Annotated Answer Key

BLS for Healthcare Providers Course
Written Examination

1. You are at your neighborhood park. You see an adult man collapse to his knees and then slump to the ground. You are the first person to reach the man, and no one has responded to your shouts for help. What is the first thing you should do?

   a. Activate the emergency response system
   b. Check for responsiveness
   c. Place the victim in the recovery position
   d. Give 2 slow mouth-to-mouth breaths

   **The correct answer is b.**

   Your first action should be to check if the victim is responsive. If the victim is an unresponsive adult, you would then call 911 or send someone to call 911. If an AED is available, you should get it, or send someone to get it, after calling 911.

   Answer a is incorrect because after you activate the emergency response system, you should return to the collapsed victim and perform CPR until the emergency response team arrives.

   Answer c is incorrect because you should not place the victim in the recovery position until you have determined that he is breathing normally and has signs of circulation. You have performed no assessment on this victim that would justify placing him in the recovery position—the victim could be in cardiac or respiratory arrest.

   Answer d is incorrect because you should not provide mouth-to-mouth breathing before you have determined that the victim is unresponsive, you or someone else has called 911, you have opened the airway, and you have checked for breathing.

   **Read more about it:**

   *BLS for Healthcare Providers, Chapter 1: Chain of Survival, pages 5-8, and Chapter 6: The Sequence of BLS, pages 65-81*


2. You are with an overweight 55-year-old man who has no known history of heart disease. He begins to complain of sudden, severe, “crushing” pain under his breastbone, in the center of his chest. The pain has lasted more than 5 minutes. What should you do?

   a. Ask him if he has heartburn; if he says he does, tell him to take an antacid
   b. Tell him to lie down while you call his personal physician and report the problem
   c. **Tell him to lie down or sit quietly; then you phone 911 (or the emergency response system) immediately**
   d. Offer to drive him to the nearest Emergency Department
The correct answer is c.

This man has no known heart disease, so you should phone 911 (or the emergency response system) immediately. If he had a history of heart disease and a prescription for nitroglycerin, you could suggest that he take up to 3 nitroglycerin tablets at intervals of 3 to 5 minutes and see if the tablets relieve the pain.

Answer a is incorrect because symptoms of a heart attack are often dismissed as heartburn. You should not delay phoning 911 or the emergency response number. The risk of arrhythmias and death is highest in patients with myocardial infarction (heart attack) during the first hour after the onset of symptoms—this is the time when the victim is most in need of EMS support.

Answer b is incorrect because a call to the victim’s personal physician will waste time and delay transport of the victim to an Emergency Department. EMS personnel will be prepared to treat sudden arrhythmias that may develop during transport, and they can provide prearrival notification to the receiving hospital to speed emergency care at the hospital.

Answer d is incorrect because EMS personnel can provide the fastest and safest transport to an Emergency Department. EMS personnel are trained and equipped to treat arrhythmias and cardiac arrest, they can provide prearrival notification to the receiving hospital to speed assessment and treatment of the patient on arrival, and they will be prepared to triage the victim to the appropriate hospital on the basis of his clinical condition.

Read more about it:

* BLS for Healthcare Providers, Chapter 3: ACS and Myocardial Infarction, pages 25-30, particularly Critical Role of Early EMS Activation, page 27
* Fundamentals of BLS for Healthcare Providers, Chapter 1: How to Recognize a Heart Attack, pages 3-6

3. A person with acute heart attack pain often delays phoning 911 (the EMS system). Which of the following statements provides the most accurate explanation for this behavior?

a. People often deny that their symptoms might be due to a heart attack
b. Symptoms of a heart attack come and go, it is best to wait for an hour to avoid a “false alarm”
c. The victim can wait and ask someone in the family to provide transportation to the hospital if the signs of heart attack persist
d. Transport to the hospital by ambulance takes longer than if the victim drives to the hospital

The correct answer is a.

