

American Heart Association

Advanced Cardiovascular Life Support

Written Precourse Self-Assessment

**October
2006**

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**ACLS Provider Course
Written Precourse Self-Assessment Answer Sheet**

Name



Date

Circle the correct answers.

Question	Answer				Question	Answer			
1.	a	b	c	d	16.	a	b	c	d
2.	a	b	c	d	17.	a	b	c	d
3.	a	b	c	d	18.	a	b	c	d
4.	a	b	c	d	19.	a	b	c	d
5.	a	b	c	d	20.	a	b	c	d
6.	a	b	c	d	21.	a	b	c	d
7.	a	b	c	d	22.	a	b	c	d
8.	a	b	c	d	23.	a	b	c	d
9.	a	b	c	d	24.	a	b	c	d
10.	a	b	c	d	25.	a	b	c	d
11.	a	b	c	d	26.	a	b	c	d
12.	a	b	c	d	27.	a	b	c	d
13.	a	b	c	d	28.	a	b	c	d
14.	a	b	c	d	29.	a	b	c	d
15.	a	b	c	d	30.	a	b	c	d

Please fill in the correct rhythm for questions 31 – 40.

- | | |
|-----|-----|
| 31. | 36. |
| 32. | 37. |
| 33. | 38. |
| 34. | 39. |
| 35. | 40. |

ACLS Written 2006 Precourse Self-Assessment

1. **Ten minutes after an 85-year-old woman collapses, paramedics arrive and start CPR for the first time. The monitor shows fine (low-amplitude) VF. Which of the following actions should they take next?**
 - a. Perform at least 5 minutes of vigorous CPR before attempting defibrillation
 - b. Insert an endotracheal tube, administer 2 to 2.5 mg epinephrine in 10 mL NS through the tube and then defibrillate
 - c. Deliver up to 3 precordial thumps while observing the patient's response on the monitor
 - d. Deliver about 2 minutes or 5 cycles of CPR, and deliver a 360-J monophasic or equivalent-current biphasic shock

2. **A cardiac arrest patient arrives in the ED with PEA at 30 bpm. CPR continues, proper tube placement is confirmed, and IV access is established. Which of the following medications is most appropriate to give next?**
 - a. Calcium chloride 5 mL of 10% solution IV
 - b. Epinephrine 1 mg IV
 - c. Synchronized cardioversion at 200 J
 - d. Sodium bicarbonate 1 mEq/kg IV

3. **Which of the following actions helps deliver maximum current during defibrillation?**
 - a. Place alcohol pads between the paddles and skin
 - b. Reduce the pressure used to push down on the defibrillator paddles
 - c. Apply conductive paste to the paddles
 - d. Decrease shock energy after the 2nd shock

4. **Which of the following actions is NOT performed when you “clear” a patient just before defibrillator discharge?**
 - a. Check the person managing the airway: body not touching bag mask or tracheal tube, oxygen not flowing directly onto chest
 - b. Check yourself: hands correctly placed on paddles, body not touching patient or bed
 - c. Check monitor leads: leads disconnected to prevent shock damage to monitor
 - d. Check others: no one touching patient, bed, or equipment connected to patient

5. **A woman with a history of narrow-complex PSVT arrives in the ED. She is alert and oriented but pale. HR is 165 bpm, and the ECG documents SVT. BP is 105/70 mm Hg. Supplemental oxygen is provided, and IV access has been established. Which of the following drug-dose combinations is the most appropriate initial treatment?**
 - a. Adenosine 6 mg rapid IV push
 - b. Epinephrine 1 mg IV push
 - c. Synchronized cardioversion with 25 to 50 J
 - d. Atropine 1 mg IV push

6. **Which of the following facts about identification of VF is true?**
 - a. A peripheral pulse that is both weak and irregular indicates VF
 - b. A sudden drop in blood pressure indicates VF
 - c. Artifact signals displayed on the monitor can look like VF
 - d. Turning the signal amplitude (“gain”) to zero can enhance the VF signal

