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National Test Review
Answers and Rationale
2002

There are 75 questions to this test.

1. a. apply supplemental oxygen.

The initial management of a patient with "chest heaviness" and clinical signs of hypoperfusion is to administer high concentration oxygen. The recommended assisted administration of nitroglycerin requires a chief complaint of chest pain and blood pressure greater than 100 systolic. Application of the automated external defibrillator is not indicated in a patient who is breathing and has a pulse.

2. d. 23 year old male complaining of lower leg pain after falling eight feet from a tree.

A rapid trauma assessment is indicated for all individuals who are found unresponsive or in cases where the mechanism of injury suggests a high potential for life- threatening injuries. A fall of less than 20 feet, with a chief complaint of extremity pain, does not typically indicate a significant mechanism of injury and would require a focused examination after initial patient assessment.

3. c. determine if the patient can swallow.

Oral glucose is administered to a patient who is a known diabetic and is experiencing altered mental status. To help prevent aspiration of the glucose, you must ensure that the patient is alert enough to swallow the medication.

4. d. more patients than your resources can manage.

A mass casualty plan should be initiated immediately when you determine that your resources are insufficient to manage the number of patients at the scene.

5. c. open the airway using the modified jaw thrust.

After determining unresponsiveness of a patient, you must next establish an open airway. An appropriate method to open the airway of an unresponsive trauma patient is the jaw thrust maneuver.

6. c. evaluating the respiratory rate and rise and fall of the chest.

The initial determination of respiratory status is best accomplished by evaluating both the respiratory rate and the tidal volume. Immediately following the scene size- up, forming a general impression and opening an airway, you should assess a patient's respiratory status by looking for the rise and fall of the patient's chest and determining the rate of respirations.



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Peripheral cyanosis may be an indicator of hypoxia but is not the best method to determine respiratory status since peripheral skin color may be affected by other external stimuli such as excessive cold temperatures



7. b. mechanism of injury.

A rapid trauma assessment is used to quickly identify and treat those injuries that present an immediate threat to the patient's life or limb. The decision to perform a rapid trauma assessment is made early while determining the general impression and the determination of the mechanism of injury. Any mechanism of injury that leads to a high index of suspicion of serious trauma indicates the need for a rapid trauma assessment.

8. c. assess level of responsiveness.

After completing the scene size-up, the initial step when approaching any patient is to determine if the patient is responsive or unresponsive.

9. a. managing the airway and placing the patient in the recovery position.

The initial care of a patient with an altered mental status and signs of potential airway compromise includes airway management and positioning to avoid injury. The use of the recovery position for a responsive, vomiting patient is recommended for protecting the airway of the patient. Attempting to determine the cause of the altered mental status does not affect the initial management of the patient.

10. a. carefully observing the scene before stepping out of your vehicle.

The best method to determine the safety of any scene is by carefully observing the scene for any dangers before leaving the response vehicle. Dispatch may provide you with information that will increase your suspicions of danger, however, you should never leave the response vehicle before performing a global search of the scene to identify dangers to self, crew, bystanders or the patient.

11. c. determine if the patient has a prescribed inhaler.

As a component of assessing a patient who is experiencing respiratory distress, you should determine if the patient has been prescribed an inhaler. The inhaler may be useful in managing the respiratory distress. Many patients experiencing acute respiratory distress will not receive a detailed physical examination.

12. d. follow medical direction.

All administration of medication by the EMT requires prior authorization by a physician medical direction. This authorization may be provided on-line or off-line. In cases such as anaphylaxis, chest pain or respiratory difficulty, medication is administered following a focused history and physical examination.

13. d. ask open-ended questions.

The best way to establish the nature of a patient's illness is to ask open-ended



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questions that require more than a yes/no answer. A question such as 'Why did you call for help today' is a good example of an open-ended question that is helpful in determining the patient's nature of illness.



14. b. jaw thrust.

In any situation where the patient is unresponsive or the mechanism of injury leads to a high index on suspicion for spinal injury, all airway maneuvers should be completed without excessive movement of the cervical spine. An appropriate air way maneuver for the unresponsive trauma patient is the modified jaw thrust maneuver.