Despite the fact that people with a heart attack benefit from prompt emergency care, many continue to deny their symptoms. This is probably due to a complex interplay of psychological factors. “Patient denial” occurs so frequently that it is one of the problems we must address for victims of heart attack. EMS personnel can provide the safest, most rapid transport to an appropriate medical facility, where eligible patients may receive “clotbusters” (fibrinolytic therapy), which can increase the chance of survival, particularly if given within the first hour of symptoms. Thus it is critical to reduce the time interval from the call to 911 to transport and therapy.

Answer b is incorrect because it is never prudent to wait during a heart attack. Fatal arrhythmias associated with heart attack are most likely to occur in the first hour after the onset of symptoms.
Answer c is incorrect because it suggests that it is acceptable to wait for a worsening of symptoms and for a family member to drive the person to the hospital. EMS should be immediately called. EMS personnel can provide advanced care and defibrillation if needed, can provide prearrival notification to the receiving hospital to speed advanced care when the victim arrives, and will know how to select the proper medical facility for the victim's clinical condition.

Answer d is incorrect because research has shown that transport of the victim by EMS personnel is both faster and safer than if the victim drives to the hospital or is driven by a family member.

**Read more about it:**

*BLS for Healthcare Providers, Chapter 3: ACS and Myocardial Infarction, pages 25-30, particularly page 29, Denial*

*Fundamentals of BLS for Healthcare Providers, Chapter 1: How to Recognize a Heart Attack, pages 3-6*

4. You are caring for a 68-year-old woman. She was talking normally to you earlier, but now she complains of a sudden numbness and weakness on one side of her face and “pins and needles” in her arm. You notice that one side of her face is drooping and she is unable to speak clearly. What is the most likely cause of these problems?

a. A seizure
b. A heart attack
c. Cardiac arrest
d. A stroke

The correct answer is **d**.

This scenario describes several of the classic signs of an acute stroke (numbness or weakness on one side of the body, facial droop or weakness, and difficulty speaking). Recognition of the early signs and symptoms of stroke is important because if this patient has suffered an acute ischemic stroke and receives immediate medical attention, she may be eligible for fibrinolytic therapy (“clotbusters”), which can reduce disability from stroke. The drugs must be administered within 3 hours of the onset of stroke symptoms, and evaluation and a computed tomography (CT) scan will be required to determine the patient’s eligibility for the drugs.

Answer a is incorrect because the question includes no signs or symptoms of a seizure.

Answer b is incorrect because a heart attack does not produce weakness in the arm and face with speech abnormalities.

Answer c is incorrect because a cardiac arrest produces unresponsiveness, no normal breathing, and no signs of circulation.

**Read more about it:**

*BLS for Healthcare Providers, Chapter 4: Prehospital Management of Stroke, pages 40-43*

*Fundamentals of BLS for Healthcare Providers, Chapter 1: How to Recognize a Stroke, pages 8-9*

5. You are the only person present when you remove a 3-year-old child from the bottom of the shallow end of a swimming pool. When should you phone 911?
a. After you have given the child 1 minute of CPR (whatever steps are needed)
b. As soon as you remove the child from the pool
c. When you see that after several minutes of CPR there is no response
d. After giving a few ventilations and before beginning chest compressions

The correct answer is a.

Cardiopulmonary arrest in children and victims of near-drowning of all ages is most commonly associated with lack of oxygen. The lone rescuer must begin rescue support and any other steps of CPR to deliver oxygen to the child immediately, then phone 911 after about 1 minute. Of course if someone else is available to help you, that person can phone 911 immediately.

Answer b is incorrect because calling 911 will delay getting oxygen to the child. Submersion victims who are unresponsive and not breathing normally need rescue breathing immediately (even in the water).

Answer c is incorrect because performing several minutes of CPR will delay getting emergency help, including advanced life support. If the child fails to respond to the 1 minute of CPR, advanced life support is needed immediately.

Answer d is incorrect because you should phone 911 after about 1 minute of rescue support.

Read more about it:


Fundamentals of BLS for Healthcare Providers, Chapter 4: Chain of Survival, pages 57-59, and Chapter 5: The ABCs of CPR, pages 81-83

6. An adult is the victim of a sudden, witnessed cardiac arrest. Which of the following would give this victim the best chance of survival from sudden out-of-hospital cardiac arrest?

a. Immediate CPR and defibrillation within 5 minutes
b. CPR performed by EMS personnel upon arrival at the victim’s side
c. Defibrillation in 10 minutes without CPR
d. Immediate CPR with defibrillation in 10 minutes

The correct answer is a.

