

- ☐ **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.** Place tape over the electrodes.

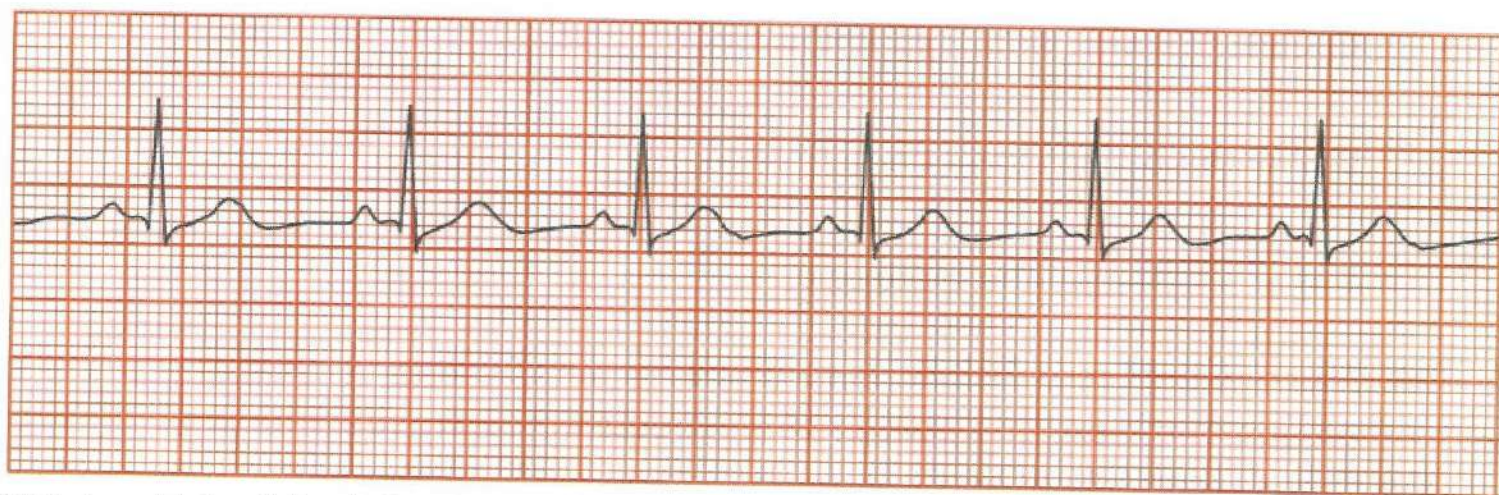
99. Which patient responsibilities continue for the ECG technician after completion of the exercise portion of electrocardiography stress testing? (Select the three (3) correct answers.)

- ☐ **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

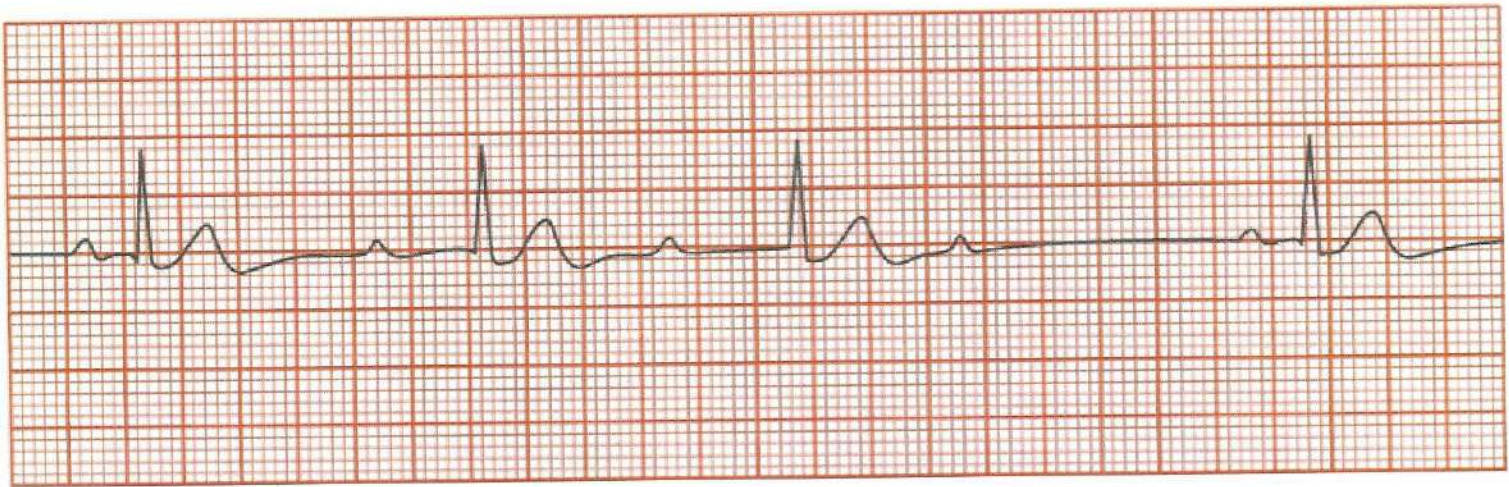
- ☒ A. 2 ½ minutes.
- ☐ B. 10 minutes.
- ☐ C. 5 minutes.
- ☐ D. minute.

