American Heart Association

Advanced Cardiovascular Life Support Written Precourse Self-Assessment

October 22, 2025

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TCID : GA20151

Date-Time : Nov 1, 2025, 3:24 PM

The written version of the Advanced Cardiovascular Life Support Precourse Self-Assessment (PSA) must be administered by an instructor—for exam security—before the student participates in the course. This needs to be completed well in advance of the course at the discretion of the Training Center Coordinator.

Students may take the PSA as many times as needed to achieve a passing rate of at least 70%, which is consistent with taking the PSA online. If a student requires a retake of the PSA, the instructor should provide remediation to the student and then allow the student to repeat the PSA. If a student repeatedly fails (and is unable to pass), the instructor will determine if the student is not an appropriate fit for the course or if the course is too advanced for the student's knowledge level.

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Student Answer Sheet
Advanced Cardiovascular Life Support
Precourse Self-Assessment

Name: _____ Date: _____

Rhythm Identification

Question	Answer
1.	
2.	
3.	
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16.	
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18.	
19.	
20.	

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Pharmacology

Question	Answer			
1.	A	B	C	D
2.	A	B	C	D
3.	A	B	C	D
4.	A	B	C	D
5.	A	B	C	D
6.	A	B	C	D
7.	A	B	C	D
8.	A	B	C	D
9.	A	B	C	D
10.	A	B	C	D
11.	A	B	C	D
12.	A	B	C	D
13.	A	B	C	D
14.	A	B	C	D
15.	A	B	C	D
16.	A	B	C	D
17.	A	B	C	D
18.	A	B	C	D
19.	A	B	C	D
20.	A	B	C	D

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Practical Application

Question	Answer			
1.	A	B	C	D
2.	A	B	C	D
3.	A	B	C	D
4.	A	B	C	D
5.	A	B	C	D
6.	A	B	C	D
7.	A	B	C	D
8.	A	B	C	D
9.	A	B	C	D
10.	A	B	C	D
11.	A	B	C	D
12.	A	B	C	D
13.	A	B	C	D
14.	A	B	C	D
15.	A	B	C	D
16.	A	B	C	D
17.	A	B	C	D
18.	A	B	C	D
19.	A	B	C	D
20.	A	B	C	D

Advanced Cardiovascular Life Support
Written Precourse Self-Assessment

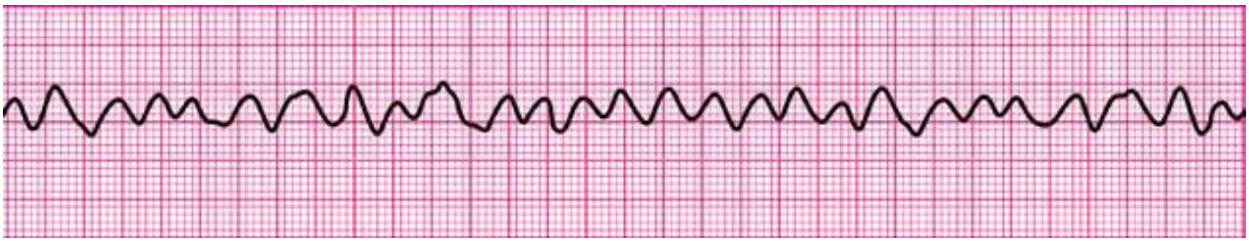
Rhythm Identification

The following rhythm strips are representative of the types of rhythms you will need to identify at the ACLS learning stations. This section of the precourse self-assessment will test your ability to identify the rhythms in the core ACLS algorithms and cases.

If you have difficulty with rhythm interpretation, we strongly suggest that you spend additional time reviewing these basic arrhythmias before you take the ACLS Provider Course.

For questions 1 through 20 in this section, identify each rhythm by selecting the single best answer. Write your answer on the answer sheet provided.

1.



