injury</strong></td>
<td><strong>Unresponsive Medical Patient</strong></td>
</tr>
<tr>
<td>- Perform a rapid secondary assessment.</td>
<td>- Perform a rapid secondary assessment.</td>
</tr>
<tr>
<td>- Take vital signs.</td>
<td>- Gather a patient history.</td>
</tr>
<tr>
<td>- Gather patient history.</td>
<td>- Take vital signs.</td>
</tr>
<tr>
<td><strong>No Significant Mechanism of Injury</strong></td>
<td><strong>Responsive Medical Patient</strong></td>
</tr>
<tr>
<td>- Perform a focused secondary assessment.</td>
<td>- Perform focused secondary assessment.</td>
</tr>
<tr>
<td>- Take vital signs.</td>
<td>- Gather a patient history.</td>
</tr>
<tr>
<td>- Gather patient history.</td>
<td>- Take vital signs.</td>
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</tbody>
</table>
Objective findings can be seen, felt, or in some way measured scientifically. Subjective findings are influenced by the person, who in this case is the patient reporting the symptoms. Many of the signs and symptoms you will find during the physical exam are the result of the body’s compensating mechanisms. For example, to compensate for blood loss, the body will increase pulse and breathing rates and close down, or constrict, blood vessels in the extremities, all of which results in pale, cool, clammy skin. Those actions are attempts by the body to circulate an adequate amount of oxygenated blood to the vital organs. Adequate flow of oxygenated blood to all cells of the body is called perfusion. Inadequate blood flow can lead to shock.

Abnormal findings during your exam indicate a problem that should not be ignored. However, unless the problem is likely to get worse, do not interrupt your assessment. You can stop bleeding from getting worse, but there is little you can do to stop a broken leg from getting worse. It is important to complete your examination.

The Trauma Patient
A trauma patient is one who has received a physical injury of some type. Your assessment of a trauma patient will consist of a physical exam, vital signs, and patient history. The type of physical exam you perform and the order in which you do the various steps will be based on the mechanism of injury.

The trauma patient is classified as either having no significant mechanism of injury (probably not causing a serious injury) or having a significant mechanism of injury (probably causing a serious injury). Your assessment will differ slightly for each type of patient.
To assess a trauma patient with no significant mechanism of injury, begin by performing a focused secondary assessment on the area that the patient tells you is injured (Scan 12.10). Obtain vital signs and gather a patient history. Provide continued care during the reassessment.

To detect and care for serious injuries in a patient with a significant mechanism of injury, perform a rapid secondary assessment looking for obvious injuries (Scan 12.11).

12.11.1 | If appropriate, stabilize the patient’s head and neck. Then palpate the head and face.

12.11.2 | Palpate the patient’s neck. Apply a cervical collar if appropriate.

12.11.3 | Palpate the chest.

12.11.4 | Palpate each quadrant of the abdomen.

12.11.5 | Palpate the pelvis.

12.11.6 | Palpate the back by sliding your hands under the patient.

12.11.7 | Palpate the extremities, legs first and then the arms.
Then obtain vital signs and gather a patient history. If time and the patient’s condition allows, perform a complete secondary assessment.

Signs of significant mechanisms of injury for an adult include:

• Ejection from a vehicle
• Death of one or more passengers in a motor-vehicle crash
• Falls greater than 15 feet
• Rollover vehicle collision
• High-speed vehicle collision
• Vehicle-pedestrian collision
• Motorcycle crash
• Unresponsiveness or altered mental status
• Penetrations of the head, neck, chest, or abdomen

Significant mechanisms of injury for a child include:

• Falls of more than 10 feet
• Bicycle collision
• Medium-speed vehicle collision

**The Medical Patient**

The secondary assessment for a medical patient and a trauma patient are similar, but the order and emphasis are different. For a medical patient, you are more concerned with the medical history of the patient. For the unresponsive medical patient, perform a rapid secondary assessment to determine if there are any obvious signs of illness. Obtain baseline vital signs. Gather a patient history, if possible. Provide care as needed.

For the responsive medical patient (Scan 12.12), gather a patient history, observing signs and symptoms while asking about the history of the illness. The patient’s chief complaint helps direct the questioning. Perform a focused secondary assessment based on the patient’s problem areas. Obtain baseline vital signs. Provide care as needed. Provide continued care during the reassessments.

**Patient History**

Much of the information that you gather will come from the patient directly. You must become proficient at asking all the appropriate questions depending on the chief complaint.