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.

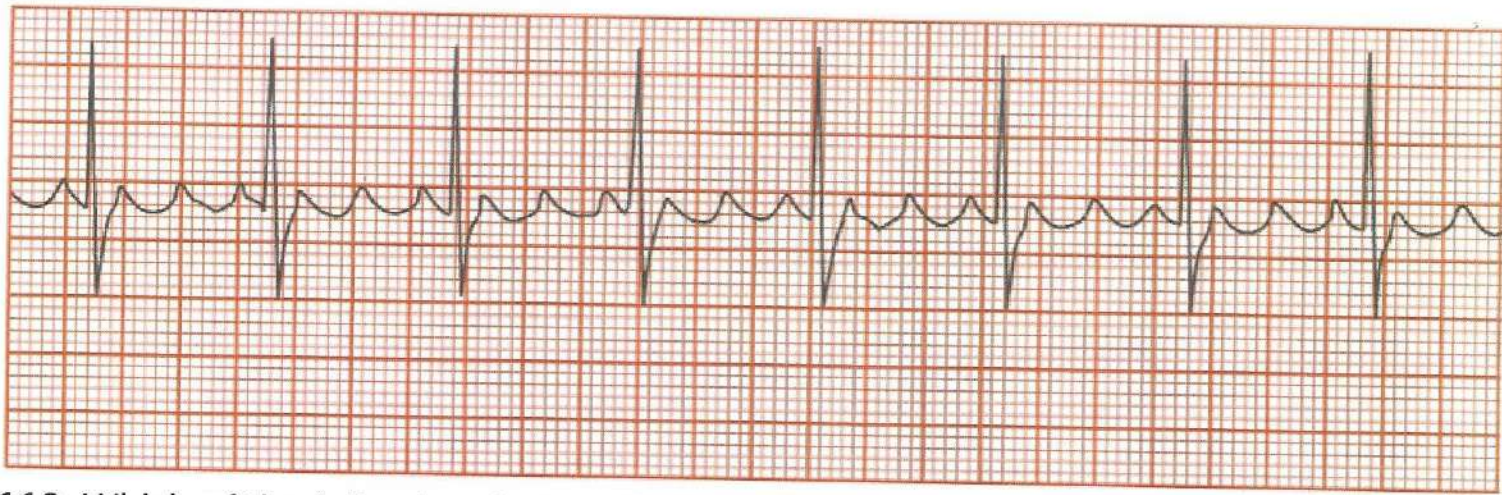


108. After notifying the physician, which of the following should be the ECG technician's next action for a patient with strip shown above?

