

Patient Assessment



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SCENE SIZE-UP

Scene Safety

Patient assessment starts before you arrive at the patient's side with a scene size-up. The first step is always to assess the possible risks and take appropriate precautions. The importance of assessing scene safety cannot be overestimated. In the event that you become injured, you can no longer help your patient and may even become a liability to other rescuers. The best way to help your patient is to keep yourself safe.

Medical and trauma scenes present different potential hazards. When approaching any scene, scan the area for aggressive dogs, intoxicated or chemically impaired people, or environmental toxins such as carbon monoxide. Trauma scenes may present with additional hazards such as traffic, firearms, or power lines down. Regardless of the type of scene, you should always have a heightened awareness for potential safety concerns. A patient who calls for confusion (medical call) may suddenly pull out a knife; a call for an accident (trauma call) may lead you to a combative, violent patient. Always remain alert regardless of the setting.

When you've determined it's safe to enter the scene, protect yourself from hazards at the scene by wearing personal protective equipment that is appropriate to the nature of the call. Such equipment may include gloves, goggles, helmets, personal flotation devices, ballistic vests, traffic vests, and bunker gear.

Keep your eyes open and be aware of your surroundings on even the most mundane calls. Don't hesitate to back out and call for police, fire, or other support if needed.

Once scene safety has been established, determine the number of patients and the severity of injuries or illness. The most critical patient will need to be treated first; problems identified during the primary survey should be addressed immediately before moving on to the next patient. If possible, delegate additional assessment or treatment needs to other rescuers. When the number of patients overwhelms your available resources, declare a mass casualty incident and follow the relevant guidelines.

Even a single patient incident may present complicating circumstances such as extrication or water rescue. Request additional resources, (additional BLS units, medic units, extrication tools, or transport vehicles), as needed.

PRIMARY ASSESSMENT

As you approach the patient, begin your clinical assessment of. Look for key clinical indicators that will help in your assessment and formulation of a treatment plan. Determining the mechanism or injury (MOI) or the nature of illness (NOI) is a key component of this assessment.

When establishing the MOI for trauma patients, consider the following examples:

- environmental conditions
- speed, damage to vehicles
- height of fall, surface
- type of firearm

When establishing the NOI for medical patients, consider the following examples:

- presence of medications, alcohol bottles
- information from bystanders, family, caregivers
- environmental conditions

Each of these components may help you predict possible patterns and severity of injuries and illness.

As you approach the patient, identify immediate life threats and look for immediate disturbances of the ABCs, critical bleeding, and signs of hypoperfusion or hypoxia. You should be able to decide within the first minute of contact whether or not the patient is critically ill. You do this by forming a clinical picture based on the MOI/NOI and the patient presentation. A SICK patient is physiologically unstable based on key clinical indicators such as vital signs, level of consciousness, skin signs, and work of breathing. A NOT SICK patient is physiologically stable. He or she may still require BLS treatment or ALS evaluation. NOT SICK does not mean don't treat.

Once you decide if a patient is SICK or NOT SICK, your actions should proceed in a manner appropriate to the patient's condition and your initial assessment should be reevaluated as you obtain more information.

Level of Consciousness

Assess the patient's level of consciousness. Talk to and touch the patient using the AVPU scale to assess and document the level of consciousness.

AVPU Evaluation

- A:** Awake and alert
- V:** Responsive to verbal stimuli
- P:** Responsive only to pain
- U:** Unresponsive

Airway, Breathing and Circulation (ABC)

Your primary assessment includes identifying immediate life threats, through an assessment of the ABCs. Depending on the mechanism of injury, consider spinal stabilization at this point.

Airway - Assess for problems such as an airway obstruction or an airway occluded by blood or vomit. If you encounter an obstructed airway, you must open it before moving on to the next assessment.

Breathing - Assess the respiratory rate, rhythm, and effort. If the patient is in respiratory distress, direct your partner to begin oxygen administration or consider assisting with ventilations. If breathing is absent, begin ventilations.

Circulation - Assess the patient's pulse rate, rhythm, and quality. If there is no pulse, begin CPR. Do a quick check for major, life-threatening bleeding and control it immediately. Finally, as part of Circulation, assess the skin for color, temperature, and capillary refill. Also note if the patient is diaphoretic.

At this point, having determined SICK/NOT SICK and addressed any immediate life-threats take the first set of vital signs – pulse, respirations, and blood pressure.

Assessment Techniques

As you finish your primary assessment and continue with your physical exam, you will be making use of three techniques: inspection, palpation, and auscultation.

