

## Capnography in Pre-hospital Care: Pre-test Questions

1. Choose the best definition for capnography:
  - a. Invasive measurement of exhaled oxygen and carbon dioxide in the breath
  - b. Non-invasive continuous measurement of excreted carbon dioxide in perspiration
  - c. Measurement of arterial carbon dioxide
  - d. Non-invasive continuous measurement of carbon dioxide in the breath
2. Manual counting and impedance (using ECG leads) are traditional ways of monitoring respiratory rate. Which of the following is true?
  - a. Manual counting is always accurate because if the patient's chest is moving, it means they're moving air in and out
  - b. Impedance can be prone to errors caused by repositioning, excessive movement, or diaphoresis
  - c. The respiratory rate (RR) derived from capnography is the most accurate RR available because it is measured at the airway and based on gas exchange
  - d. Both b and c
3. Which of the following statements is true regarding the respiratory cycle?
  - a. The respiratory cycle reflects ventilation only
  - b. The respiratory cycle is composed of two separate phases: oxygenation and ventilation
  - c. Oxygenation is the process of exhaling O<sub>2</sub> from the lungs and is measured by pulse oximetry
  - d. Ventilation is the process of moving carbon dioxide into the cells and is measured by capnography
4. Capnography is a highly accurate and reliable method of monitoring the respiratory rate. Which of the following best describes why?
  - a. The respiratory rate is calculated using the actual gas movement at the nose or mouth
  - b. Is not prone to errors from abdominal or chest wall movement
  - c. It is reliable with conditions such as obstructive apnea and laryngospasm in which there is respiratory effort but no air movement
  - d. All of the above
5. Which of the following statements is true?
  - a. Measuring pulse oximetry does not measure your patient's ventilation.
  - b. Capnography or etCO<sub>2</sub> is the only way to non-invasively assess your patient's ventilation.
  - c. Oxygenation and ventilation are distinctly different physiological functions and must be monitored separately.
  - d. All of the above.

6. Which of the following statements is true?
- End-tidal CO<sub>2</sub> can provide information about how effectively the body is producing CO<sub>2</sub> (metabolism)
  - End-tidal CO<sub>2</sub> can provide information about how effectively the body is transporting CO<sub>2</sub> (perfusion).
  - End-tidal CO<sub>2</sub> can provide information about how effectively the body is exhaling CO<sub>2</sub> (ventilation)
  - All of the above
7. Capnography can be used for:
- Invasive measurement of exhaled oxygen and carbon dioxide in the breath
  - Non-invasive continuous measurement of excreted carbon dioxide in perspiration
  - Measurement of arterial carbon dioxide
  - Non-invasive continuous measurement of carbon dioxide in the breath
8. Factors that may contribute to inaccurate respiratory rate include:
- Bronchospasm and/or laryngospasm
  - Partial or complete airway obstruction
  - Decreased cardiac output
  - Cardiac arrest
9. The respiratory cycle is a two-phase cycle composed of which of the following?
- Oxygenation
  - Ventilation
  - Respiration
  - Both a and b
10. Capnography can provide information about which of the three physiological functions?
- Metabolism, perfusion, and ventilation
  - Ventilation, oxygenation, and metabolism
  - Perfusion, neurological, and ventilation
  - None of the above

## Pre-test Answer Key

- d
- d
- b
- d
- d
- d
- d
- d
- b
- a



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