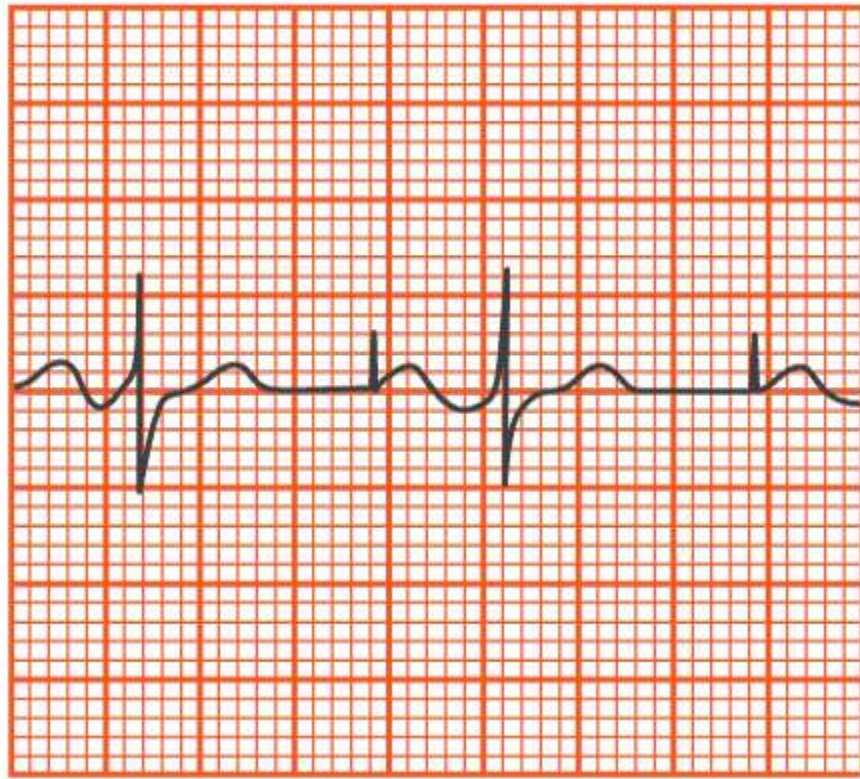


ECG PRACTICE EXAM



1. The ECG strip shown above indicates
- A. An SA block
 - B. A ventricular paced rhythm
 - C. An atrial paced rhythm
 - D. An AV block



2. Which of the following rhythms is shown in the strip above?
- A. Agonal rhythm
 - B. Trigemini
 - C. Ventricular fibrillation
 - D. Ventricular tachycardia

3. Which of the following is classified as the most dangerous arrhythmia?

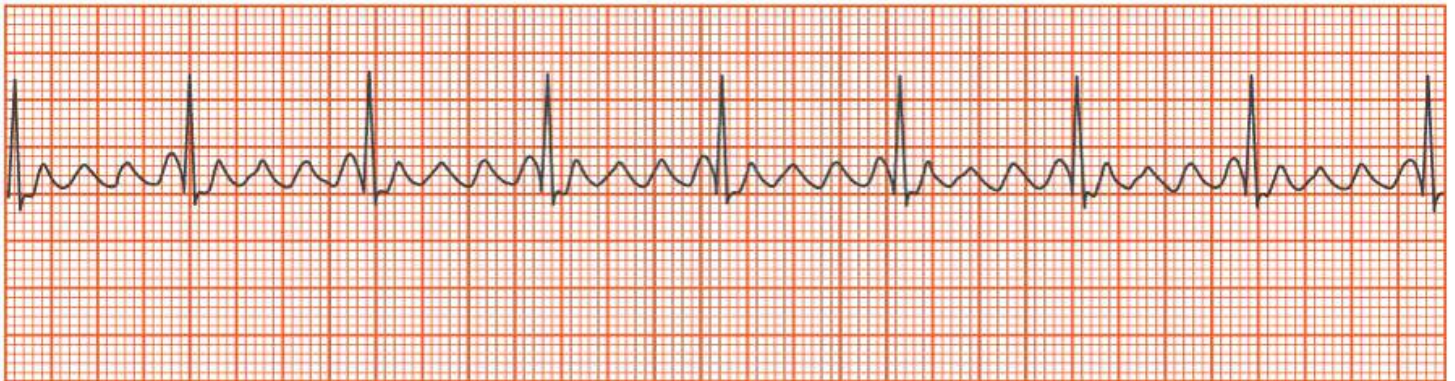
- A. Ventricular fibrillation
- B. Atrial fibrillation
- C. Premature ventricular contraction
- D. Premature atrial contraction

4. Which of the following should the ECG technician check and reapply first when multiple artifacts appear in Leads I and II?

- A. L arm
- B. L leg
- C. R leg
- D. R arm

5. A patient is being tested by way of ECG for a possible delay in electrical conduction from the SA node to the AV node. The technician should look at which of the following parts of the ECG to confirm this diagnosis?

- A. PR segment
- B. P wave
- C. QRS complex
- D. ST segment

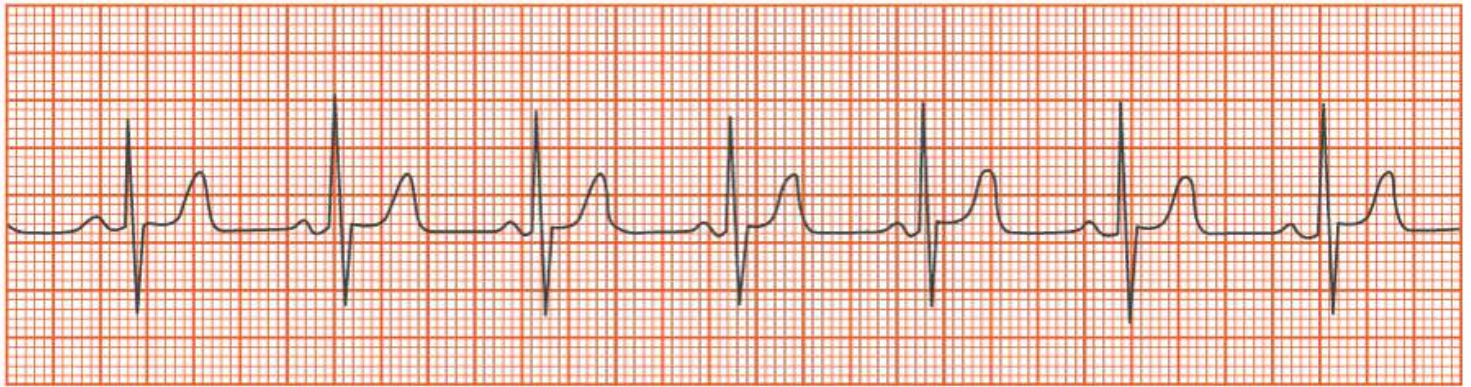


6. Which of the following is the correct classification for the strip shown above?

- A. Irregularly irregular
- B. Regularly irregular
- C. Irregularly regular
- D. Regularly regular

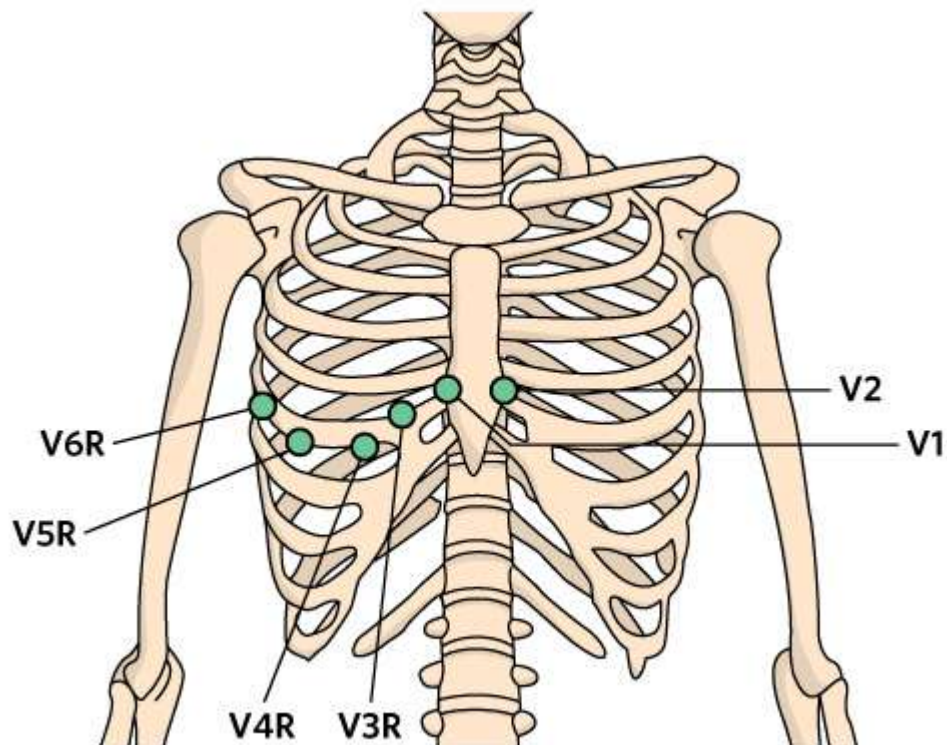
7. A patient with the left arm amputated comes in for an ECG. Which of the following is the proper placement for the left arm lead on this patient?

- A. Moved to the back on the side of the left shoulder moving the right lead to match
- B. As close to the site as possible but higher on the limb and in a similar position
- C. The same as it would be for a patient without a left arm amputated
- D. Moved to the back side of the left shoulder and in a similar position



8. Which of the following is represented by the electrical impulse and standard duration shown in the strip above?

- A. PR segment 0.12 – 0.20 seconds
- B. PR interval 0.12 – 0.20 seconds
- C. PR interval 0.10 – 0.12 seconds
- D. PR segment 0.10 – 0.12 seconds



9. Which of the following patient conditions requires the lead placement shown in the diagram above?

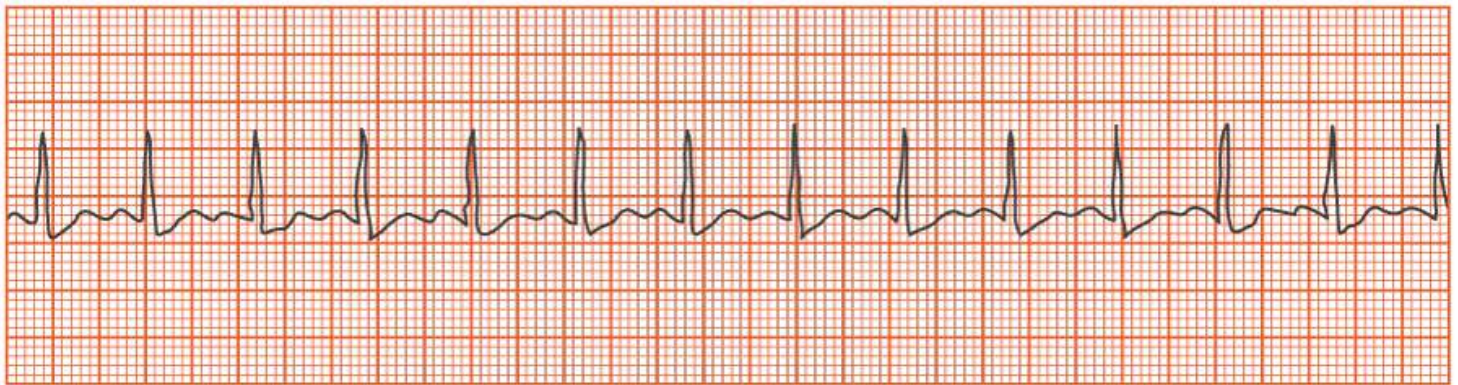
- A. Left sided mastectomy
- B. Left sided chest tube
- C. Dextrocardia
- D. Pregnancy

10. Which of the following instructions regarding a Holter monitor should be given to a patient? (Select the three (3) correct answers.)

