

INTRODUCTION

In **Chapter 7**, you learned how to conduct a primary assessment, which helps you to determine if the patient has any life-threatening conditions through checking *level of consciousness* (LOC), airway, breathing and circulatory status. However, as you will learn in this chapter, you can obtain more information about the patient through history taking and the **secondary assessment**, which includes interviewing the patient and bystanders, monitoring vital signs and conducting a **physical exam**. As with the primary assessment in the case of serious injury or illness, performing and documenting a thorough history and secondary assessment can increase the patient's chance of survival.

OBTAINING THE FOCUSED/ MEDICAL HISTORY

A crucial aspect of your job is to find out as much as possible about the emergency situation, so that you can communicate this information to more advanced medical personnel. In addition to your close observation of the scene and patient, interviews with those involved are generally your best sources of information. Remember never to enter a scene unless you are sure you can do so safely.

Asking the patient about the incident and any existing medical conditions is called obtaining a history. Obtaining a history should not take much time and may be done before or during the physical exam. Keep in mind that, for a trauma patient or an unresponsive medical patient, the history will likely be performed after the physical exam. For a medical patient who is responsive, the history will likely be performed first.

Under ideal circumstances, patients will be able to tell you themselves all you need to know about what happened and any related medical issues. Help relieve the patient's anxiety by explaining who you are and that you are there to help. Also ask the patient's name and use

it. Always obtain consent before touching or providing care to a patient.

Pediatric Considerations

If a child or an infant does not respond to your questions, it does not always mean the child or infant is unable to respond. Children and infants may be frightened of you or the situation, may not understand the question or may not be able to speak. Position yourself at or below eye-level with the child to avoid being intimidating. Do not separate the child from a parent or guardian, unless absolutely necessary.

Geriatric Considerations

Keep in mind that older people usually prefer to be addressed more formally, as in "Mr. or Mrs. Smith." Position yourself at eye-level with the patient and speak slowly. Older patients may sometimes appear confused. This can be caused by conditions such as dementia or Alzheimer's disease. It can also be the result of an acute medical condition and may not be typical behavior for that person. Make sure the patient can see and hear you, as an older patient may have vision or hearing problems. Allow time for the elderly patient to respond. Always treat the patient with dignity and respect (**Fig. 8-1**).

Necessary information cannot always be obtained from the patient. The patient may be unconscious, disoriented, agitated or otherwise uncooperative or the patient may not understand and/or speak English. In these cases, interviews



Fig. 8-1: Always treat the geriatric patient with dignity and respect.

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with family, friends, caregivers, bystanders or public safety personnel may be helpful.

Sources of information may also be all around you. Be sure to check the patient for a medical *identification* (ID) tag or bracelet or other medical information sources, such as wallet cards or kits for treating anaphylaxis or diabetes. Other hints include the presence of pill containers or a service animal. If you are in the patient's home, you should also look for a **Vial of Life** label on the outside of the refrigerator door—it signifies that a vial or container, such as a sealable plastic bag, contains vital medical information and has been placed on the top shelf of the refrigerator door. Some people keep their medications in the refrigerator, so it also is a good idea to look for these items.

COMPONENTS OF A PATIENT HISTORY

Obtaining a full patient history involves several components. Key among them is the **chief complaint**, which will allow you to make the important distinction of whether you are dealing with a trauma or medical emergency. Other components to consider are the *mechanism of injury* (MOI) or nature of illness, the presence and assessment of pain, as well as an evaluation of any relevant medical information.

Chief Complaint

The most important component of a patient history is the chief complaint. This is the reason why *emergency medical services* (EMS) personnel were called to the scene. The best way to determine the chief complaint is to ask the patient, “Why did you call for EMS personnel?” Record the chief complaint in the patient's own words (**Fig. 8-2**).

Keep in mind that the most obvious problem is not always the chief complaint. For instance, if a patient's arm is mangled in a car accident, it may



Fig. 8-2: Understanding the chief complaint will help you determine if you are dealing with someone who is injured or someone who is ill. *Courtesy of Terry Georgia.*

appear to be the chief complaint, until you find out the patient is having chest pain and crashed the car after blacking out. When interviewing the patient about the chief complaint, remember to ask the “who, what, when, where and how” of the incident.

