

Emergency

Care and Transportation of the Sick and Injured



Section 1: Preparing to be an EMT-B

5: Baseline Vital Signs and SAMPLE History

Cognitive Objectives (1 of 6)

- 1-5.1 Identify the components of vital signs.
- 1-5.2 Describe methods to obtain a breathing rate.
- 1-5.3 Identify the attributes that should be obtained when assessing breathing.
- 1-5.4 Differentiate between shallow, labored, and noisy breathing.
- 1-5.5 Describe the methods to obtain a pulse rate.

Cognitive Objectives (2 of 6)

- 1-5.6 Identify the information obtained when assessing a patient's pulse.
- 1-5.7 Differentiate between a strong, weak, regular, and irregular pulse.
- 1-5.8 Describe the methods to assess skin color, temperature, and condition (capillary refill in infants and children).
- 1-5.9 Identify the normal and abnormal skin colors.

Cognitive Objectives (3 of 6)

- 1-5.10 Differentiate between pale, blue, red, and yellow skin color.
- 1-5.11 Identify the normal and abnormal skin temperature.
- 1-5.12 Differentiate between hot, cool, and cold skin temperature.
- 1-5.13 Identify normal and abnormal skin conditions.

Cognitive Objectives (4 of 6)

- 1-5.14 Identify normal and abnormal capillary refill in infants and children.
- 1-5.15 Describe the methods to assess the pupils.
- 1-5.16 Identify normal and abnormal pupil size.
- 1-5.17 Differentiate between dilated (big) and constricted (small) pupil size.
- 1-5.18 Differentiate between reactive and nonreactive pupils and equal and unequal pupils.

Cognitive Objectives (5 of 6)

- 1-5.19 Describe the methods to assess blood pressure.
- 1-5.20 Define systolic pressure.
- 1-5.21 Define diastolic pressure.
- 1-5.22 Explain the difference between auscultation and palpation or obtaining a blood pressure.

Cognitive Objectives (6 of 6)

- 1-5.23 Identify the components of the SAMPLE history.
- 1-5.24 Differentiate between a sign and a symptom.
- 1-5.25 State the importance of accurately reporting and recording the baseline vital signs.
- 1-5.26 Discuss the need to search for additional medical identification.

Affective Objectives (1 of 2)

- 1-5.27 Explain the value of performing the baseline vital signs.
- 1-5.28 Recognize and respond to the feelings patients experience during assessment.
- 1-5.29 Defend the need for obtaining and recording an accurate set of vital signs.

Affective Objectives (2 of 2)

- 1-5.30 Explain the rationale of recording additional sets of vital signs.
- 1-5.31 Explain the importance of obtaining a SAMPLE history.

Psychomotor Objectives (1 of 2)

- 1-5.32 Demonstrate the skills involved in assessment of breathing.
- 1-5.33 Demonstrate the skills associated with obtaining a pulse.
- 1-5.34 Demonstrate the skills associated with assessing the skin color, temperature, condition, and capillary refill in infants and children.
- 1-5.35 Demonstrate the skills associated with assessing the pupils.

Psychomotor Objectives (2 of 2)

- 1-5.36 Demonstrate the skills associated with obtaining blood pressure.
- 1-5.37 Demonstrate the skills that should be used to obtain information from the patient, family, or bystanders at the scene.

Additional Objectives*

Affective

1. Explain the rationale for applying pulse oximetry.
- * This is a noncurriculum objective.

Baseline Vital Signs SAMPLE History

- Assessment is the most complex skill EMT-Bs learn.
- During assessment you will:
 - Gather key information.
 - Evaluate the patient.
 - Learn the history.
 - Learn about the patient's overall health.

Baseline Vital Signs



Gathering Key Patient Information

- Obtain the patient's name.
- Note the age, gender, and race.
- Look for identification if the patient is unconscious.

