CHAPTER 16 QUIZ

Write the letter of the best answer in the space provided.

1. The condition causing breathing difficulty in which the bronchioles of the lower airway are significantly narrowed from constriction of the muscle layer is known as
   A. hypoxia.  
   B. apnea.  
   C. bronchoconstriction.  
   D. bronchodilation.

2. The normal range of breaths per minute for most adults is
   A. 25–50.  
   B. 20–40.  
   C. 15–30.  
   D. 12–20.

3. All of the following are signs of inadequate breathing except
   A. present and equal breath sounds.  
   B. restlessness.  
   C. cyanotic skin color.  
   D. retractions.

4. A condition in which the cells in the body are not getting an adequate supply of oxygen is known as
   A. hypoxia.  
   B. hypervolemia.  
   C. hypovolemia.  
   D. hypoergia.

5. A musical whistling sound that is heard in all lung fields upon auscultation of the chest is
   A. rales.  
   B. crackles.  
   C. wheezing.  
   D. rhonchi.

6. In an infant or a child, bradycardia is a sign of
   A. circulatory collapse.  
   B. cardiac arrest.  
   C. respiratory failure.  
   D. fatigue.

7. If a patient is experiencing breathing difficulty but is breathing adequately, he or she should be placed in a
   A. sniffing position.  
   B. Trendelenburg position.  
   C. prone position.  
   D. position of comfort.

8. Which of the following is an example of a commonly encountered obstructive lung disease?
   A. emphysema  
   B. pulmonary edema  
   C. pneumonia  
   D. pneumothorax

9. A medication commonly prescribed for the patient with a history of breathing problems is a(n)
   A. beta blocker.  
   B. antiarrhythmic.  
   C. bronchodilator.  
   D. antihistamine.

10. A condition indicating extreme inspiratory effort in infants and small children in which the chest is drawn inward while the abdomen moves outward is called
    A. nasal flaring.  
    B. see-saw breathing.  
    C. retractions.  
    D. grunting.
11. All of the following are early signs of breathing difficulty in infants and children except
   A. retractions.
   B. nasal flaring.
   C. bradycardia.
   D. anxiety.

12. All of the following are examples of medications delivered via prescribed metered-dose inhalers except
   A. albuterol.
   B. epinephrine.
   C. isoetharine.
   D. metaproterenol.

13. All of the following are medications commonly used for respiratory problems except
   A. Tornalate®.
   B. Serevent®.
   C. Alupent®.
   D. Prozac®.

14. A possible side effect from a prescribed inhaler is
   A. tachycardia.
   B. hypotension.
   C. cyanosis.
   D. altered mental status.

15. The total number of MDI doses that an EMT can deliver to a patient with breathing difficulty is
   A. one.
   B. two.
   C. three.
   D. determined by medical direction.
In the Field

Review the following real-life situation. Then answer the questions that follow.

Your unit has just received a call from the emergency medical dispatcher. A 68-year-old woman at 181 Shadow Lane reports difficulty breathing. You and your partner head to the scene, arriving 12 minutes after the call.

Upon entry into the house, you find the patient sitting in a chair, leaning forward with her hands on her knees. She appears anxious and has difficulty speaking in full sentences without gasping for breath. She tells you, “I can’t seem to get enough air.” As she struggles to catch her breath, the patient adds, “My chest is so tight.”

You position yourself at eye level with the patient and try to calm her fears. You introduce yourself and explain that you will need to ask several questions before beginning treatment. From your questions, you learn that the patient has a history of emphysema and that she takes Lasix®, theophylline, and Ventolin®. However, she has not taken these medications for several days in an effort to prolong the prescriptions. “Refills are so expensive,” she explains.

Upon physical examination, you find the patient alert, but restless. Her pulse rate is 120 beats per minute; her blood pressure is 110/68 mmHg; her respiratory rate is 20 per minute; pulse ox is 88 percent. Breaths are labored and noisy. Her skin is warm and pale.

1. Is the patient’s breathing adequate or inadequate?

2. When you elicited a focused history of the condition, what questions should you have asked the patient?

3. What steps would you take to treat this patient?
4. How would you administer oxygen to the patient?

5. In what position should this patient be transported to the hospital?
Write the word or words that best complete each sentence in the space provided.

1. Respiratory emergencies may range from shortness of breath, or ______________________________, to complete respiratory arrest, or ______________________________.

2. The medication known as a(n) ______________________________ is designed to directly relax and open the bronchioles, resulting in an increase in the effectiveness of breathing.

3. During the ______________________________ ______________________________- ______________________________, the EMT should seek clues to determine whether the patient’s breathing difficulty is due to trauma or to a medical condition.

4. Inadequate oxygenation of the brain causes a(n) ______________________________ ______________________________ ______________________________, which, in turn, can cause the patient to be disoriented or to talk incomprehensibly or mumble.