Early defibrillation has the greatest effect on survival, but the combination of immediate CPR and prompt defibrillation provides the best possibility of survival. CPR will keep oxygen-rich blood flowing to the heart and brain until the defibrillator is used to convert the cardiac rhythm to a perfusing rhythm. Both are important to maximize the victim’s chance of survival.

Answer b is incorrect because if bystander CPR is not provided immediately—before the arrival of EMS personnel—the victim’s chance of survival is greatly reduced. CPR at any interval to defibrillation improves survival.

Answer c is incorrect because if defibrillation is not provided for 10 minutes, the victim’s chance of survival is lower. Although CPR improves survival at any interval to defibrillation, the best chance for survival occurs if bystander CPR is performed immediately and defibrillation is provided fast. The recommended goal is defibrillation less than 5 minutes after the victim’s collapse outside the hospital setting or within 3 minutes of collapse in-hospital.
Answer d is incorrect because defibrillation must occur sooner than 10 minutes after collapse for the patient to have a good chance of survival (see answer c explanation). The victim’s best chance of survival occurs with the combination of immediate CPR and early defibrillation.

Read more about it:

BLS for Healthcare Providers, Chapter 1: AHA Adult Chain of Survival, pages 5-8, and Chapter 7: Principle of Early Defibrillation, pages 92-93

Fundamentals of BLS for Healthcare Providers, Chapter 1: AHA Adult Chain of Survival, pages 1-6, and Chapter 3: Link Between Early Defibrillation and Survival From Cardiac Arrest, page 38

7. During your first attempt at rescue breathing for a child who is unresponsive and not breathing normally, you find that you cannot get air into the victim’s lungs. What is the most common cause of this problem?

a. The child has an advanced lung infection  
b. You probably did not open the airway properly  
c. The child has a serious airway spasm  
d. The child has severe narrowing of the airway due to asthma

The correct answer is b.

The most common cause of airway obstruction in an unconscious person is the tongue. Whenever you cannot ventilate a victim during attempted resuscitation, reposition the head and reopen the airway before you try to relieve the obstruction by doing abdominal thrusts.

Answer a is incorrect because although a child can develop a severe lung infection, such an infection does not cause a blocked upper airway.

Answer c is incorrect because while a severe airway spasm is possible, it is not the most likely cause of an obstructed airway.

Answer d is incorrect because asthma affects the lungs, not the upper airway, and even in severe asthma you should be able to ventilate the child as long as you have properly opened the airway.

Read more about it:

BLS for Healthcare Providers, Chapter 9: Airway, pages 146-147

Fundamentals of BLS for Healthcare Providers, Chapter 5: The Steps of CPR for Infants and Children, pages 82-87

8. You are responding to an emergency call to the room of a 68-year-old man who is lying in bed, unresponsive, with no evidence of trauma. What is the best way to open this victim’s airway?

a. Perform the head tilt–chin lift  
b. Give abdominal thrusts and then sweep out the mouth  
c. Use a mask while performing ventilations for the victim  
d. Grab and lift the chin

The correct answer is a.
One of the most important actions for successful resuscitation is to immediately open the airway. The tongue is the most common cause of airway obstruction in an unresponsive victim, and the head tilt–chin lift will lift the tongue away from the back of the throat, opening the airway. If trauma is suspected, you should use a jaw thrust to open the airway. Because there is no evidence of trauma in this victim, the jaw-thrust technique is not needed.

Answer b includes parts of the sequence for relief of foreign-body airway obstruction. There is no evidence that this victim has a foreign-body airway obstruction.

Answer c is incorrect because a mask is not used when opening the airway to assess breathing (although it may be used when providing rescue breaths). You should open the airway first and determine if breathing is normal.

Answer d is incorrect because it is not the recommended technique for opening the airway of an unresponsive person with no evidence of trauma.