Inspection means visually examining an area. Look for deformity, bruising, bleeding, or unusual coloration. You may have to cut away clothing for closer inspection if you have a high index of suspicion that an area is injured. When possible, compare an affected extremity with an unaffected one.

Palpation means feeling for swelling, deformity, crepitus, or tenderness. Start with a gentle touch. If a gentle touch elicits pain, there is no reason to palpate more forcefully. Always warn the patient if you are about to touch an area that may be painful.

Auscultation means listening. In the prehospital setting, this usually means listening to lung sounds or for sounds over the trachea (such as stridor). In hospitals and clinics, physicians also listen to the abdomen, but this is less useful to an EMT.

Rapid Scan

Perform a rapid scan, or trauma scan, on all patients with significant injuries that need to be treated as soon as possible. Not all injuries may be visible at first sight. The rapid scan gives you a chance to identify potentially hidden injuries. This is not a focused physical exam. It is a very quick assessment to identify deformities, contusions, abrasions, punctures, burns, tenderness, lacerations, swelling (DCAP-BTLS) that need to be managed during the assessment, packaging and transport of the patient.

This scan should take about a minute and consists of the following:

Head and neck: look for DCAP-BTLS and also crepitus, jugular venous distention, and tracheal deviation (preferably prior to putting on a cervical collar)

Chest: look for DCAP-BTLS and also crepitus, paradoxical chest movement, and auscultate lung sounds

Abdomen, pelvis: look for DCAP-BTLS and also rigidity or distension

Extremities: look for DCAP-BTLS and also pulse, sensory, and motor function

Back, buttocks: look for DCAP-BTLS, ideally when rolling the patient onto a long board (if a trauma patient)

At the completion of your primary assessment and rapid scan, you form a general impression of the severity of the patient's injury or illness. The general impression enables you to make a decision about next steps, including the dispatch of a medic unit or the initiation of transport.

PATIENT HISTORY

Obtaining a patient's medical history is critical to identifying predisposing factors that led to the patient's conditions. It begins with you obtaining basic demographic information such as the patient's age and gender, and gets progressively more detailed with you asking specific questions about the patient's current condition and the events leading up to it.

Explore the reason for the call and the patient's medical history in an ever-widening series of questions.

- Identify the immediate problem: What is your current complaint? Describe your current symptoms.
- Identify related problems: Do you have any other symptoms or complaints?
- Determine relevant history: Have you ever experienced this before?
- Determine other medical history: Are you being treated for any other medical conditions? Are you taking any medication?

For example, if you are interviewing a patient with chest pain, you will first explore the chest pain, then ask about associated symptoms such as shortness of breath, then ask about prior recent episodes of these complaints, then ask about cardiac history, lastly ask about other medical history such as diabetes or COPD. For patients with prior history, questions should compare this episode with others that the patient has experienced. Patients who have no known history may need to be educated about how to describe and rate their symptoms.

To streamline your questions, you may find the SAMPLE and OPQRST mnemonics useful.

SAMPLE History

S: Signs and symptoms

A: Allergies

M: Medications

P: Pertinent past medical history

L: Last oral intake

E: Events leading up to the injury or illness.

OPQRST Mnemonic

O: Onset (time of onset, events that preceded the onset)

P: Provocation or palliation (what makes it worse, what makes it better)

Q: Quality (description of the symptoms or signs – heavy, sharp, etc)

R: Region/radiation (where does it occur, where does it go)

S: Severity (scale of 1 to 10)

T: Timing (when did it begin)

Remember to explore associated complaints as well as chief complaints. A patient may call because of a near-syncopal episode, but further questioning may reveal that the patient has had several days of abdominal pain and dark tarry stools.

You will often be faced with sensitive issues such as drug or alcohol use, sexual abuse, or violence. Patients in these situations may not be forthcoming with answers to your questions. If the presence of family members or others is distracting to the patient, try to talk to the patient one-on-one in an open, honest dialogue. In spite of your best efforts, the patient may not be truthful, so have a high index of suspicion in these situations. You should also gather information from your surroundings such as pill bottles or a suicide note.

Other sensitive topics include those dealing with issues such as sexual abuse or a medical problem such as a possible ectopic pregnancy. Ask questions relating to the situation that may determine disposition (transport or not), medic evaluation (do you suspect an ectopic pregnancy), or need for additional assistance (police response in the case of sexual abuse). Be frank in your questioning and non-judgmental in your response. Always treat patients with compassion and respect – as you would wish to be treated.

Sometimes you will encounter other challenges in obtaining the patient history. How many of these patients have you seen?

Overly Talkative Patient - often with a long list of complaints stretching back many years, requires patience and continual gentle refocusing of the patient back to your specific questions.