Chief Complaint

- The major sign and/or symptom reported by the patient
- Symptoms
 - Problems or feelings a patient reports
- Signs
 - Conditions that can be seen, heard, felt, smelled, or measured

Obtaining a SAMPLE History (1 of 2)

- **S**—Signs and Symptoms
 - What signs and symptoms occurred at onset?
- **A**—Allergies
 - Is the patient allergic to medications, foods, or other?
- **M**—Medications
 - What medications is the patient taking?

Obtaining a SAMPLE History (2 of 2)

- **P**—*P*ertinent past history
 - Does the patient have any medical history?
- **L**—*L*ast oral intake
 - When did the patient last eat or drink?
- **E**—*E*vents leading to injury or illness
 - What events led to this incident?

OPQRST (1 of 2)

- **O**—*O*nset
 - When did the problem first start?
- **P**—*P*rovoking factors
 - What creates or makes the problem worse?
- **Q**—*Q*uality of pain
 - Description of the pain

OPQRST (2 of 2)

- **R**—Radiation of pain or discomfort
 - Does the pain radiate anywhere?
- **S**—Severity
 - Intensity of pain on 1-to-10 scale
- **T**—Time
 - How long has the patient had this problem?

Baseline Vital Signs (1 of 3)

- Key signs used to evaluate a patient's condition
- First set is known as baseline vitals.
- Repeated vital signs compared to the baseline

Baseline Vital Signs (2 of 3)

- Vital signs always include:
 - Respirations
 - Pulse
 - Blood pressure

Baseline Vital Signs (3 of 3)

- Other key indicators include:
 - Skin temperature and condition in adults
 - Capillary refill time in children
 - Pupils
 - Level of consciousness

Respirations

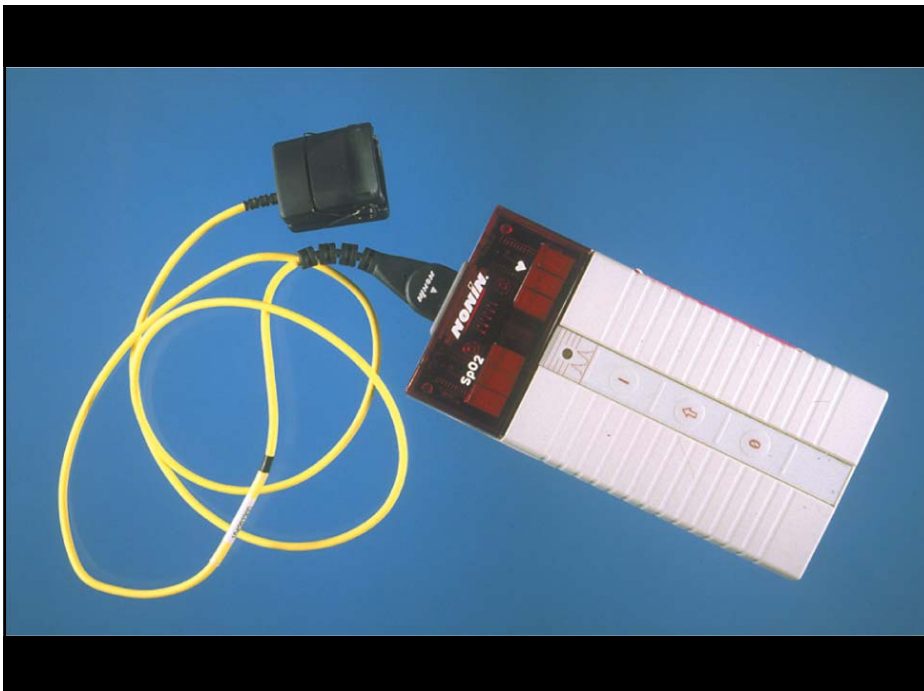
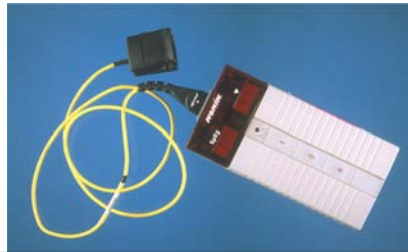
- Rate
 - Number of breaths in 30 seconds \times 2
- Quality
 - Character of breathing
- Rhythm
 - Regular or irregular
- Effort
 - Normal or labored
- Noisy respiration
 - Normal, stridor, wheezing, snoring, gurgling
- Depth
 - Shallow or deep