Read more about it:

BLS for Healthcare Providers, Chapter 6: Opening the Airway, pages 67-68

Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, pages 18-23, particularly the FYI box, page 19

9. You must check for normal breathing before giving rescue breaths to an unresponsive victim. You do this by listening and feeling for airflow through the victim’s nose or mouth. In addition, what other sign should you assess?

a. Look into the victim’s mouth to see if anything is blocking the airway
b. Gently shake the victim’s shoulders
c. Check the pupils and look for a constrictive response to light
d. **Look to see if the chest rises and falls as the victim breathes**

The correct answer is d.

Look to see if the victim’s chest rises as he or she inhales. This, along with listening and feeling for airflow through the victim’s nose or mouth, is the most effective way to check for normal breathing in a collapsed victim.

Answer a is incorrect because you do not look into the victim’s mouth unless you suspect that the airway is obstructed or something in the mouth may be blocking the airway.

Answer b is incorrect because you have already checked for responsiveness—the victim has been described as unresponsive.

Answer c is incorrect because checking the reaction of the victim’s pupils to light will not tell you whether the victim is breathing adequately.

Read more about it:

BLS for Healthcare Providers, Chapter 6: Breathing, Assessment, page 68

10. You are providing rescue breaths with a bag and mask during 2-rescuer CPR. Why is it important to deliver the breaths slowly?

   a. Slow ventilations give more time for oxygen to be in contact with the blood in the lungs
   b. The rescuer does not become tired
   c. **Slow ventilations reduce the risk of gastric inflation**
   d. Slow delivery of ventilations delivers less volume at a higher pressure

   **The correct answer is c.**

   Rapid ventilations force air into the stomach instead of the lungs, causing gastric inflation, possible vomiting, aspiration, and difficulty with ventilations.

   Answer a is incorrect because oxygen can move from the lungs to the blood in a fraction of a second.

   Answer b may be true, but it is not the major reason for the delivery of slow breaths during CPR. What the text stresses is slow ventilations to reduce the risk of gastric inflation.

   Answer d is incorrect because slow delivery of breaths allows you to deliver more volume at lower pressures.

   **Read more about it:**

   *BLS for Healthcare Providers, Chapter 6: Provide Rescue Breathing, pages 69-74, particularly 69-70*


11. Which of the following statements best describes the ventilation volume that you should provide during rescue breathing for a child?

   a. Ventilation volume for a child should be exactly half the volume that you give an adult
   b. Ventilation volume for a child should be twice the volume that you give a 3-year-old
   c. **Ventilation volume should be enough to cause the child’s chest to rise**
   d. You should calculate the ventilation volume based on the weight of the child and deliver precisely that volume during mouth-to-mouth, mouth-to-mask, or bag-mask ventilation

   **The correct answer is c.**

   If the victim’s chest does not rise during rescue breathing, ventilation is not effective. Note that during rescue breathing it is impossible to quantify tidal volume.

   Answers a and b are incorrect because it is impossible to quantify the volume of air delivered with either mouth-to-mask or bag-mask ventilation. Thus it is also impossible to compare ventilation volumes between patients. The amount of air you should deliver is the amount of air that makes the patient’s chest rise.

   Answer d is incorrect because you should deliver the volume of air that makes the victim’s chest rise (even if that volume is greater than the projected tidal volume for the victim’s weight).
12. A responsive 6-year-old child is struggling to breathe and cannot talk, cough, or move air. She is turning cyanotic, and she is clutching her throat with her hands. Her mother says, “I think she is choking on a button.” You ask the child if she is choking, and she nods yes. You ask if she can speak, and she shakes her head no. What should you do next?

a. Give the child 5 back blows, then 5 chest thrusts  
b. Attempt a blind finger sweep of the child’s mouth  
c. Administer 100% oxygen and monitor the child closely  
d. Give the child abdominal thrusts until the button is removed or the child becomes unresponsive

The correct answer is d.

This child clearly has signs of severe or complete foreign-body airway obstruction. You should give repeated abdominal thrusts until the object is removed or the child becomes unresponsive. If the child is unresponsive, perform the rescue sequence for an unresponsive choking victim.

Answer a is incorrect. This is the procedure for relief of severe or complete foreign-body airway obstruction in infants under 1 year of age; it is not correct for children or adults with foreign-body airway obstruction.

