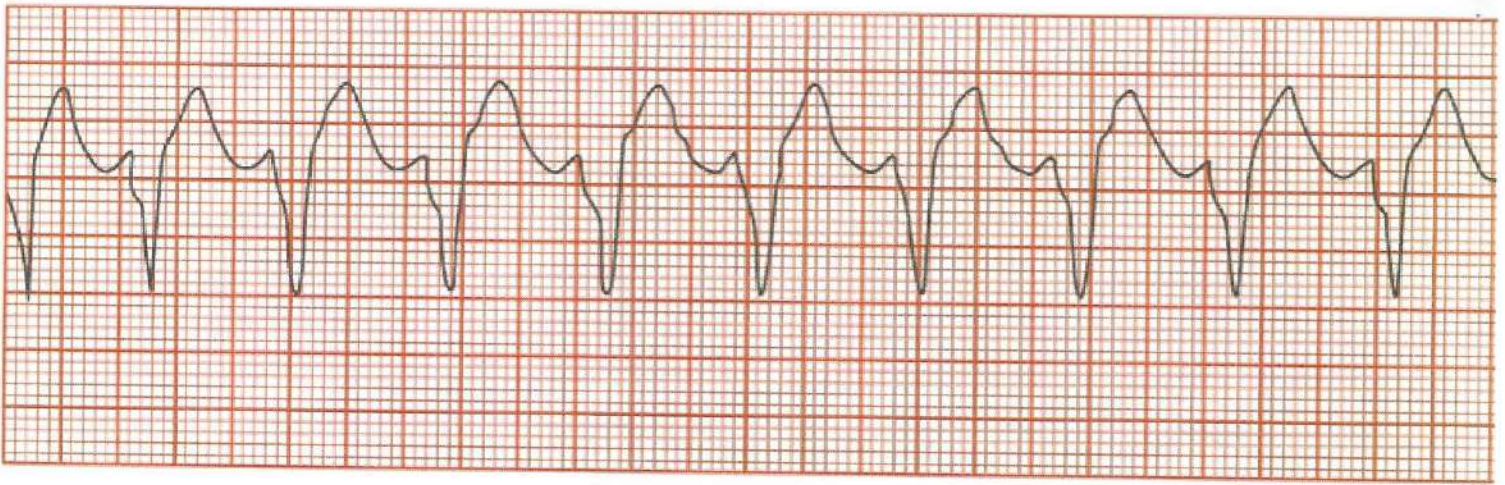


1. The ECG strip shown above indicates

- ☐ 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. trigeminy
- ☐ 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

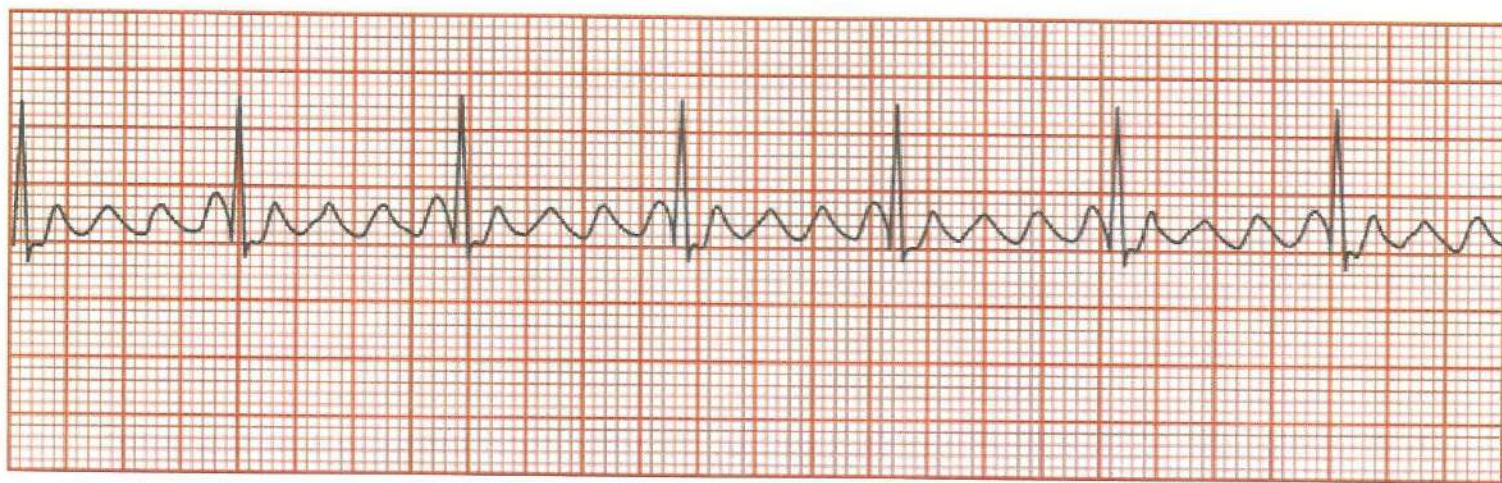
5. A patient is being tested by way of ECG for a possible delay in electrical conduction from the SA node to the AV node. The technician should look at which of the following parts of the ECG to confirm this diagnosis?