- ☐ 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. ventral burn scarring
- ☐ B. L ventral wall abnormalities
- ☒ C. amputated limb
- ☐ D. breast implants

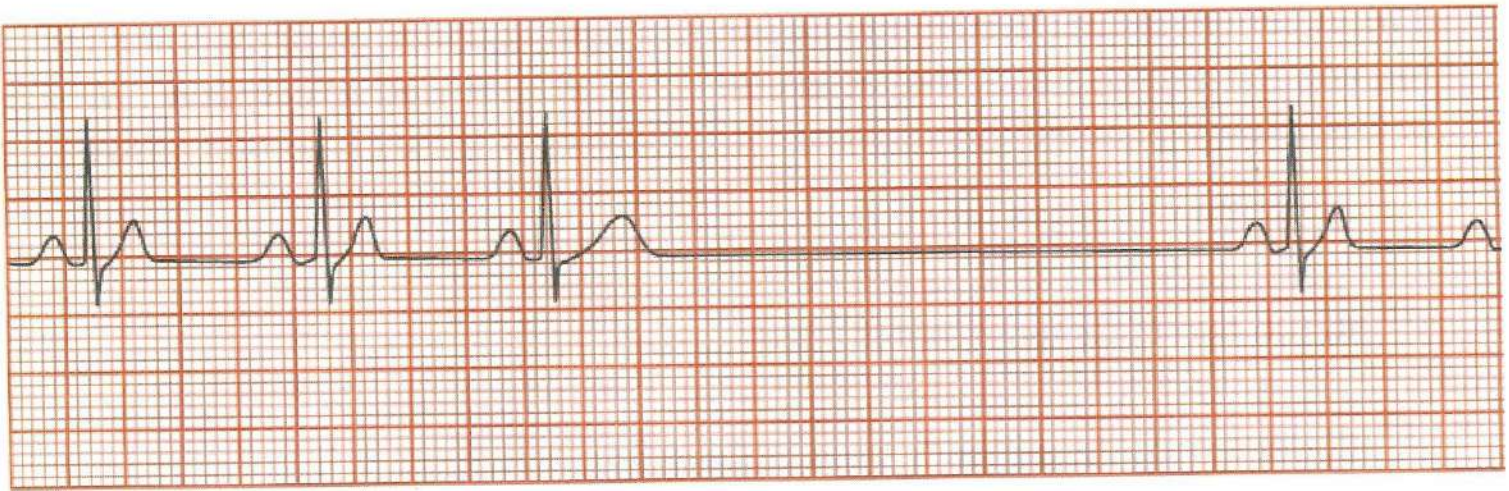


110. Which of the following rhythms is shown in the strip above?

- ☒ **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.)

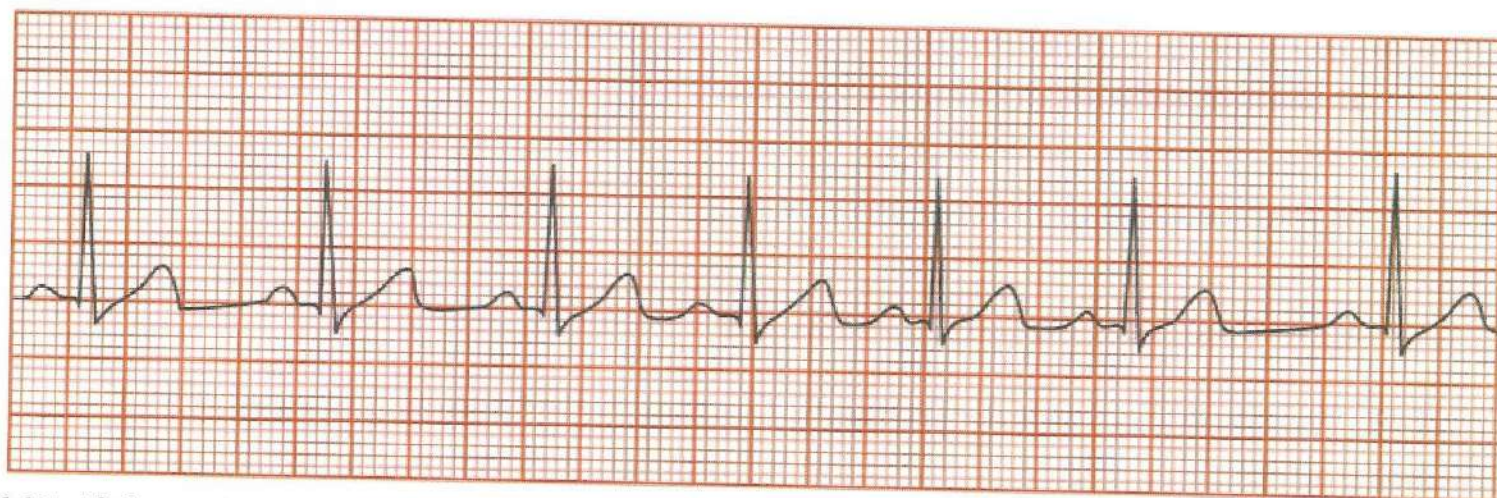
- ☒ **A.** It is a normal sinus rhythm with a blocked PAC.
- ☐ **B.** The arrhythmia is 4 seconds long.
- ☒ **C.** Seriousness depends on the length of the pause.
- ☐ **D.** The patient is about to lose consciousness.
- ☒ **E.** Decreased cardiac output occurs with duration.