**Interviewing the Patient**

An alert patient is your best source of information. Direct your questions to him. Ask questions clearly at a normal rate and in a normal tone of voice. Avoid leading questions. Do not falsely reassure the patient. Do not say things such as “Everything will be fine” or “Take it easy, everything’s okay.” The patient knows this is not true and will lose confidence in you if you attempt to provide false reassurance. Phrases such as “I’m here to help you” or “I’m doing everything I can to help you” are more appropriate.

When interviewing a patient who is alert, ask the following questions:

• **What is your name?** This is an essential piece of information. It shows your patient that you are concerned for him as a person. Remember his name and use it often. Also, if your patient’s mental status decreases, you can call him by name to elicit a response.
• **How old are you?** As an Emergency Medical Responder, you do not need to know more than the general age of your adult patient. But the age of a child is important, because it may determine what type of care is provided. Ask all children their age. It may be appropriate to ask an adolescent his age to be certain that he is a minor. Also ask minors, “How can I contact your parents?” Children may already be upset at being hurt or ill without a parent being there to help them. Always reassure them that someone will contact their parents.
What is going on today? This usually is the patient’s chief complaint. No matter what is wrong, ask if there is any pain. As you learn more about various illnesses and injuries, you also will learn additional questions to ask.

How did this happen? When caring for a trauma patient, knowing how the patient was injured will help direct you to problems that may not be noticeable or obvious to you or the patient. If your patient is lying down, determine if he got into that position himself or was knocked down, fell, or was thrown. Do this for patients with medical problems as well. Remember, the injury to the patient may be the result of a medical problem. This information may indicate the possibility of a spine injury or internal bleeding.

How long have you felt this way? You want to know if the patient’s problem occurred suddenly or if it has been developing for the past few days or over a period of time.

Has this happened before? It is especially important to ask this question of medical patients. You want to know if this is the first time or if it is a recurring, or chronic, problem. This question is not usually asked of trauma patients, unless you suspect a recurring problem. If your patient has been hit by a car, it is not necessary to ask him if this has happened before.

Are there any current medical problems? Has the patient been feeling ill lately? Has he seen or is he being treated by a doctor for any problems?

Are any medications being taken? Your patient may not be able to tell you the exact name of a medication he is taking, especially if he is taking several. He may be able to tell you just general medication categories, such as “heart pills” or “water pills.” Ask not only about prescription medications but about over-the-counter medications as
well. Routine use of simple medications such as aspirin may alter the treatment the patient receives at the hospital.

Do not use the terms drugs or recreational drugs in general. They imply misuse or abuse. Some patients may think that you are trying to gather criminal evidence. Instead, ask the patient if he can think of anything else that he might be taking.

- **Do you have any allergies?** Allergic reactions can vary from simple hives or itching to life-threatening airway problems and shock. Knowing that the patient is allergic to a substance will enable you to keep it away from him. Be sure to ask specifically about allergies to medications and latex (as used in gloves), since the patient may come in contact with any of these during care. Also ask the patient what happens when he is exposed to the thing he is allergic to. For instance does he simply develop a rash, get itchy, or does he develop difficulty breathing?

- **When did you last eat?** This is an important question if your patient is a candidate for surgery. It also is important information when dealing with a patient who is having a diabetic emergency.

### GERIATRIC FOCUS

Just as it may be difficult to accurately assess mental status in an elderly patient with dementia, obtaining a thorough and accurate history can prove just as challenging. It will become important to rely on family members and caregivers to confirm the information that the patient is telling you or to simply fill in the gaps left by the patient’s own history. Hearing loss can make it very challenging when attempting to obtain a history. You may have to speak louder than usual, and it will also help if you speak slowly and clearly.

A common tool used to assist the Emergency Medical Responder in obtaining a patient history is the acronym SAMPLE. The letters serve as a memory aid for the questions that should be asked during a typical medical history. Each letter of the word SAMPLE represents a specific question or series of questions:

- **S** — Signs/symptoms?
- **A** — Allergies?
- **M** — Medications?
- **P** — Pertinent past medical history?
- **L** — Last oral intake?
- **E** — Events leading to the illness or injury?

When taking a history, maintain eye contact with the patient. This will improve personal communication and build the patient’s confidence in you. If you look away while asking questions or while listening to answers, it may indicate to your patient that you are not as concerned as you should be or not giving him your full attention. A simple touch also can improve communications. You touch the patient’s forehead to note relative skin temperature and moisture and, by touching the patient, you are also showing caring and concern. However, respect a patient’s wish not to be touched. Patients are often fearful and anxious. Your calm, caring, and professional attitude often can do as much for the patient as any medical care you provide.