5. ______________________________ is an ominous and late sign of respiratory distress observable on the patient’s skin.

6. Most bronchodilators begin to work almost immediately, and their effects may last up to ______________________________ hours or more.

7. Whenever you have administered a bronchodilator to a patient, you must perform a(n) ______________________________ ______________________________.

8. The term ______________________________ refers to a condition in which the cells of the body are not getting an adequate supply of oxygen.

9. A patient with breathing difficulty who is sitting upright and leaning slightly forward and supporting herself with her arms by holding onto the seat is in the ______________________________ position.

10. Emphysema, chronic bronchitis, and asthma are examples of ______________________________ ______________________________.

11. A device attached to an MDI that holds medication until it is inhaled is a(n) ______________________________.

12. Metered-dose inhalers can only be administered by the EMT with the approval of ______________________________ ______________________________ through on-line or off-line orders.
13. A pulse oximeter reading of less than ______________________________ in a patient with any breathing difficulty is a sign of hypoxia.

14. If upon assessment you find your patient’s breathing rate or tidal volume inadequate, begin ______________________________ ______________________________ ______________________________.

15. The patient with breathing difficulty is a(n) ______________________________ patient, so consider advanced life support backup.
Write in the missing information on the medication flash card below, and save the completed card for future reference.

**Prescribed Inhaler**

Medication Names:
1. Generic: ____________________________________________________________________________________
2. Trade: ______________________________________________________________________________________

Indications:
1. _____________________________________________________________________________________________
2. _____________________________________________________________________________________________
3. _____________________________________________________________________________________________

Contraindications:
1. _____________________________________________________________________________________________
2. _____________________________________________________________________________________________
3. _____________________________________________________________________________________________
4. _____________________________________________________________________________________________

Medication Form: ____________________________________________________________

Dosage: _____________________________________________________________________________

Action: _____________________________________________________________________________

Side Effects:
1. _____________________________________________________________________________________________
2. _____________________________________________________________________________________________
3. _____________________________________________________________________________________________
4. _____________________________________________________________________________________________
5. _____________________________________________________________________________________________
Write the letter of the best answer in the space provided.

_______ 1. The valve located between the right atrium and the right ventricle that prevents blood from returning to the right atrium is the _____ valve.
   A. mitral   C. tricuspid
   B. aortic   D. bicuspid

_______ 2. The right atrium receives deoxygenated blood from the inferior and superior _____, the largest veins in the body.
   A. aorta   C. pulmonary arteries
   B. vena cava   D. pulmonary veins

_______ 3. The electrical impulse that causes the heart to contract is generated in the right atrium at the
   A. bundle of His.   C. sinoatrial node.
   B. Purkinje fibers.   D. atrioventricular node.

_______ 4. The arteries that branch off the base of the aorta and supply the heart with oxygen-rich blood are called _____ arteries.
   A. pulmonary   C. carotid
   B. posterior tibial   D. coronary

_______ 5. Blood components respond to injury by forming a clot, or _____, in order to stop bleeding.
   A. plasma   C. platelet
   B. thrombus   D. plaque

_______ 6. The delivery of oxygen and nutrients from the blood, through the thin capillary walls into the cells, and the removal of carbon dioxide and other waste products, is known as
   A. hypoperfusion.   C. metabolism.

_______ 7. In cases involving a patient complaining of chest pain and/or difficulty breathing, the EMT should suspect
   A. cardiac problems.   C. tracheal deviation.
   B. trauma.   D. hypovolemia.

_______ 8. While patients with known cardiac problems may take a variety of medications, the most commonly prescribed medication is
   A. nitroglycerin.   C. epinephrine.
   B. Lasix.   D. Digoxin.

_______ 9. If a patient experiences no relief after one dose of nitroglycerin, another dose may be administered after 3 to 5 minutes if authorized by medical direction, to a maximum of _____ doses.
   A. three   C. two
   B. five   D. six
10. Because nitroglycerin lowers blood pressure, it must not be given to a patient whose systolic blood pressure is lower than _____ mmHg.
   A. 130
   B. 120
   C. 100
   D. 90

11. One contraindication to the administration of nitroglycerin is the patient’s
   A. recent ingestion of Viagra®.
   B. use of aspirin.
   C. excessive respiratory efforts.
   D. extremity injury.

12. The condition known as _____ occurs when a portion of the heart muscle dies because of the lack of an adequate supply of oxygenated blood.
   A. angina pectoris
   B. hypertension
   C. acute myocardial infarction
   D. pulmonary edema

13. The tiny blood vessels that connect arterioles to venules are
   A. valves.
   B. arteries.
   C. capillaries.
   D. veins.