☒ 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

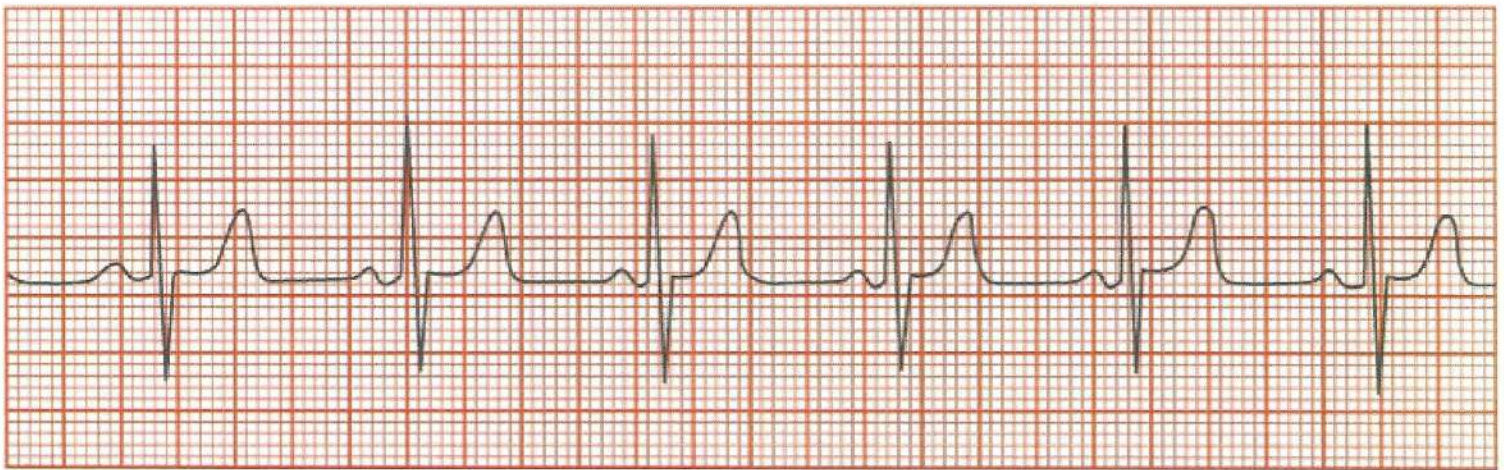
☒ B. regularly irregular

☐ 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?

