Northwest Community EMS System 2025 SOP Self-Assessment
CARDIAC

Name (Print):	Date of submission
EMS Agency:	Date graded/feedback sent:
PEMSC signature:	Initial Score:_____ ☐Acceptable ☐ Not acceptable ☐ Incomplete ☐ Incorrect answers
EMS Educator signature:	Resubmission:_____ ☐ Acceptable ☐ Not acceptable

Instructions: Complete; discuss with your Provider EMSC; obtain their signature; **SUBMIT** to the NWC EMSS Office at least 1 week prior to date of written testing for this module

This document is designed to measure a candidate's knowledge of key elements of the 2022 NWC EMSS SOPs and assessments/interventions in the System Procedure manual. Please also use the 2022 SOP Changes and Rationale document (System website: www.nwcemss.org) as additional reference.

Acute coronary syndromes (ACS)

1. Which patient is most likely experiencing cardiac ischemia & should be treated per the ACS SOP?

   A. 25 y/o w/ PMH asthma c/o burning epigastric pain 8/10 after eating spicy food about 30 min ago
   B. 75 y/o c/o Lt-sided pleuritic chest pain with fever and a productive cough of yellow-green sputum for the last 2 days
   C. 50 y/o w/ PMH of HTN & DM c/o severe fatigue, weakness, and dyspnea that began at rest 10 min ago. Pt appears pale & diaphoretic.
   D. 42 y/o c/o left-sided chest pain that began after striking their chest in a fall one hour ago. The pain is describes as sharp when the area is palpated.

2. How should oxygen be delivered to a patient with ACS who presents with adequate ventilatory rate/depth, minimal distress and SpO_2 of 93%? (See IMC + ACS SOP)

   A. No oxygen is indicated
   B. NC at 1-6 L/min to achieve SpO_2 94%
   C. NRM at 12-15 L/min to achieve $SpO_2 \geq 98\%$
   D. CPAP at 5 cm PEEP to achieve $SpO_2 \geq 95\%$

3. A 65 y/o conscious adult is c/o diffuse chest pain (5/10) without radiation following a frontal impact MVC. There is a red diagonal line across his chest that appears to be developing seat-belt sign. VS: BP 140/90; HR 110 & regular; ECG: ST; R 16; SpO_2 96%, breath sounds clear and equal bilaterally. PMH: HTN. Meds: losartan, hydrochlorothiazide. Which of these is indicated first?

   A. 12 L ECG
   B. Chewable ASA
   C. Oxygen 2 L/NC
   D. Nitroglycerin 1 tab SL

4. At what point in a call should a 12-lead ECG be obtained when caring for a patient with possible ACS?

   A. After the first NTG
   B. After pain is abated with fentanyl
   C. After pt transfer to the ambulance
   D. Preferably within 5 min of pt contact

5. If the 12-L ECG indicates an AMI, what is a priority action for EMS to take in the NWC EMSS?

   A. Hang a NTG drip
   B. Call a STEMI Alert to OLMC ASAP
   C. Repeat the 12 L ECG every 5 minutes
   D. Prepare and administer fibrinolytics (tPA)

6. Which of these is the classification and desired action of aspirin when given to treat a patient with ACS?

A. Antiplatelet agent; prevents a clot from getting bigger
B. Analgesic; relieves the pain caused by myocardial ischemia
C. Thrombolytic agent; breaks down the red clot in the coronary artery
D. Antihistamine; opens coronary precapillary sphincters to enhance blood flow

7. Which of these are contraindications to giving ASA to a patient with possible ACS? Check all that apply.

☐ Bradycardia with 2° AVB MII or 3° AVB
☐ Currently vomiting
☐ Surgery within the past 4 weeks
☐ Active bleeding disorder (hemophilia, low platelet counts)
☐ Severe liver disease

8. The patient is a reliable historian and is decisional. As EMS is preparing to give ASA for ACS, the patient shows them a bottle of 81 mg chewable aspirin and says they took 4 of them when the chest pain started. Which of these is indicated per SOP?

