Introduction (1 of 3)

- Patient assessment is very important.
- EMTs must master the patient assessment process.
- Patient assessment is used, to some degree, in every patient encounter.

Introduction (2 of 3)

- Five main parts:
  - Scene size-up
  - Primary assessment
  - History taking
  - Secondary assessment
  - Reassessment

Introduction (3 of 3)

- Rarely does one sign or symptom reveal the patient’s status.
  - Symptom: subjective condition the patient feels and tells you about
  - Sign: objective condition you can observe about the patient

Scene Size-up (1 of 2)

- How you prepare for a specific situation
- Begins with the dispatcher’s basic information
- Is combined with an inspection of the scene

Scene Size-up (2 of 2)

- Steps
  - Ensure scene safety.
  - Determine the mechanism of injury/nature of illness.
  - Take standard precautions.
  - Determine the number of patients.
  - Consider additional/specialized resources.

Ensure Scene Safety (1 of 6)

- The prehospital setting is not a controlled and isolated scene.
- It is:
  - Unpredictable
  - Dangerous
  - Unforgiving
Ensure Scene Safety (2 of 6)

- Ensure your own safety first and your patient’s second.
- Wear a public safety vest.
- Look for possible dangers as you approach the scene.
- Typically the way you enter an area is the way you will leave.

Ensure Scene Safety (3 of 6)

- Consider difficult terrain.
- Consider traffic safety issues.
- Consider environmental conditions.

Ensure Scene Safety (4 of 6)

- If appropriate, help protect bystanders from becoming patients.
- Forms of hazards:
  - Chemical and biologic
  - Electricity from downed lines or lightning
  - Water hazards, fires, explosions
  - Potentially toxic environments

Ensure Scene Safety (5 of 6)

- Forms of hazards (cont’d):
  - Hazards found at every motor vehicle collision scene

Ensure Scene Safety (6 of 6)

- Occasionally, you will not be able to enter a scene safely.
  - If the scene is unsafe, make it safe.
  - If this is not possible, do not enter.
  - Request law enforcement or other assistance.
  - Beware of scenes with potential for violence.

Determine Mechanism of Injury/Nature of Illness (1 of 7)

- To care for trauma patients, you must understand the mechanism of injury (MOI).
- Fragile and easily injured areas include:
  - Brain
  - Spinal cord
  - Eyes
Determine Mechanism of Injury/Nature of Illness (2 of 7)

- You can use the MOI as a guide to predict the potential for a serious injury.
- Evaluate three factors:
  - Amount of force applied to the body
  - Length of time the force was applied
  - Areas of the body that are involved

Determine Mechanism of Injury/Nature of Illness (3 of 7)

- Blunt trauma
  - The force occurs over a broad area.
  - Skin is usually not broken.
  - Tissues and organs below the area of impact may be damaged.

Determine Mechanism of Injury/Nature of Illness (4 of 7)

- Penetrating trauma
  - The force of the injury occurs at a small point of contact between the skin and the object.
  - Open wound with high potential for infection

Determine Mechanism of Injury/Nature of Illness (5 of 7)

- Penetrating trauma (cont'd)
  - The severity of the injury depends on:
    - The characteristics of the penetrating object
    - The amount of force or energy
    - The part of the body affected

Determine Mechanism of Injury/Nature of Illness (6 of 7)

- For medical patients, determine the nature of illness (NOI).
- Similarities between MOI and NOI
  - Both require you to search for clues.
- Talk with the patient, family, or bystanders.
- Use your senses to check for clues.

Determine Mechanism of Injury/Nature of Illness (7 of 7)

- Be aware of scenes with more than one patient with similar signs or symptoms.
  - Example: carbon monoxide poisoning
  - Could be an unhealthy situation for the EMT as well
Importance of MOI and NOI

- Considering the MOI or NOI early can be of value in preparing to care for the patient.
- You may be tempted to categorize the patient immediately as either trauma or medical.
  - Fundamentals of good patient assessment are the same.