Anxious Patient – Reassure the patient the complaints are being assessed, recognizing that anxiety or restlessness can occasionally be a sign of something significant such as hypoxia or early shock.

Intoxicated or Drug-Impaired Patient – These patients may be drowsy or agitated. Use caution and be aware of your physical safety. Gather information from the scene and from family members or bystanders as well as the patient. Remember that intoxication does not protect a patient from, and in fact may mask the symptoms of, a more serious problem such as cardiac chest pain or internal bleeding after an accident.

Diminished Cognitive Abilities - People with limited cognitive abilities may not have insight into their medical history, or may even be unable to tell you how they are feeling. Determining the patient's normal presentation and mental status is very important; this information is often gathered from family or caregivers. Ask questions of the patient that are simple, easy to understand, and easy to answer.

Non-native English Speakers - When dealing with a person who has limited English (you may hear the term "language barrier"), finding an interpreter is the quickest way to make yourself understood. Sometimes family members (often the children) can help, but be aware of the limitations of this type of informal "translation." Increasingly, there are smartphone or tablet "apps" that can be used to bridge the gap of understanding, as well as services that provide a translator on the phone or on a mobile device. Hospitals often have more resources in this area, so give them some advanced notice about the patient's language.

Hearing Deficits - Patients with hearing problems range from those who have no hearing to those with some hearing loss. If the patient has some hearing, speak slowly and clearly; allow the patient to see your face if he or she reads lips. For those whose hearing is very impaired, pencil and paper can be used; write simple yes/no questions. Sign language translators for the hearing impaired are often available at hospitals.

Each of these patients, and many more, requires a special set of skills that you will hone with time and experience.

SECONDARY ASSESSMENT

The secondary assessment, or physical exam, is critical in all patients, whether they have a medical or trauma complaint. The extent of your secondary assessment will vary from a comprehensive physical exam to a more focused assessment of one body system or area depending on the mechanism of injury/nature of illness and chief complaint.

Some patients will receive a limited secondary assessment because they are so critically injured or ill that all your effort will go into keeping the patient alive. You may be able to do a brief secondary assessment while awaiting medics or during transport, but this assessment

should never have priority over the continual re-evaluation and treatment of immediate life threats.

A typical, complete secondary assessment, which you may vary based on the situation, includes the following:

- assess level of consciousness
- determine mental status
- perform physical exam

Level of consciousness

In the primary assessment, you determined level of consciousness using AVPU. If the patient is awake and alert, you can do a further evaluation of orientation by testing the patient's ability to recall person, place, time and event, as follows:

Person: "What is your name?"

Place: "Do you know where you are?"

Time: "Do you know what month and year it is? [and approximate date]"

Event: "Do you know what happened to you?"

These questions test long-term memory (name), intermediate memory (place, time), and short-term memory (event).

Glasgow Coma Scale

The Glasgow Coma Scale (GCS) provides additional and more detailed information about a patient's mental status. The GCS assesses three components of a patient's level of consciousness: eye opening, best verbal response, best motor response. A chart scores each level of response. (Refer to GCS course).

Eye Opening	Scale	Best Verbal	Scale	Best Motor	Scale
Spontaneous	4	Oriented conversation	5	Obeys commands	6
Response to speech	3	Confused conversation	4	Localizes pain	5
Response to pain	2	Inappropriate words	3	Withdraws from pain	4
None	1	Incomprehensible sounds	2	Abnormal flexion	3
		None	1	Abnormal extension	2
				None	1

Infants and young children may not understand your requests and may be unable to respond verbally. The GCS must be modified for infants and children.

Physical Exam - Trauma

Your secondary assessment of a trauma patient is only as good as your initial impression of mechanism of injury and information gathered during your primary assessment and rapid scan. Based on this information, you can judge whether you have the time to do a complete, methodical examination. In a patient who has a significant mechanism of injury but is relatively stable, for example, a careful, complete exam is important so that you can identify hidden injuries that may cause later deterioration.

A baseline secondary assessment starts at the head and works down. You may alter this in certain patients (for example, pediatric patients who are fearful of strangers may be less threatened if you start at the feet). Remember that the speed and completeness of your exam will vary based on the severity of the patient's presentation and the nature of the injury. Compare a rapid, full-body exam on a hypotensive accident victim with a limited, focused exam of a patient who suffered a minor accidental burn on the hand while cooking.

If the mechanism of injury is significant, provide spinal immobilization and maintain this during the exam. Continue to assess and treat for immediate life threats. You may also direct others to initiate care. If you discover a fractured wrist, others may prepare for splinting while you continue your exam.