- A. Press and hold event marker for the duration of the symptoms
- B. Record chest pain, palpitations, dizziness, or fainting
- C. Press and release event marker for extreme chest pain
- D. Record activity, time, and symptoms for each occurrence
- E. Remove the monitor when showering

11. Which of the following precautions should the ECG technician take for a patient with dormant tuberculosis?

- A. Droplet
- B. Standard
- C. Contact
- D. Airborne



12. From the strip shown above, calculate the patient's heart rate.

- A. 187
- B. 136
- C. 170
- D. 110

13. Which of the following actions by the ECG technician should be performed prior to exercise stress testing? (Select the three (3) correct answers.)

- A. Inform the patient of expectations during the testing
- B. Make sure the patient is in the prone position
- C. Obtain the patient's medical history and current medications
- D. Tell the patient which symptoms should be reported if experienced during the test
- E. Ensure that the monitor has fresh batteries

14. Which of the following is the most routinely overlooked prep for providing ECG testing?

- A. Checking the battery indicator
- B. Turning the machine on
- C. Ensuring that gown and drapes are available
- D. Proper placement of ECG machine

15. When sinus bradycardia is present the patient's heart rhythm is

- A. Higher than 110 BPM and all other measurements are abnormal
- B. Less than 60 BPM and all other measurements are abnormal
- C. Less than 60 BPM and all other measurements are normal
- D. Higher than 110 BPM and all other measurements are normal

16. When a patient with a pacemaker has an ECG performed, the strip will contain

- A. Small spikes where a P wave may not be seen
- B. An introverted T wave
- C. Large spikes where a QRS complex is absent
- D. An elevated ST segment

17. Which of the following are factors affecting the QT interval? (Select the three (3) correct answers.)

- A. Diastolic blood pressure
- B. Antidysrhythmic medications
- C. Electrolyte imbalance
- D. Heart rate
- E. SA node firing

18. Which of the following is the small upward curve representing repolarization of the ventricles?

- A. T wave
- B. QRS Complex
- C. P wave
- D. U wave

19. Which of the following actions should the ECG technician take first when flat lines appear on the ECG tracing?

- A. Untangle the electrodes
- B. Check the patient for responsiveness
- C. Initiate cardiopulmonary resuscitation
- D. Recalibrate the ECG machine



20. Which of the following artifacts are present in the ECG strip above?

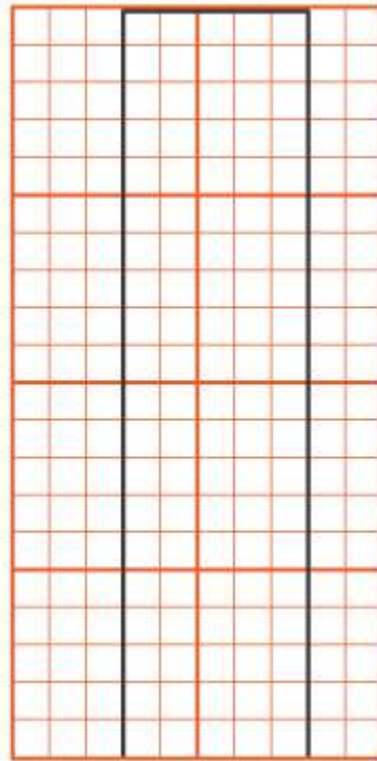
- A. AC interference
- B. Somatic tremor
- C. Wandering baseline
- D. Interrupted baseline

21. When performing an ECG on a child, the ECG technician should place

- A. V4 two inches lower than on an adult
- B. V3 on the right side of the chest
- C. V6 posterior wall of the chest
- D. V2 on the right side of the chest next to V1

22. In the event an ECG technician recognizes idioventricular rhythm on an ECG printout, how should the technician respond?

- A. Notify the physician
- B. Reposition the patient and run the test again
- C. Ask the patient to take several deep breaths
- D. Administer oxygen



23. An ECG technician performs an ECG on a patient and upon completion the standardization mark appears as shown above. The technician should recognize that the test was with the machine set to which of the following settings?

- A. 20 mm/mV and 50 mm/sec
- B. 10 mm/mV and 25 mm/sec
- C. 5 mm/mV and 25 mm/sec
- D. 20 mm/mV and 25 mm/sec

24. What is the approximate amount of time for the QRS complex to record on an ECG?

- A. 0.04 – 0.10 seconds
- B. 0.06 – 0.12 seconds
- C. 0.12 – 0.20 seconds
- D. 0.04 - 0.08 seconds

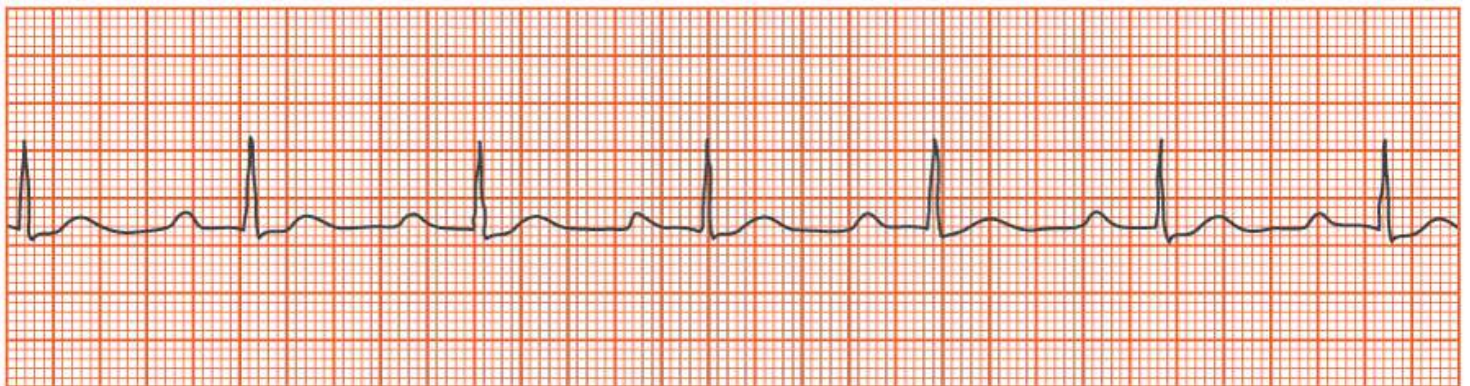


25. Which of the following is shown in the strip above?

- A. Interrupted baseline
- B. Somatic tremor
- C. Sixty-cycle interference
- D. AC interference

26. Which of the following are standard ECG measurements? (Select the two (2) correct answers.)

- A. Vertically 5mm, 0.5mv
- B. Vertically 5mm, 0.1mv
- C. Vertically 1 mm, 0.5mv
- D. Horizontally 0.5mm, 1 second
- E. Horizontally 1mm, 0.04 seconds



27. The ECG strip shown above displays a prolonged

- A. P wave
- B. QRS complex
- C. QT interval
- D. PR interval

28. When working with a patient with methicillin-resistant *Staphylococcus aureus* (MRSA), the ECG technician should

- A. Take the precautions for a contact pathogen
- B. Use a special mask as it is an airborne pathogen
- C. Use gloves and a mask if the patient is being treated
- D. Use the procedures for reverse isolation
- E.

29. To prevent a wandering baseline wave sets that are too close together to be accurately analyzed?

- A. Increase the running speed of the ECG machine to 50 mm/sec
- B. Increase the sensitivity of the machine to 20 mm/mv
- C. Decrease the running speed of the ECG machine to 12.5 mm/sec
- D. Decrease the sensitivity of the machine to 10 mm/mv

30. The physician orders an ECG on a patient with severe burns on his left arm. Which of the following alternate placements should the ECG technician use?

- A. Left upper limb lead placed substernally at the acromion process
- B. Left upper limb lead placed as close to the original site as possible
- C. All upper limb leads placed substernally at the acromion process
- D. All upper limb leads symmetrically placed as close to the original site as possible

31. Which of the following are appropriate actions for the ECG technician to take when placing electrodes on a patient's skin for a 24-hour Holter monitor? (Select the three (3) correct answers.)

- A. Abrade the skin with an alcohol pad or dry 4x4
- B. Place limb leads with tabs facing up
- C. Remove excessive hair from the electrode site
- D. Avoid scars and incisions
- E. Place the electrodes on the arms and torso



32. An ECG technician records an ECG on a 37-year-old patient and obtains the strip shown above. Which of the following actions should the technician take based on interpretation of the strip?