7. **Endotracheal intubation has just been attempted for a patient in respiratory arrest. During bag-mask ventilation you hear stomach gurgling over the epigastrium but no breath sounds, and oxygen saturation (per pulse oximetry) stays very low. Which of the following is the most likely explanation for these findings?**
 - a. Intubation of the esophagus
 - b. Intubation of the left main bronchus
 - c. Intubation of the right main bronchus
 - d. Bilateral tension pneumothorax

8. **Which of these statements about IV administration of medications during attempted resuscitation is true?**
 - a. Give epinephrine via the intracardiac route if IV access is not obtained within 3 minutes
 - b. Follow IV medications through *peripheral* veins with a fluid bolus
 - c. Do not follow IV medications through *central* veins with a fluid bolus
 - d. Run normal saline mixed with sodium bicarbonate (100 mEq/L) during continuing CPR

9. **A 60-year-old man (weight = 50 kg) with recurrent VF has converted from VF again to a wide-complex nonperfusing rhythm after administration of epinephrine 1 mg IV and a 3rd shock. Which of the following drug regimens is most appropriate to give next?**
 - a. Amiodarone 300 mg IV push
 - b. Lidocaine 150 mg IV push
 - c. Magnesium 3 g IV push, diluted in 10 mL of D₅W
 - d. Procainamide 20 mg/min, up to a maximum dose of 17 mg/kg

10. **While treating a patient in persistent VF arrest after 2 shocks, you consider using vasopressin. Which of the following guidelines for use of vasopressin is true?**
 - a. Give vasopressin 40 U every 3 to 5 minutes
 - b. Give vasopressin for better vasoconstriction and β -adrenergic stimulation than that provided by epinephrine
 - c. Give vasopressin as an alternative to a first or second dose of epinephrine in shock-refractory VF
 - d. Give vasopressin as the first-line pressor agent for clinical shock caused by hypovolemia

11. **Which of the following causes of PEA is most likely to respond to immediate treatment?**
 - a. Massive pulmonary embolism
 - b. Hypovolemia
 - c. Massive acute myocardial infarction
 - d. Myocardial rupture

12. **Which of the following drug-dose combinations is recommended as the initial medication to give a patient in asystole?**
 - a. Epinephrine 3 mg IV
 - b. Atropine 3 mg IV
 - c. Epinephrine 1 mg IV
 - d. Atropine 0.5 mg IV

13. **A patient with a heart rate of 40 bpm is complaining of chest pain and is confused. After oxygen, what is the first drug you should administer to this patient while a transcutaneous pacer is brought to the room?**
 - a. Atropine 0.5 mg
 - b. Epinephrine 1 mg IV push
 - c. Isoproterenol infusion 2 to 10 μ g/min
 - d. Adenosine 6 mg rapid IV push

14. **Which of the following statements correctly describes the ventilations that should be provided after endotracheal tube insertion, cuff inflation, and verification of tube position?**
 - a. Deliver 8 to 10 ventilations per minute with no pauses for chest compressions
 - b. Deliver ventilations as rapidly as possible as long as visible chest rise occurs with each breath
 - c. Deliver ventilations with a tidal volume of 3 to 5 mL/kg
 - d. Deliver ventilations using room air until COPD is ruled out