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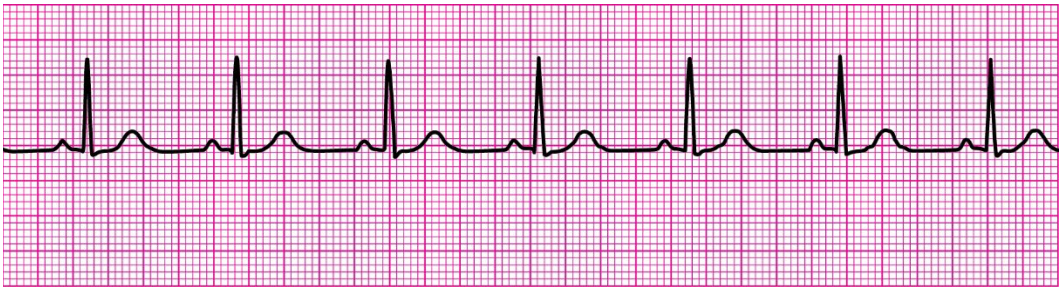

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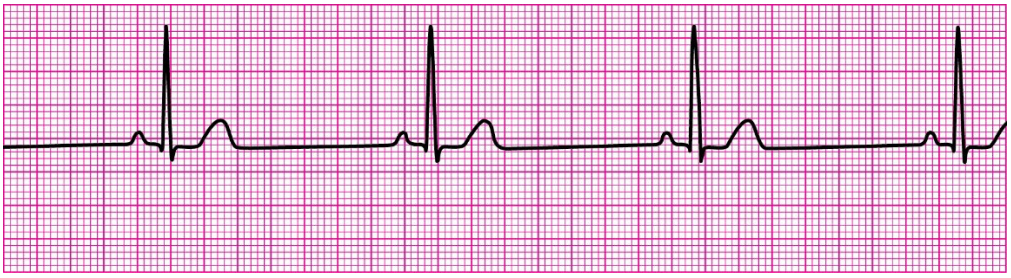

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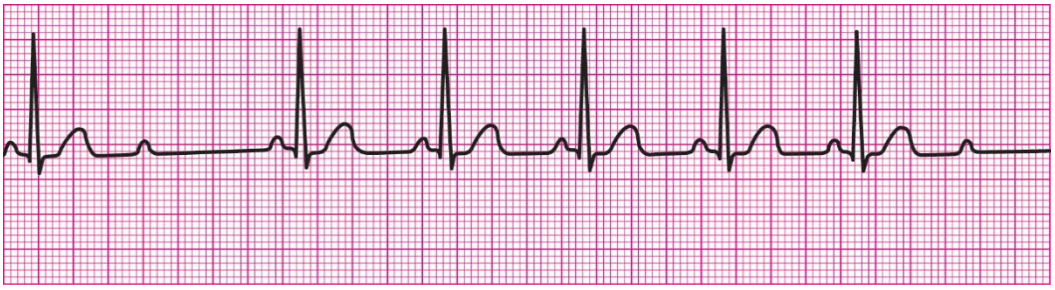

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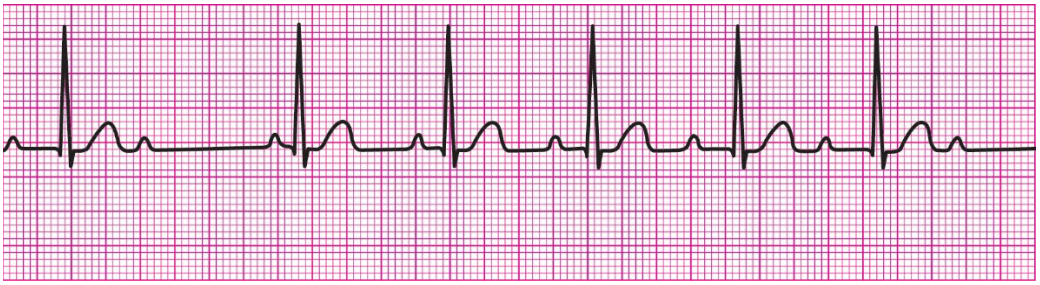

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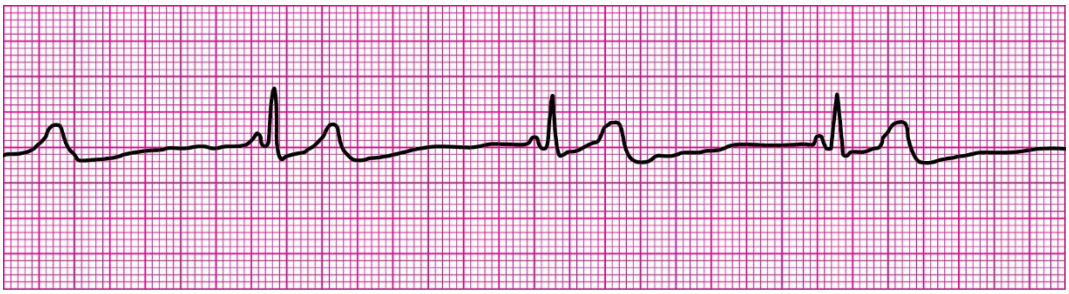