15. c. perform an abdominal thrust to relieve distention.

The use of a pocket mask on an unresponsive patient requires opening the airway while ensuring cervical spinal immobilization precautions, assuring an adequate mask seal and providing supplemental oxygen. If severe gastric distention is interfering with ventilation, the patient should be rolled onto his side and you should apply gentle pressure with the palm of your hand over the patient's epigastrium to relieve the distention.

16. a. 12 to 15 L/min.

The recommended oxygen flow rate when using a non-rebreather mask is 12-15 liters per minute. Flow rates less than 10 liters per minute generally are not sufficient to keep the reservoir bag inflated, thus causing a reduction in the oxygen concentration actually delivered to the patient.

17. a. trigger the demand valve until the chest wall rises.

To determine the length of the inspiratory time when using a flow restricted, oxygen powered ventilation device, you should watch for the chest wall to rise. Once the chest wall rises, you should release the trigger and allow for passive exhalation. Removing or disabling the pressure relief valve could cause serious injury to the patient.

18. a. rapidly deliver its inspiratory volume over 1 1/2 to 2 seconds.

The American Heart Association recommends maintaining artificial inspiratory ventilation times for a period of 1 1/2 to 2 seconds. This slow inspiratory time along with consistent inspiratory pressure, allows for more complete filling of the lungs while preventing the occurrence of gastric distention generally associated with rapid, forceful ventilations.

19. d. hold his breath for as long as he comfortably can.

After inhaling the medication, the patient should hold his breath as long possible. In order for the inhaled medication to be absorbed and have the maximum affect on the patient, it must remain in the lungs as long as possible.



20. b. ask the victim if he is choking.

The first step in managing a responsive patient with an obstructed airway is to determine if immediate intervention is necessary. First ask the patient if he is choking. If he can answer you or if he is coughing forcefully, then the obstruction is only partial and your immediate intervention is observation. If he cannot answer you or he appears to be cyanotic, you should immediately intervene by performing abdominal thrusts.

21. d. slightly above the umbilicus.

The recommended hand position for performing abdominal thrusts is to place your hands slightly above the umbilicus and well below the xiphoid process.

22. c. apply high flow O₂ by non-rebreather mask.

Increasing oxygenation in a patient who is experiencing labored breathing is the treatment of choice and assisted ventilation may also be necessary. Wheezing indicates a narrowing of the lower airways. Attempting to visualize a foreign body in a partial airway obstruction is not recommended.

23. b. dyspnea.

Dyspnea refers to painful or difficult breathing. Apnea refers to the absence of automatic breathing. Hypoxia refers to reduced oxygen in the cells. Anoxia refers to a lack of oxygen.

24. b. assure proper hand position on initial thrusts.

In order to provide the most effective abdominal thrust without injuring the patient, you must assure your hands are properly positioned slightly above the naval and well below the xiphoid process. The thrust should be directed quickly upward, toward the head, in the midline and should not be directed to either side of the abdomen.

25. a. cover the wound with an occlusive dressing and ventilate with 100% oxygen using a bag-valve-mask.

The pre-hospital care of a patient with an open chest wound includes sealing the wound with an occlusive dressing to temporarily seal the chest wall. Respiratory rates greater than 24 per minute with reduced tidal volume require you to assist ventilations.

26. d. An 18 year old female with tingling around the lips and a respiratory rate of 18.

The normal adult respiratory rate is 12-20 breaths per minute. Assessment findings indicating adequate breathing include regular, bilateral rise and fall of the chest, warm, pink skin, and age appropriate rate. Normal newborns breathe at an average rate of 40-60 breaths per minute.



27. c. do a finger sweep.

The recommended sequence for the care of an unresponsive adult patient with an obstructed airway who becomes unconscious is to lower the patient to the floor and perform a finger sweep prior to attempting to ventilate the patient. The loss of muscle tone due to unconsciousness may have allowed the obstruction to become dislodged, thus making it easy to remove with a finger sweep.

28. c. repeat the blood pressure finding to the physician and ask if nitroglycerin is still appropriate.