A. Give the ASA anyway, just to make sure
B. Do not give the ASA as an adequate dose has been verified

9. An adult with no PMH, no medication history and no known allergies presents with chest tightness (7/10) for the past 30 minutes and you suspect ACS. VS: 170/90; P 124, ECG ST; 12-lead reads “Acute MI suspected, Anterior-lateral”; R 24; SpO_2 98%; lungs are clear. Besides chewable ASA, which of these is indicated?

A. NTG X 3
B. Fentanyl for pain
C. Ketamine for pain
D. Midazolam for anxiety

10. Is NTG indicated for a patient with ACS who took Levitra (vardenafil) 36 hours ago?

A. Yes B. No

11. What is the dosing interval and max total dose of NTG for ACS as long as there are no contraindications?

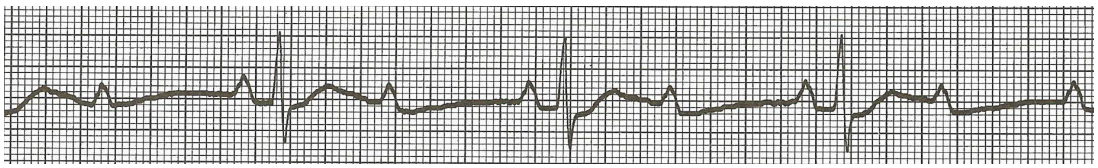
_____

12. What is the major cardiovascular side effect of NTG? _____

Bradycardia w/ a pulse

The next three questions refer to the following scenario:

An awake and alert 70 y/o adult began to experience chest pain rated 10/10 while getting dressed. VS: BP: 96/60; P: 36; ECG: as below; R 18; SpO_2 93%; lungs: clear; glucose: 120. Skin is warm and dry; denies allergies, PMH HTN; Meds: Propranolol. Weight: 180 lbs.



13. Identify the above rhythm.

A. Sinus bradycardia with prominent U waves
B. 2° AVB Mobitz I
C. 2° AVB Mobitz II
D. 3° AVB

14.

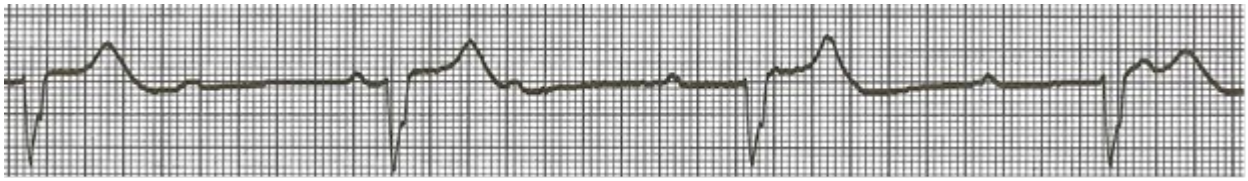
Is this patient a candidate for ASA?	☐ Yes	☐ No
Oxygen?	☐ Yes	☐ No
NTG?	☐ Yes	☐ No
Analgesia per pain SOP?	☐ Yes	☐ No

15. IV/IO is placed. What intervention is indicated next for the above patient?

A. Atropine 0.5 mg IVP
B. Hang a norepinephrine drip
C. Begin external transcutaneous pacing at 60 BPM
D. Place TCP pads in anticipation of clinical deterioration

The next two questions refer to the following scenario:

A normothermic elderly adult presents with grossly altered mental status following a syncopal episode. The patient does not respond to commands. VS: BP 60/30; P 30 (weak at carotids), ECG: see below; 12 shows ST elevation in V1-V4; R 20 with adequate effort, SpO_2 90%; lungs clear; glucose 110. Skin is pale, cold, and moist. Weight 190 lbs.



16. Identify the above rhythm.

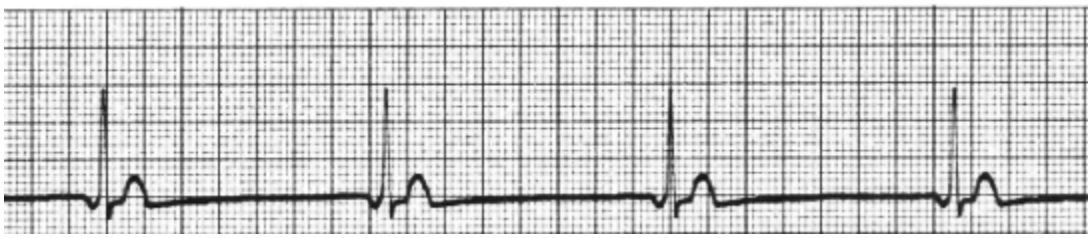
A. Sinus bradycardia with prominent U waves
B. 2° AVB Mobitz I
C. 2° AVB Mobitz II
D. 3° AVB