Take Standard Precautions

(1 of 3)

- Wear personal protective equipment (PPE).
  - Should be adapted to the prehospital task at hand

(2 of 3)

- Standard precautions have been developed for use in dealing with:
  - Objects
  - Blood
  - Body fluids
  - Other potential exposure risks of communicable disease

(3 of 3)

- When you step out of the EMS vehicle, standard precautions must have been taken or initiated.
  - At a minimum, gloves must be in place.
  - Consider glasses and a mask.

Determine Number of Patients

(1 of 2)

- During scene size-up, accurately identify the total number of patients.
  - Critical in determining the need for additional resources
- When there are multiple patients, use the incident command system, call for additional units, then begin triage.

(2 of 2)

- Triage is the process of sorting patients based on the severity of each patient's condition.
Consider Additional/Specialized Resources (1 of 4)

• Some situations may require:
  – More ambulances
  – Specialized resources

Consider Additional/Specialized Resources (2 of 4)

• Specialized resources include:
  – Advanced life support (ALS)
  – Air medical support
  – Fire departments, who may handle high-angle rescue, hazardous materials, water rescue
  – Search and rescue teams

Consider Additional/Specialized Resources (3 of 4)

• To determine if you require additional resources, ask yourself:
  – How many patient’s are there?
  – What is the nature of their condition?
  – Who contacted EMS?
  – Does the scene pose a threat to me, my patient, or others?

Consider Additional/Specialized Resources (4 of 4)

Primary Assessment

• Begins when you greet your patient
• The goal is to identify and initiate treatment of immediate or potential life threats.
• The patient’s vital signs will determine the extent of your treatment.

Form a General Impression (1 of 3)

• Formed to determine the priority of care
• Based on your immediate assessment
• Make a note of the person’s:
  – Age, sex, and race
  – Level of distress
  – Overall appearance
Form a General Impression

• Position yourself lower than the patient.
• Introduce yourself.
• Address the patient by name.
• Ask about the chief complaint.

Assess Level of Consciousness

• The level of consciousness (LOC) is considered a vital sign.
  – Tells a lot about a patient’s neurologic and physiologic status

• Conscious with an altered LOC may be due to inadequate perfusion.
  – Perfusion is the circulation of blood within an organ or tissue.
  – Could also be caused by medications, drugs, alcohol, or poisoning

Assess the patient’s skin color and condition.
• Determine if the patient’s condition is:
  – Stable
  – Stable but potentially unstable
  – Unstable

Assess Level of Consciousness

• Categories:
  – Conscious with an unaltered LOC
  – Conscious with an altered LOC
  – Unconscious

Assess Level of Consciousness

• Assessment of an unconscious patient focuses on airway, breathing, and circulation.
  – Sustained unconsciousness should warn you of a critical respiratory, circulatory, or central nervous system problem.
  – Package the patient and provide rapid transport.
Assess Level of Consciousness (5 of 9)

- To assess for responsiveness, use the mnemonic AVPU:
  - Awake and alert
  - Responsive to Verbal stimuli
  - Responsive to Pain
  - Unresponsive

Assess Level of Consciousness (6 of 9)

Test responsiveness to painful stimuli

- Pinch earlobe
- Press down on bone above eye
- Pinch neck muscles

Assess Level of Consciousness (7 of 9)

- Orientation tests mental status.
- Evaluates a person’s ability to remember:
  - Person
  - Place
  - Time
  - Event

Assess Level of Consciousness (8 of 9)

- Evaluates long-term memory, intermediate-term memory, and short-term memory
- The Glasgow Coma Scale (GCS) score can be helpful in providing additional information on mental status changes.