- A. Ensure the patient is lying still and repeat the recording
- B. Check for breathing prior to initiating CPR
- C. Continue with the procedure as normal
- D. Check for electrodes that may have fallen off and replace them if necessary

33. Which of the following are necessary to interpret a rhythm strip? (Select the three (3) correct answers.)

- A. Dysrhythmia
- B. Wave duration
- C. Volume and depth
- D. Regularity
- E. Rate and rhythm

34. ST segment changes are likely to present with which of the following conditions?

- A. 1st degree heart block
- B. Bundle branch block

- C. Syncope
- D. Myocardial ischemia

35. If the arm limb electrodes are reversed on the patient, where on the ECG tracing will this change be depicted?

- A. II and AVL
- B. I and AVL
- C. I and AVR
- D. II and AVF

36. A somatic tremor on an ECG strip can be identified by

- A. Small inverted spikes
- B. Irregularly spaced, jagged peaks
- C. Irregularly spaced, uniform peaks
- D. Small drifting spikes

37. Before entering a private room with monitored negative air the ECG technician should prepare by following

- A. Standard and contact precautions
- B. Airborne and contact precautions
- C. Airborne and droplet precautions
- D. sensitivity

38. Which of the following should be adjusted by the ECG technician when running an ECG on an infant or child?

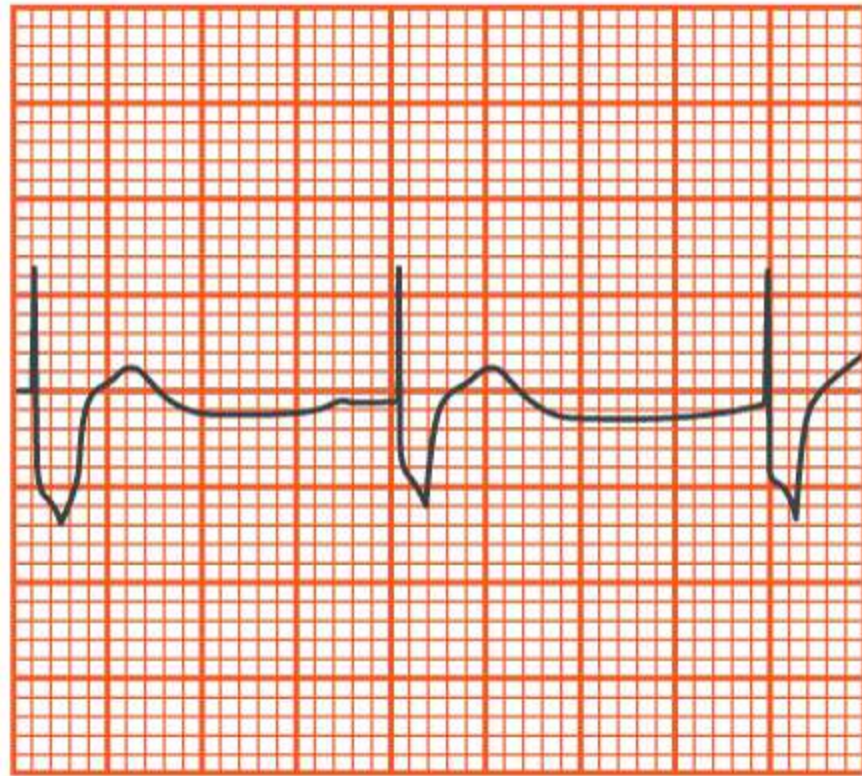
- A. Speed
- B. Stylus position
- C. Amplitude
- D. Sensitivity

39. Where should the V4 electrode be placed on the body?

- A. Left midclavicular line, 5th intercostal space
- B. Right midclavicular line, 5th intercostal space
- C. Right anterior axillary line, 5th intercostal space
- D. Left midaxillary line, 5th intercostal space

40. Which of the following instructions must be followed while wearing the Holter monitor? (Select the two (2) correct answers.)

- A. Avoid wearing jewelry, metal buttons, or buckles
- B. Continue normal exercise and work during monitoring
- C. The Holter monitor should stay in place for 72 hours
- D. Avoid stressful situations during monitoring
- E. Remove the monitor and electrodes while sleeping

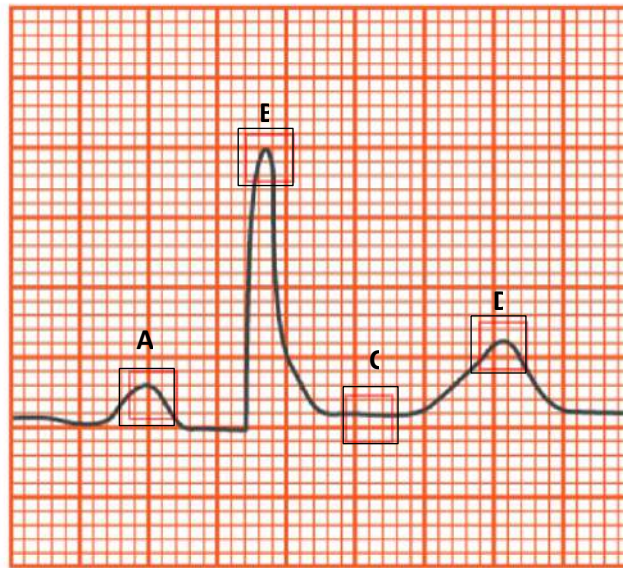


- 41.** Which of the following rhythms is shown in the strip above?
- A. Ventricular pacing
 - B. Failure to capture
 - C. Atrial pacing
 - D. Atrioventricular pacing
- 42.** Which of the following is a major complication of atrial fibrillation?
- A. Widened QRS complexes
 - B. Increased cardiac output
 - C. Thrombi formation
 - D. Premature atrial complexes
- 43.** When preparing a patient's ECG report for the physician, which of the following information should be included? (Select the three (3) correct answers.)
- A. Patient's race and sex
 - B. Medications
 - C. Skin preparation techniques
 - D. Resolved artifacts
 - E. Special considerations or positioning
- 44.** During a patient's yearly checkup, the physician orders an outpatient ECG. Which of the following instructions are likely to be given to the patient at the hospital? (Select the two (2) correct answers.)
- A. Wear comfortable clothing, including athletic shoes
 - B. Do not use any lotions or creams
 - C. Remove any stockings and roll up pant legs, as needed

- D. Remove all piercings
- E. Have someone available to drive you home

45. The ECG technician is obtaining a blood pressure measurement on a patient with a right-sided mastectomy. At which of the following sites should the technician take the blood pressure?

- A. Left lower leg
- B. Right lower leg
- C. Right upper arm
- D. Left upper arm



46. Use the mouse to select the spot on the rhythm strip above that reflects atrial depolarization. Click the Next button when you are sure of your answer.

- A. A
- B. B
- C. C
- D. D

47. A patient presents for a STAT ECG. After hand washing, the ECG technician notices the patient has MRSA sores. The next step to take in order to prevent transmission is to

- A. Reschedule the patient when the MRSA sores have healed
- B. Don a protective mask
- C. Use universal precautions
- D. Implement reverse isolation

48. Which of the following actions should be taken first when the ECG technician observes occasional wide and distorted QRS complexes, distorted ST segments, and PR and QT intervals that cannot be measured?

- A. Initiate CPR
- B. Alert the physician or nurse
- C. Administer oxygen
- D. Continue to monitor the patient

49. Which of the following resources must be available for a patient undergoing a stress test? (Select the three (3) correct answers.)

- A. Defibrillator
- B. Protective gown and mask
- C. Crash cart
- D. Oxygen
- E. Special camera or scanner

50. Which of the following actions should the ECG technician take if a 3 second period of sinus arrest is observed on an asymptomatic patient?

- A. Call a code
- B. Ask the patient to remain still
- C. Inform the physician about the pause
- D. Check the patient for a pulse

51. Ventricular pacemaker cells are found at the

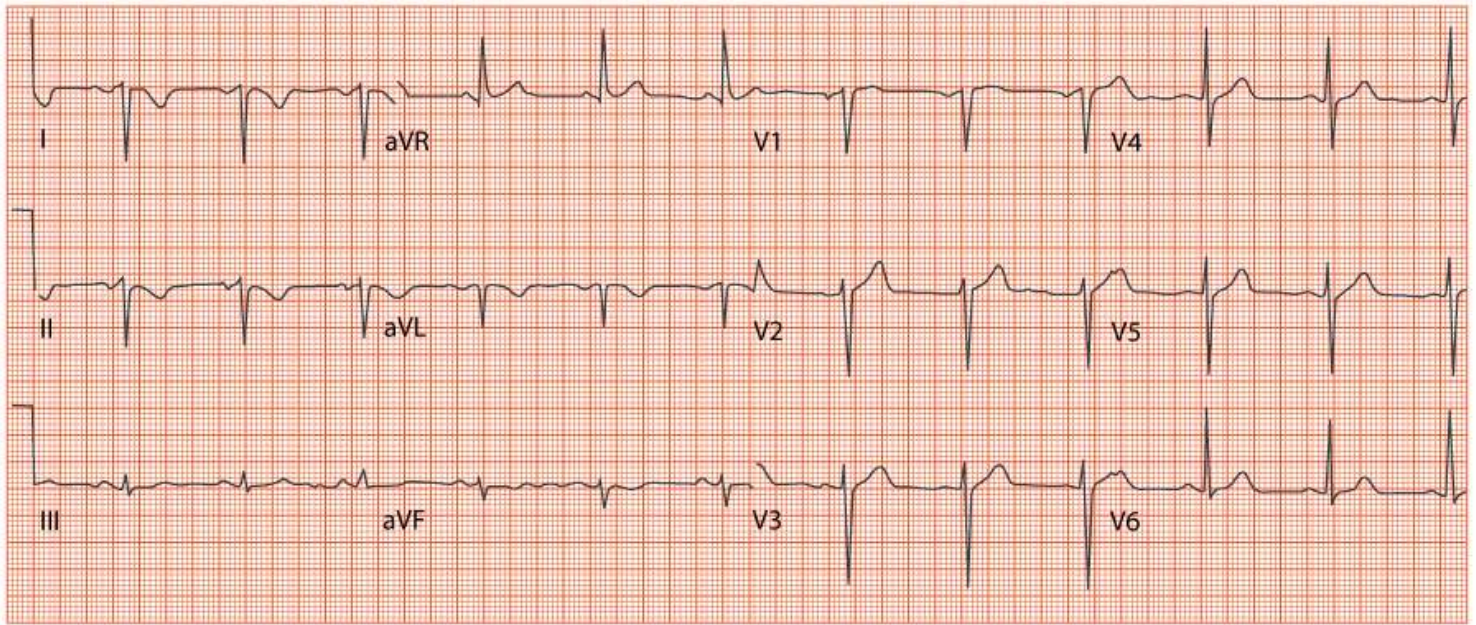
- A. Purkinje fibers
- B. Left bundle branch
- C. SA node
- D. Right bundle branch

52. Which of the following should the ECG technician tell a patient who is preparing to wear a Holter monitor?

- A. Depress the event marker every hour
- B. Remove the monitor from its case before bed
- C. Stop recording after 12 hours
- D. Avoid close contact with other electrical devices

53. The ECG technician should enter the medications that the patient is taking into the

- A. Discharge summary report
- B. Nurse's notes
- C. System review
- D. electrocardiogram