### Interview Bystanders

You may encounter a patient who is unresponsive or unable to answer your questions regarding his history. If this is the case, you must depend on family or bystanders for information (Figure 12.6). Ask specific, directed questions to shorten the time required to obtain the information. Questions to bystanders include:

- **What is the patient’s name?** If the patient is a minor, ask if the parents are there or if they have been contacted.
• *What happened?* You can receive valuable information when asking this question. If the patient fell from a ladder, did he appear to faint or pass out first? Was he hit on the head by something? Clues from the answers to this question are limitless.

• *Did you see anything else?* For example, was the patient holding his chest before he fell? This gives the bystander a chance to think again and add anything he remembers.

• *Did the patient complain of anything before this happened?* You may learn of chest pain, nausea, shortness of breath, a funny odor where the patient was working, and other clues.

• *Did the patient have any known illness or problems?* Family or friends who know the patient may know his medical history, such as heart problems, diabetes, allergies, or other problems that may cause a change in his condition.

• *Does the patient take any medications?* Again, family or friends who know the patient may be aware of the medications he takes. When talking with the patient, family, friends, or bystanders, remember to use the word *medication* or *medicine* instead of *drugs*. Medicines or medications are considered prescriptions for legitimate medical purposes. The public views drugs as illegal substances. Remember to ask the patient if he is taking over-the-counter medications.

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**GERIATRIC FOCUS**

Many elderly patients take prescription medications for various medical conditions. A good trick to help disclose pertinent medical history is to ask to see all the medications the patient is currently taking. Even if you do not know the purpose of each medication, having them handy when the EMTs arrive will help them begin to understand the patient’s history sooner.

Most of the questions listed above are questions you would normally ask about someone who is hurt or ill. You would usually introduce yourself and ask for a name, just as you would ask what was wrong and how it happened. Much of your Emergency Medical Responder training is simply formalized common sense.

**Locate Medical Identification Jewelry**

Medical identification jewelry can provide important information if the patient is unresponsive and a history cannot be obtained from family or bystanders. A common one is the MedicAlert medallion worn on a necklace or a wrist or ankle bracelet. One side of the device has a star-of-life emblem. Information on the patient’s medical problem is engraved on the reverse side, along with a phone number for additional information.

**Vital Signs**

Vital signs can alert you to problems that require immediate attention. Taken at regular intervals, they can help you determine if the patient’s condition is getting better, worse, or staying the same (Figure 12.7). For most Emergency Medical Responders, vital signs include pulse, respirations, skin signs, and pupils. In some areas, Emergency Medical Responders also include assessment of blood pressure.

The first set of vital signs is called *baseline vital signs*. Compare all other vital sign readings to the baseline vital signs.

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**Figure 12.6** For an unresponsive patient, look to bystanders and family members for additional information.

**Figure 12.7** Establishing a baseline set of vital signs is an important aspect of the patient assessment.
This comparison helps determine if the patient is stable or unstable, improving or growing worse, and benefiting or not benefiting from care procedures. For example, comparing baseline vital signs before and after administering oxygen to the patient can tell the EMTs who take over patient care objective information about how that intervention may be affecting the patient.

Certain combinations of vital signs point to possible serious medical or traumatic conditions. For example, cool, clammy skin; a rapid but weak pulse; and increased breathing rate can indicate possible shock in the presence of a significant mechanism of injury. Hot, dry skin with a rapid pulse could indicate a serious heat-related emergency. You can determine which patients are a high priority for immediate transport by taking vital signs.

For an adult, a continuous pulse rate of less than 60 beats per minute or above 100 beats per minute is considered abnormal. Likewise, a respiratory rate above 26 breaths per minute or below 10 breaths per minute is considered serious. You should be concerned about these vital signs because they indicate unstable situations that could become life threatening, and the patient could worsen quickly. Stay alert and monitor the patient closely. Keeping the patient quiet or at rest, caring for shock, and reassuring the responsive patient can make a difference in the outcome.

### GERIATRIC FOCUS

Obtaining accurate vital signs can be challenging with the elderly patients. Small, frail arms can make it painful for them when you try to get a blood pressure. The bones of the chest have become more rigid, making it more difficult to see chest rise and fall. You may have to use other techniques, such as listening for breath sounds or watching the movement of the abdomen, when counting respirations.

The Physical Exam

If your trauma patient has no significant mechanism of injury and appears to have an isolated minor injury (supported by the mechanism of injury and what the patient tells you), perform a focused secondary assessment on the injury site and the area close to it. If the patient has a significant mechanism of injury, a serious injury, or is unresponsive, perform a rapid secondary assessment of the entire body. You must use as many of your five senses as possible when performing your physical exam. Use your eyes, ears, hands, nose, and ears to detect any abnormal findings in your patient.