Understanding the chief complaint generally makes it clear whether you are dealing with a trauma patient—someone who is injured—or a medical patient—someone who is ill—or a combination. This primary division will guide how you manage the patient.

Mechanism of Injury or Nature of Illness

The next piece of information to determine is the MOI for a trauma patient or the nature of the illness for a medical patient.

Mechanism of Injury

In the case of an injury, it is important to find out how the injury occurred and determine what the forces were that caused the injury. This may help predict the specific type of injuries the patient may have.

It will also help you determine whether there is any risk of a spinal injury. If the MOI suggests there is, tell the patient not to move and provide manual stabilization by restricting

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motion and supporting the head and neck in the position in which you found it. Once you have dealt with the risk of spinal injury, follow the steps for trauma patients. These steps depend on whether there is a significant MOI or not.

Examples of a significant MOI include—

- Being ejected from a vehicle or thrown from a motorcycle.
- A fall from greater than 15 feet or three times the patient's height.
- A vehicle rollover.
- A vehicle collision.
- A pedestrian struck by a vehicle.
- A blunt or penetrating trauma that causes a change in mental status.
- A penetrating injury to the head, neck, chest or abdomen.
- A blast injury.

Nature of Illness

In the case of a medical patient, ask the patient, family, friends or any bystanders why EMS personnel were called. If no one is available to interview, observe the scene. Look for clues such as a very hot or very cold environment or the presence of drugs or poisons (**Fig. 8-3**).

The steps involved in conducting a secondary assessment on a medical patient depend on whether the patient is responsive or unresponsive.

If the medical patient is responsive, obtain the history first and then perform your exam. In this situation, the history is your first priority because it may be the most valuable information you obtain and also because it is prudent to speak immediately with a responsive patient, since this status might change.



Fig. 8-3: If no one is available to interview, look for clues on the scene to determine what might have happened. *Courtesy of the Canadian Red Cross.*

SAMPLE HISTORY

Using the mnemonic **SAMPLE**, determine the following six items for the history:

- **S**igns and symptoms
- **A**llergies
- **M**edications
- **P**ertinent past medical history
- **L**ast oral intake
- **E**vents leading up to the incident

In addition to the **SAMPLE history**, ask the patient to explain what happened. Ask questions such as—

- What happened?
- Are you having any pain?
- How would you describe the pain? You can expect to hear descriptions such as burning, throbbing, aching or sharp pain.
- Is the pain spreading or radiating?
- On a scale of 1 to 10, with 1 being lowest and 10 being highest, how bad is the pain?
- When did the pain start? (See **OPQRST**.)

Sometimes the patient will be unable to give you the information. This is often the case with a child or with an adult who momentarily lost

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Assessing the MOI may help predict the specific type of injuries the patient may have. Significant MOIs include events such as being ejected or thrown from a vehicle, a fall from greater than 15 feet or three times a patient's height or receiving a penetrating injury to the head, neck, chest or abdomen.

In the case of a medical patient, ask the patient, family, friends or any bystanders why EMS personnel were called.

The mnemonic **SAMPLE** refers to what essential information to obtain when taking a history. It refers to signs and symptoms, allergies, medications, pertinent past medical history, last oral intake and event leading up to the incident.



Fig. 8-4: Family members or friends may be able to provide information about children.

consciousness and may not be able to recall what happened or is disoriented. Ask family members, friends or bystanders what happened (**Fig. 8-4**). They may be able to give you helpful information, such as telling you if a patient has a medical condition you should be aware of. They may also be able to help calm the patient, if necessary.

Obtain consent before approaching or touching the patient. Patients may be frightened; offer reassurance. Be calm and patient and, if possible, ensure you are in a comfortable and private location where you will not be interrupted. Use open-ended questions, and encourage the patient to talk using verbal and nonverbal cues. Show you are listening by repeating and paraphrasing the patient's replies. Maintain eye contact and speak slowly, deliberately and in simple terms.