The indications for the use of nitroglycerin includes a systolic blood pressure greater than 100 mmHg. In this case you should repeat the blood pressure and ask the physician if he/she still wants the nitroglycerin to be administered.

29. d. an advanced life support team takes over resuscitation.

Once you begin care of a patient, it can not be stopped unless someone who can provide an equal or higher level of care assumes responsibility for patient care. The mere presence of a physician on the scene does not indicate that care will be continued by the physician. If care is not continued at an equal or higher level, then you risk being accused of abandoning the patient.

30. b. human error.

Current research indicates that the majority of inappropriate shocks delivered by the automated external defibrillator are due to human error, such as attaching the device to a patient with a pulse or analyzing rhythms in a moving ambulance.

31. d. rapidly transport to an appropriate medical facility.

Severe internal bleeding is a life-threatening injury requiring surgical intervention. Your management of this condition should be rapid transportation to a medical facility capable of providing surgery.

32. a. Abrasion

An abrasion is an injury characterized by the outermost layer of skin being damaged by a rubbing or scraping force. This injury is usually very painful even though the damage is superficial.

33. a. apply oxygen.

The initial management of a patient who has a prescription for nitroglycerin and complains of chest pain is to administer high concentration oxygen. The indications for the administration of nitroglycerin require a blood pressure greater than 100 mmHg systolic. The automated external defibrillator is not indicated in patients who are breathing and have a pulse.



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34. c. Carotid

The American Heart Association (AHA) recommends assessing the carotid pulse in all unresponsive patients greater than one year of age. For patients less than one year of age, the AHA recommends assessing the brachial pulse.

35. d. push the button to analyze the rhythm.

The proper sequence for using the semi-automated external defibrillator is to attach the device to the patient, stop CPR, clear the patient, analyze the rhythm and deliver the first shock if the machine advises. Following the shock, you should immediately push the button to re-analyze the rhythm and deliver a second shock if the machine advises. A set of three stacked shocks should be administered before continuing CPR, ventilating the patient or assessing for the presence of a spontaneous pulse as long as the cardiac rhythm remains unchanged.

36. a. 27 year old male whose horse fell on him; pelvis is unstable; vital signs are BP 84/systolic, P 128 and weak, R 24.

The 1994 EMT-Basic National Standard Curriculum states the application and inflation of the pneumatic anti-shock garment is clearly indicated for pelvic instability with clinical signs of hypoperfusion. Local protocols may provide additional indications.

37. b. cover organs with a moistened sterile dressing.

Abdominal organs that are protruding through the abdominal wall must be kept moist to prevent tissue death. Replacing any organ in the abdomen is contraindicated.

38. c. automated external defibrillation and request ALS back- up if available.

The components of the chain of survival include early access, early CPI?, early defibrillation and early ALS care.

39. d. verify apnea and pulselessness.

The automated external defibrillator should only be attached to pulseless and apnoic patients. You must first verify the presence of a pulse and breathing before continuing with the components of the chain of survival.

40. d. The nature of the pain and the blood pressure.

The indication for you to administer nitroglycerin in the pre-hospital setting is a non-trauma patient who exhibits signs and symptoms of chest pain and has a systolic blood pressure greater than 100 mmHg.

41. c. activated charcoal.

An indication for the administration of activated charcoal is signs of ingested



poisons. The action of activated charcoal, which is to bind with poison and inhibit absorption by the body, is much more effective than diluting the poison.

42. a. Body substance isolation, removing smoldering clothing, monitoring the airway and rapid transport.

The principles of burn management, regardless of the severity, include taking body substance isolation precautions, stopping the burning process by removing smoldering clothes, continuously monitoring the airway and ventilatory status and rapidly transporting the patient for definitive care. Because of the high potential for infection, blisters at the burn site should not be broken.

43. c. patient is fully immobilized and secured to the board.

When applying a spinal immobilization device, the head of the patient must be maintained manually in the neutral in-line position until the patient is completely secured to the immobilization device. Releasing manual stabilization of the head at any time prior to this increases the risk of compromising the integrity of the cervical spine.

44. a. protect the child from injury and be prepared to suction and ventilate after the seizure.