Respiratory Rates

| | |
|----------|----------------------|
| Adults | 12 to 20 breaths/min |
| Children | 15 to 30 breaths/min |
| Infants | 25 to 50 breaths/min |

Pulse Oximetry

- Evaluates the effectiveness of oxygenation
- Probe is placed on finger or earlobe.
- Pulse oximetry is a tool.
- Does not replace good patient assessment



Pulse (1 of 3)



Pulse (2 of 3)



Pulse (3 of 3)

- Rate
 - Number of beats in 30 seconds \times 2
- Strength
 - Bounding, strong, or weak (thready)
- Regularity
 - Regular or irregular

Normal Ranges for Pulse Rate

| | |
|----------|----------------------|
| Adults | 60 to 100 beats/min |
| Children | 70 to 150 beats/min |
| Infants | 100 to 160 beats/min |

The Skin

- Color
 - Pink, pale, blue, red, or yellow
- Temperature
 - Warm, hot, or cool
- Moisture
 - Dry, moist, or wet



Capillary Refill

- Evaluates the ability of the circulatory system to restore blood to the capillary system (perfusion)
- Tested by depressing the patient's fingertip and looking for return of blood





Blood Pressure

- Blood pressure is a vital sign.
- A drop in blood pressure may indicate:
 - Loss of blood
 - Loss of vascular tone
 - Cardiac pumping problem
- Blood pressure should be measured in all patients older than 3 years.

Measuring Blood Pressure

- Diastolic
 - Pressure during relaxing phase of the heart's cycle
- Systolic
 - Pressure during contraction
- Measured as millimeters of mercury (mm Hg)
- Recorded as systolic/diastolic

Blood Pressure Equipment



Auscultation of Blood Pressure (1 of 2)

- Place cuff on patient's arm.
- Palpate brachial artery and place stethoscope.
- Inflate cuff until you no longer hear pulse sounds.
- Continue pumping to increase pressure by an additional 20 mm Hg.

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Auscultation of Blood Pressure (2 of 2)

- Note the systolic and diastolic pressures as you let air escape slowly.
- As soon as pulse sounds stop, open the valve and release the air quickly.

Palpation of Blood Pressure

- Secure cuff.
- Locate radial pulse.
- Inflate to 200 mm Hg.
- Release air until pulse is felt.
- Method only obtains systolic pressure.

Normal Ranges of Blood Pressure

| Age | Range |
|-----------------------------|-------------------------------|
| Adults | 90 to 140 mm Hg (systolic) |
| Children (1 to 8 years) | 80 to 110 mm Hg (systolic) |
| Infants (newborn to 1 year) | 50 to 95(systolic) |

Level of Consciousness

A – Alert

V – Responsive to Verbal stimulus

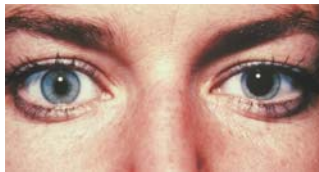
P – Responsive to *Pain*

U – *Unresponsive*

Abnormal Pupil Reactions

- Fixed with no reaction to light
- Dilate with light and constrict without light
- React sluggishly
- Unequal in size
- Unequal with light or when light is removed

Pupillary Reactions



Pupil Assessment

- P - *Pupils*
- E - *Equal*
- A - *And*
- R - *Round*
- R - *Regular in size*
- L - *React to Light*

Reassessment of Vital Signs

- Reassess stable patients every 15 minutes.
- Reassess unstable patients every 5 minutes.