15. A patient in the ED reports 30 minutes of severe, crushing, substernal chest pain. BP is 110/70 mm Hg, HR is 58 bpm, and the monitor shows regular sinus bradycardia. The patient has received aspirin 325 mg PO, oxygen 4 L/min via nasal cannula, and 3 sublingual nitroglycerin tablets 5 minutes apart, but he continues to have severe pain. Which of the following agents should be given next?
- Atropine 0.5 to 1 mg IV
 - Furosemide 20 to 40 mg IV
 - Lidocaine 1 to 1.5 mg/kg
 - Morphine sulfate 2 to 4 mg IV
16. Which of the following agents are used frequently in the early management of acute cardiac ischemia?
- Lidocaine bolus followed by a continuous infusion of lidocaine
 - Chewable aspirin, sublingual nitroglycerin, and IV morphine
 - Bolus of amiodarone followed by an oral ACE inhibitor
 - Calcium channel blocker plus IV furosemide
17. A 50-year-old man who is profusely diaphoretic and hypertensive complains of crushing substernal chest pain and severe shortness of breath. He has a history of hypertension. He chewed 2 baby aspirins at home and is now receiving oxygen. Which of the following treatment sequences is most appropriate at this time?
- Morphine then nitroglycerin, but only if morphine fails to relieve the pain
 - Nitroglycerin then morphine, but only if ST elevation is >3 mm
 - Nitroglycerin then morphine, but only if nitroglycerin fails to relieve the pain
 - Nitroglycerin only, because chronic hypertension contraindicates morphine
18. A 50-year-old man has a 3-mm ST elevation in leads V₂ to V₄. Severe chest pain continues despite administration of oxygen, aspirin, nitroglycerin SL × 3, and morphine 4 mg IV. BP is 170/110 mm Hg; HR is 120 bpm. Which of the following treatment combinations is most appropriate for this patient at this time (assume no contraindications to any medication)?
- Calcium channel blocker IV + heparin bolus IV
 - ACE inhibitor IV + lidocaine infusion
 - Magnesium sulfate IV + enoxaparin (Lovenox) SQ
 - Fibrinolytic + heparin bolus IV
19. A 70-year-old woman complains of a moderate headache and trouble walking. She has a facial droop, slurred speech, and difficulty raising her right arm. She takes “several medications” for high blood pressure. Which of the following actions is most appropriate to take at this time?
- Activate the emergency response system; tell the dispatcher you need assistance for a woman who is displaying signs and symptoms of an acute subarachnoid hemorrhage
 - Activate the emergency response system; tell the dispatcher you need assistance for a woman who is displaying signs and symptoms of a stroke
 - Activate the emergency response system; have the woman take aspirin 325 mg and then have her lie down while both of you await the arrival of emergency personnel
 - Drive the woman to the nearby ED in your car
20. Within 45 minutes of her arrival in the ED, which of the following evaluation sequences should be performed for a 70-year-old woman with rapid onset of headache, garbled speech, and weakness of the right arm and leg?
- History, physical and neurologic exams, *noncontrast* head CT with radiologist interpretation
 - History, physical and neurologic exams, *noncontrast* head CT, start of fibrinolytic treatment if CT scan is positive for stroke
 - History, physical and neurologic exams, lumbar puncture (LP), *contrast* head CT if LP is negative for blood
 - History, physical and neurologic exams, *contrast* head CT, start fibrinolytic treatment when improvement in neurologic signs is noted