You should attempt to protect the child from injury during the seizure activity. Immediately following the seizure, you should be prepared for excessive oral drainage, vomiting and respiratory distress. You should never attempt to physically or mechanically restrain a patient who is experiencing seizures.

45. c. bronchodilation.

Anaphylaxis results in the acute bronchial swelling and constriction of the airways. Epinephrine is a powerful medication that dilates the bronchioles and constricts blood vessels. A side effect of epinephrine is an increased heart rate.

46. d. hot, dry skin.

The most critical assessment finding relative to a heat related emergency is hot, dry skin. This finding indicates that the heat-regulating mechanism of the body has failed. This is a true emergency that will result in death if not managed immediately.

47. d. in the skin, respiratory or cardiac systems.

Allergic reactions occur following contact with an allergen in the form of itching, hives, watery eyes, bronchial constriction and vasodilation. Allergic reactions do not occur spontaneously. An allergen must have come in contact with the patient either through ingestion, inhalation, injection or absorption.



48. d. large size and strength.

You should be aware of the high potential for violence in patients who exhibit a threatening posture, quick irregular movements and a rising tone of voice. You should not equate a patient's large size or strength as an indication of potential for violence.

49. b. insertion of a nasopharyngeal or oropharyngeal airway.

A snoring noise heard in an unresponsive patient during inspiration indicates a partial upper airway obstruction. The immediate management of this situation includes placement of an airway adjunct and assessment of the adequacy of ventilation.

50. d. handle and transport the patient as gently as possible.

All unresponsive, hypothermic patients need to be transported to a definitive care facility. Current literature suggests gentle handle decreases the likelihood of initiating ventricular fibrillation in the hypothermic patient. You should begin passive rewarming of the patient that is unresponsive due to profound hypothermia by using warm blankets and heating the patient compartment of the ambulance.

51. b. ensure the safety of rescue personnel.

Swift water rescue requires special training and equipment. Your first responsibility is to provide for safety of self, crew and bystanders.

52. b. critical.

The severity of a burn is determined by the amount of body surface involved, the location, the depth and potential for airway/ventilatory compromise. Partial thickness burns covering more than 30% of the body are considered critical. Large burns of the chest and back create a high potential for respiratory compromise.

53. c. reposition the infant's head and re-attempt to ventilate.

If your initial attempt at ventilating an unconscious infant is unsuccessful, your next step would be to reposition the infant's head to assure a patent airway and then re-attempt ventilation. Initiating back blows or chest thrusts should only be attempted after determining that a foreign body airway obstruction exists.

54. c. 20 times per minute.

The recommended rescue breathing rate for an infant is 20 times per minute



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or one breath every three seconds. Rescue breathing rates less than 20 times per minute will not provide for adequate oxygenation.

55. c. The reported history is not consistent with the injuries found.

You should be suspicious of possible child abuse if your assessment findings are not consistent with the history provided by the parents or the child.

56. d. jaundice.

Signs and symptoms of ingested poison includes unusual odor on the patient's breath, nausea, vomiting and altered mental status. Jaundice is a yellowish color of the skin indicating a disease of the liver.



57. c. Crowning with contractions

Crowning is the presence of the baby's head at the vaginal opening with each contraction and indicates that delivery is imminent.

58. b. the volume that will make the chest rise.

The best method for determining the appropriate volume of artificial ventilation is to provide breaths that cause the chest to rise. For the infant, small pulls of air from the mouth of the rescuer are usually sufficient to cause the chest to rise.

59. c. observe for return of color after squeezing the hands.

Capillary refill in an infant is most easily assessed by pressing on the nail beds, hand or foot and watching for return of normal color within 2 seconds.

60. b. apply supplemental oxygen and assist ventilations if necessary.

Pediatric patients experiencing respiratory distress require supplemental oxygen administration. You should always assess the adequacy of ventilation and assist ventilations if necessary. There is no indication that this particular child is not ventilating adequately. Ventilation alone without supplemental oxygen is ineffective.

61. b. lie on her back with her knees bent and spread apart.

The recommended positioning of the mother for delivery of a newborn is supine with her legs spread apart.

62. b. cyanosis and a respiratory rate of 70.