Assess Level of Consciousness (9 of 9)

- Uses parameters that test a patient’s eye opening, best verbal response, and best motor response

### Table 8-1: Glasgow Coma Scale

<table>
<thead>
<tr>
<th>Eye Opening</th>
<th>Best Verbal Response</th>
<th>Best Motor Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Focused conversation</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Confused conversation</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Inappropriate sounds</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Mute</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
</tbody>
</table>

Some of these responses are atypical, and may be an indication of skull fractures, intracranial pressure, or alcohol or drug intake.

### Pupils (1 of 5)

- Diameter and reactivity to light reflect the status of the brain’s:
  - Perfusion
  - Oxygenation
  - Condition
Pupils (2 of 5)

- The pupil is a circular opening in the center of the pigmented iris of the eye.
  - The pupils are normally round and of approximately equal size.
  - In the absence of any light, the pupils will become fully relaxed and dilated.

Pupils (3 of 5)

- Constricted
- Dilated
- Unequal

Pupils (4 of 5)

- A small number of the population exhibit unequal pupils (anisocoria).
- Causes of depressed brain function:
  - Injury of the brain or brain stem
  - Trauma or stroke
  - Brain tumor
  - Inadequate oxygenation or perfusion
  - Drugs or toxins

Pupils (5 of 5)

- PEARRL is a useful assessment guide:
  - Pupils
  - Equal
  - And
  - Round
  - Regular in size
  - React to Light

Assess the Airway (1 of 4)

- Moving through the primary assessment, always be alert for signs of airway obstruction.
- Determine if the airway is open (patent) and adequate.

Assess the Airway (2 of 4)

- Responsive patients
  - Patients who are talking or crying have an open airway.
  - Watch and listen to how patients speak.
  - If you identify an airway problem, stop the assessment and obtain a patent airway.
Assess the Airway (3 of 4)

- Unresponsive patients
  - Immediately assess the airway.
  - Use the modified jaw-thrust technique when necessary.
  - Use the head tilt–chin lift technique when necessary.
  - Relaxation of the tongue muscles is a cause of airway obstruction.

Assess the Airway (4 of 4)

- Signs of obstruction in an unconscious patient:
  - Obvious trauma, blood, or obstruction
  - Noisy breathing (snoring, bubbling, gurgling, crowing, abnormal sounds)
  - Extremely shallow or absent breathing

Assess Breathing (1 of 13)

- Make sure the patient’s breathing is present and adequate.
- Assess breathing by:
  - Watching the chest rise and fall
  - Feeling for air through the mouth and nose
  - Listening to breath sounds with a stethoscope over each lung

Assess Breathing (2 of 13)

- Obtain the following information:
  - Respiratory rate
  - Rhythm—regular or irregular
  - Quality/character of breathing
  - Depth of breathing

Assess Breathing (3 of 13)

- Ask yourself these questions:
  - Does the patient appear to be choking?
  - Is the respiratory rate too fast or too slow?
  - Are the patient’s respirations shallow or deep?
  - Is the patient cyanotic (blue)?

Assess Breathing (4 of 13)

- Ask yourself these questions (cont’d):
  - Do I hear abnormal sounds when listening to the lungs?
  - Is the patient moving air into and out of the lungs on both sides?
Assess Breathing (5 of 13)

• Administer supplemental oxygen if:
  – Respirations are too fast (more than 20 breaths/min)
  – Respirations are too shallow
  – Respirations are too slow (fewer than 12 breaths/min)

Assess Breathing (6 of 13)

• Consider providing positive-pressure ventilations with an airway adjunct when:
  – Respirations exceed 24 breaths/min
  – Respirations are fewer than 8 breaths/min

Assess Breathing (7 of 13)

• Respiratory rate
  – A normal rate in adults ranges from 12 to 20 breaths/min.
  – Children breathe at even faster rates.
  – Count the number of breaths in a 30-second period and multiply by two.

Assess Breathing (8 of 13)

• Respiratory rate (cont’d)
  – While counting respirations, also note the rhythm.