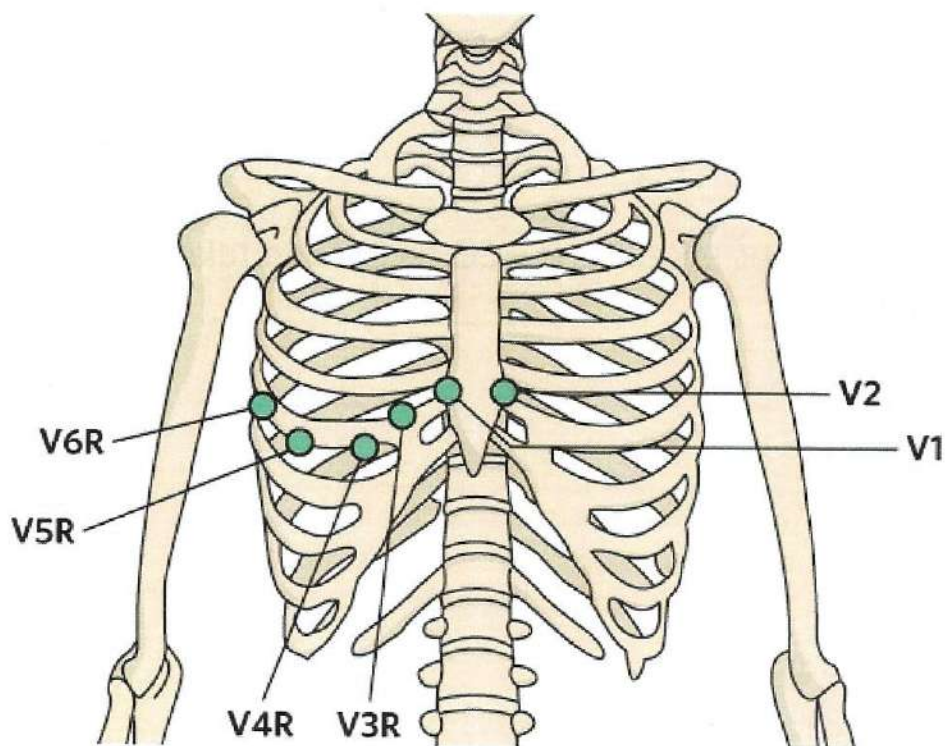
- ☐ A. moved to the back on the side of the left shoulder moving the right lead to match
- ☒ B. as close to the site as possible but higher on the limb and in a similar position
- ☐ C. the same as it would be for a patient without a left arm amputated
- ☐ D. moved to the back side of the left shoulder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

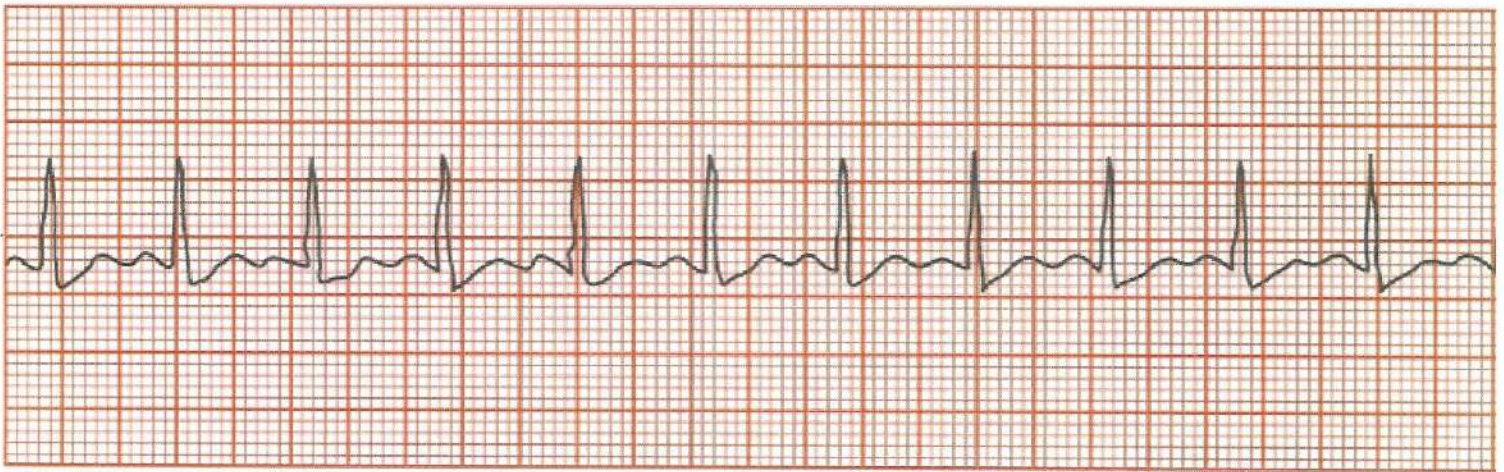
10. Which of the following instructions regarding a Holter monitor should be given to a patient? (Select the three (3) correct answers.)