Answer b is incorrect because you should never perform blind finger sweeps in infants or children—you may push the object further back into the throat.

Answer c is incorrect because giving oxygen and monitoring the child will do nothing to clear her airway of the obstruction.

Read more about it:

BLS for Healthcare Providers, Chapter 9: Relief of Foreign-Body Airway Obstruction, pages 160-163, particularly the Critical Concepts box on page 161

Fundamentals of BLS for Healthcare Providers, Chapter 5: Foreign-Body Airway Obstruction, pages 91-95, particularly page 93

13. You are providing rescue breathing for an unresponsive, nonbreathing child who has signs of circulation. How often should you provide rescue breaths for this child?

a. Once every 3 seconds (20 breaths per minute)  
b. Once every 4 seconds (15 breaths per minute)  
c. Once every 5 seconds (12 breaths per minute)  
d. Once every 10 seconds (6 breaths per minute)

The correct answer is a.
Rescue breaths in infants or children should be delivered over about 1½ to 2 seconds. Adequate time should be provided between breaths to allow for exhalation.

Answer b is incorrect because a rescue breathing rate of 15 times per minute (once every 4 seconds) is too slow for an infant or child.

Answer c is incorrect because this rescue breathing rate is appropriate for adults but too slow for infants or children.

Answer d is incorrect because this breathing rate is too slow for the victim of any age.

Read more about it:


14. A 7-year-old child is pulled from the water after witnesses saw her sink below the surface (no trauma). You find that she is unresponsive. You send someone to phone 911 for help. What should you do next?

a. Perform abdominal thrusts to drain water from the lungs
b. Give 5 back blows; then do a finger sweep of the mouth
c. Find the proper hand position and begin chest compressions with the heel of one hand
d. Open the airway with the head tilt–chin lift maneuver and look-listen-feel for normal breathing; if there is no normal breathing, give 2 rescue breaths

The correct answer is d.

Because a second rescuer is present, it is not necessary for you to choose between early EMS activation and starting CPR (you sent the second rescuer to phone 911). After you assess for unresponsiveness, the proper sequence is to open the airway, check for normal breathing, then give 2 rescue breaths. If the submersion was not witnessed, you would open the airway with a jaw thrust and prevent movement of the head and neck because you should treat every patient with unwitnessed submersion as though trauma is present.

Answer a is incorrect because this child needs rescue breathing to restore oxygen as soon as possible. There is no evidence that the routine use of abdominal thrusts is necessary after submersion. It delays initiation of rescue breathing and may cause complications.

Answer b is incorrect because this child does not have an obstructed airway. Back blows are performed only on infants.

Answer c is incorrect because you should not begin chest compressions without first opening the airway, assessing and supporting breathing (if needed), and checking for signs of circulation.

Read more about it:

BLS for Healthcare Providers, Chapter 9: Resuscitation Sequence, pages 143-160, and BLS for the Submersion Victim, pages 164-165
15. **Which of the following statements best describes the benefit of rescue breathing?**

   a. Rescue breathing will help overcome any airway obstruction that may be blocking the airway
   b. Rescue breathing will maintain completely normal oxygenation for the victim
   c. Rescue breathing might defibrillate the heart
   d. **Rescue breathing is an effective way to provide oxygen to the victim**

   **The correct answer is d.**

   The rescuer’s exhaled air contains enough oxygen to support the victim, at least for a short time. Each rescue breath must be sufficient to inflate the victim’s lungs adequately.

   Answer a is incorrect because there is no evidence that giving mouth-to-mouth breaths will clear an airway obstruction. Recent evidence presented in *ECC Guidelines 2000* suggests that chest compressions may help clear an airway obstruction in an unresponsive victim, but there is no evidence that rescue breathing alone will clear an airway obstruction.

   Answer b is incorrect because rescue breathing will maintain only an acceptable level of oxygen; it will not maintain normal oxygenation for the victim.

   Answer c is incorrect because there is no evidence that rescue breathing will defibrillate the heart.