17. The airway is patent and no IV/IO is yet placed. After O_2, which of these is indicated first?

A. Atropine 0.5 mg rapid IVP
B. Hang a norepinephrine drip
C. Begin external transcutaneous pacing at 60 BPM
D. Place TCP pads in anticipation of clinical deterioration

The next two questions refer to the following scenario:

A 55 y/o experienced a syncopal episode at work. The pt is currently awake, lightheaded, and weak. VS: BP: 86/44; P: 36; ECG below; 12 L shows no acute ischemic changes; R 18; SpO_2 95%; lungs: clear; glucose 110; Skin is cool and moist. Denies allergies, PMH or any meds.



18. Identify the above rhythm.

A. 1° AVB
B. Sinus bradycardia
C. Junctional bradycardia
D. Idioventricular rhythm

19. IV is placed. Which of these is indicated first?

A. NTG
B. Atropine
C. Norepinephrine
D. Transcutaneous pacing

20. What intervention is indicated if a hypotensive patient with sinus bradycardia who takes beta blockers is unresponsive to atropine, norepinephrine, and/or pacing?

_____

21. If SBP≥ 90 (MAP ≥ 65) and a conscious pt needs **sedation** during pacing, which of these are approved options? Check all that apply.

☐ Fentanyl
☐ Ketamine
☐ Etomidate
☐ Midazolam

22. What is the dose of atropine when given to treat bradycardia with a pulse in an adult stemming from a cardiac cause?

A. 3 mg slow IV/IO; no repeat
B. 2 mg slow IV/IO; repeat once q. 15 min
C. 1 mg rapid IV/IO; q. 3-5 min to a max of 3 mg
D. 0.02 mg/kg rapid IV/IO; q. 3-5 min to a max of 3 mg

23. Why should atropine be given with caution to a patient experiencing an evolving MI?

A. Speeding of the HR may worsen ischemia
B. Side effects interfere with 12 lead ECG interpretation
C. Vasoconstriction extends the area of damaged heart tissue
D. Symptoms of ischemia will temporarily improve and mask severity of the MI

24. Which of these *are true* with respect to pacing an adult pt? Select the two options that are correct.

A. Energy is delivered through limb electrodes
B. Starting HR may be set between 60-70 BPM
C. Pacing may be discontinued when SBP > 90
D. Requires OLMC permission prior to procedure
E. mA begin at 0 and are increased in 5 mA increments to desired response

25. How is *mechanical capture* confirmed during transcutaneous pacing?

A. The patient becomes responsive to pain
B. A femoral pulse is palpated with each impulse
C. There is a pacing spike followed by a wide, bizarre QRS
D. Low jolts of energy are sensed with palpation of the chest

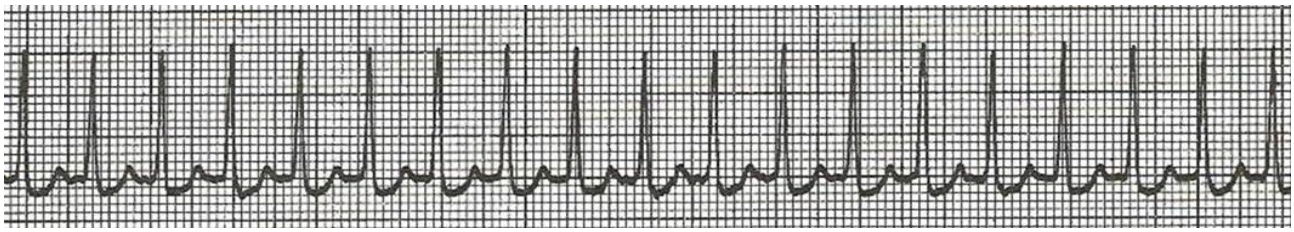
<u>Narrow QRS Complex Tachycardia</u>

26. Which of these should be treated according to the narrow QRS complex tachycardia SOP?

A. HR > 100 & left ventricular failure
B. HR > 150 due to atrial tachycardia and/or a-fib
C. HR > 140 in a patient who has overdosed on cocaine
D. HR > 120 in a trauma patient with possible intraperitoneal bleeding

The next two questions reference the scenario below

A conscious and alert adult is c/o chest pressure and dyspnea. VS: BP 110/70; P per ECG; R 16; SpO_2 95%.