14. The measured force exerted during the contraction of the heart is the _____ blood pressure.
   A. systolic
   B. systemic
   C. diastolic
   D. myocardial

15. A common side effect of the administration of nitroglycerin is
   A. headache.
   B. hypovolemia.
   C. altered mental status.
   D. diaphoresis.

16. During cardiac arrest, instead of smooth contractions, the heart shows a different type of electrical activity, most commonly the uncoordinated twitchings known as
   A. asystole.
   B. ventricular tachycardia.
   C. ventricular fibrillation.
   D. atrial fibrillation.

17. Cardiac arrest in children is most often the result of
   A. hypoxia.
   B. bradycardia.
   C. trauma.
   D. ventricular fibrillation.

18. In cases of _____, the heart has a rhythm, but is so weakened that it fails to pump, or it does not respond to the electrical activity, or there is so much blood loss that there is nothing to pump.
   A. asystole
   B. ventricular fibrillation
   C. pulseless electrical activity
   D. ventricular tachycardia

19. The absence of electrical activity and pumping action in the heart is called
   A. pulseless electrical activity
   B. ventricular tachycardia
   C. ventricular fibrillation
   D. asystole.

20. When both atria contract, it is a process known as atrial
   A. systole.
   B. work.
   C. diastole.
   D. arrest.

21. Electrical impulses travel from the sinoatrial node to the atrioventricular node by way of the
   A. Purkinje fibers.
   B. intranodal tract.
   C. bundle of His.
   D. the right and left bundle branches.
22. The P wave is the ____ waveform of the ECG.
   A. first  
   B. second  
   C. third  
   D. fourth

23. In acute coronary syndrome, the word “acute” refers to
   A. severity.  
   B. affecting the arteries.  
   C. sudden onset.  
   D. duration.

24. Which of the following is a sign or symptom of angina pectoris?
   A. anxiety  
   B. dyspnea  
   C. diaphoresis  
   D. all of the above

25. All of the following are true about aortic dissection except
   A. initially pain is less severe, then it progresses.  
   B. pain is commonly described as sharp or tearing.  
   C. syncope may be the only sign in some patients.  
   D. it is a tear in the inner lining of the aorta.
**IN THE FIELD**

*Review the following real-life situation. Then answer the questions that follow.*

You and your EMT partner respond to a call at the Wilson Corporation. The dispatcher reports a conscious male about 50 years of age complaining of chest pain. When you arrive at the scene, the patient’s secretary leads you into an office. There you see a man sitting on the sofa next to his desk. He is alert with labored respirations. He is pale and diaphoretic. Your pulse check reveals a weak and rapid radial pulse, and you note his skin to be cool and moist to the touch. He is complaining of a squeezing tightness in the center of his chest.

1. What should be your first action in providing emergency medical care?

2. During the focused history and physical exam, you determine that the patient has a history of heart disease and has physician-prescribed nitroglycerin. What actions must you take prior to assisting the patient with his prescribed medication?

3. What reassessment steps should follow the administration of nitroglycerin?
Write the word or words that best complete each sentence in the space provided.

1. An unresponsive patient with no respiration and no pulse is in ______________________________ ______________________________.

2. The ______________________________ are the top two chambers on each side of the heart.

3. The blood in the left atrium is ejected through the ______________________________ valve and into the left ventricle upon contraction of the heart.

4. The most common symptom of cardiac compromise is ______________________________ ______________________________.

5. As an EMT, you should not take the time to try to ______________________________ the type or cause of a cardiac emergency.

6. ______________________________ can be administered as either a sublingual tablet or a sublingual spray.

7. The three drugs that an EMT may administer to a cardiac patient, with the approval of medical direction, are ______________________________, ______________________________, and ______________________________.

8. The aim of administering nitroglycerin is to ______________________________ the blood vessels in the heart.

9. If the responsive patient with chest pain is breathing adequately, administer oxygen at ______________________________ liters per minute via a(n) ______________________________ mask.

10. In general, the EMT’s emergency treatment of patients with heart failure or an acute myocardial infarction will not ______________________________.

11. Several components of blood are involved in clot formation. They are: ______________________________, ______________________________, and ______________________________.

12. The ______________________________ pressure represents the pressure exerted against the arterial walls during relaxation of the left ventricle.
13. If a patient experiences no relief after one dose of nitroglycerin, another dose may be administered after ______________________________ to ______________________________ minutes if authorized by medical direction, to a maximum of ______________________________ doses.

14. The heart contains specialized contractile tissue as well as conductive tissue, known as the ______________________________ ______________________________ ______________________________, which allows it to generate electrical impulses.

15. The circulatory, or cardiovascular, system has three major components: the ______________________________, the ______________________________ ______________________________, and the ______________________________.