   **Read more about it:**

   *BLS for Healthcare Providers, Chapter 6: Breathing, pages 68-74, particularly Mouth-to-Mouth Breathing, page 69*

   *Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, pages 18-23, particularly the Foundation Facts box on page 21*

16. **Which of the following most accurately represents the chest location where you should perform compressions on an adult victim of cardiac arrest?**

   a. Just below the neck on the top half of the breastbone
   b. On the left side of the chest, over the left nipple
   c. **On the lower half of the breastbone, at the nipple line in the center of the chest**
   d. On the very bottom of the breastbone, over the xiphoid

   **The correct answer is c.**

   *ECC Guidelines 2000* states that the lower half of the breastbone is the appropriate place for your hands when you perform chest compressions on an adult. The same correct hand position can also be located by finding the middle of the chest, between the nipples.

   Answer a is incorrect because you should not compress over the top half of the breastbone; the correct position is over the bottom half of the breastbone.

   Answer b is incorrect because if you compress over the ribs, you are likely to cause injuries and not produce forceful compressions.
Answer d is incorrect because you should avoid the xiphoid (the very bottom of the breastbone) because this structure is not as strong as the sternum.

**Read more about it:**

*BLS for Healthcare Providers, Chapter 6: Chest Compressions, pages 77-80, particularly pages 78-79, Figures 16 and 17*

*Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, No. 4, Circulation, pages 21-23, particularly Figure 8*

17. What is the ratio of chest compressions to ventilations for an adult in cardiac arrest?

   a. 15 to 2
   b. 12 to 4
   c. 5 to 1
   d. 3 to 1

   **The correct answer is a.**

   The ratio of 15 compressions to 2 ventilations is maintained whether 1- or 2-rescuer CPR is performed during basic life support.

   Answer b is incorrect because a ratio of 12 to 4 is not advocated for a victim of any age.

   Answer c is incorrect because the ratio of 5 compressions to 1 ventilation is recommended for pediatric (infant and child) CPR, not adult CPR.

   Answer d is incorrect because a ratio of 3 to 1 is advocated for only newly born infants (immediately after birth).

   **Read more about it:**

   *BLS for Healthcare Providers, Chapter 6: Chest Compressions, pages 77-80, particularly page 77, bottom right column*

   *Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, No. 4, Circulation, pages 21-23, particularly page 22*

18. Which of the following is the **rate** of compressions during adult CPR?

   a. A rate of 80 to 100 times per minute
   b. **A rate of about 100 times per minute**
   c. A rate no faster than 60 times per minute
   d. A rate of at least 120 times per minute

   **The correct answer is b.**

   Note that this question does not ask how many actual compressions are provided in 1 minute but rather what is the rate of the compressions that are given. A rate of about 100 compressions per minute is recommended in *ECC Guidelines 2000.*
Answer a is incorrect because the rate of 80 to 100 times per minute is too slow; with pauses for ventilation, too few compressions will be delivered for the adult. Note that the rate of 80 to 100 compressions per minute was recommended in previous guidelines published before 2000, but research has shown that survival following resuscitation is increased if the adult victim receives more chest compressions per minute. As a result, the recommended compression rate for adult victims was increased in *ECC Guidelines 2000* to about 100 times per minute.

Answer c is incorrect because a compression rate of 60 times per minute is too slow. With pauses for ventilation, the actual number of compressions delivered will be too few for victims of any age.

Answer d is incorrect because the rate is too fast. This rate exceeds the recommended compression rate for infants, children, and adults.

*Read more about it:*

*BLS for Healthcare Providers, Chapter 6: Chest Compressions, pages 77-80, particularly page 77, top right column*

*Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, No. 4, Circulation, pages 21-23; see FYI box on page 23*

19. **How fast should your chest compressions be during infant CPR?**

   a. 70 to 80 times per minute  
   b. 80 to 100 times per minute  
   c. As fast as possible  
   d. At least 100 times per minute

**The correct answer is d.**

During infant CPR you should have a rapid compression rate of at least 100 compressions per minute. Since compressions must be coordinated with ventilations in a ratio of 5 to 1, there will be a pause after every fifth compression for ventilation. Therefore, fewer than 100 compressions will actually be delivered every minute.