27. Identify the above rhythm.

A. Atrial flutter
B. Sinus tachycardia
C. Atrial fibrillation
D. Supraventricular tachycardia

28. After a Vagal maneuver is unsuccessful, what intervention is indicated next?

A. Synchronized cardioversion at 100 J
B. Verapamil 5 mg slow IVP over 2 minutes
C. Adenosine 6 mg rapid IVP + 10 mL NS flush
D. On-going assessment, no medications, transport

29. A conscious and alert adult is complaining of light headedness, chest pain and palpitations. VS: BP 110/74; P 170; R 16; SpO_2 96%. ECG as below.

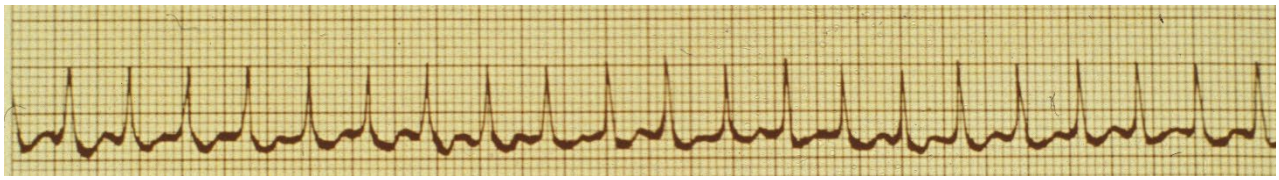
30. Identify the above rhythm.

A. Atrial flutter
B. Sinus tachycardia
C. Atrial fibrillation
D. Supraventricular tachycardia

31. After Vagal maneuvers are unsuccessful in slowing the rhythm, what intervention is indicated?

A. Verapamil 5 mg slow IVP
B. Adenocard 6 mg rapid IVP
C. Magnesium 2 Gm slow IVP
D. Amiodarone 150 mg slow IVP

32. An adult presents with grossly altered mental status and is slow to respond to questions. The pt has the following rhythm. A weak and rapid carotid pulse is palpable. Which intervention is indicated first if no IV is placed?



---

33. Which of these vagal maneuvers is an approved technique in the NWC EMSS?

A. Right sided carotid massage
B. Massage the eyes over closed eyelids
C. Rapidly submerge the patient's face in ice water
D. Have pt blow back the plunger in a 10 mL syringe then lower head and lift legs

34. Which of these are anticipated side effects of adenosine? Select the two options that are correct.

A. Dry mouth
B. Tachycardia
C. Dilated pupils
D. Dyspnea & chest pressure
E. Transient conversion dysrhythmias

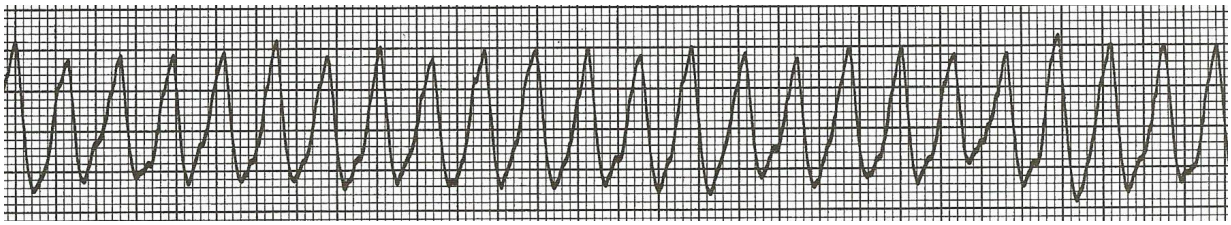
35. What should be the initial joule setting when performing synchronized cardioversion on an unstable adult in supraventricular tachycardia?