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.
- ☐ **E.** allow time for the patient to relax.



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?

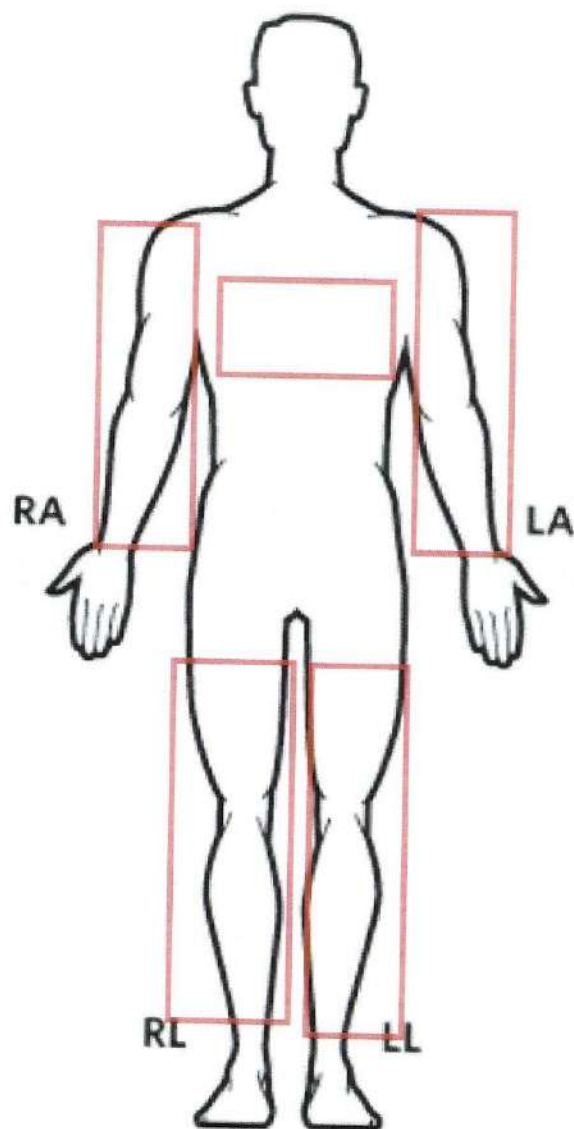
- ☐ **A.** ventricle contraction ends
- ☐ **B.** atrial contraction
- ☐ **C.** ventricle contraction
- ☐ **D.** atrial contraction ends

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.