16. ______________________________ ______________________________ occurs when the heart, for any of a variety of reasons, is not pumping effectively or at all, and no pulses can be felt.

17. ______________________________ ______________________________ occurs when a weakened section of the aortic wall dilates or balloons outward.

18. The electrical impulse generated by the sinoatrial node travels through the right and left atria by the way of ______________________________ ______________________________.

19. Each mechanical contraction of the heart has two distinct components of electrical activity: ______________________________ and ______________________________.

20. The QRS complex represents depolarization of the ______________________________.

21. The delivery of oxygen and nutrients to the cells and the removal of carbon dioxide and wastes is known as ______________________________.

22. Atherosclerosis is an ______________________________ disease that starts with the intimal lining of the blood vessel.

23. The typical response of the heart to ischemia is ______________________________

______________________________
1. List seven signs and symptoms often associated with cardiac compromise.

2. List six emergency care steps for patients experiencing cardiac compromise.

3. List the three conditions that must be met before assisting a patient with the administration of nitroglycerin.

4. List the five contraindications to the administration of nitroglycerin.

5. List three trade names of nitroglycerin.
## Cardiovascular Emergencies: Matching

Write the letter of the term in the space next to the appropriate description.

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Term (4 letters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Major artery of the upper arm</td>
<td>F.</td>
</tr>
<tr>
<td>2</td>
<td>Major artery of the thigh</td>
<td>C.</td>
</tr>
<tr>
<td>3</td>
<td>Major artery in the neck</td>
<td>A.</td>
</tr>
<tr>
<td>4</td>
<td>The force exerted during circulation of the blood against the arterial walls</td>
<td>E.</td>
</tr>
<tr>
<td>5</td>
<td>Smallest artery, leading to a capillary</td>
<td>G.</td>
</tr>
<tr>
<td>6</td>
<td>Smallest vein, leading from a capillary</td>
<td>T.</td>
</tr>
<tr>
<td>7</td>
<td>Breastbone, located in the center of the chest</td>
<td>Q.</td>
</tr>
<tr>
<td>8</td>
<td>The two major veins that carry oxygen-depleted blood back to the heart</td>
<td>R.</td>
</tr>
<tr>
<td>9</td>
<td>Depressed delivery of oxygen and nutrients to the cells resulting from inadequate circulation of blood through the capillaries</td>
<td>K.</td>
</tr>
<tr>
<td>10</td>
<td>A fatty deposit within an artery</td>
<td>O.</td>
</tr>
<tr>
<td>11</td>
<td>Force exerted against the arterial walls during relaxation of the left ventricle of the heart</td>
<td>D.</td>
</tr>
<tr>
<td>12</td>
<td>The specialized contractile and conductive tissue of the heart that generates electrical impulses and causes the heart to beat</td>
<td>H.</td>
</tr>
<tr>
<td>13</td>
<td>Major artery that starts at the left ventricle and carries oxygen-rich blood to the body</td>
<td>I.</td>
</tr>
<tr>
<td>14</td>
<td>Network of arteries supplying the heart with blood</td>
<td>M.</td>
</tr>
<tr>
<td>15</td>
<td>Medication often prescribed for patients with a history of heart problems for the relief of chest pain</td>
<td>N.</td>
</tr>
<tr>
<td>16</td>
<td>One of the two lower chambers of the heart</td>
<td>S.</td>
</tr>
<tr>
<td>17</td>
<td>Type of blood vessel that carries blood away from the heart</td>
<td>L.</td>
</tr>
<tr>
<td>18</td>
<td>Component of the blood essential to the formation of blood clots</td>
<td>P.</td>
</tr>
<tr>
<td>19</td>
<td>One of the two upper chambers of the heart</td>
<td>J.</td>
</tr>
<tr>
<td>20</td>
<td>Tiny blood vessel connecting arterioles to venules, site of gas and nutrient exchange</td>
<td>B.</td>
</tr>
</tbody>
</table>
**Nitroglycerin**

Write in the missing information on the medication flash card below, and save the completed card for future reference.

**Nitroglycerin**

**Medication Names:**
1. Generic: ____________________________
2. Trade: ____________________________

**Indications:**
1. ____________________________
2. ____________________________
3. ____________________________

**Contraindications:**
1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________
5. ____________________________

**Medication Form:** ____________________________

**Dosage:** ____________________________

**Actions:**
1. ____________________________
2. ____________________________
3. ____________________________

**Side Effects:**
1. ____________________________
2. ____________________________
3. ____________________________
**Aspirin**

Write in the missing information on the medication flash card below, and save the completed card for future reference.