A. 100
B. 200
C. 300

36. What initial dose of midazolam should be given IVP prior to performing synchronized cardioversion on a responsive adult presuming there are no contraindications?

A. 1-2 mg
B. 2-5 mg
C. 5-10 mg

Wide Complex Tachycardia w/ a Pulse



37. Identify the above rhythm.

A. Accelerated idioventricular rhythm
B. Ventricular tachycardia
C. Torsades de Pointes
D. Ventricular fibrillation

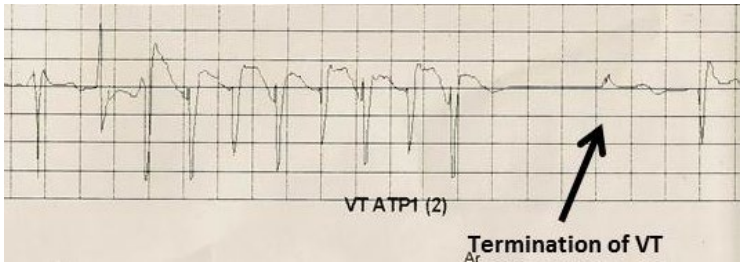
38. Which intervention is indicated for a conscious & alert adult with a radial pulse and BP 100/70 who presents in the above rhythm?

A. Lidocaine 1.5 mg/kg IVP
B. Synchronized cardioversion at 100 J
C. Magnesium 2 Gm in 16 mL NS slow IVP over 10 min
D. Amiodarone 150 mg mixed w/ 7 mL NS slow IVP over 10 min

39. What intervention is indicated immediately if the above pt develops AMS and drops their SBP <90?

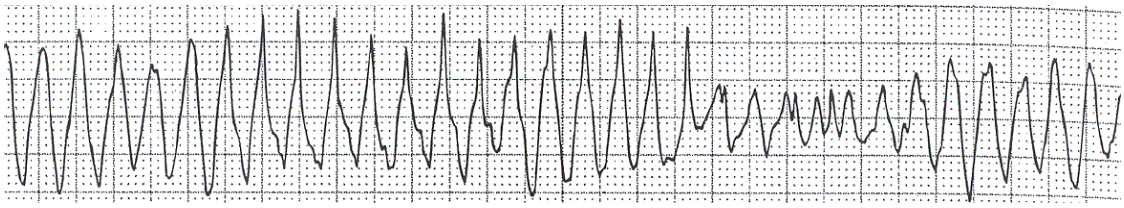
_____

40. A conscious adult presents with chest pain and palpitations. After confirming V-tach, PMs start to give amiodarone slow IVP. Midway through the dose, they observe the following change to the ECG and VS are stable. Which of these is indicated?