The physical exam of a medical patient may be brief. If the patient is responsive, perform a focused secondary assessment based on the patient’s chief complaint. If the patient is unresponsive, conduct a rapid secondary assessment of the entire body.
When assessing a trauma patient, you may use a memory aid, such as **BP-DOC** or **DCAP-BTLS**, to help you remember what to look for during any physical exam. The letters stand for:

**BP-DOC**
- **B** — Bleeding
- **P** — Pain
- **D** — Deformities
- **O** — Open wounds
- **C** — Crepitus (a grating noise or sensation)

**DCAP-BTLS**
- **D** — Deformities
- **C** — Contusions
- **A** — Abrasions
- **P** — Punctures and penetrations
- **B** — Burns
- **T** — Tenderness
- **L** — Lacerations
- **S** — Swelling

**Rapid Secondary Assessment—Trauma Patient with Significant MOI**

The rapid secondary assessment is a head-to-toe physical exam of the patient that should take no more than 90 seconds to complete. It is performed on patients who have a significant mechanism of injury (MOI). These patients will most likely have a high priority for transport. Take great care not to move the patient unless absolutely necessary. Neck and spine injuries may be present. To save time, another Emergency Medical Responder may take vital signs while you perform the exam.

It is usually not necessary for the Emergency Medical Responder to remove the patient’s clothing during a head-to-toe exam. Of course, you may remove or readjust clothing that interferes with your ability to examine the patient. Cut away, lift, slide, or unbutton clothing covering a suspected injury site, especially the chest, back, and abdomen, so you can fully inspect the area. Also check the patient’s clothing for evidence of bleeding. If you have any reason to suspect serious injury or uncontrolled bleeding to the back, you must carefully roll the patient to inspect the back. Use care to keep the head and spine in alignment as you do it.

Suspect internal injuries if your responsive patient indicates pain in the area or pain when you touch the area during your exam. If the patient is unresponsive, you may wish to remove or rearrange clothing covering the chest, abdomen, and back to examine those areas of the body completely. If you must remove or rearrange the clothing of a responsive patient, tell him what you are doing and why. Take great care to respect the modesty of the patient. Also protect him from harsh weather conditions and temperatures.

**KEY POINT**

It is not necessary to learn each and every memory tool for assessment. The important thing is to find one that you understand and are comfortable with and then use it consistently.

**OBJECTIVE**


**BP-DOC** ► a memory aid used to recall what to look for in a physical exam; the letters stand for bleeding, pain, deformities, open wounds, and crepitus.

**DCAP-BTLS** ► a memory aid used to recall what to look for in a physical exam; the letters stand for deformities, contusions, abrasions, punctures and penetrations, burns, tenderness, lacerations, and swelling.

**IS IT SAFE?**

Often there is no way to know for sure if an unresponsive patient has experienced spinal trauma. Therefore, when assessing and caring for an unresponsive patient, maintain a high degree of suspicion for spine injuries. Maintain manual stabilization of the head and spine until you can positively rule out injury or until you can immobilize the patient on a long spine board.

**GERIATIC FOCUS**

There are many factors that contribute to the high incidence of trauma in the elderly, including arthritis, slower reflexes, poor vision, and hearing loss. Their ability to heal efficiently from injury is also diminished and therefore can lead to much longer recovery times.

While performing a rapid secondary assessment, avoid contaminating your patient’s wounds and aggravating his injuries. Be sure to take the appropriate BSI precautions.
To perform a secondary assessment:

1. Check the head for bleeding and deformities (Figure 12.8). Take care not to move the patient’s head. Run your fingers through the patient’s hair, looking for blood. Check your gloves for blood. Check the face for pain, deformities, or discoloration. Check for symmetry of facial muscles by asking the patient to smile or show his teeth. Look for any fluids that may be leaking from the ears, nose, or mouth.

2. Examine the patient’s eyes for signs of injury (Figure 12.9). Check the pupils for size, equality, and reaction to light. A penlight would be helpful for this. If you are outside in bright sunlight, cover the patient’s eye with your hand. Remove your hand quickly and watch for reaction of the pupil to the light. Observe the inner surface of the eyelids (conjunctiva). The tissue should be pink and moist. A pale color may indicate poor perfusion.

3. Inspect the ears and nose for drainage, either clear or bloody. Clear or bloody fluids in the ears or nose are strong indications of a skull fracture. Also inspect the nose for singed nostrils, which may indicate the inhalation of toxic smoke. Flaring nostrils may be a sign of respiratory distress.