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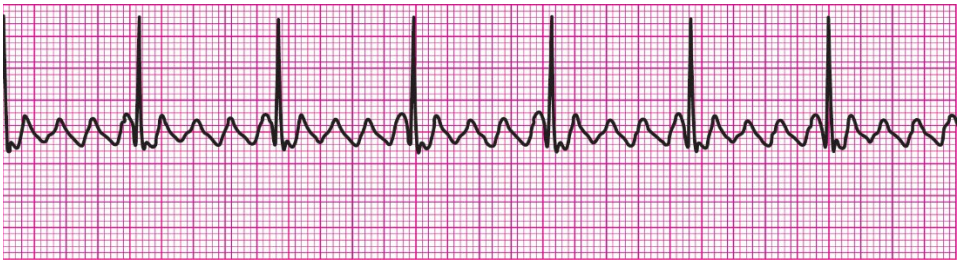

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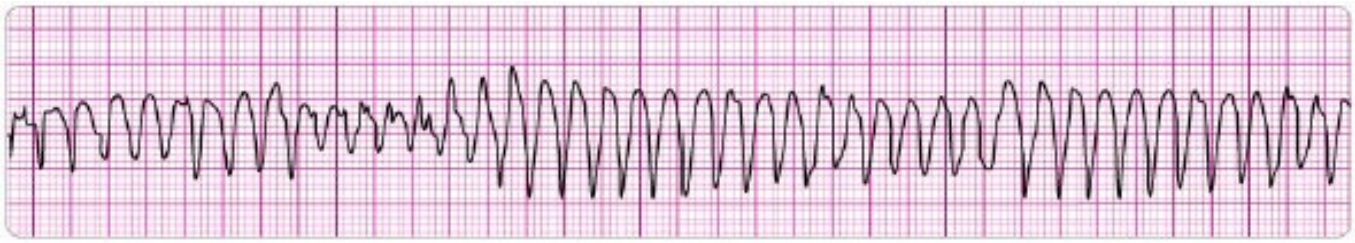

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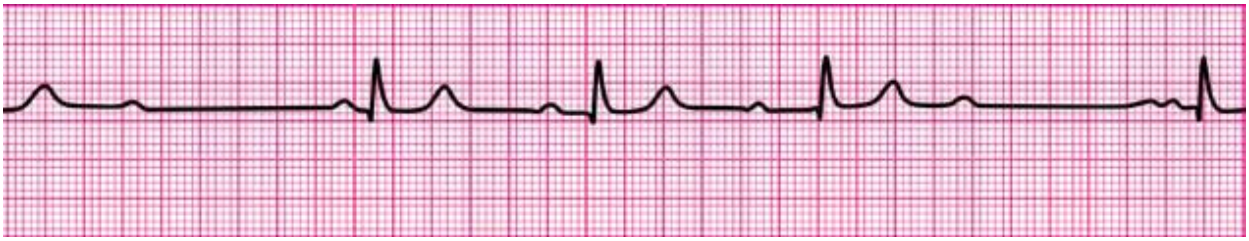
12.



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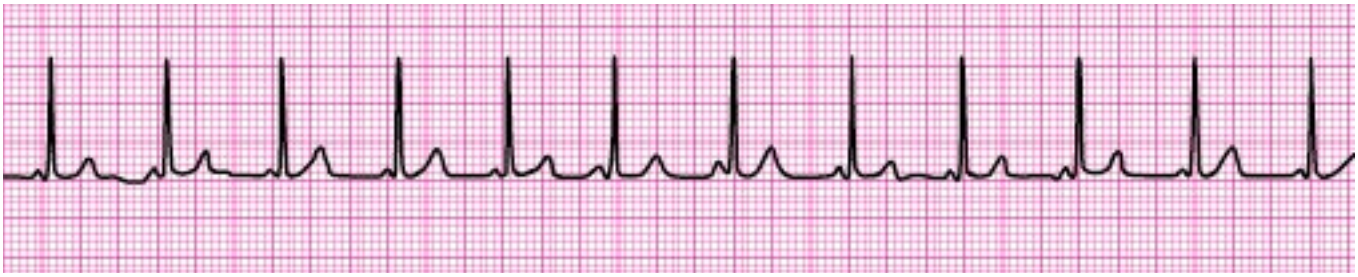
13. **Patient has no pulse with this rhythm**