**Aspirin**

**Medication Names:**

1. Generic: _______________________________________________________________________________________
2. Trade: _________________________________________________________________________________________

**Indications:**

1. _______________________________________________________________________________________________
2. _______________________________________________________________________________________________

**Contraindication:** _____________________________________________________________________________

**Medication Form:** ____________________________________________________________________________

**Dosage:** _______________________________________________________________________________________

**Action:** _______________________________________________________________________________________

**Side Effects:**

1. _______________________________________________________________________________________________
2. _______________________________________________________________________________________________
3. _______________________________________________________________________________________________
CHAPTER 17 ANSWER KEY

HANDOUT 17-1: Chapter 17 Quiz

6. D 13. C 20. A

HANDOUT 17-2: In the Field

1. Administer oxygen at 15 liters per minute via a nonrebreather mask.
2. (a) Assess the patient’s blood pressure. Systolic blood pressure must be greater than 90 mmHg.
   (b) Obtain order from medical direction either on-line or off-line.
   (c) Check the medication to ensure that it is prescribed to the patient, that it is the proper medication, and that it has not expired.
3. (a) Reassess blood pressure within 2 minutes.
   (b) Question patient about the effect of the medication on relief of pain.
   (c) Record your actions, patient’s response, and reassessment findings.

HANDOUT 17-3: Chapter 17 Review

1. cardiac arrest
2. atria
3. mitral (bicuspid)
4. chest pain
5. diagnose
6. Nitroglycerin
7. oxygen, nitroglycerin, aspirin
8. dilate
9. 15, nonrebreather
10. differ
11. platelets, thrombin, fibrin
12. diastolic
13. 3, 5, 3
14. cardiac conduction system
15. heart, blood vessels, blood
16. Cardiac arrest
17. Aortic aneurysm
18. Bachmann’s bundle
19. depolarization, repolarization
20. ventricles
21. perfusion
22. inflammatory
23. chest discomfort

HANDOUT 17-4: Cardiovascular Emergencies: Listing

1. Any seven: pain or discomfort in any of the following areas: chest, neck, jaw, arm, or back; epigastric pain; sudden onset of sweating; cool, pale skin; difficulty breathing; lightheadedness or dizziness; anxiety or irritability; feelings of impending doom; abnormal or irregular pulse rate; abnormal blood pressure; nausea and/or vomiting.

2. (1) Administer oxygen at 15 liters per minute via a nonrebreather mask.
   (2) Decrease the anxiety of the patient by providing calm reassurance and placing him in a position of comfort.
   (3) Assist the patient who has physician-prescribed nitroglycerin.
   (4) Administer aspirin, if medical direction orders it.
   (5) Consider calling for ALS backup; initiate early transport.
   (6) Apply pulse oximeter.

3. (1) The patient exhibits signs or symptoms of chest pain.
   (2) The patient has physician-prescribed nitroglycerin.
   (3) The EMT has received approval from medical direction, either on-line or off-line, to give the medication.

4. (1) The patient’s baseline blood pressure is below 90 mmHg systolic.
   (2) The patient has a suspected head injury.
   (3) The patient is an infant or a child.
   (4) Three doses have already been taken by the patient.
   (5) The patient has recently taken Viagra®.

5. Nitrostat®, Nitrobid®, Nitrolingual® Spray

HANDOUT 17-5: Cardiovascular Emergencies: Matching


HANDOUT 17-6: Nitroglycerin (completion)

Medication Names:
1. Generic: nitroglycerin
2. Trade: Nitrostat®, Nitrobid®, Nitrolingual® Spray

Indications:
1. Patient exhibits signs or symptoms of chest pain.
2. Patient has physician-prescribed nitroglycerin.
3. The EMT has received approval from medical direction, either on-line or off-line, to give the medication.
CHAPTER 18 QUIZ

Write the letter of the best answer in the space provided.

1. All of the following are structural causes of altered mental status except
   A. brain tumor. 
   B. bleeding in the brain tissue. 
   C. trauma to the brain. 
   D. hypoxia.

2. Assessment of patients with altered mental status must include all of the following except
   A. head. 
   B. pupils. 
   C. tympanic membrane. 
   D. chest.

3. Altered mental status and the inability to speak or feel sensation or move are all signs or symptoms of
   A. trauma. 
   B. neurological deficit. 
   C. embolism. 
   D. acute myocardial infarction.

4. The process of clot formation is referred to as
   A. lordosis. 
   B. thrombosis. 
   C. embolism. 
   D. hemorrhagia.

5. The most common nontraumatic brain injury is
   A. seizure. 
   B. hypoxia. 
   C. stroke. 
   D. hypothermia.

6. Paralysis that affects both lower extremities is called
   A. paraplegia. 
   B. quadriplegia. 
   C. monoplegia. 
   D. hemiplegia.

7. All of the following are signs and symptoms of a neurological deficit resulting from non-traumatic brain injury except
   A. severe headache. 
   B. paralysis. 
   C. unequal pupils. 
   D. fever.