4. Inspect the mouth for foreign material, bleeding, and tissue damage (Figure 12.10). Look for broken teeth, bridges, dentures, and crowns. Check for chewing gum, food, vomit, and foreign objects.

5. Check the neck front and back for pain and deformity (Figure 12.11). Look for any medical identification jewelry. Also notice if the patient has a stoma, or evidence of
tracheal deviation (any shift of the trachea to one side or the other). Observe for jugular vein distention (JVD) and accessory muscle use.

6. Use both hands to inspect the chest front and sides for pain and deformities (Figure 12.12). If necessary, bare the chest. Gently apply pressure to all sides of the chest with your hands. Observe for equal expansion of both sides of the chest. Note any portion that appears to be floating or moving in opposite directions to the rest of the chest; this is called paradoxical movement. It could indicate an injury called a flat chest in which two or more ribs are fractured in two or more places. When baring the chest of female patients, provide them with as much privacy as possible.

7. Inspect the abdomen for signs or symptoms of trauma such as pain, deformities, distention, rigidity, and guarding (Figure 12.13). Gently press on each quadrant of the abdomen with the palm side of the fingers, noting any areas that are rigid, swollen, or painful. As you press on the area, ask the patient if it hurts more when you press down or when you let go.

8. Inspect the pelvis for pain and deformity (Figure 12.14). Note any obvious injury to the genital region. Look for wetness caused by incontinence or bleeding and impaled objects. Do not expose the area unless you suspect there is an injury. In male patients, check for priapism, the persistent erection of the penis, which may be a sign of spinal-cord injury.

9. Feel the lower back for pain and deformity (Figure 12.15). Take care not to move the patient. Gently slide your gloved hands into the area of the lower back that is formed by the curve of the spine. Check your gloves for blood. If possible, roll the patient to inspect the entire back for pain and deformity (Figure 12.16).
10. Examine each leg and foot individually (Figure 12.17). Compare one limb to the other in terms of length, shape, or deformity.

11. Check for distal circulation, sensation, and motor function (Figure 12.18). Check the *dorsalis pedis pulse*, which is located on top of the foot just lateral to the large tendon of the big toe.

12. Examine the upper extremities from the shoulders to the fingertips (Figure 12.19). Examine each limb separately for pain and deformities.

13. Check for distal circulation, sensation, and motor function in each hand. Note any weakness, numbness, or tingling. Observe for evidence of *track marks* or medical identification jewelry (Figure 12.20).

Secondary Assessment—Trauma Patient with No Significant MOI

When your trauma patient has no significant mechanism of injury, the steps of the secondary assessment are appropriately simplified. Instead of examining the patient from head to toe, focus your assessment on just the areas that the patient tells you are painful or that you suspect may be injured because of the mechanism of injury. The assessment includes a physical exam, vital signs, and a patient history.

Your decision on which areas of the patient’s body to assess will depend partly on what you see and partly on the patient’s chief complaint. Be sure to consider potential injuries based on the mechanism of injury. For example, if the patient’s chief complaint is pain in his leg after falling down several stairs, consider possible back or neck injuries and care for the patient accordingly. Use the memory aid BP-DOC to help you properly perform your assessment.

*dorsalis pedis pulse* ➤ the pulse located lateral to the large tendon of the big toe.

*track marks* ➤ small dots of infection that form a track along a vein; may be an indication of IV drug abuse.
Rapid Secondary Assessment—Unresponsive Medical Patient

The rapid secondary assessment of an unresponsive medical patient is almost the same as the rapid assessment of a trauma patient with a significant mechanism of injury (MOI). You will rapidly assess the patient’s head, neck, chest, abdomen, pelvis, extremities, and posterior. As you assess each area of the body, look for signs of illness:

- **Neck.** Look for neck vein distention and medical identification jewelry.
- **Chest.** Check presence and equality of breath sounds.
- **Abdomen.** Assess for distention, firmness, or rigidity.
- **Pelvis.** Check for incontinence of urine or feces.
- **Extremities.** Check circulation, sensation, motor function, and for a medical identification jewelry.

Secondary Assessment—Responsive Medical Patient

The secondary assessment of a responsive medical patient is usually brief. The most important assessment information is obtained through the patient history and the taking of vital signs. Focus the exam on the body part that the patient has complained about. For example, if the patient complains of abdominal pain, focus your exam on that area of the body. Another memory aid used to help assess the responsive medical patient is known as the **OPQRST** assessment.