- ☐ **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

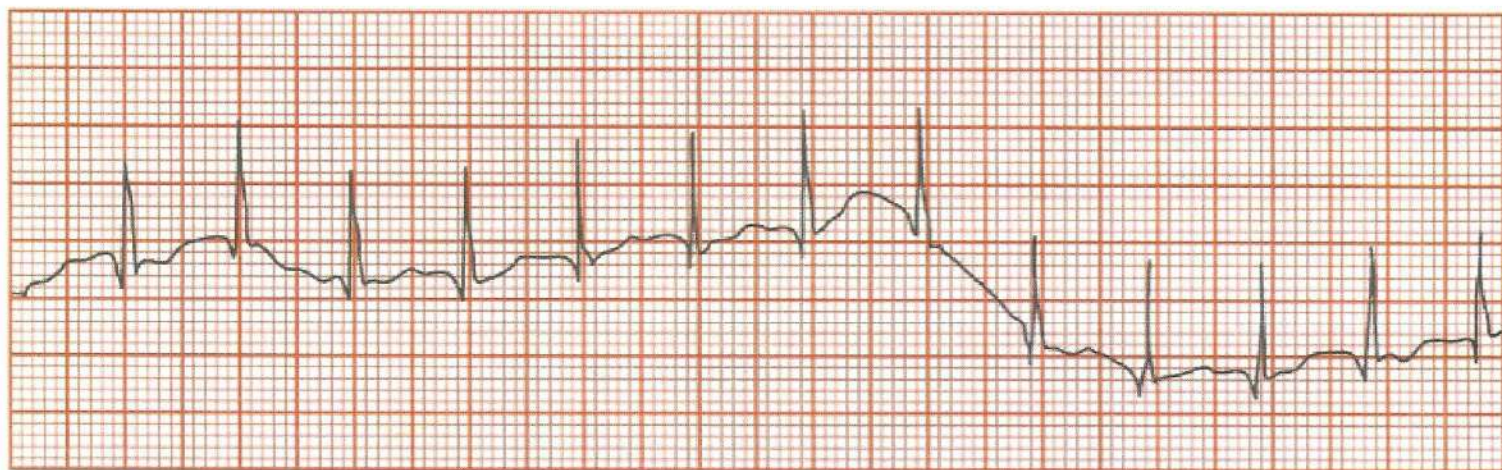
19. Which of the following actions should the ECG technician take first when flat lines appear on the ECG tracing?

☐ 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

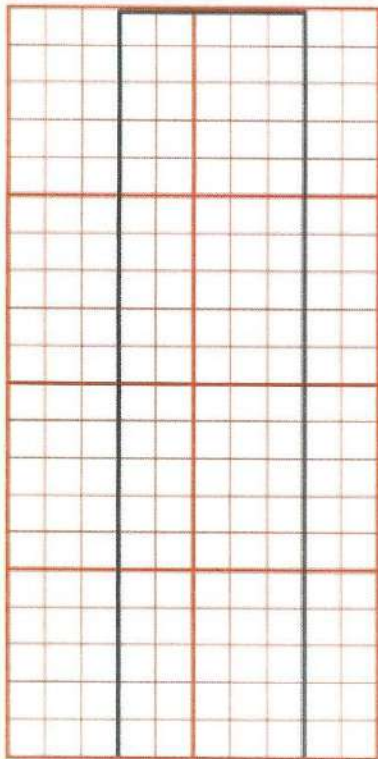
☐ D. interrupted baseline

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.