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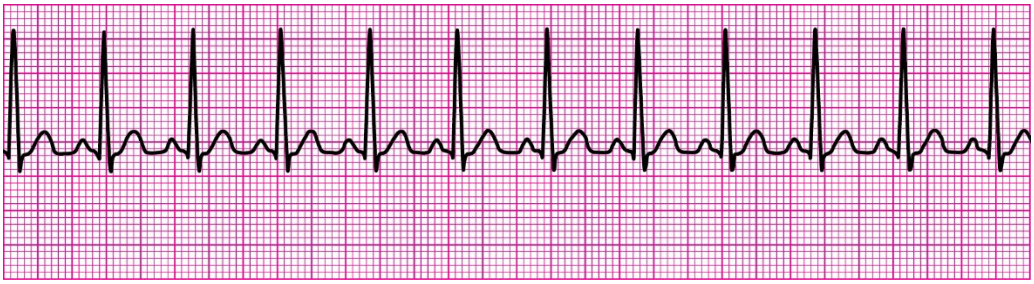

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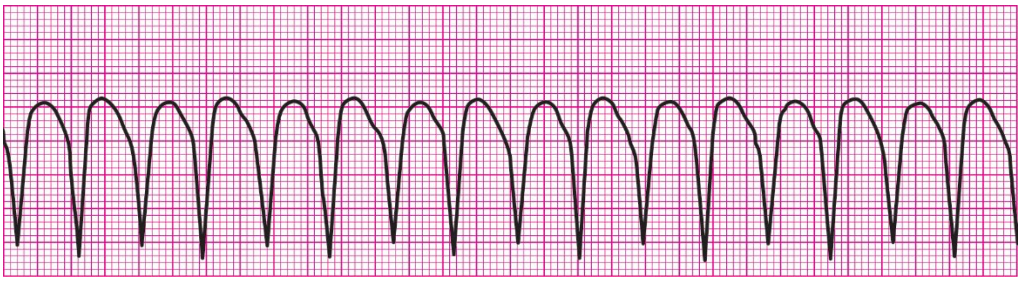

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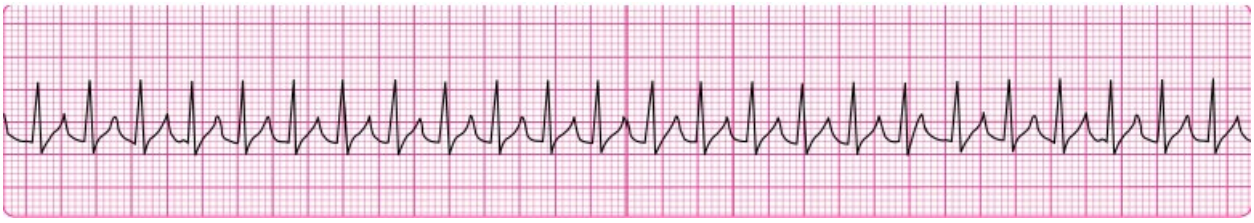
19.



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Pharmacology

The following pharmacology questions test your knowledge of core drugs and algorithms used in the ACLS Provider Course as well as your ability to use these drugs in scenarios similar to the learning stations and the Megacode Testing Station.

If you have difficulty with drug knowledge and use, we strongly suggest that you spend additional time reviewing the ACLS pharmacology and algorithms.

Use the answer sheet provided to circle your selected answer.

1. A 63-year-old patient achieved ROSC and is awaiting transfer to the cath lab for percutaneous coronary intervention. The patient remains comatose and is on a ventilator. Despite receiving 2 L of normal saline boluses, the vital signs are blood pressure of 78/40 mm Hg, mean arterial pressure of 53 mm Hg, heart rate of 102/min, respiratory rate of 10 breaths per minute (assisted), SpO_2 100%, and P_{ETCO_2} 43 mmHg. The ECG shows sinus tachycardia. What action should the health care professional perform next?