Just as with the acronym SAMPLE, each of the letters represents a word, and each of the words is designed to trigger specific questions that the Emergency Medical Responder should ask. OPQRST is especially helpful when the chief complaint is related to pain or shortness of breath:

- **O** — *Onset.* This letter is designed to trigger questions pertaining to what the patient was doing at the onset of pain (when the pain or symptoms began). For example, “What were you doing when the pain began?” or “What were you doing when you first began to feel short of breath?”
- **P** — *Provocation.* Ask questions pertaining to what provokes or affects the pain. For example, “Does anything you do make the pain better or worse?” or “Does it hurt to take a deep breath or when I push here?”
- **Q** — *Quality.* Ask about the quality of the pain; that is, find out what does the pain or symptom actually feels like. For example, ask, “Can you describe how your pain feels?” or “Is the pain sharp or is it dull?” or “Is it steady or does it come and go?”
- **R** — *Region and radiate.* Ask where the pain is originating and to where it may be moving or radiating. For example, “Can you point with one finger to where your pain is the worst?” “Does your pain move or radiate to any other part of your body?” “Do you feel pain anywhere else besides your chest?”
- **S** — *Severity.* Ask how severe the pain or discomfort is. A standard scale is typically presented like this: “On a scale of 1 to 10, with 10 being the worst pain you have ever felt, how would you rate your pain right now?” Using the same scale, also ask the patient to describe the severity of his pain when it first began. Once you have been with the patient a while and provided care, you will want to ask the severity question again to see if his pain is getting better or worse.
- **T** — *Time.* Ask the patient how long he may have been experiencing the pain or discomfort. A simple question such as, “When did you first begin having pain today?” or “How long have you had this pain?” will usually suffice.

**GERIATRIC FOCUS**

Many elderly patients have a much higher tolerance for pain and may not always feel the result of a significant injury or illness. A thorough and methodical assessment may reveal areas of involvement that were not initially seen or part of the chief complaint.
Avoid leading questions, which tend to “put words into the patient’s mouth.” Instead, provide the patient with choices and then allow him to choose. It also is important to use the patient’s own words when documenting the call or transferring care of the patient to more highly trained personnel. For example, if the patient tells you he feels as though an anvil is sitting on his chest, quote his words to describe the pain. Do not paraphrase or attempt to translate what he said into medical terminology.

"Okay, Brad," Joanie says and kneels in front of the driver. "While we wait for the ambulance, let’s talk about your chest pain.” The driver, now frightened by his symptoms, nods with wide eyes. “I already know that you were unloading the truck when the pain started, right?”

“Yes,” Brad says, his voice somewhat muffled by the oxygen mask.

“Does anything make it better or worse? You know, like if you move a certain way or push on it?”

The driver moves his upper body back and forth and presses harder on his chest. “No,” he answers.

The sound of sirens quickly approaches the parking lot next door to the loading dock. “Okay,” Joanie is now writing in a small notebook. “What does the pain feel like?”

The driver thinks for a moment and pulls the mask up to speak. “Like a pressure. Like a heavy weight or something right on my chest.”

Completing the Exam

Upon completing the physical exam of the patient, you must consider all the signs and symptoms found that could indicate an illness or injury. Certain combinations of signs and symptoms can point to one specific problem. A finding as simple as pain in a certain region of the body may be significant. The lack of certain findings also may lead you to a conclusion. For example, if a patient has an obvious injury but feels no pain at the site, you must consider problems such as spine injury, brain damage, shock, or drug abuse.

During your assessment of the patient and throughout the time you are caring for him, remember the first rule of emergency care: Do no further harm. Be sure to do only what you have been trained to do. Avoid adding injury and aggravating existing injuries and problems. (See a summary of Rules for Patient Examination in Table 12.2.) Later in your training, you will learn what you can do to help the patient based on the findings in your physical exam.

<table>
<thead>
<tr>
<th>TABLE 12.2</th>
<th>Rules for Patient Assessment</th>
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<tbody>
<tr>
<td>1</td>
<td>Do no further harm.</td>
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<td>2</td>
<td>If anything about the patient’s awareness or behavior does not seem “right,” consider that something is seriously wrong.</td>
</tr>
<tr>
<td>3</td>
<td>Patients who appear stable may worsen rapidly. You must be alert to all changes in a patient’s condition.</td>
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<tr>
<td>4</td>
<td>Monitor the patient’s skin for color changes.</td>
</tr>
<tr>
<td>5</td>
<td>Look over the entire patient and note anything that appears to be wrong.</td>
</tr>
<tr>
<td>6</td>
<td>Unless you are certain that the patient is free of spine injury, assume every trauma patient has a spine injury.</td>
</tr>
<tr>
<td>7</td>
<td>Tell the patient that you are going to examine him, what you will be doing, and why you are doing it. Stress the importance of the exam.</td>
</tr>
<tr>
<td>8</td>
<td>Monitor vital signs.</td>
</tr>
<tr>
<td>9</td>
<td>Conduct a head-to-toe exam. If anything looks, sounds, feels, smells, or “seems” wrong to you or the patient, assume that there is something seriously wrong with the patient.</td>
</tr>
<tr>
<td>10</td>
<td>Failure of the patient to respond properly on any test for sensation or motor function in the leg or arm must be considered a sign of spine injury.</td>
</tr>
</tbody>
</table>
Reassessment