The signs and symptoms of respiratory failure in infants includes respiratory rates greater than 60, cyanosis, decreased muscle tone, severe use of accessory muscles and altered mental status. Early respiratory distress is characterized by stridor, wheezing, intercostal retractions and nasal flaring.

63. a. protocols or standing orders.

Standing orders/protocols are a written document containing patient care procedures to follow when managing specific patient presentations. Standing orders/protocols usually include the name of the condition, associated signs and symptoms as well as the prescribed action that you are to take in managing the patient. Standing orders/protocols are a form of off-line medical direction.

64. c. keep the weight as close to your body as possible.

Cardinal rules of body mechanics state that when lifting or carry heavy objects is to ensure that your center of gravity is maintained as close to the center of your body as possible and that your body is maintained in normal



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anatomical alignment at all times. When performing a two person or four person carry, this is best accomplished by keeping the weight you are carrying as close to your body as possible.



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65. a. allows the hospital to prepare equipment and personnel for the patient's arrival.

Providing the receiving hospital with an accurate radio report of your assessment findings and interventions allows the hospital personnel to prepare the necessary equipment to continue the care of the patient. The hospital staff may still need to triage based on their current patient load and the severity of the patient's injury or illness.

66. a. the nature of the call and its location.

The most important information to gain from dispatch prior to arrival at the scene is the exact location of the emergency and the impression of the dispatcher as to what is wrong with the patient.

67. d. wash with soap and water.

It is important to remove visible blood and body substances from the equipment with soap and water prior to final disinfection.

68. a. locked into a natural inward curve position.

The lumbar region should always be locked into a natural inward curve position when lifting a patient from the ground. The safest method to lift a patient or object from the ground is to assure that the torso is kept in normal upright alignment. The spine has a normal outward curve in the thoracic area and normal inward curve in the lumbar region.

69. a. Keeping your hepatitis vaccination current.

The most common method of transmission of hepatitis B to health care providers is through accidental needle sticks or contamination of fresh scratches/abrasions with a patient's blood or body fluid. The Center for Disease Control recommends vaccination for health care providers, such as EMS personnel, who are frequently exposed to blood and other body fluids. Body substance isolation precautions and washing your hands after each patient contact are essential for preventing contamination of self and other patients.

70. c. The patient acted drunk at the scene.

A patient care report should include your objective observations, assessment findings and direct quotes made by the patient, family members or bystanders. Statements reflecting your opinion or subjective data such as "acted drunk at the scene" should not be included.

71. b. answer the patient's questions honestly.

Ensuring honesty and integrity in both written and spoken communications is a professional attribute of the EMT and is essential in all patient encounters. It will establish rapport between you and the patient and the patient's confidence in your abilities to provide safe and effective care will be enhanced.



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You should address a patient in a respectful manner using his/her last name and the title of "Mr." or "Mrs. " as appropriate. Using direct eye contact with the patient helps express honest and may help calm the patient.



72. d. evaluate the safety of the patient.

The number one priority when approaching an emergency scene is to ensure your own safety and that of your crew. The next priority is to evaluate and ensure the safety of the patient. These steps are all components of the scene size-up and should be accomplished prior to entering the scene or performing any steps in the patient assessment. Prior to gaining access to the patient, you must evaluate and assure that your actions upon entering the car will not endanger the patient.

73. c. When talking to a three year old: "Hi, my name is Roy.

I'm an EMT and I want to look at your cut." Principles of proper communication during and emergency call include introducing yourself, explaining everything that you are doing in easily understood language and being non-judgmental. You should not reinforce delusions of the patient, but should answer all questions honestly.

74. b. becomes a legal record of your assessment and care of your patient.

The patient care report is a legal document completed by the rescuer that lists the assessment findings and care rendered to the patient. The document can be changed by drawing a line through the entry and writing your initials and the date next to the changed entry.

75. c. A competent patient may withdraw from medical treatment at any time.

When determining a patient's right to refuse care, you must first determine if the patient is mentally alert and competent to make an informed decision. Any patient that meets this criteria has the right to refuse treatment. If you are unsure of the patient's ability to make an informed decision, you should err in favor of patient care.