- 54.** Which of the following recording errors is shown in the strip above?
- A. Upper limb lead reversal
 - B. Precordial lead reversal
 - C. Augmented lead reversal
 - D. Lower limb lead reversal
- 55.** Improper grounding of the ECG during set-up is most likely to result in
- A. Alternating current artifact
 - B. Somatic tremor artifact
 - C. Wandering baseline artifact
 - D. Muscle artifact
- 56.** To ensure accuracy during the ECG procedure the technician should
- A. Assist the patient onto the table in the Fowler's position
 - B. Limit instructions and explanations to avoid increasing patient anxiety
 - C. Tell the patient to undress from the waist up, donning the gown with the opening in the front
 - D. Maintain a pleasant conversation with the patient during the test to provide comfort
- 57.** A patient with Parkinson's comes in for an ECG with noticeably severe tremors. Which of the following should the ECG technician do to ensure a proper reading?
- A. Have the patient slide their hands under their buttocks
 - B. Move the patient into the semi-Fowlers position to ease breathing
 - C. Have the patient grasp the side of the table
 - D. Ask the patient to remain calm
- 58.** To determine the quality of atrial activity on an ECG strip, the ECG technician should examine which of the following portions of the cardiac cycle?
- A. ST segment

- B. T wave
- C. QT interval
- D. PR interval



- 59.** Which of the following actions should the ECG technician take first with the strip shown above?
- A. Monitor for low cardiac output
 - B. Initiate cardiopulmonary resuscitation
 - C. Administer oxygen
 - D. Immediately notify the physician
- 60.** If a flat line appears in one of the leads of an ECG tracing the ECG technician should ensure that
- A. The patient is lying still during the test
 - B. All wires are connected to an electrode
 - C. The left and right upper limb wires are not reversed
 - D. All electronic devices in the area are turned off
- 61.** Which of the following is the proper blood pressure cuff for a 9-year-old child weighing 145 pounds?
- A. Large adult
 - B. Child
 - C. Thigh
 - D. Standard adult
- 62.** Which of the following actions should the ECG technician take to ensure proper monitoring of a patient during a stress test? (Select the three (3) correct answers.)
- A. Instruct the patient to report any symptoms
 - B. Instruct the patient to start at a rapid pace
 - C. Adjust the temperature of the room to the patient's preference
 - D. Observe facial expressions, skin color and perspiration
 - E. Measure blood pressure
- 63.** During stress testing on a 50-year-old patient, which of the following is a reason for terminating the test?
- A. A heart rate of 130
 - B. The patient is starting to exhibit diaphoresis

- C. A decrease in systolic blood pressure by 23 mmHg
- D. A respiratory rate of 25 per minute

64. An ECG technician is preparing to perform an ECG on a patient with a total left arm amputation. How should the technician place the arm electrodes?

- A. Omit the left electrode and put the right on the upper outer arm
- B. Put both the right and left on the torso, below the clavicle
- C. Put the right on the upper outer arm and the left on the torso below the clavicle
- D. Place both the right and left on the upper outer shoulder area

65. On an ECG strip for a patient with a pacemaker, if there are pacing spikes present and there is no atrial or ventricular depolarization, the ECG technician should recognize which of the following pacemaker complications?

- A. Loss of capture
- B. Misfiring
- C. Oversensing
- D. Malsensing

66. Proper electrode placement for continuous ECG monitoring is identified by the use of

- A. 10 electrodes placed on the patient's torso
- B. 3 leads placed on the patient's torso
- C. 5 electrodes placed on the patient's extremities and torso
- D. 12 electrodes placed on the patient's extremities and torso

67. How should a 38-year-old late term pregnant woman be positioned to reduce pressure on the inferior vena cava during an ECG?

- A. Supine
- B. Lithotomy
- C. Dorsal recumbent
- D. Semi-Fowler's

68. While obtaining vitals on an infant, how is the heart rate measured?

- A. Palpate the radial pulse for 60 seconds
- B. Auscultate the apical pulse for 60 seconds
- C. Auscultate the brachial pulse for 60 seconds
- D. Palpate the femoral pulse for 60 seconds



- 69.** Which of the following is indicated in the strip shown above?
- A. Atrial rate undetermined, unidentifiable RR interval
 - B. Atrial rate 100, ventricular rate between 100 and 200 bpm
 - C. Atrial rate 100, unidentifiable PP interval
 - D. Atrial rate undetermined, ventricular rate between 100 and 200 bpm
- 70.** Prior to transmitting any ECG report to a patient's EMR/EHR or chart, which of the following should the ECG technician do? (Select the three (3) correct answers.)
- A. Give the patient the results
 - B. Eliminate artifacts
 - C. Ensure correct ICD codes were used
 - D. Give a copy of the strip to the patient
 - E. Ensure all patient information is correct
- 71.** Reminding patients to refrain from talking and moving, and keeping them warm during the ECG procedure are important to help eliminate
- A. A somatic tremor artifact
 - B. A 60-cycle interference
 - C. A wandering baseline artifact
 - D. An alternating current interference
- 72.** Which of the following indicates a normal sinus rhythm?
- A. PR interval of 0.14 second, QRS complex of 0.12, QT interval of 0.48 second and HR of 72
 - B. PR interval of 0.22 second, QRS complex of 0.12 second, QT interval of 0.48 second and HR of 72
 - C. PR interval of 0.22 second, QRS complex of 0.10 second, QT interval of 0.40 second and HR of 78
 - D. PR interval of 0.14 second, QRS complex of 0.10 second, QT interval of 0.40 second and HR of 78
- 73.** Which of the following pieces of equipment should the ECG technician anticipate using when taking a patient's blood pressure?
- A. Otoscope
 - B. Pulse oximeter

- C. Speculum
- D. sphygmomanometer

74. To prevent a wandering baseline artifact, the ECG technician should ensure the patient is

- A. positioned with his hands under the buttocks
- B. cleansed with alcohol prep pads
- C. moved away from the wall if in a hospital bed
- D. not wearing any metal jewelry

75. An ECG technician is performing an ECG on a patient who is talking, alert and oriented, but the printout shows ventricular fibrillation. Which of the following actions should the ECG technician take in response to this reading?

- A. Begin CPR and lifesaving measures
- B. Administer oxygen
- C. Call a code
- D. Check connection of electrodes

76. The patient asks the ECG technician why vital signs are taken at every office visit. Which of the following is the best response?

- A. "It is for diagnostic purposes."
- B. "To obtain a baseline measurement of your overall health status."
- C. "The physician requires it."
- D. "To comply with health insurance reimbursement policies."

77. Which of the following variations in ECG results is likely for patients with pacemakers?

- A. Presence of a pacing spike
- B. Decreased PR interval
- C. Inverted P-wave
- D. Elevated ST segment

78. An idioventricular rhythm has an absence of

- A. P waves
- B. T waves
- C. S waves
- D. ST segment

79. Which of the following occurs when a singular irritable impulse fires so rapidly it bombards the AV node, causing V shaped or upside down V shaped waves?

- A. Ventricular flutter
- B. Ventricular tachycardia
- C. Atrial tachycardia
- D. Atrial flutter

80. An ECG technician obtains an ECG recording with the following measures: PR interval of 0.24 seconds, QRS complex of 0.08 seconds, T waves upright at 5 mm and a calculated heart rate of 68 beats per minute. Which of the following should the technician identify this rhythm as?

- A. Normal sinus
- B. 1st degree block
- C. Bundle branch block
- D. Accelerated junctional

81. ST segment depression with T wave inversion indicates which of the following arrhythmias?

- A. AV block
- B. Hemiblock
- C. First degree heart block
- D. Bundle branch block

82. Which of the following is the most common lead used to evaluate components of the ECG strip?

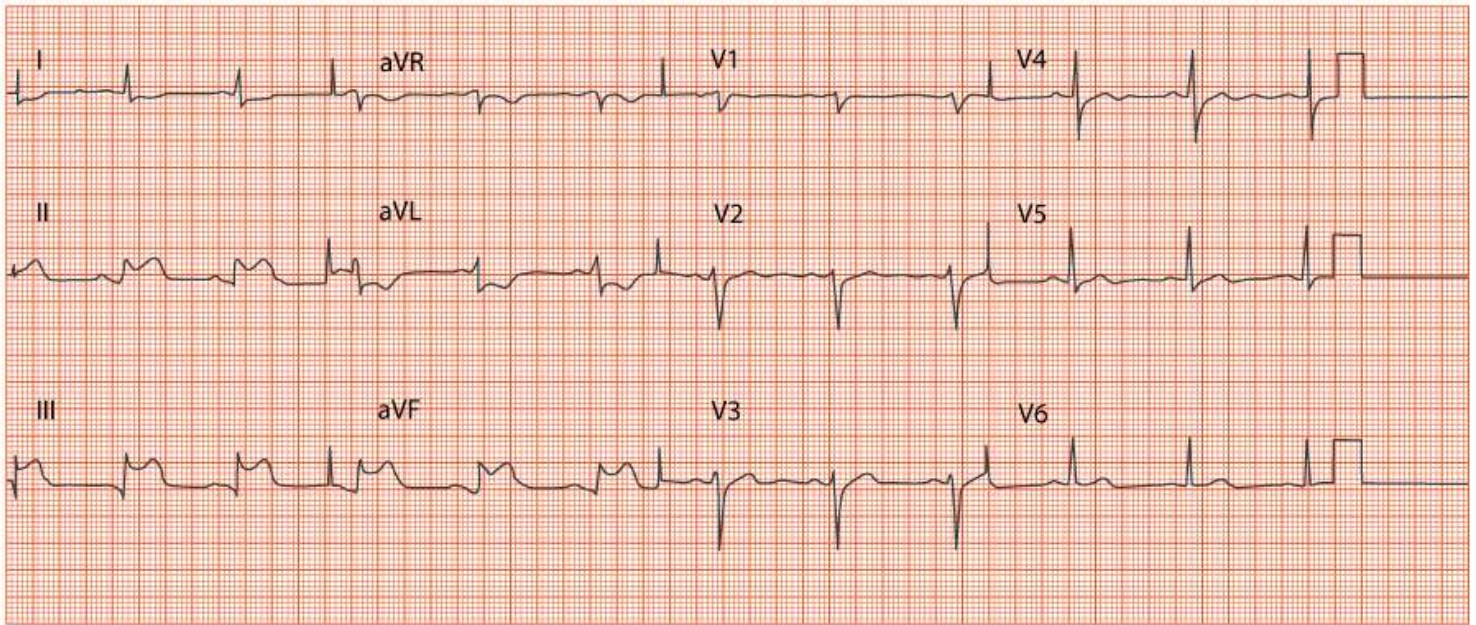
- A. Lead I
- B. Lead II
- C. Lead V4
- D. Lead AVT

83. In a patient with a heart that deviates to the right of the sternum, the ECG technician should place the precordial leads in which of the following positions?