Assess Breathing (9 of 13)

• Quality of breathing
  – Listen to breath sounds on each side of the chest.
  – Normal breathing is silent.
  – You can always hear a patient’s breath sounds better from the patient’s back.

Assess Breathing (10 of 13)

Table 8-2: Normal Ranges for Respirations

<table>
<thead>
<tr>
<th>Age</th>
<th>Range (breaths/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults and adolescents</td>
<td>12 to 20</td>
</tr>
<tr>
<td>Children (1 to 12 years)</td>
<td>15 to 30</td>
</tr>
<tr>
<td>Infants</td>
<td>25 to 50</td>
</tr>
</tbody>
</table>

Note: Ranges presented in other courses may vary.
Assess Breathing (11 of 13)

• What are you listening for?
  – Normal breath sounds
  – Wheezing breath sounds
  – Rales
  – Rhonchi
  – Stridor

Assess Breathing (12 of 13)

• Depth of breathing
  – Amount of air the patient exchanges depends on the rate and tidal volume
  – Nasal flaring and seesaw breathing in pediatric patients indicate inadequate breathing.

Assess Breathing (13 of 13)

• Depth of breathing
  – Normal breathing is an effortless process that does not affect speech, posture, or positioning.
  – Tripod position
  – Sniffing position

Assess Circulation (1 of 16)

• Assess:
  – Pulse rate
  – Pulse quality
  – Pulse rhythm
  – Identify external bleeding, and evaluate skin color, temperature, and moisture.

Assess Circulation (2 of 16)

• Assess pulse
  – The pulse is the pressure wave that occurs as each heartbeat causes a surge in the blood circulating through the arteries.
  – Palpate (feel) the pulse.
  – If you cannot palpate a pulse in an unresponsive patient, begin CPR.

Assess Circulation (3 of 16)

<table>
<thead>
<tr>
<th>Table 9-5 Normal Ranges for Pulse Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Infant: 1 month to 1 year</td>
</tr>
<tr>
<td>Toddler: 1 to 3 years</td>
</tr>
<tr>
<td>Preschool age: 3 to 6 years</td>
</tr>
<tr>
<td>School age: 6 to 12 years</td>
</tr>
<tr>
<td>Adolescent: 12 to 18 years</td>
</tr>
<tr>
<td>Adult</td>
</tr>
</tbody>
</table>

• Pulse rate
  – Normal resting pulse for an adult is between 60 and 100 beats/min.
  – The younger the patient, the faster the pulse.
Assess Circulation (4 of 16)

• Pulse quality
  – Describe a stronger than normal pulse as “bounding.”
  – A pulse that is weak and difficult to feel is described as “weak” or “thready.”

Assess Circulation (5 of 16)

• Pulse rhythm
  – Determine whether it is regular or irregular.
  – When the interval between each ventricular contraction is short, the pulse is rapid.
  – When the interval is longer, the pulse is slower.

Assess Circulation (6 of 16)

• The skin
  – A normally functioning circulatory system perfuses the skin with oxygenated blood.
  – Evaluate the patient’s skin color, temperature, moisture, and capillary refill.

Assess Circulation (7 of 16)

• Skin color
  – Determined by the blood circulating through vessels and the amount and type of pigment present in the skin
  – Poor circulation will cause the skin to appear pale, white, ashen, or gray.

Assess Circulation (8 of 16)

• Skin color (cont’d)
  – When blood is not properly saturated with oxygen, it appears bluish.
  – Changes in skin color may result from chronic illness.

Assess Circulation (9 of 16)

• Skin temperature
  – Normal skin will be warm to the touch (98.6°F).
  – Abnormal skin temperatures are hot, cool, cold, and clammy.

Source: © St. Bartholomew’s Hospital, London/Photo Researchers, Inc.
• Skin moisture
  – Dry skin is normal.
  – Skin that is wet, moist, or excessively dry and hot suggests a problem.