   A. Begin a dopamine infusion
   B. Give a neuroprotective agent
   C. Provide 20 mL/kg cold isotonic fluid
   D. Administer a prophylactic anticonvulsant

2. A patient with sinus bradycardia and a heart rate of 42/min has diaphoresis and a blood pressure of 80/60 mm Hg. What is the initial dose of atropine?

   A. 0.1 mg
   B. 0.5 mg
   C. 1 mg
   D. 3 mg

3. A 57-year-old patient has palpitations, chest discomfort, and tachycardia. The monitor shows a regular wide-complex QRS at a rate of 180/min. The patient becomes diaphoretic, and her blood pressure is 80/60 mm Hg. Which action do you take next?

   A. Establish IV access
   B. Obtain a 12-lead ECG
   C. Perform electrical cardioversion
   D. Seek expert consultation

4. You arrive on the scene with the code team. High-quality CPR is in progress. An AED has previously advised “no shock indicated.” A rhythm check now finds asystole. After resuming high-quality compressions, which action do you take next?

   A. Call for a pulse check
   B. Establish IV or IO access
   C. Insert a laryngeal airway
   D. Perform endotracheal intubation

5. A patient with possible ST-segment elevation myocardial infarction has ongoing chest discomfort. What is a contraindication to nitrate administration?

   A. Anterior wall myocardial infarction
   B. Heart rate less than 90/min
   C. Systolic blood pressure greater than 180 mm Hg
   D. Use of a phosphodiesterase inhibitor within the previous 24 hours

6. In which situation does bradycardia require treatment?

   A. 12-lead ECG showing a normal sinus rhythm
   B. Hypotension
   C. Diastolic blood pressure greater than 90 mm Hg
   D. Systolic blood pressure greater than 100 mm Hg

7. A patient is in cardiac arrest. High-quality chest compressions are being given. The patient is intubated, and an IV has been started. The rhythm is asystole. What is the first drug and dose to administer?

   A. Atropine 0.5 mg IV
   B. Atropine 1 mg IV
   C. Dopamine 2 to 20 mcg/kg per minute IV
   D. Epinephrine 1 mg IV

8. A 58-year-old patient is difficult to arouse and responds only to noxious stimuli. Their blood pressure is 70/30 mm Hg, mean arterial pressure is 43 mm Hg, heart rate is 42/min, respiratory rate is 14/min, SpO_2 is 95% on 2 lpm nasal cannula, and temperature is 37.1 °C. There was no change in the patient's heart rate after 2 doses of 1 mg IV atropine. What is the next most appropriate action?

   A. Administer a third dose of atropine 1 mg
   B. Initiate dopamine infusion at 5 mcg/kg per minute IV
   C. Change oxygen NC to a face mask
   D. Repeat ECG

9. A patient is in cardiac arrest. Ventricular fibrillation has been refractory to an initial shock. What is the preferred pathway for medication administration?

   A. Central line
   B. Endotracheal tube
   C. External jugular vein
   D. IV or IO

10. A patient is in ventricular fibrillation. High-quality CPR is in progress. Your team shocked the patient twice, delivered 1 mg epinephrine, shocked a third time, and then gave an antiarrhythmic drug. What is the next medication you should administer?

    A. Epinephrine 1 mg
    B. Epinephrine 3 mg
    C. Sodium bicarbonate 50 mEq
    D. A second dose of the antiarrhythmic drug

11. Your patient complains of chest discomfort. Their blood pressure is 78/50 mm Hg, mean arterial pressure is 59 mm Hg, heart rate is 91/min, respiratory rate is 12 breaths per minute, SpO_2 is 97% on room air, and temperature is 36.7 °C. You obtain a 12-lead ECG showing elevation in V1 through V3F. What should your initial treatment be?

    A. Oxygen 2 L NC
    B. IV fluid bolus
    C. Nitroglycerin 0.3 to 0.6 mg SL
    D. Morphine 2 mg IV

12. A patient is in ventricular fibrillation cardiac arrest and received a second shock. Which medication should be administered first?

    A. Atropine 1 mg IV/IO
    B. Epinephrine 1 mg IV/IO
    C. Lidocaine 1 mg/kg IV/IO
    D. Sodium bicarbonate 50 mEq IV/IO

13. A patient with ST-segment elevation myocardial infarction has ongoing chest discomfort. Heparin 4000 units IV bolus and a heparin infusion of 1000 units per hour are being administered. The patient did not take aspirin because of a history of gastritis, which was treated 5 years ago. What is your next action?