- A. Left to right
- B. Anterior to the negative electrode
- C. Posterior to the positive electrode
- D. Right to left

84. Widening of QRS complexes on an ECG most likely indicates which of the following abnormalities?

- A. Rapid ventricular repolarization
- B. Bundle branch block
- C. 1st degree heart block
- D. Atrial flutter



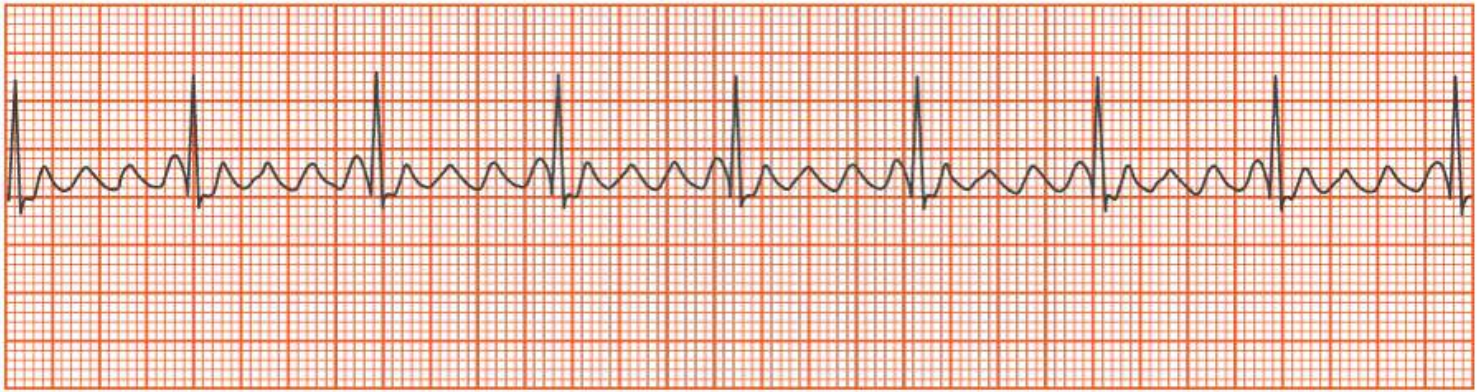
85. While performing a stress test on a patient, the patient complains of chest pain and has the ECG shown above. Which of the following should the ECG technician do next?

- A. Call a code
- B. Notify the physician/nurse and stop the treadmill
- C. Tell the patient to take deep breaths
- D. Review the peak for possible changes

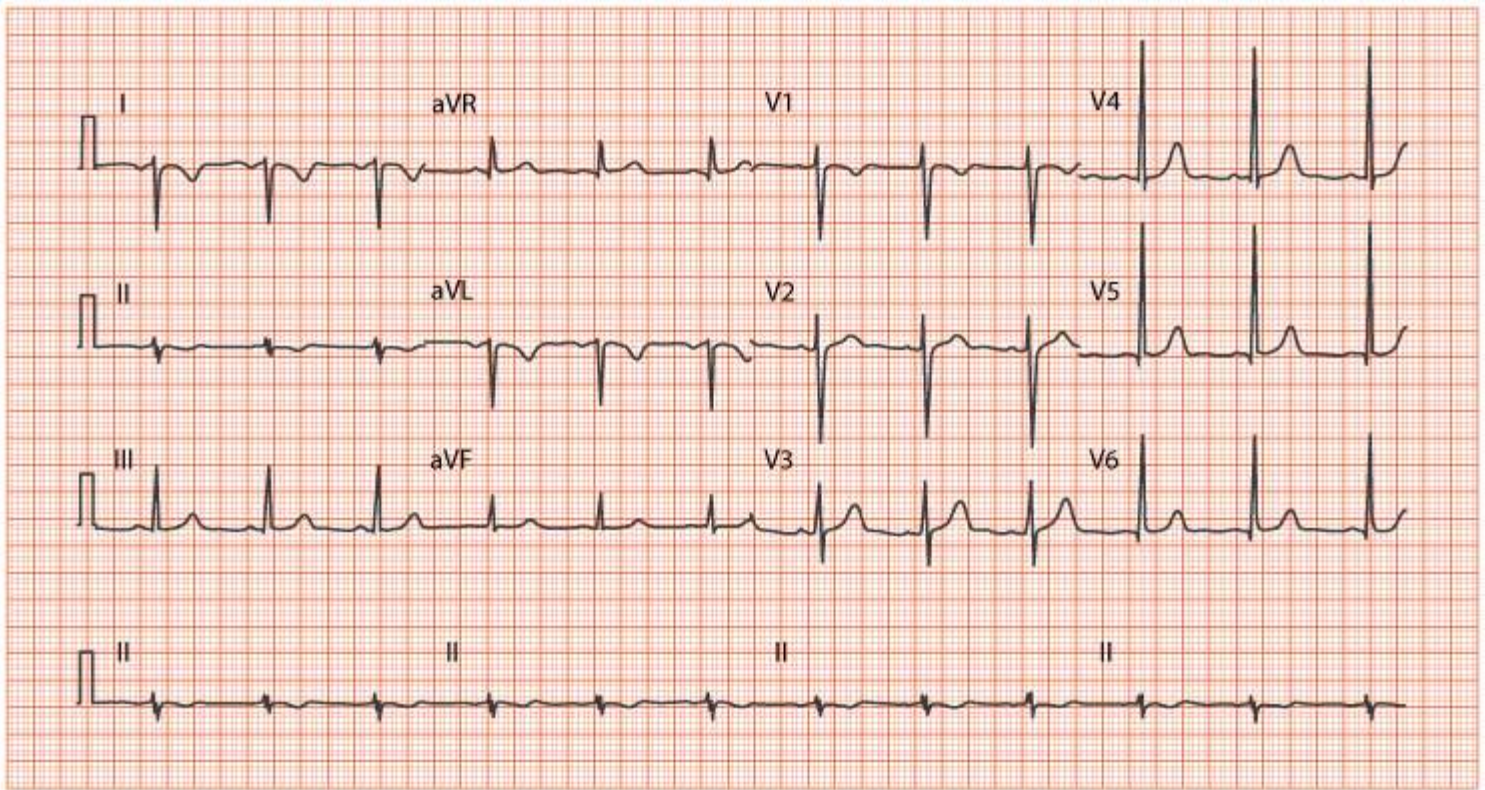


86. The classification of the rhythm strip shown above is

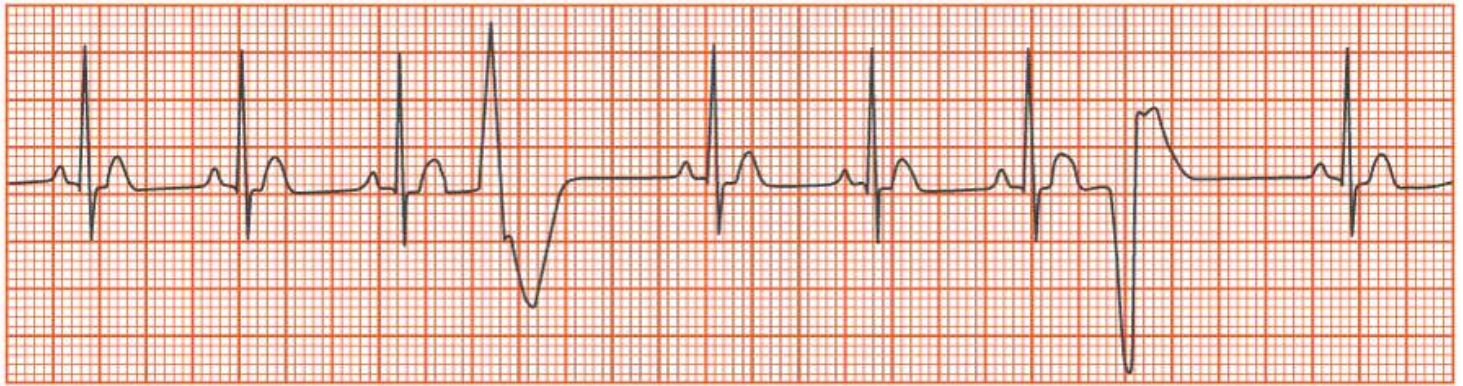
- A. Bundle block
- B. Atrial
- C. Junctional
- D. Ventricular



- 87.** For the ECG strip shown above, the heart rate would be calculated as 90 bpm if which of the following methods were used?
- A. 6-second method
 - B. Small box method
 - C. 300 method
 - D. Large box method
- 88.** While performing an ECG an emergency arises with the patient. Which of the following should the ECG technician assess first? (Select the two (2) correct answers.)
- A. Skin
 - B. Eyes
 - C. Respiration
 - D. Pulse
 - E. temperature
- 89.** A patient with a blood pressure of 158/96 mm Hg is considered
- A. Bradycardic
 - B. Tachycardic
 - C. Hypertensive
 - D. Hypotensive
- 90.** Which of the following actions should the ECG technician take first when performing an ECG?
- A. Verify insurance information
 - B. Explain the procedure to the patient
 - C. Obtain consent for the procedure
 - D. Identify herself by name and title
- 91.** Which of the following is a typical characteristic of a Premature Atrial Contraction (PAC)?
- A. Two P waves for one QRS complex
 - B. QRS duration and configuration wide and bizarre with T wave in opposite direction
 - C. PR interval within normal limits
 - D. PR interval follows the underlying rhythm



- 92.** Which of the following should the ECG technician do after obtaining the strip shown above?
- A. Ask the patient if they have experienced any cardiac related symptoms
 - B. Ensure all electrodes and cables are properly placed
 - C. Ensure that the patient remains completely still during the test
 - D. Ask the patient if they have an implanted atrial pacemaker
- 93.** In prepping for placement of a 24-hour Holter monitor, how should the ECG technician instruct the patient?
- A. Withhold prescription medications during the 24-hour period
 - B. Refrain from exercising for the duration of the test
 - C. Avoid the intake of caffeinated beverages until the monitor is removed
 - D. Do not use a hair dryer while wearing the monitor
- 94.** When performing a stress test on a 42-year-old patient, the earliest the test can be concluded is when the patient reaches a heart rate of
- A. 266 bpm
 - B. 220 bpm
 - C. 188 bpm
 - D. 178 bpm