8. Transient ischemic attack will always resolve within _____ hours.
   A. 1 
   B. 3 
   C. 10 
   D. 24

9. All of the following are types of headaches except
   A. mastoid headache. 
   B. vascular headache. 
   C. cluster headache. 
   D. tension headache.

10. All of the following are assessed for in the Cincinnati Prehospital Stroke Scale except
    A. facial droop by having patient smile or show his teeth. 
    B. abnormal speech by having the patient repeat “You can’t teach an old dog new tricks.” 
    C. testing hand strength by grasping your fingers. 
    D. arm drift by having the patient close his eyes and hold both arms out straight for 10 seconds.
Write the word or words that best complete each sentence in the space provided.

1. The term ______________________________ ______________________________ is defined as any deficiency in the functioning of the brain or nervous system.

2. Because the ______________________________ controls breathing rate and depth, it is very possible to find inadequate breathing or unusual breathing patterns in a patient who presents with signs of stroke.

3. The two structures that must be intact in order for patients to remain in a conscious state are the reticular activating system and at least one ______________________________ ______________________________.

4. Though the EMT may rule out trauma at the scene, it is important to note if the patient has suffered a ______________________________ ______________________________ within the last few weeks.

5. When collecting a SAMPLE history, it is especially important to note if the possible stroke patient complained of a ______________________________ prior to becoming unresponsive.

6. An unconscious state where the patient does not respond to painful stimuli is referred to as a ______________________________.

7. If a stroke occurs on the left side of the brain, the damage is noticeable on the ______________________________ side of the body.

8. ______________________________ headaches are thought to be caused by an initial spasm of the vessels, followed by vasodilation, and a change in the chemicals that transmit nerve impulses in the brain.

9. Your patient complains of a tight or vise-like headache. You know this to be a ______________________________ type of headache.

10. Drugs that can reverse the consequences of stroke must be administered to certain stroke patients within ______________________________ ______________________________ of the first sign or symptom.
1. List four questions that will guide your emergency care of the possible stroke patient.

2. List seven signs or symptoms of altered mental status commonly associated with nontraumatic or medical conditions.

3. List five steps in the emergency treatment of patients with altered mental status.
4. List three of the medical conditions that predispose a patient to a stroke.

5. List the four types of headaches.
CHAPTER 19 Quiz

Write the letter of the best answer in the space provided.

1. A sudden and temporary alteration in brain function caused by massive electrical discharge in a group of nerve cells in the brain is called
   A. a convulsion.  
   B. a seizure.  
   C. postictal activity.  
   D. dysrhythmias.

2. The chronic brain disorder that is characterized by recurrent seizures is called
   A. the aura.  
   B. CVA.  
   C. epilepsy.  
   D. postictal activity.

3. All of the following are common causes of seizures except
   A. shock.  
   B. hypoxia.  
   C. infection.  
   D. hypoglycemia.

4. The period following a seizure in which the patient may be unresponsive, extremely sleepy, weak, and disoriented is called the
   A. grand mal state.  
   B. postictal state.  
   C. tonic phase.  
   D. clonic phase.

5. Many patients will tell the EMT that they knew they were going to seize because of the
   A. tonic phase.  
   B. postictal state.  
   C. clonic phase.  
   D. aura.

6. The period of a seizure when the patient’s muscles become contracted and tense with arching of the back is called the
   A. tonic phase.  
   B. postictal state.  
   C. clonic phase.  
   D. aura.

7. The period of a seizure when muscles spasm and then relax, producing violent and jerky activity, is called the
   A. clonic phase.  
   B. tonic phase.  
   C. aura.  
   D. postictal state.

8. A life-threatening condition characterized by a patient’s seizing for over 10 minutes or consecutive seizures without an intermittent period of consciousness is called
   A. a grand mal seizure.  
   B. a convulsion.  
   C. status epilepticus.  
   D. epilepsy.

9. A sudden and temporary loss of consciousness is called
   A. epilepsy.  
   B. a convulsion.  
   C. syncope.  
   D. seizure.

10. The type of seizure most common in children between 6 months and 6 years old that is caused by high fever is called a(n) _____ seizure.
    A. absence (petit mal)  
    B. febrile  
    C. grand mal  
    D. complex partial

(continued)
11. A type of seizure most common in children, which is characterized by a blank stare, lasting only a few seconds, and beginning and ending abruptly, is called a(n) _____ seizure.
   A. complex partial  
   B. focal sensory  
   C. Jacksonian  
   D. absence (petit mal)

12. If a patient’s seizures last longer than 10 minutes, the EMT should begin
   A. endotracheal intubation.  
   B. CPR.  
   C. positive-pressure ventilations.  
   D. AED use.