When performing the reassessment either at the scene or en route to the hospital, repeat the primary assessment, reassess vital signs, and check any interventions to ensure they are still effective. Reassess the patient, watching closely for any changes in his condition (Table 12.3). Repeating assessments and noting any changes in patient condition are ways of **trending** a patient’s condition. Remember that patients will get better, get worse, or stay the same. Seriously ill or injured patients should be reassessed every five minutes. A good rule to follow is that by the time you finish a reassessment from start to finish, it is time to start over with the beginning of the next reassessment. Patients who are not seriously ill or injured should be reassessed every 15 minutes.

When additional EMS providers arrive at the scene, it is important to communicate with them well. Give the responding EMTs a verbal report, including:

- Name and age of patient
- Chief complaint
- Mental status
- Airway, breathing, and circulatory status
- Physical findings
- Patient history
- Interventions applied and the patient’s response to them

Some EMS systems also require the Emergency Medical Responder to provide a written report to the EMT crew. It usually includes the same information as the verbal report. The written report and the information in it will become part of the EMT crew’s patient care report. Accuracy is vital in any verbal or written report because care given by the responding EMTs and the hospital emergency department staff may be based, in part, on your evaluation of the patient.

**TABLE 12.3 | Elements of the Reassessment**

| • Ensure that ABCs are intact. |
| • Reassess vital signs and compare with baseline. |
| • Check and adjust interventions as appropriate handoff to EMTs. |

**OBJECTIVE**

15. Explain the purpose of the reassessment.

trending ➤ monitoring the patient’s signs and symptoms and documenting any changes, both good and bad.
CHAPTER REVIEW

Summary

- Patient assessment is one of the most important skills you will learn as an Emergency Medical Responder. Even though it may seem time-consuming, it is necessary to properly and completely examine the patient if you are to determine what care the patient requires.
- You must detect life-threatening problems and correct them as quickly as possible. Then you must detect problems that may become life threatening if left without care.
- Always perform a scene size-up. Always make sure the scene is safe to enter before you enter it. Then gain information quickly from the scene, the patient, and bystanders. If possible, determine the patient’s nature of illness or mechanism of injury.
- During the primary assessment, determine if the patient is responsive. If you suspect a spine injury, maintain manual stabilization of the head and neck. Make certain that the patient has an open airway, adequate breathing, and a pulse. Control all serious bleeding.
- During the secondary assessment, look over the patient. Check for medical identification jewelry. Begin gathering information by asking questions and listening. The more organized your interview and physical exam are, the better your chances of gaining the needed information. Utilize the SAMPLE, BP-DOC, and OPQRST assessment tools as appropriate.
- Take the patient’s vital signs. Remember that baseline vital signs—plus repeated vital signs over time—are valuable to the personnel who take over patient care.
- The physical exam of a patient varies somewhat depending on whether the patient is a medical or trauma patient. A head-to-toe exam consists of the following:
  - Head. Check the scalp for cuts, bruises, and swellings and the skull and facial bones for deformities, depressions, and other signs of injury. Inspect the eyelids and the eyes for injury and check pupil size, equality, and reactions to light.
  - Cervical spine. Examine the cervical spine for tenderness and deformity. Recheck to see if the patient has a stoma. Note obvious injuries and look for medical alert jewelry.
  - Chest. Examine the chest for cuts, bruises, penetrations, and impaled objects. Check for possible bone fractures. Look for equal expansion and note chest movements.
  - Abdomen. Examine the abdomen for cuts, bruises, penetrations, and impaled objects. Check for local and general pain as you examine the abdomen for tenderness.
  - Lower back. Feel for point tenderness, deformity, and other signs of injury. Check the rest of the back last and only if it is safe to roll the patient (no suspected spine injuries).
  - Pelvis. Press in and down to check for possible fractures and note any signs of injuries.
- Genital region. Note any obvious injuries. Look for wetness. Note the presence of priapism when examining male patients.
- While EMTs usually complete a more detailed secondary assessment en route to the hospital, in some systems Emergency Medical Responders may assist by repeating the primary assessment and vital signs. If you also assist with the reassessment, note any changes in patient condition or the need for additional interventions.