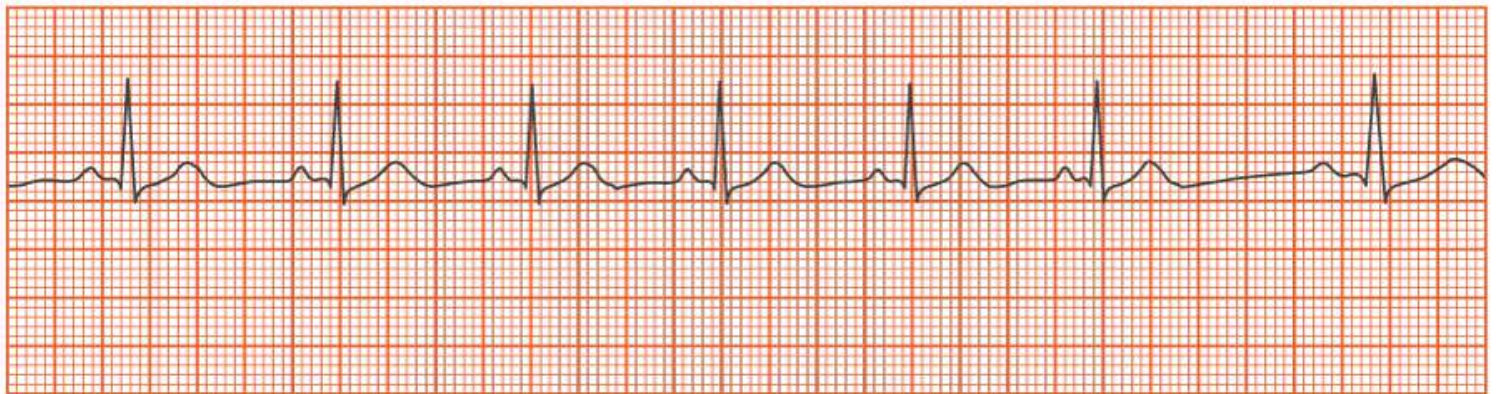


- 95.** Which of the following calculation methods should be used to determine heart rate in the strip shown above?
- A. The 300 method
 - B. The R-R method
 - C. The 1500 method
 - D. The 6 second method
- 96.** A three-month-old patient is fussy and moving his arms and legs. Which of the following should the ECG technician do in order to get proper electrode placement for an accurate ECG? (Select the two (2) correct answers.)
- A. Use a reward system
 - B. Sooth the child with a pacifier
 - C. Allow the child to get familiar with the equipment
 - D. Only place the precordial leads
 - E. Allow the parent to hold the child
- 97.** Lead II records the tracing between which of the following limbs?
- A. Left leg, right arm
 - B. Left leg, right leg
 - C. Right leg, right arm
 - D. Right arm, left leg
- 98.** While performing an ECG on a patient, electrodes keep falling off. Which of the following should the ECG technician do? (Select the two (2) correct answers.)
- A. Reposition the electrodes
 - B. Clean the skin with 70% isopropyl
 - C. Clean the skin with soap and water
 - D. Ask the patient to sit on her hands
 - E. Placed tape over the electrodes
- 99.** Which patient responsibilities continue for the ECG technician after completion of the exercise portion of electrocardiography stress testing? (Select the three (3) correct answers.)
- A. Allow the patient to leave when exercise is completed
 - B. Answer patient questions regarding the results of the stress test
 - C. Stay with the patient and monitor for any changes

- D. Advise the patient to avoid stimulants
- E. Instruct the patient on proper rest

100. Prior to an ECG a patient informs the ECG technician that he often experiences orthopnea. How should the technician prepare this patient for the ECG procedure?

- A. Place the limb electrodes on the shoulder/hip regions
- B. Position the patient in the semi-Fowlers position
- C. Place the chest electrodes on the right side of the chest
- D. Position the patient in the supine position



101. In which of the following patients does the strip shown above present a normal finding? (Select the three (3) correct answers.)

- A. Older adults
- B. Well-conditioned athlete
- C. School age child
- D. Patient with PAT (Paroxysmal Atrial Tachycardia)
- E. Infant

102. When performing a 12-lead ECG, which of the following positions demonstrates correct lead placement?

- A. V4 is placed left midclavicular 5th intercostal space
- B. V4 is placed left midclavicular 4th intercostal space
- C. V5 is placed left midclavicular 4th intercostal space
- D. V5 is placed left midaxillary 5th intercostal space

103. A cardiac cycle is detected on the ECG monitor, but the patient has no pulse. This is known as

- A. SVT
- B. PVC
- C. PEA
- D. PAC

104. A multiform of three PVCs in a heart rate above 100 is called

- A. Ventricular fibrillation
- B. Atrial fibrillation
- C. Ventricular tachycardia

D. Atrial tachycardia

105. During a stress test, the patient's blood pressure should be monitored and recorded every

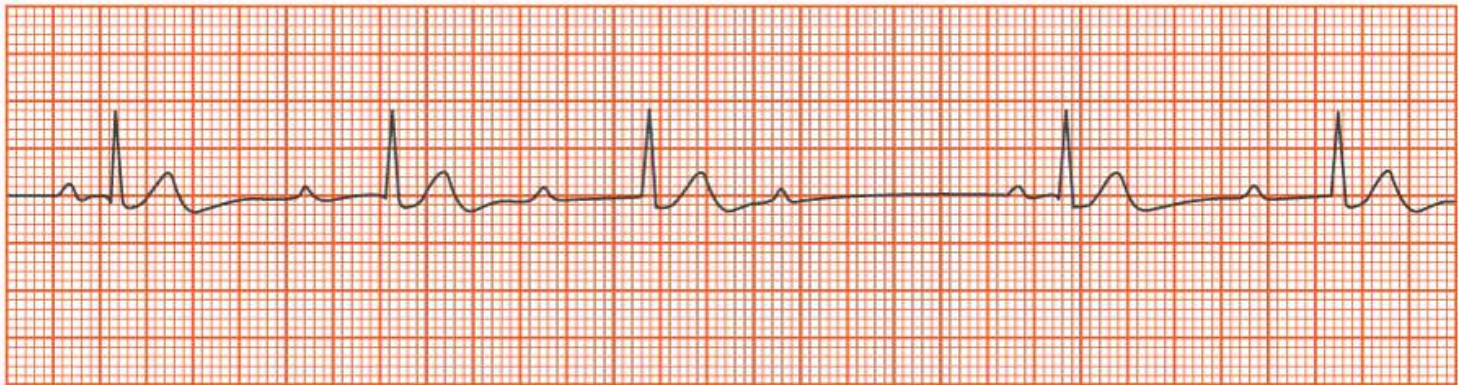
- A. 2 ½ minutes
- B. 10 minutes
- C. 5 minutes
- D. minute

106. A constant PRI that exceeds 0.20 seconds indicates

- A. an AV block 2:1 conduction
- B. a third degree AV block
- C. a second degree AV block
- D. a first degree AV block

107. Male patients are properly prepared and positioned for an ECG if they are positioned in

- A. supine with chest and extremities exposed
- B. sims with chest and extremities exposed
- C. sims with chest exposed
- D. supine with chest exposed

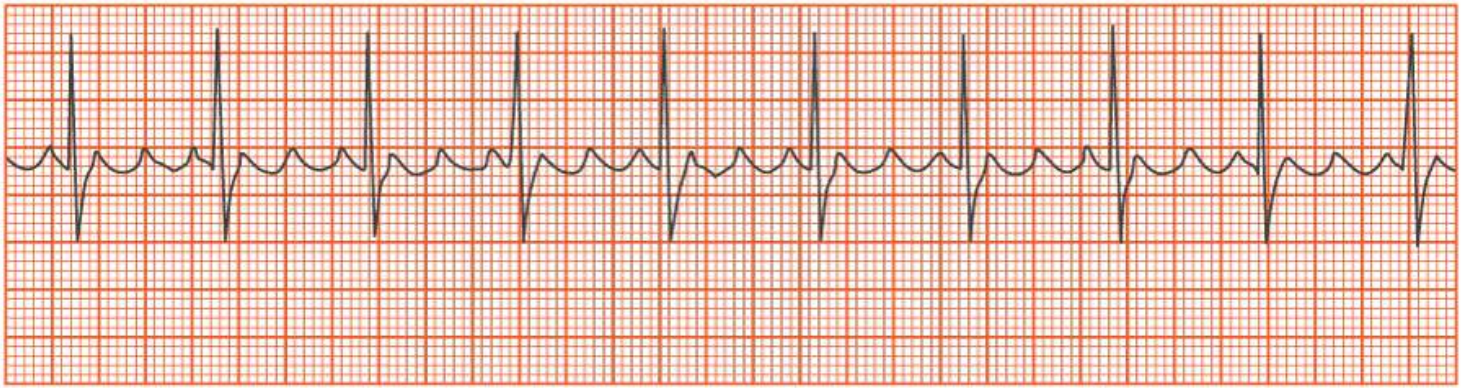


108. After notifying the physician, which of the following should be the ECG technician's next action for a patient with strip shown above?

- A. Initiate Emergency Response System or Code Blue
- B. Monitor the patient for deterioration of symptoms
- C. Evaluate the patient's cardiac output
- D. Check the precordial (V1-V6) leads and limb placement

109. Modified electrode placement is necessary for which of the following special circumstances?

- A. Venral burn scarring
- B. L ventral wall abnormalities
- C. Amputated limb
- D. Breast implants

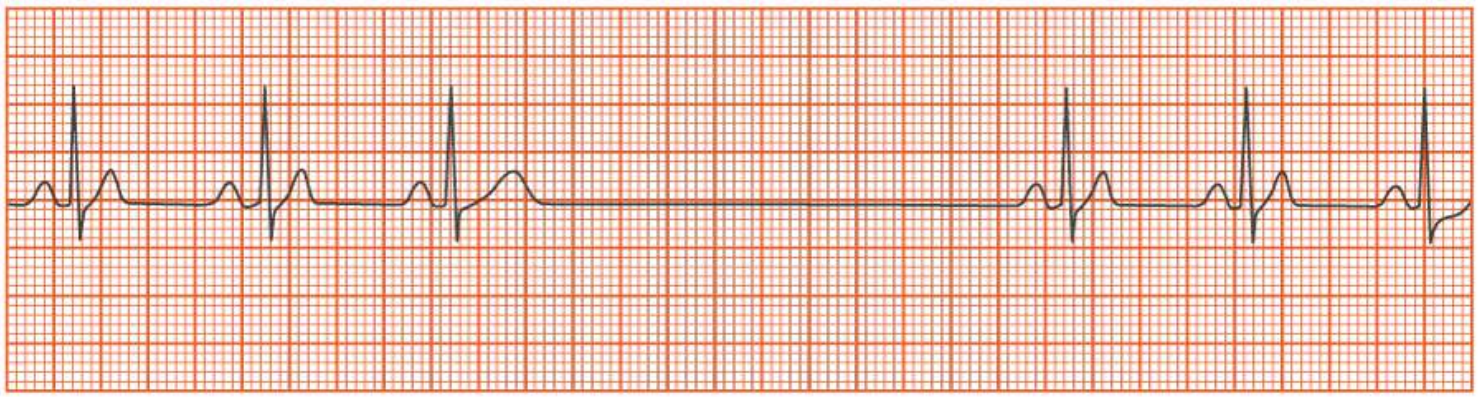


110. Which of the following rhythms is shown in the strip above?

- A. Atrial flutter
- B. Atrial fibrillation
- C. Premature atrial complex
- D. Atrial tachycardia