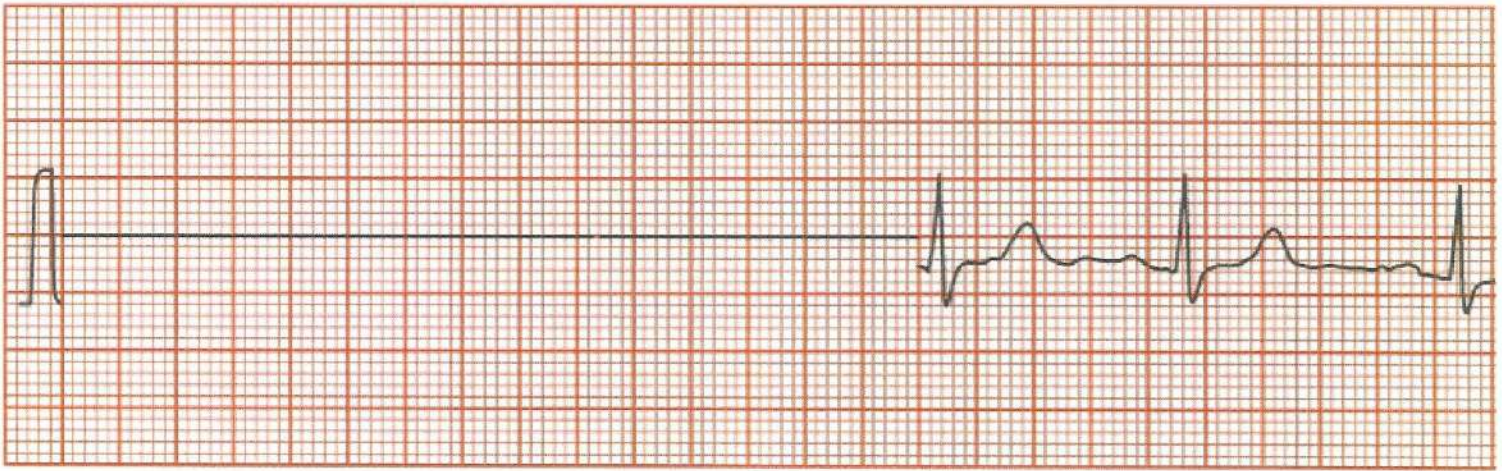
23. An ECG technician performs an ECG on a patient and upon completion the standardization mark appears as shown above. The technician should recognize that the test was with the machine set to which of the following settings?