Answers a and b are incorrect because these compression rates are much too slow for any age. The compression rate of 80 to 100 per minute had been recommended for adult victims before publication of *ECC Guidelines 2000*, but now this rate is considered too slow.

Answer c is incorrect because if you attempt to compress as fast as you possibly can, it is likely that you will not compress effectively, and it will be difficult to deliver rescue breaths between compressions.

*Read more about it:*

*BLS for Healthcare Providers, Chapter 9: Chest Compressions, pages 155-158, particularly pages 156-157*

*Fundamentals of BLS for Healthcare Providers, Chapter 5: The Steps of CPR for Infants and Children, pages 82-87, particularly pages 85-86*
20. Where should you check for a pulse on a child?

a. At the brachial artery of the arm  
b. At the carotid artery of the neck  
c. At the radial artery of the wrist  
d. Feel for a pulse directly over the heart on the chest

The correct answer is b.

Pulse checks are performed at the carotid artery of the neck for children 1 to 8 years of age and for adults. The carotid artery is a central pulse and the most readily accessible, so it should be easily palpated if the child has a perfusing rhythm.

Answer a is incorrect because the brachial artery is the proper site for a pulse check for an infant younger than 1 year, not for a child.

Answer c is incorrect because the radial artery is a peripheral artery and is not the recommended site for attempting to palpate a central pulse.

Answer d is incorrect because you may not feel cardiac activity by this method even when there is normal circulation. This is not a reliable technique to determine if there is a perfusing cardiac rhythm.

Read more about it:

BLS for Healthcare Providers, Chapter 9: Assessment: Check for Signs of Circulation, page 154

Fundamentals of BLS for Healthcare Providers, Chapter 5: The Steps of CPR for Infants and Children, pages 82-87, particularly Figure 8, page 86

21. You are performing CPR on an adult. Your colleague has activated the emergency response system and brought the AED to you. You opened the man’s airway, checked for breathing, and discovered that he had agonal respirations. You gave 2 successful breaths using a pocket mask. You checked for signs of circulation, including a pulse, and found none. What is the most appropriate next step?

a. Attach the AED and determine if a shock is indicated  
b. Begin chest compressions and ask your colleague to perform rescue breathing with oxygen  
c. Recheck for signs of circulation  
d. Reposition the airway; look, listen, and feel for breathing; and deliver rescue breaths with oxygen

The correct answer is a.

Once you determine that the victim has no signs of circulation and is in cardiac arrest, use the AED. You should determine if the victim has a shockable rhythm and provide defibrillation as soon as possible. You should perform cycles of compressions and ventilations until your colleague returns with the AED.

Answer b is incorrect because it is inappropriate to continue chest compressions and ventilations when an AED is available—you should provide defibrillation as soon as possible.

Answer c is incorrect because you should not double-check signs of circulation—trust your assessment and proceed—do not delay defibrillation!
Answer **d** is incorrect because this is the procedure to follow if your initial attempts at rescue breathing are not successful. These steps do not follow the pulse check, however. Again, there is no point in repeating steps already accomplished—do not delay defibrillation!

**Read more about it:**

*BLS for Healthcare Providers, Chapter 1: AHA Adult Chain of Survival, pages 5-8, and Chapter 7: Principle of Early Defibrillation, pages 92-93, and Two-Rescuer AED Sequence of Action, pages 102-104*

*Fundamentals of BLS for Healthcare Providers, Chapter 1: AHA Adult Chain of Survival, pages 1-4, Chapter 3: Link Between Early Defibrillation and Survival From Cardiac Arrest, page 38, and Sequence of Action for Use of an AED by 2 Rescuers, pages 44-47, particularly No. 5, page 45*

22. You and a second rescuer are performing 2-rescuer CPR on an adult victim of cardiac arrest. You are performing chest compressions while your partner provides rescue breathing. When should your partner check for signs of circulation again?

a. After 4 cycles of 15 compressions and 2 ventilations and every few minutes thereafter  
b. After 5 minutes of CPR, then every 5 minutes thereafter  
c. Do not check again until EMS personnel arrive to assess the victim  
d. Do not check again until the patient begins to breathe

**The correct answer is a.**

The victim should be reassessed after approximately the first minute of CPR (4 cycles of CPR take about 1 minute) and then every few minutes after that. If spontaneous circulation returns, it is likely to occur early during CPR, so you should check for a response.