• Capillary refill
  – Evaluated to assess the ability of the circulatory system to restore blood to the capillary system
  – Press on the patient’s fingernail.
  – Remove the pressure.
  – The nail bed should restore to its normal pink color.

• Capillary refill (cont’d)
  – Should be restored to normal within 2 seconds

• Assess and control external bleeding.
  – Bleeding from a large vein is characterized by a steady flow of blood.
  – Bleeding from an artery is characterized by a spurting flow of blood.

• Controlling external bleeding can be simple.
  – Apply direct pressure.
  – If bleeding from the arms or legs, elevate the extremity.
  – When direct pressure and elevation are unsuccessful, apply a tourniquet.

• Identify and treat life threats.
  – You must determine the life threat and quickly address it.
  – There will be a loss of meaningful communication between you and the patient.
  – Loss of consciousness occurs.
Identify and treat life threats (cont’d)
- The jaw muscles become slack, leading to airway obstruction.
- The patient stops breathing.
- The heart cannot function without oxygen.
- Brain cells become damaged.

Perform a Rapid Scan (1 of 2)
- Scan the body to identify injuries that must be managed or protected immediately.
  - Take 60 to 90 seconds to perform.
  - Not a focused physical examination

Perform a Rapid Scan (2 of 2)
- Follow the steps in Skill Drill 8-1.
- Determine if there is spinal injury during this stage of the assessment process.

Determine Priority of Patient Care and Transport (1 of 6)
- Rapid scan assists in determining transport priority.
- High-priority patients include those with any of the following conditions:
  - Difficulty breathing
  - Poor general impression
  - Unresponsive with no gag or cough reflex

Determine Priority of Patient Care and Transport (2 of 6)
- High-priority patients (cont’d):
  - Severe chest pain
  - Pale skin or other signs of poor perfusion
  - Complicated childbirth
  - Uncontrolled bleeding

Determine Priority of Patient Care and Transport (3 of 6)
- High-priority patients (cont’d):
  - Responsive but unable to follow commands
  - Severe pain in any area of the body
  - Inability to move any part of the body
Determine Priority of Patient Care and Transport (4 of 6)

- The Golden Period is the time from injury to definitive care.
  - Treatment of shock and traumatic injuries should occur.
  - Aim to assess, stabilize, package, and begin transport within 10 minutes (“Platinum 10”).

Determine Priority of Patient Care and Transport (5 of 6)

- Transport decisions should be made at this point, based on:
  - Patient’s condition
  - Availability of advanced care
  - Distance of transport
  - Local protocols

History Taking (1 of 3)

- Provides detail about the chief complaint and signs and symptoms
- Includes demographic information:
  - Date of the incident
  - Times of assessments and interventions
  - Patient’s age, sex, race, past medical history, and current health status

History Taking (2 of 3)

- Investigate the chief complaint.
  - Make introductions, make the patient feel comfortable, and obtain permission to treat.
  - Ask a few simple, open-ended questions.
  - Refer to the patient as Mr., Ms., or Mrs., using the patient’s last name.

History Taking (3 of 3)

- If the patient is unresponsive, clues about the incident may be obtained from:
  - Family members present
  - A person who may have witnessed the situation
  - Medical alert jewelry
Obtain a SAMPLE History (1 of 5)

- Use the mnemonic SAMPLE to obtain the following information:
  - Signs and symptoms
  - Allergies
  - Medications
  - Pertinent past medical history
  - Last oral intake
  - Events leading up to the injury/illness

Obtain a SAMPLE History (2 of 5)

- Use the OPQRST mnemonic to assess pain.
  - Onset
  - Provocation or palliation
  - Quality
  - Region/radiation
  - Severity
  - Timing

Obtain a SAMPLE History (3 of 5)

- Document pertinent negatives.
  - Negative findings that warrant no care or intervention
- Taking history on sensitive topics
  - Alcohol and drugs
    - Signs may be confusing, hidden, or disguised.
    - History may be unreliable.