Signs and Symptoms

Signs include any medical or trauma assessment findings you can see, feel, hear or smell. For example, this would include measuring **blood pressure (BP)**, seeing an open wound or feeling skin temperature. Symptoms refer to what the patient reports, for example, "I'm having trouble breathing," "I have a headache" or "My chest hurts." For further symptoms, ask the patient to describe the current problem. Ask questions such as—

- Where do you have pain?
- Are you feeling nauseated?
- Do you have a headache?
- Are you having any difficulty breathing?

Allergies

Ask the patient whether he or she is allergic to any medications, food or environmental elements, such as dust, pollen or bees.

Medications

Ask the patient questions to determine whether he or she is currently using any medications, whether prescription or *over-the-counter* (OTC). Ask additional questions such as—

- Do you take any vitamins or herbal remedies?
- Have you taken someone else's medications?
- Did you take any recreational drugs?
- Are you using any medication patches?

Pertinent Past Medical History

Determine whether the patient is under a health care provider's care for any condition, if the patient has had a similar problem in the past or if the patient has been recently hospitalized or had recent surgeries. If the patient is female, ask if she is or could be pregnant.

Last Oral Intake

Determine when the patient last had something to eat or drink and what it was. Also, ask if the patient has recently taken any medication, and if so, what.

Events Leading Up to the Incident

Determine what the patient was doing before and at the time of the incident. The events leading up to the incident could help identify the MOI or nature of the illness.

THE SECONDARY ASSESSMENT

The purpose of the secondary assessment is to locate and further assess the signs and symptoms of an injury or illness. The secondary assessment consists of a head-to-toe physical exam. It may only consist of a rapid assessment (**rapid trauma assessment** or **rapid medical assessment**) or it may also include a **detailed physical exam** at a later stage.

If you find life-threatening injuries or medical conditions during the primary assessment, such as unconsciousness, no breathing, no pulse or severe bleeding, do not waste time with the physical exam. Instead, focus your attention on providing care for the life-threatening conditions. Complete a secondary assessment following the primary assessment, once all life-threatening conditions

are addressed and have been stabilized, if time and resources permit.

For patients with a significant MOI or other critical finding such as altered mental status, take the following steps during the secondary assessment:

1. Continue to maintain spinal stabilization and an open airway.
2. Consider the need for advanced life support backup and the need for transport (e.g., for life-threatening conditions, such as airway trauma).
3. Reassess the patient's mental status, as this may change at any time.
4. Perform a rapid trauma assessment, which is a rapid head-to-toe physical exam. (See sidebar on **DCAP-BTLS**, page 172.)
5. Assess baseline vital signs.
6. Obtain a SAMPLE history. If the patient is responsive, ask some history questions simultaneously with the physical exam.
7. Prepare the patient for transport (simultaneously as assessment is being conducted).
8. Provide emergency care.
9. Obtain trauma score (e.g., Glasgow Coma Scale [GCS]), if trained.

Your major concern during the rapid trauma assessment is any potentially life-threatening injuries that you must manage immediately.

For the trauma patient who does not have a significant MOI such as those outlined above, follow these steps:

1. Perform a **focused trauma assessment** (e.g., for a laceration to the leg).
2. Obtain a SAMPLE history and baseline vital signs.
3. Perform components of a detailed physical exam, as needed.
4. Provide emergency care.

For a responsive medical patient, follow these steps for the secondary assessment:

1. Assess the patient's complaints (**OPQRST**—**o**nset, **p**rovoke, **q**uality, **r**egion/**r**adiate, **s**everity and **t**ime).

2. Obtain the SAMPLE history.
3. Perform a **focused medical assessment** unless signs and symptoms make the focus unclear, in which case you would perform a rapid medical assessment (head to toe).
4. Assess baseline vital signs.
5. Perform components of the detailed physical exam, as needed.
6. Provide emergency care.
7. Consider the need for advanced life support backup and the need for transport (e.g., for life-threatening conditions, such as anaphylaxis).

If the medical patient is unresponsive, consider the patient as critical, requiring that you begin with a rapid medical assessment, to gain as much information as possible on the nature of the illness.