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

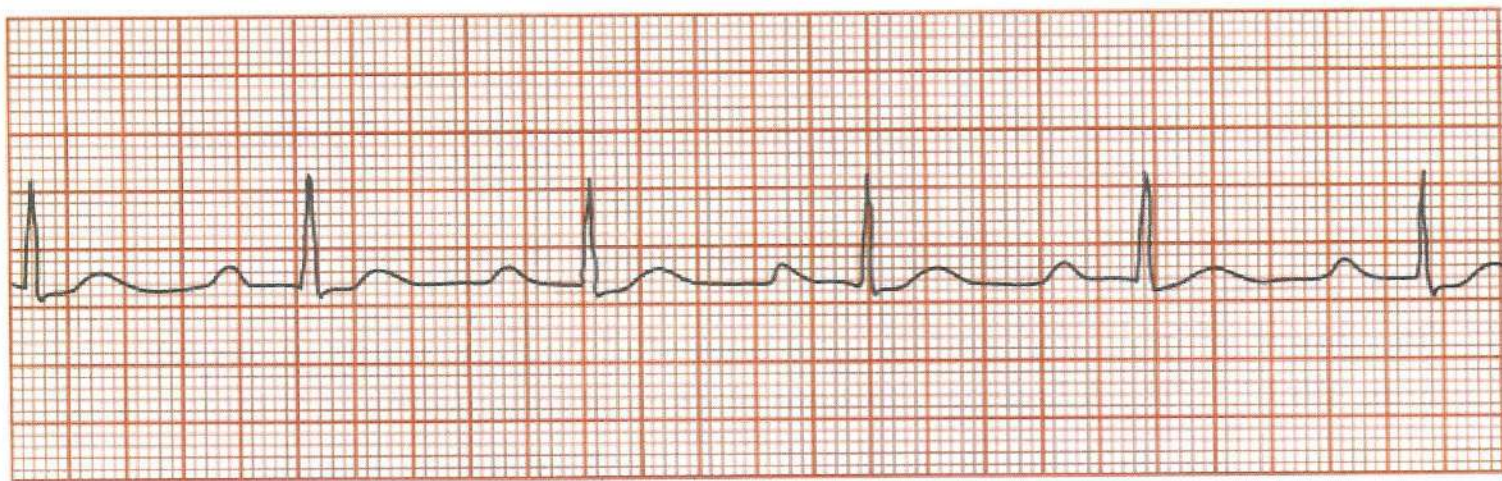


25. Which of the following is shown in the strip above?

- ☒ 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 1mm, 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.

29. Which of the following should the ECG technician do to correct wave sets that are too close together to be accurately analyzed?

- ☒ A. Increase the running speed of the ECG machine to 50 mm/sec.

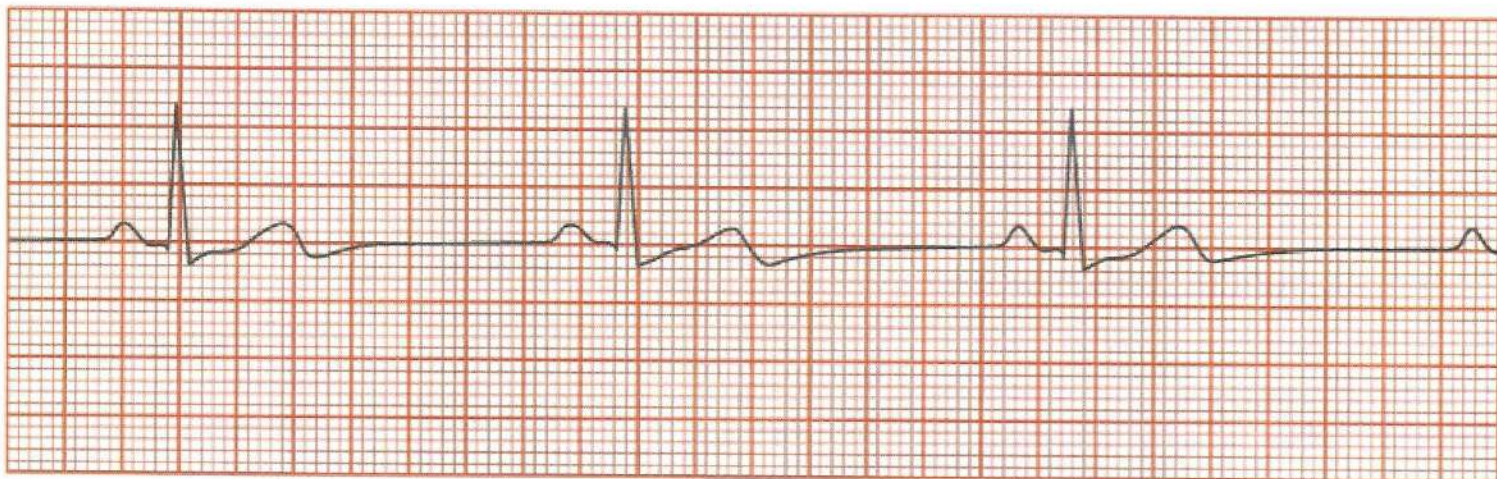
- ☐ **B.** Increase the sensitivity of the machine to 20 mm/mv.
- ☐ **C.** Decrease the running speed of the ECG machine to 12.5 mm/sec.
- ☐ **D.** Decrease the sensitivity of the machine to 10 mm/mv.