Obtain a SAMPLE History (4 of 5)

- Physical abuse or violence
  - Report all physical abuse or domestic violence to the appropriate authorities.
  - Follow local protocols.
  - Do not accuse; instead, immediately involve law enforcement.

Obtain a SAMPLE History (5 of 5)

- Sexual history
  - Consider all female patients of childbearing age who report lower abdominal pain to be pregnant.
  - Inquire about urinary symptoms with male patients.
  - Ask all patients about the potential for sexually transmitted diseases.

Special Challenges in Obtaining Patient History (1 of 13)

- Silence
  - Patience is extremely important.
  - Use a close-ended question that requires a simple yes or no answer.
  - Consider whether the silence is a clue to the patient’s chief complaint.
Special Challenges in Obtaining Patient History (2 of 13)

- **Overly talkative**
  - Reasons why a patient may be overly talkative:
    - Excessive caffeine consumption
    - Nervousness
    - Ingestion of cocaine, crack, or methamphetamines

Special Challenges in Obtaining Patient History (3 of 13)

- **Multiple symptoms**
  - Expect multiple symptoms in the geriatric group.
  - Prioritize the patient’s complaints as you would in triage.
  - Start with the most serious and end with the least serious.

Special Challenges in Obtaining Patient History (4 of 13)

- **Anxiety**
  - Expect anxious patients to show signs of psychological shock:
    - Pallor
    - Diaphoresis
    - Shortness of breath
    - Numbness in the hands and feet
    - Dizziness or light-headedness

Special Challenges in Obtaining Patient History (5 of 13)

- **Anger and hostility**
  - Friends, family, or bystanders may direct their anger and rage toward you.
  - Remain calm, reassuring, and gentle.
  - If the scene is not safe or secured, get it secured.

Special Challenges in Obtaining Patient History (6 of 13)

- **Intoxication**
  - Do not put an intoxicated patient in a position where he or she feels threatened.
  - Potential for violence and a physical confrontation is high.
  - Alcohol dulls a patient’s senses.

Special Challenges in Obtaining Patient History (7 of 13)

- **Crying**
  - A patient who cries may be sad, in pain, or emotionally overwhelmed.
  - Remain calm and be patient, reassuring, and confident, and maintain a soft voice.
Special Challenges in Obtaining Patient History (8 of 13)

- Depression
  - Among the leading causes of disability worldwide
  - Symptoms include sadness, hopelessness, restlessness, irritability, sleeping and eating disorders, and a decreased energy level.
  - Be a good listener.

Special Challenges in Obtaining Patient History (9 of 13)

- Confusing behavior or history
  - Conditions such as hypoxia, stroke, diabetes, trauma, medications, and other drugs could alter a patient's explanation of events.
  - Geriatric patients could have dementia, delirium, or Alzheimer disease.

Special Challenges in Obtaining Patient History (10 of 13)

- Limited cognitive abilities
  - These patients are considered developmentally handicapped.
  - Keep your questions simple, and limit the use of medical terms.
  - Rely on the presence of family, caregivers, and friends to supply answers.

Special Challenges in Obtaining Patient History (11 of 13)

- Language barriers
  - Find an interpreter, if possible.
  - If not, determine if the patient understands who you are.
  - Keep questions straightforward and brief.
  - Use hand gestures.
  - Be aware of the language diversity in your community.

Special Challenges in Obtaining Patient History (12 of 13)

- Hearing problems
  - Ask questions slowly and clearly.
  - Use a stethoscope to function as a hearing aid.
  - Learn simple sign language during your career.
  - Use a pencil and paper.

Special Challenges in Obtaining Patient History (13 of 13)

- Visual impairments
  - Identify yourself verbally when you enter the scene.
  - Return any items that have been moved to their previous positions.
  - Explain to the patient what is happening in each step of the assessment and history-taking process.
Secondary Assessment (1 of 3)

- Performed at the scene, in the back of the ambulance en route to the hospital, or not at all
- Purpose is to perform a systematic physical examination of the patient
- May be a full-body scan or an assessment that focuses on a certain area of the body.