21. Which of the following rhythms is a proper indication for transcutaneous cardiac pacing?
- Sinus bradycardia with no symptoms
 - Normal sinus rhythm with hypotension and shock
 - Complete heart block with pulmonary edema
 - Asystole that follows 6 or more defibrillation shocks
22. Which of the following causes of out-of-hospital asystole is **most** likely to respond to treatment?
- Prolonged cardiac arrest
 - Prolonged submersion in warm water
 - Drug overdose
 - Blunt multisystem trauma
23. A 34-year-old woman with a history of mitral valve prolapse presents to the ED complaining of palpitations. Her vital signs are as follows: HR = 165 bpm, resp = 14 per minute, BP = 118/92 mm Hg, and O₂ sat = 98%. Her lungs sound clear, and she reports no shortness of breath or dyspnea on exertion. The ECG and monitor display a narrow-complex, regular tachycardia. Which of the following terms **best** describes her condition?
- Stable tachycardia
 - Unstable tachycardia
 - Heart rate appropriate for clinical condition
 - Tachycardia secondary to poor cardiovascular function
24. A 75-year-old man presents to the ED with a 1-week history of lightheadedness, palpitations, and mild exercise intolerance. The initial 12-lead ECG displays atrial fibrillation, which continues to show on the monitor at an irregular HR of 120 to 150 bpm and a BP of 100/70 mm Hg. Which of the following therapies is the most appropriate **next** intervention?
- Sedation, analgesia, then immediate cardioversion
 - Lidocaine 1 to 1.5mg/kg IV bolus
 - Amiodarone 300 mg IV bolus
 - Seek expert consultation
25. You prepare to cardiovert an unstable 48-year-old woman with tachycardia. The monitor/defibrillator is in “synchronization” mode. The patient suddenly becomes unresponsive and pulseless as the rhythm changes to an irregular, chaotic, VF-like pattern. You charge to 200 J and press the SHOCK button, but the defibrillator fails to deliver a shock. Why?
- The defibrillator/monitor battery failed
 - The “sync” switch failed
 - You cannot shock VF in “sync” mode
 - A monitor lead has lost contact, producing the “pseudo-VF” rhythm
26. Vasopressin can be recommended for which of the following arrest rhythms?
- VF
 - Asystole
 - PEA
 - All of the above
27. Effective bag-mask ventilations are present in a patient in cardiac arrest. Now, 2 minutes after epinephrine 1 mg IV is given, PEA continues at 30 bpm. Which of the following actions should be done next?
- Administer atropine 1 mg IV
 - Initiate transcutaneous pacing at a rate of 60 bpm
 - Start a dopamine IV infusion at 15 to 20 µg/kg per minute
 - Give epinephrine (1 mL of 1:10 000 solution) IV bolus
28. The following patients were diagnosed with acute ischemic stroke. Which of these patients has **NO** stated contraindication for IV fibrinolytic therapy?
- A 65-year-old woman who lives alone and was found unresponsive by a neighbor
 - A 65-year-old man presenting approximately 4 hours after onset of symptoms
 - A 65-year-old woman presenting 1 hour after onset of symptoms
 - A 65-year-old man diagnosed with bleeding ulcers 1 week before onset of symptoms

29. A 25-year-old woman presents to the ED and says she is having another episode of PSVT. Her medical history includes an electrophysiologic stimulation study (EPS) that confirmed a reentry tachycardia, no Wolff-Parkinson-White syndrome, and no preexcitation. HR is 180 bpm. The patient reports palpitations and mild shortness of breath. Vagal maneuvers with carotid sinus massage have no effect on HR or rhythm. Which of the following is the most appropriate next intervention?
- DC cardioversion
 - IV diltiazem
 - IV propranolol
 - IV adenosine
30. A patient with an HR of 30 to 40 bpm complains of dizziness, cool and clammy extremities, and dyspnea. He is in third-degree AV block. All treatment modalities are present. What would you do first?
- give atropine 0.5 to 1 mg IV
 - give epinephrine 1 mg IV push
 - start dopamine infusion 2 to 10 $\mu\text{g}/\text{min}$
 - begin immediate transcutaneous pacing, sedate if possible

Identify the Following Rhythms Write answers on the answer sheet.

Normal Sinus Rhythm

Sinus Tachycardia

Sinus Bradycardia

Atrial Fibrillation

Atrial Flutter

Reentry Supraventricular Tachycardia

Monomorphic Ventricular Tachycardia

Polymorphic Ventricular Tachycardia

Ventricular Fibrillation

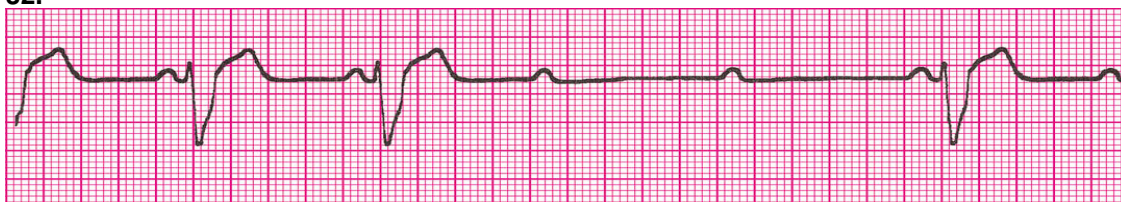
Second-Degree Atrioventricular Block

Third-Degree Atrioventricular Block

31.