A. Finish the amiodarone dose
B. Stop the amiodarone and transport

41. What intervention is indicated for a conscious adult with a radial pulse & BP 100/70 in the rhythm below?

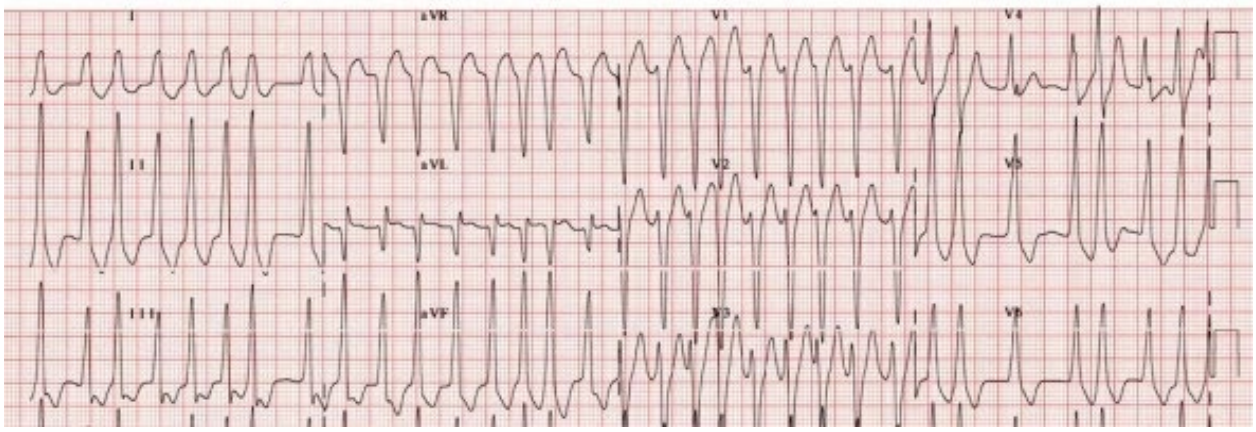


A. Synchronized cardioversion at 50 J
B. Magnesium 2 Gm in 16 mL NS slow IVP over 10 min
C. Amiodarone 150 mg mixed w/ 7 mL NS slow IVP over 10 min
D. Defibrillation at 360 J or device-specific biphasic setting per VF SOP

42. What intervention is indicated if the above patient develops an AMS and drops their SBP <90?

_____

43. An adult is c/o palpitations. The pt has had similar episodes in the past and has been diagnosed with atrial fibrillation and Wolf Parkinson White (WPW) syndrome.



What treatment should the above patient receive?

_____

<u>Ventricular fibrillation/pulseless VT</u>

44. How long should a pt be resuscitated on scene if there are no indications for early transport?

_____

45. List 4 reasons a patient should not be resuscitated where found and/or should be transported to a hospital as soon as effective compressions are initiated?

_____

_____

_____

_____

46. What is the current recommendation with respect to pulse checks in unresponsive patients?

A. If not definitely felt in < 5 sec – defibrillate the patient
B. If not definitely felt in < 10 sec initiate CPR unless contraindicated
C. Pulses cannot be felt during cardiac arrest – so the step was omitted
D. Accurate assessment was emphasized and the time expanded to check for 15 sec

47. A conscious, pulseless adult presents in VF with a Ventricular Assist Device. What EMS intervention is indicated first?

A. Disconnect the batteries and resuscitate as usual
B. Do not defibrillate; call the VAD coordinator on the pt's referral info sheet

48. Which of these is indicated FIRST if an adult is assessed by EMS as unresponsive, apneic and pulseless after c/o chest pain to coworkers?

A. Do a quick look and check the rhythm
B. Begin manual CPR chest compressions
C. Give two quick breaths before starting compressions
D. Immediately apply an automated CPR device and begin chest compressions

49. How must the quality of CPR be measured until an automated CPR device can be deployed?

_____

50. After initiating CPR on an adult with an EMS-witnessed cardiac arrest, how should EMS initially manage the airway and oxygen delivery? (Check all that apply)

☐ Airway opening maneuver: Jaw thrust/chin lift
☐ Insert BLS airways: NPA/OPA
☐ Oxygen delivery: $ETCO_2$ NC 15 L O_2 + hold BV mask on face w/ tight mask seal to reduce O_2 leak
☐ Ventilations: Immediately ventilate per BVM
☐ Airway adjunct: Immediately insert a BIAD prior to vascular access
☐ Add ResQPod above mask

51. What is the maximum length of time in seconds that chest compressions may be interrupted to place a CPR device, check a rhythm, and/or defibrillate if manual compressions are in process?

A. < 5
B. 6 to10
C. 11 to 15
D. 16 to-20

52. What is the optimal chest compression rate per min for an adult when a ResQPod is used? (SOP p. 94)

A. 60
B. 80-100
C. 100-110
D. Approximately 120

53. When should defib pads be placed on a pulseless patient in cardiac arrest?

A. Before CPR is initiated
B. During a brief pause in CPR
C. After the initial rhythm is found to be VF
D. While CPR is in progress, without interrupting chest compressions

54. EMS personnel witness an adult go into cardiac arrest with a shockable rhythm. Which of these is indicated?

A. Precordial thump
B. Immediate defibrillation
C. Delayed defibrillation after 2 minutes of ApOx
D. Delayed defibrillation after 2 minutes of CPR

55. At what joule setting should children <50 kg be defibrillated?

_____

56. Which of these is indicated immediately after defibrillating a patient in cardiac arrest with a shockable rhythm?

A. Check for a pulse
B. Assess the rhythm
C. Resume chest compressions
D. Give 2 quick breaths and then resume compressions