Secondary Assessment (2 of 3)

- How and what to assess:
  - Inspection—Look at the patient for abnormalities.
  - Palpation—Touch or feel the patient for abnormalities.
  - Auscultation—Listen to the sounds a body makes by using a stethoscope.

Secondary Assessment (3 of 3)

- Use the mnemonic DCAP-BTLS.
  - Deformities
  - Contusions
  - Abrasions
  - Punctures/penetration
  - Burns
  - Tenderness
  - Lacerations
  - Swelling

Assess Vital Signs (1 of 6)

- Use the appropriate monitoring devices.
  - These devices should never replace your comprehensive assessment of the patient.
- Pulse oximetry
  - A newer assessment tool to evaluate oxygenation.

Assess Vital Signs (2 of 6)

- Pulse oximetry (cont’d)
  - Measures the oxygen saturation of hemoglobin in the capillary beds
  - Patients with difficulty breathing should receive oxygen regardless of their pulse oximetry value.

Assess Vital Signs (3 of 6)

- Noninvasive blood pressure measurement
  - The sphygmomanometer (blood pressure cuff) is used to measure blood pressure.
Assess Vital Signs (4 of 6)

• End-tidal carbon dioxide
  – Carbon dioxide is the by-product of aerobic cellular metabolism and reflects the amount of oxygen being consumed.
  – Capnography is a noninvasive method.
  – End-tidal CO₂ is the partial pressure or maximal concentration of CO₂ at the end of an exhaled breath.

Assess Vital Signs (5 of 6)

• End-tidal carbon dioxide
  – The normal range is 35 to 45 mm Hg, or 5% to 6% CO₂.
  – Colorimetric devices provide continuous end-tidal monitoring.
  – Capnometry and capnography provide a digital reading and waveform.

Assess Vital Signs (6 of 6)

• End-tidal carbon dioxide (cont’d)
  – The normal range is 35 to 45 mm Hg, or 5% to 6% CO₂.
  – Colorimetric devices provide continuous end-tidal monitoring.
  – Capnometry and capnography provide a digital reading and waveform.

Full-Body Scan

• Systematic head-to-toe examination
  • Goal is to identify injuries or causes missed during the primary assessment’s rapid scan.
  • Follow the steps in Skill Drill 8-2 to perform a full-body scan on a patient with no spinal injuries.

Focused Assessment (1 of 16)

• Performed on patients who have sustained nonsignificant MOIs or on responsive medical patients
• Based on the chief complaint
• Goal is to focus your attention on the immediate problem

Focused Assessment (2 of 16)

• Respiratory system
  – Expose the patient’s chest.
  – Look for signs of airway obstruction.
  – Inspect for symmetry.
  – Listen to breath sounds.
  – Measure the respiratory rate.
  – Reevaluate pulse rate and skin and blood pressure.
Focused Assessment (3 of 16)

- Cardiovascular system
  - Look for trauma to the chest.
  - Reevaluate pulse, respiratory rate, and blood pressure.
  - Reevaluate the skin.
  - Check and compare distal pulses.
  - Consider auscultation for abnormal heart sounds.

Focused Assessment (4 of 16)

- Blood pressure
  - Pressure of circulating blood against the walls of the arteries
  - A drop in blood pressure indicates:
    - A loss of blood
    - A loss of vascular tone
    - A cardiac pumping problem

Focused Assessment (5 of 16)

- Blood pressure (cont’d)
  - Decreased blood pressure is a late sign of shock.
  - High blood pressure may result in a rupture or other critical damage in the arterial system.