111. When performing an ECG on a pregnant woman in her third trimester the ECG technician should place the

- A. Patient on her right side and lower limb leads on the lower abdomen
- B. Lower limb leads on the patient's side
- C. Lower limb leads on the patient's ankles
- D. Patient on her left side and lower limb leads on her upper thighs



112. Which of the following are true of the ECG rhythm shown in the strip above? (Select the three (3) correct answers.)

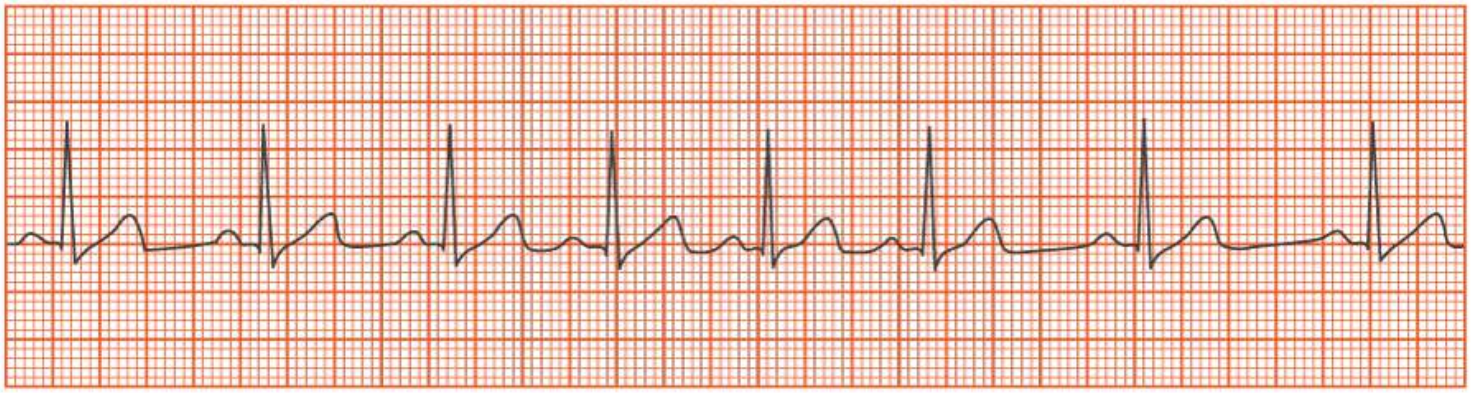
- A. It is normal sinus rhythm with a blocked PAC
- B. The arrhythmia is 4 seconds long
- C. Seriousness depends on the length of the pause
- D. The patient is about to lose consciousness
- E. Decreased cardiac output occurs with duration

113. Which of the following patients requires modified placement of the electrodes?

- A. Amputation
- B. Hairy chest
- C. Mastectomy
- D. Open heart surgery

114. A patient arrives late after witnessing an auto accident. In preparation for running the patient's ECG, the technician notes an increased anxiety level. Which of the following should the technician do? (Select the three (3) correct answers.)

- A. Obtain vital signs promptly
- B. Run two ECGs ten minutes apart
- C. Document the patient's state in the report
- D. Speak clearly and softly to patient



115. If the strip shown above is obtained on an adult patient, which of the following should the ECG technician do before obtaining another ECG reading?

- A. Direct the patient to try to breathe normally and not hold his breath
- B. Ask the patient to remove any electrical devices from her pockets
- C. Have the patient take off any jewelry
- D. Apply tape to any electrodes that appear loose or not securely adhered

116. Which of the following does the P wave on an ECG represent?

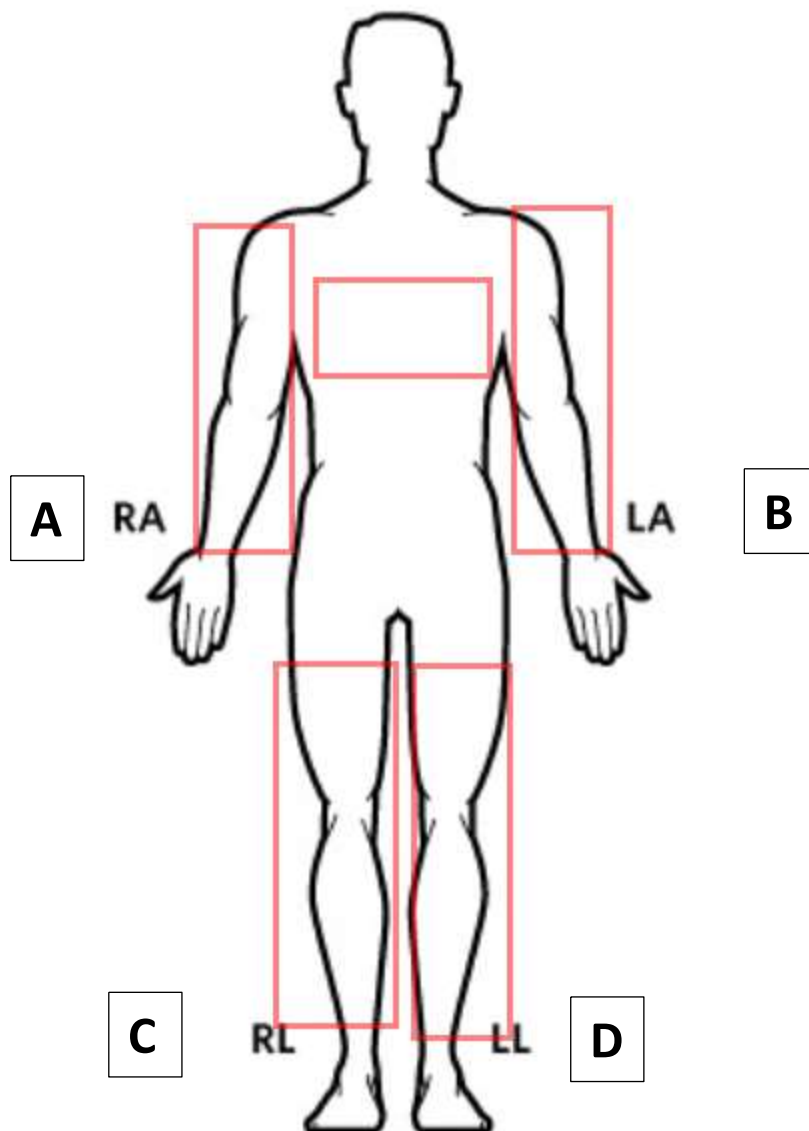
- A. Ventricle contraction ends
- B. Atrial contraction
- C. Ventricle contraction
- D. Atrial contraction ends

117. When the patient is receiving a routine ECG, the waveform that indicates an increased risk for certain dysrhythmias and sudden death is a shorter or longer than normal

- A. ST segment
- B. QT interval
- C. PR segment
- D. PR interval

118. While monitoring a stress test on a 56-year-old male, the ECG technician should stop the test when the

- A. Technician sees that the patient is starting to sweat
- B. Patient has completed three stages of the test
- C. Patient's heart rate reaches 100
- D. Physician recognizes asymptomatic heart rhythm changes



119. Use the mouse to select the correct position for ground lead placement in the figure above. Click the Next button when you are sure of your answer.

- A. A
- B. B
- C. C
- D. D

120. Which of the following should the ECG technician adjust to correct a QRS complex that is too tall to properly record the ECG?

- A. Sensitivity control
- B. Position control
- C. Frequency response
- D. Stylus control

121. The ECG technician is performing a 12-lead ECG on a patient and notices that lead III does not appear on the tracing. Which of the following actions should the technician take?

- A. Re-center the stylus and repeat the tracing
- B. Ask the patient to lie still to reduce somatic interference
- C. Check for a loose wire, reconnect, and repeat the tracing
- D. Add an extra electrode to the 5th intercostal space

122. The ECG technician is performing an ECG on a patient who is obese, and a wandering baseline is present. Which of the following actions should the technician take? (Select the two (2) correct answers.)

- A. Ensure the patient's arms are folded over the chest
- B. Ensure the patient is not touching the frame or side rail
- C. Ensure that new electrodes and clean clips are used
- D. Ensure that the examination table is not touching the wall
- E. Ensure good skin preparation

123. The time interval after ventricular depolarization and before ventricular repolarization is the

- A. ST segment
- B. QT interval
- C. PR interval
- D. QRS complex

124. Which of the following is characterized by rapid incomplete contractions of the atria?

- A. Paroxysmal atrial tachycardia
- B. Atrial fibrillation
- C. Premature atrial contractions
- D. Ventricular fibrillation

125. To correct a wandering baseline, the ECG technician should

- A. Secure loose electrodes
- B. Replace broken cables
- C. Unplug the electrical equipment around the ECG
- D. Have the patient remove jewelry

126. In electrocardiography, the degrees of variation (horizontally and vertically) are known as the

- A. Deflection and baseline
- B. Amplitude and voltage
- C. Isoelectric line and baseline
- D. Time and amplitude

127. After validating an ECG order, collecting all supplies, and ensuring the machine is in proper working order, the technician's next action should be to

- A. Apply the electrodes
- B. Provide for privacy
- C. Identify the patient
- D. Explain the procedure

128. Three big boxes between the R-R intervals indicates

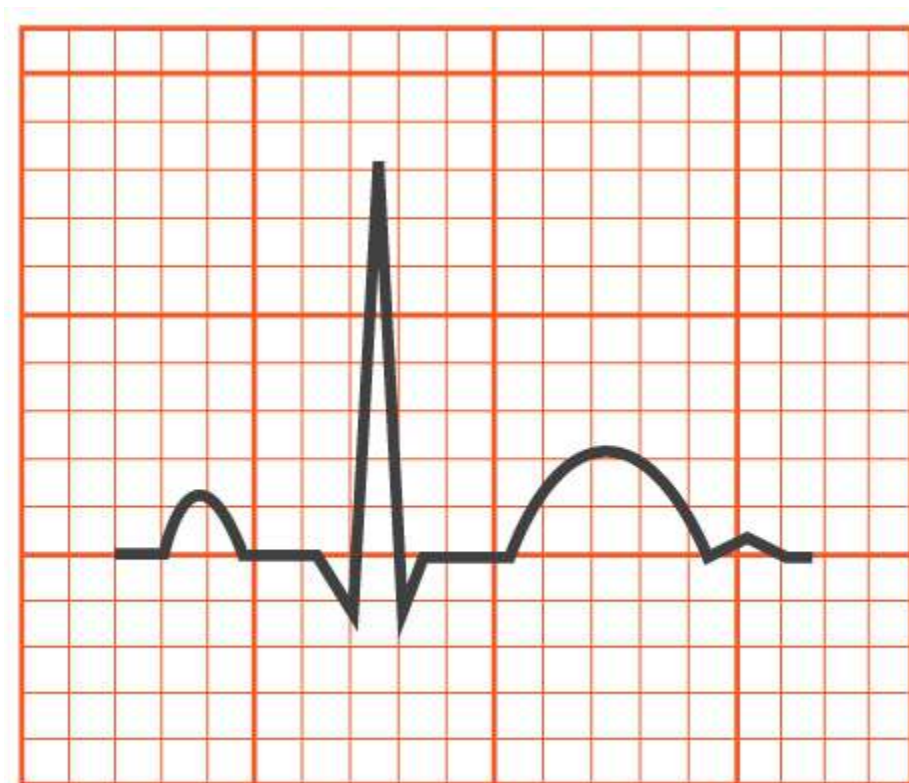
- A. 0.20 sec
- B. 1.0 sec
- C. 100 bpm
- D. 75 bpm

129. A patient with dyspnea comes in for an ECG. In which of the following positions should the patient be placed for the procedure?