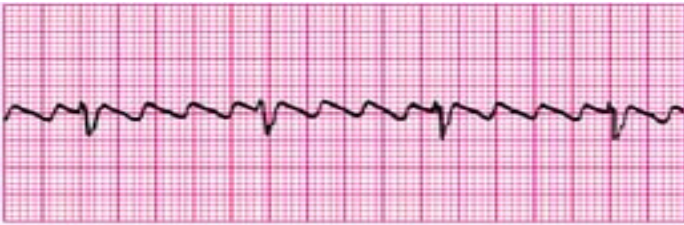
32.



33.



34.



35.



36.



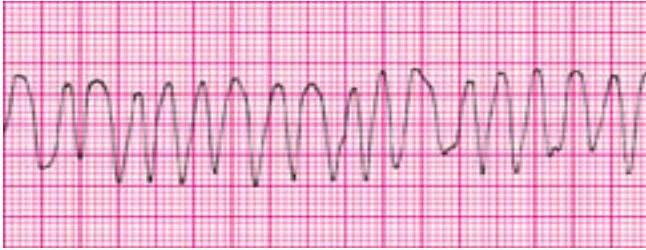
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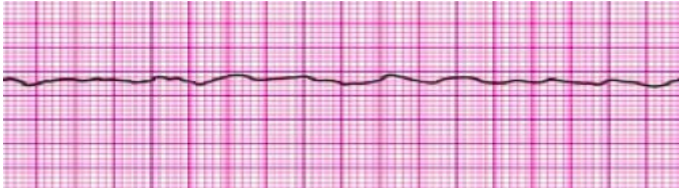
38.



39.



40.



ACLS Written 2006 Precourse Self-Assessment Answer Directory

1. See ACLS Provider Manual, pages 38 and 43.
2. See ACLS Provider Manual, page 53
3. See ACLS Provider Manual, page 45
4. See ACLS Provider Manual, page 37.
5. See ACLS Provider Manual, page 101.
6. See ACLS Provider Manual, page 41
7. See ACLS Student CD, pages 22-23
8. See ACLS Provider Manual, page 47
9. See ACLS Provider Manual, page 46.
10. See ACLS Provider Manual, page 45.
11. See ACLS Provider Manual, page 58-59
12. See ACLS Provider Manual, page 62
13. See ACLS Provider Manual, page 83
14. See ACLS Provider Manual, page 32
15. See ACLS Provider Manual page 72.
See ACLS Student CD, ACLS Core Drugs
16. See ACLS Provider Manual, page 74
17. See ACLS Provider Manual page 72.
18. See ACLS Provider Manual, page 76 and 78
19. See ACLS Provider Manual, page 107
20. See ACLS Provider Manual, pages 106 and 112-113.
21. See ACLS Provider Manual, page 85
22. See ACLS Provider Manual, page 64
23. See ACLS Provider Manual, page 98
24. See ACLS Provider Manual, pages 99
25. See ACLS Provider Manual, pages 93-95 and 99
26. See ACLS Provider Manual, pages 45, 48, 53 and 62
27. See ACLS Provider Manual, page 53

28. See ACLS Provider Manual, page 115.
29. See ACLS Provider Manual, page 101
30. See ACLS Provider Manual, pages 83 and 86
31. **Normal Sinus Rhythm**
See ACLS Student CD Nonarrest Rhythms
32. **Second Degree Atrioventricular Block**
See ACLS Student CD Nonarrest Rhythms
33. **Sinus Bradycardia**
See ACLS Student CD Nonarrest Rhythms
34. **Atrial Flutter**
See ACLS Student CD Nonarrest Rhythms
35. **Sinus Bradycardia**
36. **Third Degree Atrioventricular Block**
37. **Atrial Fibrillation**
38. **Monomorphic Ventricular Tachycardia**
39. **Polymorphic Ventricular Tachycardia**
40. **Ventricular Fibrillation**