    A. Give aspirin 162 to 325 mg to chew
    B. Give clopidogrel 300 mg orally
    C. Give enteric-coated aspirin 75 mg orally
    D. Give enteric-coated aspirin 325 mg rectally

14. What is the indication for the use of magnesium in cardiac arrest?

    A. Ventricular tachycardia associated with a normal QT interval
    B. Shock-refractory monomorphic ventricular tachycardia
    C. Pulseless ventricular tachycardia–associated torsades de pointes
    D. Shock-refractory ventricular fibrillation

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    D. Shock-refractory ventricular fibrillation

16. A 62-year-old patient had a syncopal episode. The patient is confused, pale, and diaphoretic. The vital signs are blood pressure of 76/42 mm Hg, mean arterial pressure of 53 mm Hg, heart rate of 42/min, respiratory rate of 20 breaths per minute, and SpO_2 of 90% on non-rebreather mask. The patient has a second-degree AV block type II. The patient has failed to respond to multiple IV boluses of atropine. What action should the health care professional take next?

    A. Administer fluid bolus
    B. Repeat atropine bolus
    C. Initiate transcutaneous pacing
    D. Move patient to the cath lab for percutaneous coronary intervention

17. A patient is in pulseless ventricular tachycardia. Two shocks and 1 dose of epinephrine have been given. Which drug should be given next?

    A. Adenosine 6 mg
    B. Amiodarone 300 mg
    C. Epinephrine 3 mg
    D. Lidocaine 0.5 mg/kg

18. A 35-year-old patient has palpitations, light-headedness, and a stable tachycardia. The monitor shows a regular narrow-complex QRS at a rate of 180/min. Vagal maneuvers have not been effective in terminating the rhythm. An IV has been established. Which drug should be administered?

    A. Adenosine 6 mg
    B. Atropine 0.5 mg
    C. Epinephrine 2 to 10 mcg/kg per minute
    D. Lidocaine 1 mg/kg

19. A monitored patient in the intensive care unit developed a sudden onset of narrow-complex tachycardia at a rate of 220/min. The patient's blood pressure is 128/58 mm Hg, the P_{ETCO_2} is 38 mm Hg, and the pulse oximetry reading is 98%. A 12-lead ECG confirms a narrow complex tachycardia with no evidence of ischemia or infarction. The heart rate has neither responded to vagal maneuvers nor a 6 mg dose of adenosine. What is your next action?

    A. Administer adenosine 12 mg IV push
    B. Administer amiodarone 300 mg IV push
    C. Perform synchronized cardioversion at 50 J
    D. Perform synchronized cardioversion at 200 J

20. Which medication or intervention is most appropriate for the treatment of a patient in asystole who is currently receiving high-quality CPR?

    A. Atropine
    B. Defibrillation
    C. Epinephrine
    D. Transcutaneous pacing

Practical Application

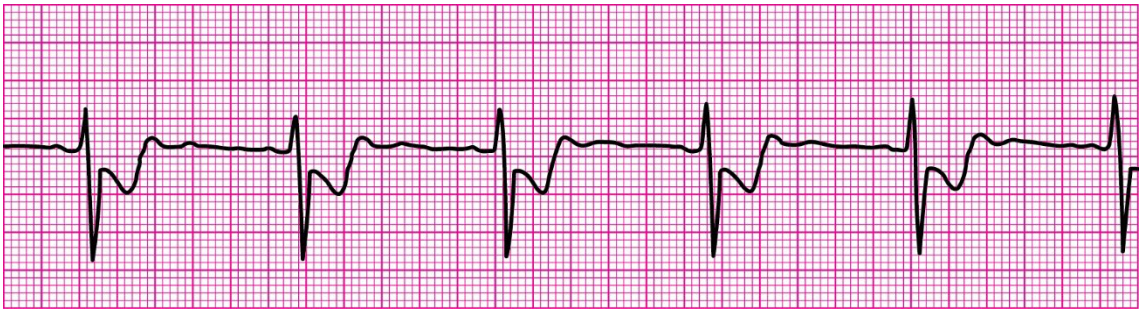
This section of the precourse self-assessment will test your ability to identify a rhythm and then select a treatment or intervention on the basis of your identification of the rhythm and your knowledge of ACLS drugs and treatment algorithms. It will also test your knowledge of high-quality basic life support and airway management.