- A. Trendelenburg
- B. Sims
- C. Semi-Fowlers
- D. supine

130. Which of the following is the minimum number of variations of the P wave in a wandering atrial pacemaker rhythm?

- A. Three
- B. One
- C. Two
- D. four



131. Which of the following R wave amplitudes is shown in the strip above?

- A. 0.5 mv
- B. 0.8 mv
- C. 0.20 mv
- D. 0.36 mv

132. The time from ventricular depolarization through repolarization is represented by the

- A. PR interval
- B. PR segment
- C. QY interval
- D. QRS complex

133. Which of the following should be included in the medical history taken prior to an ECG?

- A. Fasting status
- B. Current medications
- C. SPO2
- D. Smoker versus non-smoker status

134. The ECG technician has now completed the ECG procedure. Following Standard Precautions, the ECG technician should

- A. Sanitize and disinfect reusable equipment and return it to storage
- B. Remove all equipment and return it to storage
- C. Place all equipment outside the patient's room
- D. Sterilize all equipment and return it to storage

135. Which of the following is included in the ECG technician's scope of practice?

- A. Explaining the results to the patient
- B. Identifying special patient considerations
- C. Diagnosing dysrhythmias on ECGs
- D. Correcting dysrhythmias on ECGs

136. Which of the following are characteristic of premature atrial contractions (PACs)? (Select the three (3) correct answers.)

- A. QRS complexes remain within normal limits (0.06-0.10)
- B. Rhythm will be regular with occasional early complexes
- C. Atrial and ventricular rates are different
- D. PR interval measures are within normal limits (0.12-0.20)
- E. P waves are the same shape and configuration

137. Artifact is present in the ECG recording. Which of the following actions should the ECG technician take to correct the artifact? (Select the three (3) correct answers.)

- A. Place the patient in the lateral position
- B. Remind the patient not to move
- C. Keep tension on the lead wires
- D. Use a grounded electrical outlet
- E. Keep the patient warm

138. The ECG technician needs to obtain vital signs on an emaciated 86 pound geriatric female with an oxygen mask prior to obtaining her ECG. Which of the following equipment should the technician have on hand? (Select the two (2) correct answers.)

- A. Child sphygmomanometer
- B. Temporal thermometer
- C. Standard adult sphygmomanometer
- D. Oral thermometer with probe cover
- E. Body mass index BMI machine



139. Which of the following is shown in the strip above?

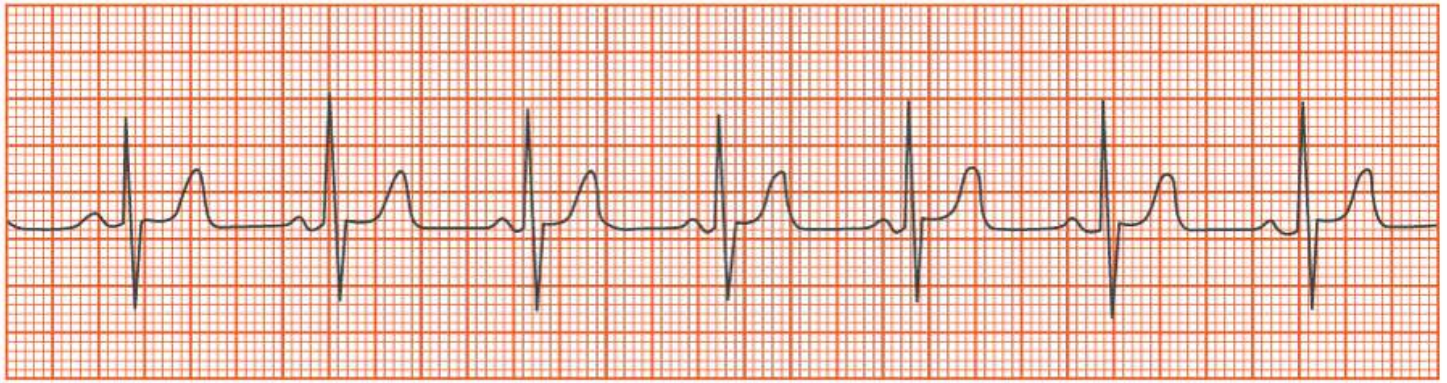
- A. First degree heart block with irregular P-P intervals and irregular R-R intervals
- B. Second degree heart block with irregular P-P intervals and irregular R-R intervals
- C. First degree heart block with irregular P-P intervals and regular R-R intervals
- D. Second degree heart block with irregular P-P intervals and regular R-R intervals

140. Which of the following characteristics should the ECG technician look for when identifying the P wave?

- A. Large deflections from baseline due to ventricular depolarization
- B. Smaller upward curve due to repolarization of the Bund of His and Purkinje fibers
- C. Small sloping upward curve resulting from ventricular repolarization
- D. Small upward curve resulting from atrial depolarization

141. Which of the following instructions should be given to patients prior to stress testing? (Select the two (2) correct answers.)

- A. Refrain from alcohol, tobacco and caffeine 48 hours prior to the test
- B. No food or drink is allowed after midnight prior to the test
- C. Wear comfortable clothes, including athletic shoes
- D. Eat a light meal two hours prior to the test
- E. Take all prescribed medications two hours prior to the test



142. Which of the following rhythms is shown in the strip above?

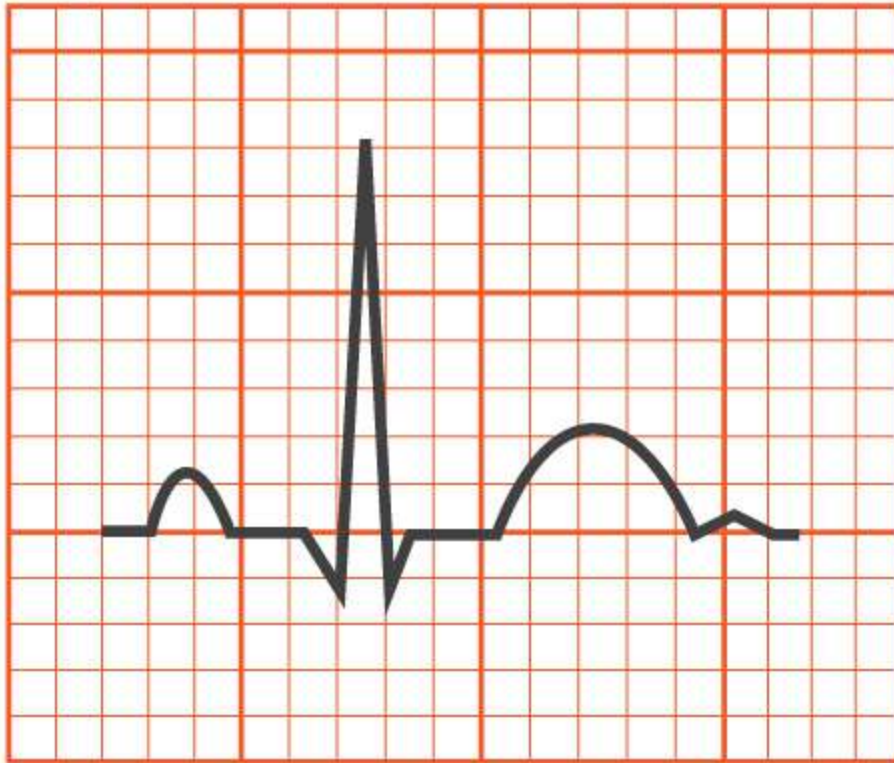
- A. Ventricular
- B. Junctional
- C. Sinus
- D. idioventricular

143. A patient on droplet precautions needs to be moved from his room to a testing facility for a stress test. Which of the following precautions should the ECG technician take? (Select the two (2) correct answers.)

- A. put the patient in a clean gown with a mask and gloves
- B. have the patient wear a mask
- C. evacuate the rout to the testing facility during the transport
- D. have the patient wear a HEPA or N mask
- E. wear a mask and gloves

144. If the RA – LA sensors are reversed on a patient, the ECG will record a downward deflection in

- A. AVR
- B. AVL
- C. Lead I
- D. Lead II



145. Identify the measures of the intervals in the strip above.

- A. PRI 0.14 QRS 0.12 QT 0.28
- B. PRI 0.14 QRS 0.08 QT 0.28
- C. PRI 0.20 QRS 0.12 QT 0.48
- D. PRI 0.20 QRS 0.08 QT 0.48

146. The physician has instructed the ECG technician to obtain the patient's temperature. Before the oral thermometer is placed in the patient's mouth, to ensure accuracy of the reading the technician should ask the patient if she has

- A. Taken her prescribed medications today
- B. Recently ingested hot or cold food or beverages
- C. Had a fever in the last 24 hours
- D. Pain with swallowing

147. An ECG technician should recognize that the most likely cause of a PVC on an ECG strip is

- A. An ectopic focus
- B. A loose electrode
- C. Movement of the patient
- D. Quivering of the heart ventricles

148. The ECG technician is contacting a patient to request they make a follow-up appointment. Which of the following forms should the technician verify prior to leaving this message on the patient's voicemail?

- A. Durable Power of Attorney for Healthcare
- B. HIPAA confidentiality and Privacy
- C. Assignment of Benefits

D. Consent to Treat

149. Which of the following should the ECG technician do with a patient on contact precautions?
(Select the three (3) correct answers.)

- A. Avoid contaminated surfaces
- B. Wash hands
- C. Wear a mask
- D. Disinfect all equipment
- E. Wear eye protection

150. A female patient has come in for an ECG following a mastectomy. ECG electrodes should be placed

- A. As close to the surgery site as possible without touching the site
- B. Three inches lower than the surgery site to avoid disruption of the site
- C. In the intercostal spaces above the heart to avoid the surgical site
- D. Three inches above the surgery site to avoid disruption of the site