For an unresponsive medical patient, take the following steps for the secondary assessment:

1. Consider the need for advanced life support backup and the need for transport (e.g., for life-threatening conditions, such as heart attack).
2. Perform a rapid medical assessment (head to toe).
3. Assess baseline vital signs.
4. Position a patient who is unresponsive, but breathing, face-up and ensure protection of the airway.
5. Obtain a SAMPLE history from the family or any bystanders, if available.
6. Provide emergency care.

Physical Exam

Many patients view a physical exam with apprehension and anxiety—they feel vulnerable and exposed. Maintain professionalism throughout the physical exam and display compassion toward the patient. Explain what areas you are going to assess. If you have questions about an area and the patient is responsive, ask questions prior to examining the area. Maintain the patient's privacy during the physical exam, such as by conducting the exam in an area that cannot be seen by bystanders. When you need to remove the patient's clothing,



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There are several steps that are essential to follow when conducting the secondary assessment.

cut it away rather than manipulating the patient to remove it. Cover each area after you have examined it. Try to keep the patient calm, and keep the patient from moving the head, neck and spine and any body part that hurts to move.

Pediatric Considerations

You may find it helpful to use distracting measures, such as a teddy bear or doll, to gain the trust of a child. Keeping the child with the parent or guardian can also help ease the child's fear. If the child becomes extremely agitated or upset, conduct a toe-to-head assessment of the child.

Geriatric Considerations

When assessing geriatric patients, consider that they may have glasses and/or hearing aids and will be better able to participate in the assessment process if they are wearing them. Expect the assessment to take longer with geriatric patients than with a younger adult. Keep in mind that it might take geriatric patients a little longer to respond. For other geriatric considerations, refer to **Chapter 26**.

Your exam may focus on a specific area, based on the patient's chief complaint, or be specific to a particular injury or illness. As you discover certain signs and symptoms, there may be specific relevant questions you should ask.

For the rapid assessment, be sure to examine the patient systematically, placing special emphasis on areas suggested by the chief complaint, but remembering to examine the whole body. The patient may focus on a bothersome complaint or a painful one, and fail to identify a more serious problem.

The physical exam for trauma and medical patients is similar, in that the purpose is to gather additional information. However, the type of information you are assessing for may be different in the two different types of patients. With the trauma patient, you are looking for evidence of injury; with the medical patient, you are trying to determine the severity of the condition. For example, if you are examining a limb in the trauma patient, you may be most interested in tenderness, pain, swelling and deformities, as well as pulse and motor/sensory function, as an

indication of injury. For the medical patient, you may be looking for signs of inadequate circulation, discoloration or swelling, as well as motor/sensory function, as a sign of the status of the brain or heart.

When you perform the physical exam, gather additional information on the patient's condition. As you examine the patient, compare each body part on one side of the body to the other. You can gain information by inspecting visually as well as palpating (feeling) areas of the body.

DOTS

The mnemonic **DOTS** may be helpful during the physical exam for patients who have been injured. It stands for—

- **D**eformities. Deformities may include depressions or indentations, parts that have shifted away from their usual position, parts that are more rigid or less rigid than normal (e.g., abdomen) or obvious signs of broken bones.
- **O**pen injuries. Open injuries may include anywhere there is bleeding, including the scalp. These may be serious, such as open injuries to the chest, or less serious, as in cuts and scrapes. Open injuries also include penetrating wounds, such as knife or gunshot wounds.
- **T**enderness. Tenderness may be experienced even when there are no obvious signs of injury. When there is tenderness of the abdomen, it is important to determine in which quadrant the patient feels pain. Begin in the quadrant where the patient feels the least pain so this does not influence the remaining assessment of the abdomen.
- **S**welling. Swelling may indicate an accumulation of blood, air or other fluid in the tissues below the skin. In an extremity, it may indicate that the bone is broken.

OPQRST

As part of the physical exam, if the patient is responsive, ask questions to gain information about pain. One method of questioning can be remembered using the mnemonic **OPQRST**, which stands for Onset, Provoke, Quality, Region/Radiate, Severity and Time. It can be



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As part of the physical exam of a responsive patient, ask questions using the **OPQRST** mnemonic.