Take Action

HIDE AND SEEK

Developing a thorough and efficient patient assessment can take years and hundreds of patients. For that reason, it is important to practice this skill often, especially if you are not in a job where you are responding to and assessing patients regularly.

For this exercise, gather several small to medium-size items such as an oral airway (OPA), a nasal airway (NPA), bite stick, pencil or pen, eraser, and so on. Use some tape and secure several items in random places on your body beneath your clothing. You might hide them at the lower back, behind the knee, under the arm, and inside the ankle. Once you have several items secured beneath your clothing, find a fellow classmate who is willing and ready to practice patient assessment. Do not let them know that you have items hidden on your body.

Now lie down and think of a simple scenario that you can use to set the stage for your practice session. Let your partner perform a complete assessment and see how many of the objects he can find. If he finds an item, just tell him that it represents a deformity and to continue on with the exam. When he is finished with the exam, reveal all the items for him. Was he able to locate all of them? Why do you suppose he may have missed some? This is a great way to reinforce the importance of a thorough physical exam.
First on Scene Run Review

Recall the events of the “First on Scene” scenario in this chapter and answer the following questions, which are related to the call. Rationales are offered in the Answer Key at the back of the book.

1. Why should you ask permission to help a person?

2. For this call why would scene control be important?

3. As an Emergency Medical Responder, how could you help this patient with these signs and symptoms?

4. Why might this patient not want the ambulance called?

Quick Quiz

To check your understanding of the chapter, answer the following questions. Then compare your answers to those in the Answer Key at the back of the book.

1. For most patients, an Emergency Medical Responder’s assessment begins with performing a scene size-up followed by:
   a. a secondary assessment.
   b. a primary assessment.
   c. obtaining vital signs.
   d. determining the nature of illness.

2. After arriving on scene, but before making patient contact, you should:
   a. perform a primary assessment.
   b. contact medical direction.
   c. perform a secondary assessment.
   d. take BSI precautions.

3. There are six components to the primary assessment, beginning with:
   a. assessing the patient’s mental status.
   b. assessing the patient’s airway.
   c. forming a general impression.
   d. evaluating patient’s circulation.

4. The assessment of a patient’s mental status or responsiveness includes using the ______ scale.
   a. AVPU
   b. ABC
   c. SAMPLE
   d. BP-DOC

5. In a SAMPLE history, the E represents:
   a. EKG results.
   b. evaluation of the neck and spine.
   c. events leading to illness or injury.
   d. evidence of airway obstruction.

6. When assessing circulation for a responsive adult patient, you should assess:
   a. carotid pulse.
   b. radial pulses on both sides of the body.
   c. the radial pulse on one side.
   d. distal pulse.

7. When assessing a trauma patient with NO significant mechanism of injury, perform a focused secondary assessment, followed by:
   a. rapid physical exam.
   b. SAMPLE history.
   c. rapid trauma assessment.
   d. vital signs.

8. There are 10 rules for a patient examination, the first of which is always:
   a. if patient behavior does not seem “right,” consider that something is seriously wrong.
   b. do no further harm.
   c. take vital signs.
   d. watch for skin color changes.

9. Below is a list of steps carried out during a rapid secondary assessment. They are not listed in the correct order. On a separate sheet of paper, write in a column the numerals 1 to 22. Then copy the steps below in the correct order.
   a. Inspect chest for penetrations, cuts, bruises and impaled objects.
   b. Feel pelvis for possible fractures.
   c. Inspect scalp for cuts and bruises.
   d. Check each upper extremity for injury and paralysis.
   e. Inspect the back surfaces.
   f. Examine the eyes (including the pupils).
   g. Inspect the mouth for possible airway obstructions.
   h. Inspect genital region (groin) for obvious injury.
   i. Examine chest for possible rib fracture.
   j. Feel lower back for point tenderness and look for deformity.
   k. Inspect ears and nose for blood, clear fluids, or bloody fluid.
   l. Check the lower extremities for blood, clear fluids, or bloody fluid.
   m. Observe and feel for equal expansion of both sides of the chest.
   n. Inspect abdomen for cuts, bruises, penetrations.
   o. Check for distal pulses in the feet.
   p. Look at inner surface of eyelids (conjunctiva).
   q. Feel abdomen for tenderness.
   r. Check the cervical spine for point tenderness and deformity.
   s. Examine the legs and feet.
   t. Check the front of neck for injury and deformity.
   u. Check the face and skull for deformity and depressions.
   v. Examine the chest for possible collarbone or breastbone fractures.