

ADVANCED CARDIAC LIFE SUPPORT (ACLS) RECERTIFICATION EXAMINATION

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 five 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 1mEq/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 the most appropriate to give next.
- A. Amiodarone 300 mg IV push
 - B. Lidocaine 150mg 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 µg/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 ventilation 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?
- A. Atropine 0.5 to 1 mg IV
 - B. Furosemide 20 to 40 mg IV
 - C. Lidocaine 1 to 1.5 mg/kg
 - D. Morphine sulfate 2 to 4 mg IV
16. Which of the following agents are used frequently in the early management of acute cardiac ischemia?
- A. Lidocaine bolus followed by a continuous infusion of lidocaine
 - B. Chewable aspirin, sublingual nitroglycerin and IV morphine
 - C. Bolus of amiodarone followed by an oral ACE inhibitor
 - D. Calcium channel blocker plus IV furosemide

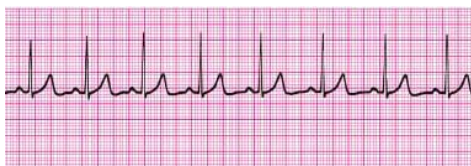
17. A 50 year old man who is profusely diaphoretic and hypertensive complains of crushing substernal chest pain and severe shortness of breath. He has a history of hypertension. He chewed 2 baby aspirins at home and is now receiving oxygen. Which of the following treatment sequences is most appropriate at this time?
- A. Morphine then nitroglycerin, but only if morphine fails to relieve the pain
 - B. Nitroglycerin then morphine, but only if ST elevation is >3 mm
 - C. Nitroglycerin then morphine, but only if nitroglycerin fails to relieve the pain
 - D. 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 x 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)?
- A. Calcium channel blocker IV + heparin bolus IV
 - B. ACE inhibitor IV & lidocaine infusion
 - C. Magnesium sulfate IV + enoxaparin (Lovenox) SQ
 - D. 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?
- A. 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
 - B. Activate the emergency response system; tell the dispatcher you need assistance for a woman who is displaying signs and symptoms of a stroke
 - C. 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
 - D. 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 a rapid onset of headache, garbled speech and weakness of the right arm and leg?
- A. History, physical and neurologic exams, *noncontrast* head CT with radiologist interpretation
 - B. History, physical and neurologic exams, *noncontrast* head CT, start of fibrinolytic treatment if CT scan is positive for stroke
 - C. History, physical and neurologic exams, lumbar puncture (LP), *contrast* head CT if LP is negative for blood
 - D. 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?
- A. Sinus bradycardia with no symptoms
 - B. Normal sinus rhythm with hypotension and shock
 - C. Complete heart block with pulmonary edema
 - D. 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?
- A. Prolonged cardiac arrest
 - B. Prolonged submersion in warm water
 - C. Drug overdose
 - D. 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?
- A. Stable tachycardia
 - B. Unstable tachycardia
 - C. Heart rate appropriate for clinical condition
 - D. 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?
- A. Sedation, analgesia, then immediate cardioversion
 - B. Lidocaine 1 to 1.5 mg/kg IV bolus
 - C. Amiodarone 300 mg IV bolus
 - D. 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?
- A. The defibrillator/monitor battery failed
 - B. The "sync" switch failed
 - C. You cannot shock VF in "sync" mode
 - D. A monitor lead has lost contact, producing the "pseudo-CF" rhythm
26. Vasopressin can be recommended for which of the following arrest rhythms?
- A. VF
 - B. Asystole
 - C. PEA
 - D. 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 $\mu\text{g}/\text{kg}$ 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 present 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 having another episode of PSVT. Her medical history includes an electrophysiologic stimulation study (EPS) that confirmed a reentry tachycardia, no Wolff-Parkinson 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

31.



- Normal Sinus Rhythm
- Sinus Bradycardia
- Reentry Supraventricular Tachycardia
- Second Degree Atrioventricular Block

32.

- A. Normal Sinus Rhythm
- B. Sinus Bradycardia
- C. Atrial Flutter
- D. Second Degree Atrioventricular Block



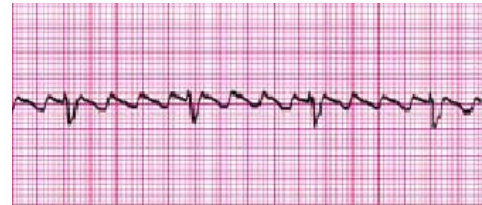
33.



- A. Normal Sinus Rhythm
- B. Sinus Bradycardia
- C. Ventricular Fibrillation
- D. Third Degree Atrioventricular Block

34.

- A. Sinus Tachycardia
- B. Atrial Fibrillation
- C. Atrial Flutter
- D. Third Degree Atrioventricular Block



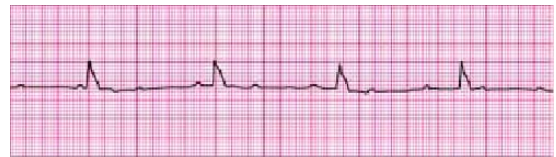
35.



- A. Normal Sinus Rhythm
- B. Sinus Bradycardia
- C. Reentry Supraventricular Tachycardia
- D. Third Degree Atrioventricular Block

36.

- A. Atrial Fibrillation
- B. Reentry Supraventricular Tachycardia
- C. Polymorphic Ventricular Tachycardia
- D. Third Degree Atrioventricular Block



37.



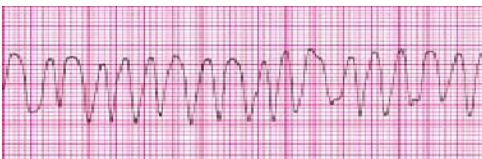
- A. Normal Sinus Rhythm
- B. Atrial Fibrillation
- C. Polymorphic Ventricular Tachycardia
- D. Second Degree Atrioventricular Block

38.

- A. Sinus Bradycardia
- B. Atrial Flutter
- C. Monomorphic Ventricular Tachycardia
- D. Ventricular Fibrillation



39.



- A. Normal Sinus Rhythm
- B. Atrial Fibrillation
- C. Monomorphic Ventricular Tachycardia
- D. Polymorphic Ventricular Tachycardia

40.

- A. Sinus Tachycardia
- B. Atrial Flutter
- C. Ventricular Fibrillation
- D. Third Degree Atrioventricular Block