DCAP-BTLS

During the rapid trauma assessment, the mnemonic **DCAP-BTLS** may help you remember the components of assessment to include. The letters stand for—

- **D**eformities.
- **C**ontusions.
- **A**brasions.
- **P**unctures/penetrations.
- **B**urns.
- **T**enderness.
- **L**acerations.
- **S**welling.

Keep these types of injuries in mind as you check each major area. Remember to use each of your senses. Many of these types of injuries can be seen on exam. By palpating (feeling) for injuries, you can determine if there are any deformities or swelling and if the patient is experiencing any pain or tenderness. Even if the patient cannot tell you, you can observe any grimacing on the patient's face. In addition to seeing and feeling for signs of injury, listen for abnormal breathing sounds, for example gurgling or stridor in the upper airway. Auscultate (listen) to the lungs with a stethoscope for breath sounds. You can also listen for the sound of broken bones rubbing against each other. Use your sense of smell. This is one way you can detect any unusual or unexpected odors such as the presence of alcohol or a fruity-smelling breath, as well as the possible presence of urine or feces.

As with any physical exam, try to keep the patient calm and comfortable. Rather than focusing on your findings, explain what you are doing to minimize any distress about the injuries. Do not move the patient unnecessarily in case there is a neck or spinal injury.

If there is a serious MOI, it is crucial to completely expose the patient to look for additional injuries. Protect the patient's privacy by covering all patients, male or female of any age, with a sheet and only expose the area you are examining.

When you need to remove clothing, cut it away rather than manipulating the patient to remove it. Cover each area after you have examined it.

Your major concern during the rapid trauma assessment is any potentially life-threatening injuries that you must manage immediately.

used for both patients who have been injured and those who have a medical condition.

- **O**nset: What were you doing when the pain started? Was the onset abrupt or gradual?
- **P**rovocation or palliation: What makes it worse? What makes it better?
- **Q**uality: Is the pain blunt, sharp, burning, crushing or tearing?
- **R**egion/**R**adiate: Where is the pain and does it radiate (spread)? Do you have pain or discomfort somewhere else?
- **S**everity: On a scale of 1 to 10, how intense is the pain?
- **T**ime: When did it start? How long has it been present? How has it changed since it started?

For trauma patients, the mnemonic DCAP-BTLS will remind you of the most common signs and symptoms you may find.

DETAILED PHYSICAL EXAM

Once the focused history and physical exam have been completed and any life-threatening

conditions have been managed, a detailed physical exam may be conducted. This exam is not carried out on every patient. It requires much more time than a rapid assessment to conduct, as it is more detailed, and so can only be performed when time and the patient's condition allow. Often, it is conducted in the ambulance or other transport vehicle, en route to the hospital.

The detailed physical exam is a systematic head-to-toe exam that helps you gather additional information about injuries or conditions that may need care. These injuries or conditions are not immediately life threatening but could become so if not cared for. For example, you might find minor bleeding or possible broken bones as you conduct your exam of the patient. As you conduct the physical exam, tell the patient what you are going to do.

The physical exam process involves looking (inspection), listening (**auscultation**) and feeling (**palpation**). You may even smell something you can gather as information, such as the smell of bleach on the breath, which may indicate poisoning. After telling the patient exactly what you

are going to do and asking the patient to hold still, inspect and palpate each part of the body, starting with the head, before you move on to the next area.

Ask the patient to tell you if any areas hurt. Avoid touching any painful areas or having the patient move any area that causes discomfort. Watch facial expressions and listen for a tone of voice that may reveal pain. Look for a medical ID tag or bracelet (**Fig. 8-5**). This tag may help you determine what is wrong, who to call for help and what care to provide.

As you do the head-to-toe exam, think about how the body normally looks and feels. Be alert for any sign of injuries—anything that looks or feels unusual. If you are uncertain whether your finding is unusual, check the other side of the body for symmetry. Once the detailed physical exam is complete, reassess the vital signs and continue emergency care.

Head

To check the head, look for blood or clear fluid in or around the ears, nose and mouth. Blood or clear fluid can indicate a serious head injury. Is there presence of vomit around the mouth? Look at the teeth (**Fig. 8-6**).