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. standard and airborne precautions.

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

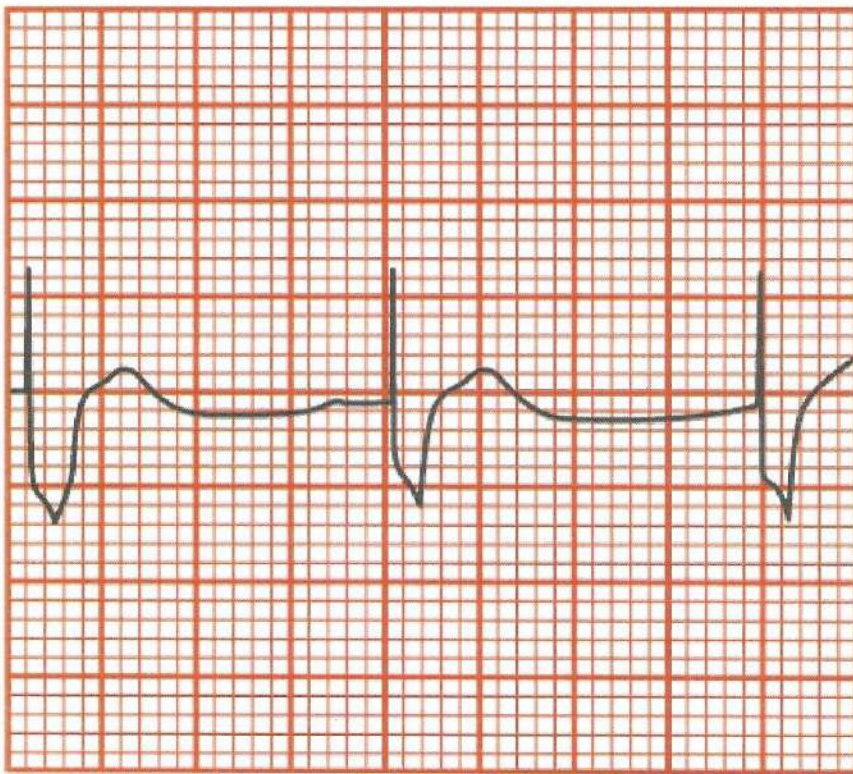
39. Where should the V4 electrode be placed on the body?

- ☒ 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

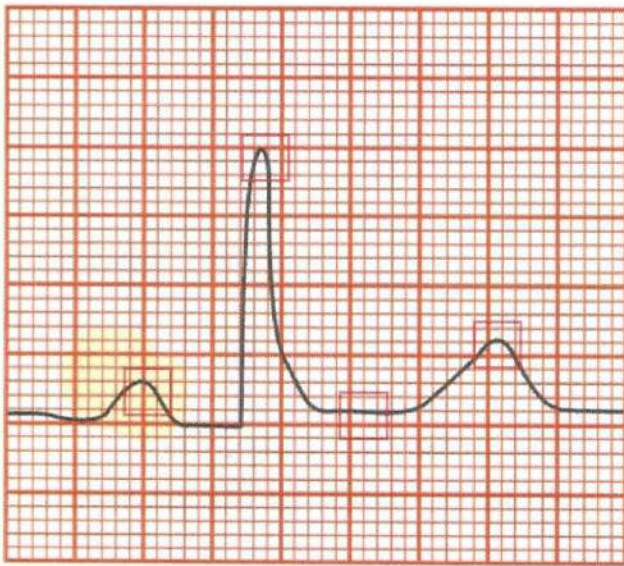
44. During a patient's yearly checkup, the physician orders an outpatient ECG. Which of the following instructions are likely to be given to the patient at the hospital? (Select the two (2) correct answers.)

- ☐ 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.

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.