57. How long can CPR be interrupted to place an advanced airway?

A. Not at all
B. < 5 seconds
C. 6 to10 second
D. 15 to 30 seconds

58. How long must O2 be applied before an ADV airway may be considered? _____

59. Which of these is indicated after placing an advanced airway during cardiac arrest resuscitation?

A. Change the compression/ventilation ratio to 5:1
B. Increase the ventilatory rate to 12-16 breaths/minute
C. Pause compressions to suction the i-gel or ETT as needed
D. Perform continuous compressions without pausing for ventilations

60. How frequently should epinephrine be given to a patient in cardiac arrest?

A. Every 2 minutes when the rhythm is checked
B. Every 3 - 5 minutes
C. Every 6 minutes
D. Every 10 -15 minutes

61. Which of these is the initial dose for amiodarone when given to an adult in V-fib?

A. 50 mg fast IVP/IO
B. 1.5 mg/kg slow IVP/IO
C. 300 mg rapid IVP/IO (undiluted)
D. 150 mg slow IVP/IO mixed with 7 mL NS over 10 minutes

62. What is the repeat dose of amiodarone for adults who remain in a shockable rhythm and how long after the 1st dose should it be given?

_____

63. What is the repeat dose of amiodarone for children who remain in a shockable rhythm?

_____

64. If a patient has persistent VF, what intervention is indicated?

A. Change defib pad location
B. Give an amp of sodium bicarb and defib again
C. Provide a large breath just before discharging current
D. Mix amiodarone with lidocaine and give as a dysrhythmia drug combo

65. What may be the first clue of return of spontaneous circulation (ROSC)?

_____

66. An adult found in VF has been successfully resuscitated to sinus rhythm with ROSC. The patient remains unconscious, is breathing spontaneously, BP 70/40; P 76; R 12; SpO_2 93%. $EtCO_2$ has a square waveform and reading of 62 mmHg; lungs are clear. While providing a fluid challenge, which of these is indicated **FIRST**?

A. Norepinephrine IVPB
B. 30 seconds of hyperventilation to wash out respiratory acids
C. Rapid external warming with activated hot packs and blankets
D. Secure the ResQPod in place to ensure continued operation enroute to the hospital

67. Why is it important to obtain a 12 L ECG ASAP after ROSC?

A. To get the best possible rhythm analysis
B. To look for evidence of benign early repolarization
C. To see if the heart was damaged during the resuscitation
D. To determine the need for an urgent cardiac catheterization (STEMI)

68. An unconscious adult male is found in VF. The patient's wife states that he had an ICD implanted six months ago. Which EMS intervention is appropriate for this patient?

A. Deactivate the unit with a round magnet and begin CPR
B. Defibrillate and process through the VF SOP as usual
C. Listen over the battery pack with a stethoscope to see if the unit is still charging
D. Wear insulating gloves when performing chest compressions to reduce current exposure

69. An adult presents with IVR & PEA. CPR has been in progress for 12 min, the pt has been given epi 1 mg IVP X 2, an i-gel is placed and $EtCO_2$ is 35 mmHg. An empty bottle of amitriptyline is next to the pt. Which of these is indicated based on a considerations of the Hs and Ts?

A. Atropine
B. Glucagon
C. Sodium bicarbonate
D. Terminate resuscitation; further attempts are futile

Heart Failure (HF)/Pulmonary Edema/Cardiogenic Shock

70. Which of these is indicated first if an adult in pulmonary edema presents with severe respiratory distress, exhaustion, and altered mental status?

A. O_2 10-15 L/NRM
B. DAI and O_2 15 L/BVM
C. O_2 15 L (FiO_2 60%)/C-PAP mask w/ 5 cm PEEP
D. O_2 flush (FiO_2 95%)/C-PAP mask w/ 10 cm PEEP

71. An adult presents with dyspnea that has gradually gotten worse over the past 3 days. The pt denies chest pain, cough, fever, or recent illness. PMH: HTN and high cholesterol. They are noncompliant with their meds. VS: BP 186/100, P 90; ECG SR w/ no evidence of AMI; R 24, SpO_2 91%; $ETCO_2$ 32 with square waveform; lungs have posterior bi-basilar wheezing. Which of these is indicated?