Check the LOC again and note any change. Look at facial symmetry. Check the pupils. If they are unequal, this is an abnormal finding. Do they react to light by constricting and to darkness by dilating? This reaction is normal. If they remain constricted or dilated, this is an abnormal finding. Does the shape of the eyes look unusual? Look for bruising on the face, especially around the eyes.

Neck

To check the neck, look and feel for any abnormalities (**Fig. 8-7, A-C**). Does the patient breathe through a stoma? A stoma is an opening



Fig. 8-5: A medical ID tag or bracelet may help determine what is wrong, what care to provide and whom to call. *Courtesy of the Canadian Red Cross.*



Fig. 8-6: Blood or clear fluid in the ears, mouth or nose can indicate a serious head injury.

in the neck to allow a person to breathe after surgery to remove part, or all, of the larynx (voice box) or other structures of the airway. The person may breathe *partially* through this opening, or may breathe *entirely* through the stoma instead of through the nose and mouth.



Fig. 8-7, A-C: (A) A stoma without a prosthesis. (B) A stoma with tracheoesophageal prosthesis. Prosthesis should not be removed by an EMR. (C) A stoma with a heat and moisture exchange filter. The filter should be removed in an emergency. *Courtesy of the International Association of Laryngectomees.*

Are there any open wounds? Is the patient using the accessory muscles for breathing (a sign of difficulty)? Is the jugular vein distended (enlarged and protruding) (**Fig. 8-8**)?

If the patient has not suffered an injury involving the head or trunk and does not have any pain or discomfort in the head, neck or back, then there is little likelihood of spinal injury. You should proceed to check other body parts. If, however, you suspect a possible head or spine injury because of the MOI, such as a motor-vehicle collision or a fall from a height, minimize movement to the patient's head and spine. If you suspect head or spine injuries, take care of these first. Do not be concerned about finishing the physical exam. You will learn techniques for stabilizing and immobilizing the head and spine in **Chapter 23**.

Chest

Check the collarbones and shoulders by feeling for deformity (**Fig. 8-9**). Ask the patient to shrug the shoulders. Check the chest by asking the patient to take a deep breath and then blow the air out. Ask the patient if there is any pain. Auscultate for lung sounds if you are trained to do so. Look and listen for more subtle signs of breathing difficulty, such as wheezing or diminished lung sounds. Feel the ribs for deformity. Examine the chest. Does it rise and fall without effort or is there evidence of an effort to breathe? Are there any open wounds? Is the chest symmetrical?

Abdomen

Next, ask if the patient has any pain in the abdomen. Expose the abdomen and look for discoloration, open wounds or distension (swelling). Are there any scars or protruding organs? Does the patient look pregnant? Look

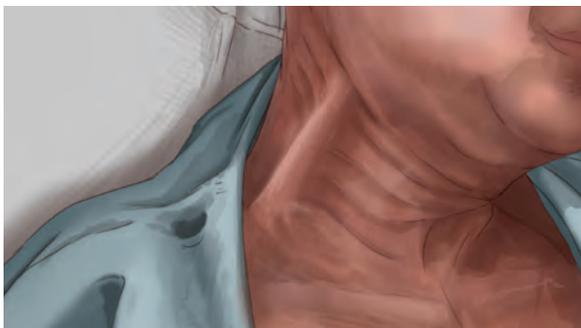


Fig. 8-8: A distended jugular vein



Fig. 8-9: Examine the chest, looking for deformities or signs that the patient is having difficulty breathing. *Courtesy of Terry Georgia.*

at the abdomen for any pulsating. If there is no pulsating, apply slight pressure to each of the abdominal quadrants (**Fig. 8-10**), avoiding any areas where the patient had indicated pain.

Back

Examine the back for any injuries by palpating equally along the spine from neck downward, with your fingertips. Check for any reaction to pain. Look for discoloration, open wounds and any signs of bleeding. Your exam should be methodical and purposeful so that you do not overlook any details (**Fig. 8-11**).

Pelvis

Check the hips, asking the patient if there is any pain. Place your hands on both sides of the pelvis and push in on the sides and down on the hips. Check for any reaction to pain.

Extremities

Check only one extremity at a time. Look at and feel each leg for any deformity. If there is no apparent sign of injury, ask the patient to move the