In previous parts of precourse self-assessment, you (1) identified these rhythms and reviewed your rhythm analysis skills and (2) demonstrated knowledge of the pharmacology and drug interventions required to treat these rhythms.

For the purposes of the questions in this section, assume that you are the team leader unless otherwise directed. Assume that you can administer medications by the intravenous or intraosseous route unless otherwise noted. A manual defibrillator is available unless otherwise noted. If you have difficulty with the practical application questions, review the ACLS rhythms, pharmacology, and algorithms.

Use the answer sheet provided to circle your selected answer.

1. A 56-year-old patient reports feeling dizzy. The patient is pale and diaphoretic and has a history of type 2 diabetes. Their blood pressure is 80/60 mm Hg. The cardiac monitor documents the rhythm shown here. The patient is receiving oxygen at 4 L/min by nasal cannula, and an IV has been established. What do you administer next?



   A. Atropine 1 mg
   B. Dopamine at 2 to 10 mcg/kg per minute
   C. Glucose 50%
   D. Morphine sulfate 4 mg

2. A patient was in refractory ventricular fibrillation. A third shock has just been administered. Your team looks to you for instructions. What is your next action?

   A. Check the carotid pulse
   B. Give amiodarone 300 mg IV
   C. Give atropine 1 mg IV
   D. Resume CPR, starting with chest compressions

3. After initiation of high-quality CPR and a shock for ventricular fibrillation, this rhythm is present on the next rhythm check. A second shock is given, and chest compressions are resumed immediately. An IV is in place, and no drugs have been given. Bag-mask ventilations are producing visible chest rise. What is your next intervention?

   A. Administer 3 sequential (stacked) shocks at 360 J (monophasic defibrillator)
   B. Give amiodarone 300 mg IV/IO
   C. Give epinephrine 1 mg IV/IO
   D. Intubate and administer 100% oxygen

4. A 35-year-old patient reports having palpitations. There is no chest discomfort, shortness of breath, or light-headedness. Their blood pressure is 120/78 mm Hg. Which intervention is indicated first?

   A. Adenosine 3 mg IV bolus
   B. Adenosine 12 mg IV slow push (over 1 to 2 minutes)
   C. Metoprolol 5 mg IV and repeat if necessary
   D. Vagal maneuvers

5. A 55-year-old patient presents with light-headedness, chest discomfort, and shortness of breath. On auscultation, breath sounds reveal faint expiratory wheezing. The vital signs indicate blood pressure of 68/40 mm Hg, mean arterial pressure of 49 mm Hg, heart rate of 50/min, respiratory rate of 30 breaths per minute, and SpO_2 85% on non-rebreather mask. The patient has a complete atrioventricular block with a ventricular escape pacemaker. Transcutaneous pacing failed to capture despite the pads moving from the anteroposterior position to the anterolateral position. What action should the healthcare professional take next?

   A. Administer atropine bolus
   B. Increase pacer demand rate
   C. Begin an epinephrine infusion
   D. Relocate pads to the anteroposterior position and reattempt transcutaneous pacing

6. A patient's initial 12-lead ECG is transmitted by the paramedics and shows a STEMI. When the patient arrives in the emergency department, the rhythm shown here is seen on the cardiac monitor. The patient has resolution of moderate (5/10) chest pain after 3 doses of sublingual nitroglycerin. Blood pressure is 104/70 mm Hg. Which intervention is most important in reducing this patient's in-hospital and 30-day mortality rate?

A. Application of transcutaneous pacemaker
B. Atropine administration
C. Nitroglycerin administration
D. Reperfusion therapy

7. You arrive on the scene to find CPR in progress. Nursing staff report the patient was recovering from a pulmonary embolism and suddenly collapsed. Two shocks have been delivered, and an IV has been initiated. What do you administer now?

A. Atropine 0.5 mg IV
B. Epinephrine 1 mg IV
C. Endotracheal intubation
D. Transcutaneous pacing

8. A patient becomes unresponsive. You are uncertain if a faint pulse is present. The rhythm shown here is seen on the cardiac monitor. An IV is in place. Which action do you take next?