13. All of the following are common medications used in the treatment of epilepsy except
   A. Dilantin®  
   B. Mysoline®  
   C. insulin.  
   D. phenobarbital.

14. The term for weakness on one side of the body is
   A. aphasia.  
   B. dysphasia.  
   C. hemiparesis.  
   D. hemiparalysis.

15. Usually, a postictal patient should be placed in the ____ position.
   A. Trendelenburg  
   B. Fowler  
   C. lateral recumbent  
   D. prone
Review the following real-life situation. Then answer the questions that follow.

You and your partner are dispatched to the local mall for a man having a seizure. Upon your arrival, you are greeted by a mall security guard who reports that your patient was noted walking alone through the mall when he suddenly fell to the ground and began having a “convulsion.” The guard tells you that the episode must have lasted about 6 or 7 minutes. Your patient is a male, approximately 30 years old, who is in a semi-sitting position next to a water fountain. He appears to be breathing adequately and is conscious, although a bit dazed.

1. What type of seizure did the security guard describe to you?

2. In what stage of the seizure is the patient upon your arrival? How long should this stage last?

3. What emergency care measures should you take with this patient?

4. What should you do if the patient states that this is normal for him and he doesn’t want to go to the hospital?
Write the word or words that best complete each sentence in the space provided.

1. A(n) ______________________________ is a sudden and temporary alteration in brain function caused by massive electrical discharge in a group of nerve cells in the brain.

2. A common cause of seizures is ______________________________, a chronic brain disorder characterized by recurrent seizures.

3. The ______________________________ state follows the seizure and is the recovery period for the patient.

4. Seizure activity that is related to an injury or a medical condition may be an ominous sign of ______________________________ ______________________________ or even permanent brain damage.

5. You cannot force a patient to accept transport or treatment, but you do need to ______________________________ the call.

6. If the patient is talking normally, it indicates a(n) ______________________________ airway and ______________________________ breathing.

7. A patient who suffers seizures that last more than 10 minutes or seizures that occur consecutively without a period of responsiveness between them is considered to be in ______________________________ ______________________________.

8. Perform a(n) ______________________________ ______________________________ if the patient is postictal and still has an altered mental status or if she does not have a past medical history of epilepsy or seizures.

9. The ______________________________ serves as a warning that a seizure is going to begin and involves some type of sensory perception by the patient.

10. ______________________________ is a sudden and temporary loss of consciousness.

11. The EMT should place the syncopal patient in the ______________________________ position to allow for improved blood flow to the brain.

12. ______________________________ seizures, caused by high fever, are most common in young children.

13. The EMT needs to be aware that medical conditions such as ______________________________ ______________________________ and ______________________________ may be confused with a seizure or may produce a seizure.
14. A seizing patient’s movements should be ______________________________ rather than ______________________________ in order to prevent further injury.

15. The EMT should gather a(n) ______________________________ history from the responsive seizure patient, relatives, and/or bystanders.
1. List five common causes of seizures.

2. List seven steps in the emergency medical care for a seizing patient.

3. List the stages or phases of a seizure.

4. List four steps of emergency medical care for a syncope patient.
CHAPTER 20 QUIZ

Write the letter of the best answer in the space provided.

_______ 1. Insulin can best be described as a(n)
   A. amino acid.  
   B. hormone.  
   C. blood sugar.  
   D. platelet.

_______ 2. The organ(s) responsible for the production of insulin is (are) the
   A. liver.  
   B. kidneys.  
   C. pancreas.  
   D. spleen.

_______ 3. All of the following are signs or symptoms commonly associated with a diabetic emergency except
   A. an elevated heart rate.  
   B. combativeness.  
   C. seizure activity.  
   D. hot, dry skin.

_______ 4. The simple form of sugar that is the body’s main source of energy is
   A. insulin.  
   B. glucose.  
   C. adrenalin.  
   D. diabanese.

_______ 5. Glucose is administered in the form of a
   A. tablet.  
   B. liquid for injection.  
   C. suspension.  
   D. gel.

_______ 6. Which memory aid should be used to gather a history from a patient with an altered mental status?
   A. SAMPLE  
   B. AVPU  
   C. START  
   D. DCAP-BTLS

_______ 7. The type of diabetes that requires a patient to inject insulin daily is
   A. Type I.  
   B. Type II.  
   C. “maturity-onset diabetes.”  
   D. diabetic ketoacidosis.

_______ 8. If a patient has excessive thirst, breath with a fruity odor, and warm, dry skin, you would suspect
   A. hypoglycemia.  
   B. epilepsy.  
   C. hyperglycemia.  
   D. cerebral edema.

_______ 9. All of the following are medications often taken by diabetics except
   A. Glynase®.  
   B. Humalog®.  
   C. nitroglycerin.  
   D. Orinase®.