Focused Assessment (6 of 16)

- A blood pressure cuff contains the following components:
  - A wide outer cuff
  - An inflatable wide bladder
  - A ball-pump with a one-way valve
  - A pressure gauge

Focused Assessment (7 of 16)

- Follow the steps in Skill Drill 8-3 to measure blood pressure by auscultation.
- The palpation (feeling) method can also be used.

Focused Assessment (8 of 16)

- Normal blood pressure
  - Hypotension: Blood pressure is lower than normal.
  - Hypertension: Blood pressure is higher than normal.

<table>
<thead>
<tr>
<th>Age</th>
<th>Range, mm Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>90 to 140 (systolic)</td>
</tr>
<tr>
<td>Children (ages 1 to 8 years)</td>
<td>80 to 110 (systolic)</td>
</tr>
<tr>
<td>Infants (newborn to age 1 year)</td>
<td>50 to 95 (systolic)</td>
</tr>
</tbody>
</table>
Focused Assessment (9 of 16)

- Neurologic system
  - Should be performed with any patient who has:
    - Changes in mental status
    - A possible head injury
    - Stupor
    - Dizziness/drowsiness
    - Syncope

Focused Assessment (10 of 16)

- Neurologic system (cont’d)
  - Evaluate the level of consciousness and orientation.
  - Assess the patient’s thought process.
  - Inspect the head for trauma.
  - Check for bilateral muscle strength and weaknesses.

Focused Assessment (11 of 16)

- Musculoskeletal system
  - Assess for posture and look at joints.
  - Always compare the right side with the left.
  - Look for trauma to the abdomen and for distention.
  - Palpate the abdomen for tenderness, rigidity, and patient guarding.

Focused Assessment (12 of 16)

- Pelvis
  - Inspect for symmetry and any obvious signs of injury, bleeding, and deformity.
- Extremities
  - Inspect for symmetry, cuts, bruises, swelling, obvious injuries, and bleeding.
  - Palpate for deformities.
  - Check pulse and motor and sensory functions.

Focused Assessment (13 of 16)

- Posterior body
  - Inspect the back for tenderness, deformity, symmetry, and open wounds.
  - Palpate the spine from the neck to the pelvis for tenderness and deformity.

Focused Assessment (14 of 16)

- Anatomic regions
  - Head, neck, and cervical spine
    - Palpate the scalp and skull.
    - Check the patient’s eyes.
    - Check the color of the sclera.
    - Assess the patient’s cheekbones.
    - Check the patient’s ears and nose for fluid.
Focused Assessment (15 of 16)

- Head, neck, and cervical spine (cont’d)
  - Check the upper (maxillae) and lower (mandible) jaw.
  - Open the patient’s mouth and look for any broken or missing teeth.
  - Note any unusual odors in the mouth.

Focused Assessment (16 of 16)

- Chest
- Abdomen
  - Palpate the front and back of the abdomen.
  - Four quadrants:
    - Left upper quadrant (LUQ)
    - Left lower quadrant (LLQ)
    - Right upper quadrant (RUQ)
    - Right lower quadrant (RLQ)

Reassessment (1 of 4)

- Perform at regular intervals during the assessment process
- Repeat the primary assessment.
- Reassess vital signs.
  - Compare the baseline vital signs obtained during the primary assessment.
  - Look for trends.

Reassessment (2 of 4)

- Reassess the chief complaint.
  - Ask and answer the following questions:
    - Is the current treatment improving the patient’s condition?
    - Has an already identified problem gotten better?
    - Has an already identified problem gotten worse?
    - What is the nature of any newly identified problems?

Reassessment (3 of 4)

- Recheck interventions.
  - Check all interventions.
  - Most important are the patient’s ABCs.
  - Ensure management of bleeding.
  - Ensure adequacy of other interventions, and consider the need for new interventions.

Reassessment (4 of 4)

- Identify and treat changes in the patient’s condition.
  - Document any changes, whether positive or negative.
- Reassess the patient.
  - Unstable patients: every 5 minutes
  - Stable patients: every 15 minutes