A. C-PAP & NTG
B. Epinephrine 0.3 mg IM
C. O_2 15 L/NRM and transport
D. Albuterol & ipratropium/HHN

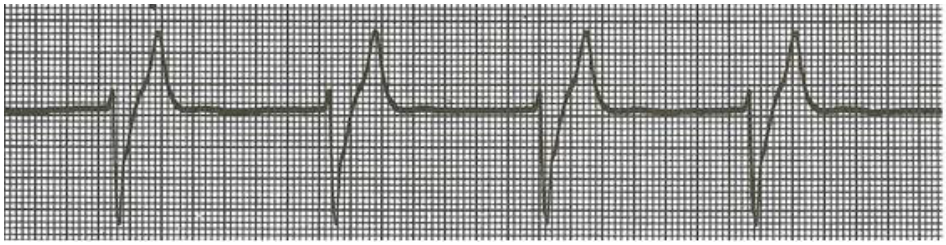
72. An adult is being treated for pulmonary edema with C-PAP at 7 cm of PEEP. They are very anxious and not tolerating the mask well. VS: BP 190/94, P 122, R 28, SpO_2 90%. What action is indicated *first*?

A. Increase PEEP to 10 cm and FiO_2 to 95%
B. Perform DAI and assist ventilations with a BVM
C. Stop C-PAP and switch to a nonrebreather mask
D. Have EMS coach the pt, consider giving midazolam in 2 mg increments

73. An adult had an onset of chest pain (rated 10/10) 30 minutes ago while watching TV. Wt: 200 lbs. PMH: HTN; Meds: Cozaar; denies any allergies. Skin: cold and diaphoretic with dusky lips and nailbeds; no ankle edema; lungs have crackles bilaterally. VS: BP 70/50; P 86; R 28; ECG: SR; SpO_2 70%; $ETCO_2$ 26 with square waveform. After IMC, which intervention is indicated?

A. C-PAP w/ 10 cm PEEP
B. Nitroglycerin 0.4 mg SL
C. Fluid challenges in 200 mL increments
D. Norepinephrine drip, starting at 8 mcg/min

74. Identify the following rhythm.



A. Junctional rhythm
B. Idioventricular rhythm
C. Accelerated idioventricular rhythm
D. Sinus bradycardia with a bundle branch block

75. Identify the following rhythm.

A. Paced rhythm
B. Accelerated junctional rhythm
C. Accelerated idioventricular rhythm
D. Sinus rhythm with a bundle branch block

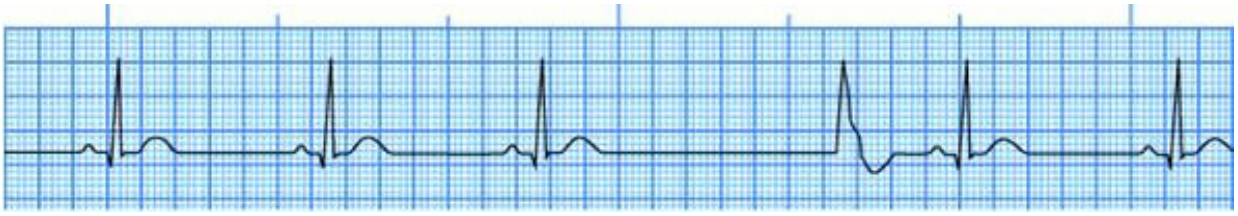
76. Identify the following rhythm.

A. Paced rhythm
B. Accelerated junctional rhythm
C. Accelerated idioventricular rhythm
D. SVT

77. Identify the following rhythm.

A. Third degree AV block
B. Accelerated Junctional rhythm
C. Accelerated Idioventricular rhythm
D. Second degree type 1

78. Identify the following rhythm.



A. Sinus bradycardia
B. Second degree heart block (Mobitz II)
C. Sinus bradycardia with a ventricular escape beat
D. Sinus bradycardia with a premature ventricular contraction

79. Identify the following rhythm.

A. Sinus rhythm with a run of V-tach
B. Sinus tachycardia with two paced beats
C. Sinus tachycardia with 2 multi-formed PVCs
D. Sinus rhythm with aberrantly conducted PACs