A. Begin transcutaneous pacing
B. Start high-quality CPR
C. Administer atropine 1 mg
D. Administer epinephrine 1 mg IV

9. A 45-year-old patient with a history of palpitations develops light-headedness and palpitations. The patient has received adenosine 6 mg IV for the rhythm shown here, without conversion of the rhythm. The patient is now extremely apprehensive. Her blood pressure is 128/70 mm Hg. What is the next appropriate intervention?

A. Administer adenosine 12 mg IV
B. Perform unsynchronized cardioversion
C. Perform vagal maneuvers
D. Perform synchronized cardioversion

10. A patient has been resuscitated from cardiac arrest. During post-ROSC treatment, the patient becomes unresponsive, with the rhythm shown here. Which action is indicated next?

A. Perform immediate defibrillation
B. Give lidocaine 1 to 1.5 mg/kg IV
C. Perform synchronized cardioversion
D. Repeat amiodarone 300 mg IV

High-Quality CPR

11. What is the recommended compression rate for high-quality CPR?

    A. 50 to 60 compressions per minute
    B. 70 to 80 compressions per minute
    C. 90 to 100 compression per minute
    D. 100 to 120 compressions per minute

12. How does complete chest recoil contribute to effective CPR?

    A. Allows maximum blood return to the heart
    B. Reduces rescuer fatigue
    C. Reduces the risk of rib fractures
    D. Increases the rate of chest compressions

13. What is the recommended depth of chest compressions for an adult victim?

    A. At least 1½ inches
    B. At least 2 inches
    C. At least 2½ inches
    D. At least 3 inches

14. What is the maximum interval for pausing chest compressions?

    A. 10 seconds
    B. 15 seconds
    C. 20 seconds
    D. 25 seconds

15. How often should you switch chest compressors to avoid fatigue?

    A. About every 2 minutes
    B. About every 3 minutes
    C. About every 4 minutes
    D. About every 5 minutes

16. Your patient is not responsive and is not breathing. You can palpate a carotid pulse. Which action do you take next?

    A. Apply an AED
    B. Obtain a 12-lead ECG
    C. Start an IV
    D. Start ventilating

17. Which action should you take immediately after providing an AED shock?

    A. Check the pulse rate
    B. Prepare to deliver a second shock
    C. Resume chest compressions
    D. Start rescue breathing

18. Which action is likely to cause air to enter the victim's stomach (gastric inflation) during bag-mask ventilation?

    A. Giving breaths over 1 second
    B. Ventilating too quickly
    C. Providing a good seal between the face and the mask
    D. Providing just enough volume for the chest to rise

19. You are providing bag-mask ventilations to a patient in respiratory arrest. How often should you provide ventilations?

    A. Every 6 seconds
    B. Every 10 seconds
    C. Every 12 seconds
    D. Every 14 seconds

20. What action minimizes the risk of air entering the victim's stomach during bag-mask ventilation?

    A. Ventilating until you see the chest rise
    B. Ventilating as quickly as you can
    C. Squeezing the bag with both hands
    D. Delivering the largest breath you can

Advanced Cardiovascular Life Support Written Precourse Self-Assessment Answer Key

Rhythm Identification

1. Ventricular fibrillation
2. Normal sinus rhythm
3. Sinus bradycardia
4. Supraventricular tachycardia
5. Second-degree atrioventricular block (Mobitz II block)
6. Second-degree atrioventricular block (Mobitz I Wenckebach)
7. Ventricular fibrillation
8. Third-degree atrioventricular block
9. Sinus bradycardia
10. Atrial flutter
11. Polymorphic ventricular tachycardia
12. Second-degree atrioventricular block (Mobitz I Wenckebach)
13. Pulseless electrical activity
14. Sinus tachycardia
15. Second-degree atrioventricular block (Mobitz II block)
16. Agonal rhythm/asystole
17. Monomorphic ventricular tachycardia
18. Atrial fibrillation
19. Supraventricular tachycardia
20. Ventricular fibrillation

Pharmacology

1. A
2. C
3. C
4. B
5. D
6. B
7. D
8. B
9. D
10. A
11. B
12. B
13. A
14. C
15. C
16. C
17. B
18. A
19. A
20. C

Practical Application

1. A
2. D
3. C
4. D
5. C
6. D
7. B
8. B
9. A
10. A
11. D
12. A
13. B
14. A
15. A
16. D
17. C
18. B
19. A
20. A