Answer **b** is incorrect because 5 minutes is too long to wait to reassess the victim.

Answer **c** is incorrect because you should perform periodic reassessments and should not wait until EMS personnel arrive.

Answer **d** is incorrect because the victim may not be breathing but a pulse may return. Thus a recheck of signs of circulation (including a pulse) is necessary even if you see that the victim is still not breathing.

**Read more about it:**

*BLS for Healthcare Providers, Chapter 6: Circulation, Assessment, pages 75-77, and 1- and 2-Rescuer CPR, pages 80-81, particularly Monitoring the Victim, page 81, right column*

*Fundamentals of BLS for Healthcare Providers, Chapter 2: The Steps of CPR, pages 18-23, particularly No. 5, page 23, and CPR Performed by 2 Rescuers, page 24*

23. You are performing CPR for an adult victim. You recheck for signs of circulation after 1 minute. You find signs of circulation, but the victim is not breathing normally. What should you do next?

a. Continue chest compressions  
b. Check signs of circulation again  
c. **Begin rescue breathing**  
d. Place the victim in the recovery position
The correct answer is c.

After finding that there are signs of circulation, the next thing you should do is check to see if the victim is breathing normally. If not, begin rescue breathing at a rate of 1 breath every 5 seconds.

Answer a is incorrect because you should perform chest compressions only if there are no signs of circulation.

Answer b is incorrect because double-checking the pulse is unnecessary.

Answer d is incorrect because you should place the victim in the recovery position only if the victim has signs of circulation and normal breathing.

Read more about it:

BLS for Healthcare Providers, Chapter 6: Circulation, Assessment, pages 75-77, and 1-Rescuer CPR, pages 80-81, particularly page 81, left column, No. 6


24. Which of the following is the best benefit of immediate bystander CPR?

a. Immediate CPR decreases the need for coronary artery bypass and improves survival
b. Immediate CPR forces the heart in ventricular fibrillation to return to a normal rhythm
c. If defibrillation is performed within 6 to 10 minutes, bystander CPR does not improve survival
d. Immediate CPR provides a flow of oxygen-rich blood to the heart and brain, “buying time” until defibrillation and improving the victim’s chance of survival

The correct answer is d.

CPR does not maintain normal cardiac output, but it does support delivery of oxygen to the heart and brain until defibrillation and advanced care can restore normal heart action. Thus it “buys time.” Victims of cardiac arrest who receive bystander CPR are twice as likely to survive as those who do not receive bystander CPR.

Answer a is incorrect because there is no relation between the performance of CPR and the likelihood that a victim will require coronary bypass surgery.

Answer b is incorrect because CPR cannot convert ventricular fibrillation into a perfusing rhythm—only a defibrillator can do that.

Answer c is incorrect because CPR increases the victim’s chance of survival at any given collapse-to-defibrillation interval.

Read more about it:

BLS for Healthcare Providers, Chapter 6: Chest Compressions, pages 77-78, and Chapter 7: Principle of Early Defibrillation, pages 92-93

25. Which statement about injuries in infants and children is true?

   a. Most fatal injuries are not preventable
   b. Injuries are the chief cause of death in children and young adults
   c. Bicycle helmets will not prevent death from head injuries
   d. School fires are the leading cause of fatal childhood injuries

The correct answer is b.

The leading cause of death in children and young adults through the age of 44 years is injury. Many causes of fatal injury are preventable.

Answer a is incorrect because approximately half of all fatal injuries are thought to be preventable with relatively simple strategies.

Answer c is incorrect because bicycle helmets, worn properly, could reduce the severity of serious bicycle-related head injuries by about 85%.

Answer d is incorrect because fire-related childhood deaths are not the leading cause of death, and most fire-related deaths occur in the home, not at school.

Read more about it:


Fundamentals of BLS for Healthcare Providers, Chapter 4: Prevention of SIDS, Injury, and Arrest, pages 61-68, particularly page 62