Head - Examine the area around the eyes and check the pupils with a penlight. Look inside the patient's ears for blood or clear fluid; look behind the ears for bruising (Battle's sign). Look and palpate for bruising, lacerations, tenderness, depressions, or deformities. Check the cheekbones for tenderness or instability. Check the nose for blood or drainage. Open the mouth and check for loose teeth, blood, or injuries; also note if there is any unusual odor.

Neck - Look for obvious injuries on the front and back of the neck, including deformities or swelling; palpate for crepitus. Check that the trachea is midline, look for jugular venous distension. If indicated, listen for stridor over the trachea.

Chest - Watch respirations for any inequality and palpate ribs for tenderness or deformity. Listen for breath sounds over the mid-axillary and mid-clavicular areas, bases, and apices.

Abdomen and pelvis - Inspect for obvious injuries. Gently palpate the abdomen for tenderness, rigidity, or masses. Gently check the pelvic girdle – stop if the patient experiences pain.

Extremities - Check all extremities for obvious injuries; assess distal pulses, sensory, and motor functions. Check for medical alert tags on bracelets or anklets.

Back - Observe for deformities, palpate gently for tenderness. Ideally check the back when log-rolling patient onto backboard. Check the thoracic, lumbar, and flank areas.

Physical Exam - Medical

An accurate secondary assessment of a medical patient depends upon a careful initial assessment and SAMPLE history that provides information on the nature of illness (NOI). Using this information can help you streamline your secondary assessment.

The physical exam of a conscious, alert, and competent medical patient can often be focused on the patient's primary complaint; it is rare that you will need to do a complete head-to-toe exam if the patient is complaining of a swollen wrist, for example.

Unlike a conscious patient who can usually verbalize a chief complaint, an unconscious patient dictates a more complete physical exam. While this may vary based on the situation, here is an example of a typical, complete secondary assessment of a medical patient. It can also be used on a patient who is conscious but presents with a new onset of a puzzling symptom, for example unexplained syncope.

Head - Examine the area around the eyes and check the pupils with a penlight. Pull the lower eyelids down to check for anemia. Look inside the patient's ears and nose. Palpate the head for abnormalities. Open the mouth and check for loose teeth, blood, or injuries; also note if there is any unusual odor.

Neck - Look for obvious injuries, deformities or swelling; palpate for crepitus. Check that the trachea is midline, look for jugular venous distension. If indicated, listen for stridor over the trachea.

Chest - Note any scars that might indicate medical history, watch respirations for any inequality and listen for breath sounds over the mid-axillary and mid-clavicular areas, bases, and apices. Check for medication patches such as nitroglycerin or pain medications, and look or palpate for the presence of an internal pacer/defibrillator.

Abdomen and pelvis - Inspect for obvious injuries or the presence of scars. Gently palpate the abdomen for tenderness, rigidity, or masses. Observe if there is any evidence of incontinence. Check femoral pulses.

Extremities - Check all extremities for obvious injuries; assess distal pulses, sensory, and motor functions. Check for medical alert tags on bracelets or anklets.

Back - Observe for deformities, palpate gently for tenderness.

ON-GOING ASSESSMENT

Following the primary assessment, vitals, history, and secondary assessment, it will be time to reassess the patient. Reassessment is necessary for all patients but is especially important for patients who are critically injured or ill, since these patients can change very quickly.

Your initial reassessment consists of a repeat of the primary assessment, since changes here, such as a decline in breathing or an onset of serious bleeding, may be life-threatening and must be addressed immediately.

The rest of your ongoing assessment is dictated by the patient's condition. A stable, conscious patient is able to communicate changes in symptoms. An unconscious patient must be watched much more closely.

Repeat vital signs as indicated by patient condition:

- every **15 minutes** for a **stable** patient
- every **5 minutes** for an **unstable** patient

You may decide to keep your fingers on the patient's pulse or across his or her chest so that you can identify possible deterioration and intervene as soon as possible.

Your history and secondary assessment is repeated in a more targeted manner, reassessing injured areas and asking patients about their specific complaints.

Reassessment for all patients includes a re-evaluation of any treatment you have provided or decisions you have made. This may include re-evaluating oxygen delivery, splinting or bandaging. Reevaluate patients who have received or self-administered medication to determine the effect the treatment has made.

The final part of the re-assessment is to re-evaluate your disposition decisions.

- Is a medic unit needed?
- Should you begin transporting right away?
- What hospital is the appropriate destination?

Document vital signs, GCS, FAST, and other components of your exam or history in the medical report and always include the time stamps. This critical information will be used by other health care providers to evaluate the etiology of the patient's illness or injury, the trend in presentation, and the effectiveness of treatment provided so far.