_______ 10. For the EMT to administer oral glucose, the patient must meet all of the following criteria except
   A. an altered mental status.  
   B. a baseline blood pressure that is greater than 90 mmHg systolic.  
   C. a history of diabetes controlled by medication.  
   D. the ability to swallow.
11. Proper administration of oral glucose usually produces
   A. headache.  
   B. bradycardia. 
   C. diaphoresis. 
   D. no side effects.

12. What action does oral glucose take in the bloodstream?
   A. decreases blood sugar 
   B. increases blood sugar 
   C. decreases insulin level 
   D. increases insulin level

13. If you are in doubt as to whether the patient is suffering from an emergency related to hypoglycemia or hyperglycemia, err to benefit the patient and
   A. allow the patient to drink. 
   B. withhold liquids from the patient. 
   C. administer oral glucose. 
   D. withhold oral glucose.

14. Which of the following is a contraindication to the administration of oral glucose?
   A. history of diabetes 
   B. altered mental status 
   C. trauma 
   D. unresponsiveness

15. Patients with an altered mental status and without suspected spinal injury should be transported in what position?
   A. shock 
   B. lateral recumbent 
   C. prone 
   D. supine
IN THE FIELD

Review the following real-life situation. Then answer the questions that follow.

You and your partner are dispatched at 1015 to the Riverside Apartments on Montgomery Drive, Apartment 323, for an unconscious male. Upon your arrival, the patient’s excited wife meets you at the door. As she leads you to the kitchen, she explains that her husband, who is diabetic, has not been feeling well and stayed home from work today due to nausea and vomiting. While they were sitting at the kitchen table, he suddenly passed out and she immediately called 911. As you enter the kitchen, you see a male patient in his late 50s slumped in a kitchen chair. Your initial assessment reveals that the patient is unresponsive, bradypneic (10 breaths per minute), with a weak and rapid radial pulse and pale, cool, and clammy skin.

1. What condition do these signs and symptoms suggest?

2. In addition to a SAMPLE history, what additional questions would you ask the patient’s wife?

3. Is oral glucose indicated for this patient? Why or why not?

4. What additional emergency medical care would you provide to this patient?
Write the word or words that best complete each sentence in the space provided.

1. The body’s main source of energy is ______________________________.

2. The hormone secreted by the pancreas that is needed to promote the movement of glucose from the blood into the cells is known as ______________________________.

3. When there is a(n) ______________________________ of insulin, glucose cannot enter the cells; instead, it remains in the bloodstream, causing a high level of glucose in the blood, a condition known as ______________________________.

4. When a diabetic’s insulin level is too high, too much sugar enters the cells and not enough sugar remains in the blood, a condition called ______________________________.

5. ______________________________ ______________________________ is the medication of choice in the emergency medical care of the diabetic patient with an altered mental status.

6. Assess and document the mental status of a diabetic patient using the ______________________________ scale.

7. As an alternative to squeezing small portions of the tube of oral glucose into the patient’s mouth, the EMT could use a(n) ______________________________ ______________________________.

8. Type ______________________________ diabetes typically develops in adulthood and is controlled by diet, exercise, oral medications, and, in severe cases, with insulin.

9. ______________________________ ______________________________ is a disease characterized by an altered relationship between glucose and insulin.

10. If no mechanism of injury is apparent, you would suspect that a patient’s altered mental status is a result of a(n) ______________________________.

11. Never administer oral glucose to a patient who cannot swallow or who is ______________________________.

12. For a patient with an altered mental status, repeat the ongoing assessment every ______________________________.

13. The most common sign of hypoglycemia is a(n) ______________________________ ______________________________.
14. An altered mental status from hypoglycemia will typically have a(n) ________________ onset.

15. A patient may take as long as ________________ minutes before showing improvement from receiving oral glucose.
ACUTE DIABETIC EMERGENCIES: LISTING

1. List five medications often taken by diabetics.

2. List nine signs and symptoms associated with a diabetic emergency.

3. List the three indications for administering glucose to a diabetic patient.

4. List the four steps in the administration of glucose.
Write in the missing information on the medication flash card below and save the completed card for future reference.

### Oral Glucose

**Medication Names:**
1. Generic: ______________________________________________________________________________________
2. Trade: _______________________________________________________________________________________

**Indications:**
1. ______________________________________________________________________________________________
2. ______________________________________________________________________________________________
3. ______________________________________________________________________________________________

**Contraindications:**
1. ______________________________________________________________________________________________
2. ______________________________________________________________________________________________

**Medication Form:**
________________________________________________________________________________

**Dosage:**
___________________________________________________________________________________________

**Actions:**
1. ______________________________________________________________________________________________
2. ______________________________________________________________________________________________

**Side Effects:** _______________________________________________________________________________