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

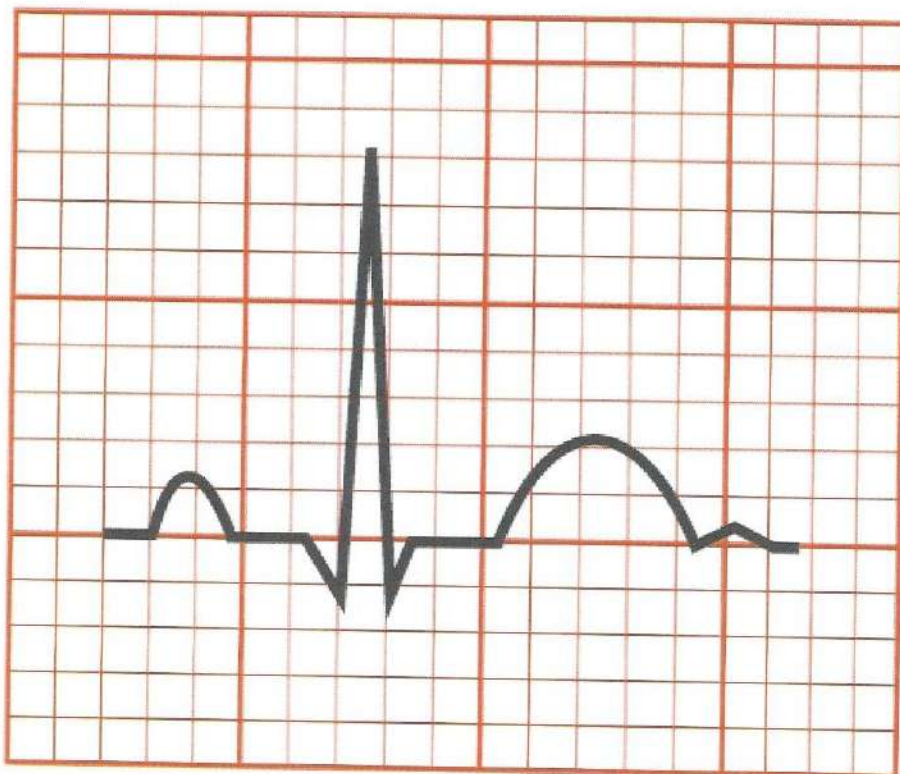
130. Which of the following is the minimum number of variations of the P wave in a wandering atrial pacemaker rhythm?

☒ **A. three**

☐ **B. one**

☐ **C. two**

☐ **D. four**



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

131. Which of the following R

☐ **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.** QT 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.)

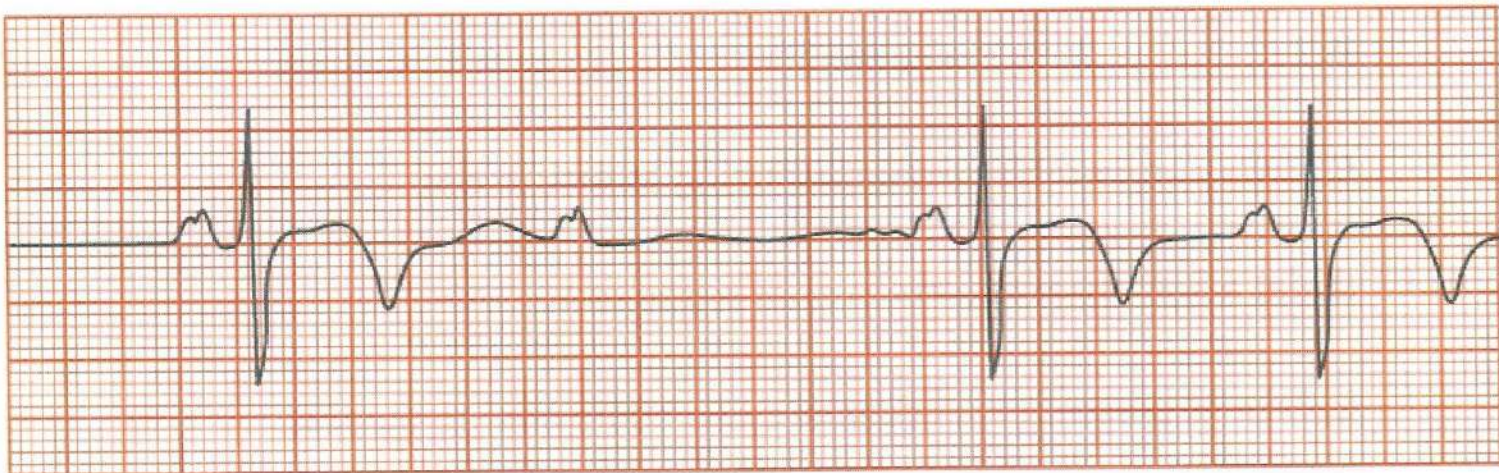
☐ **A. child sphygmomanometer**

☐ **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

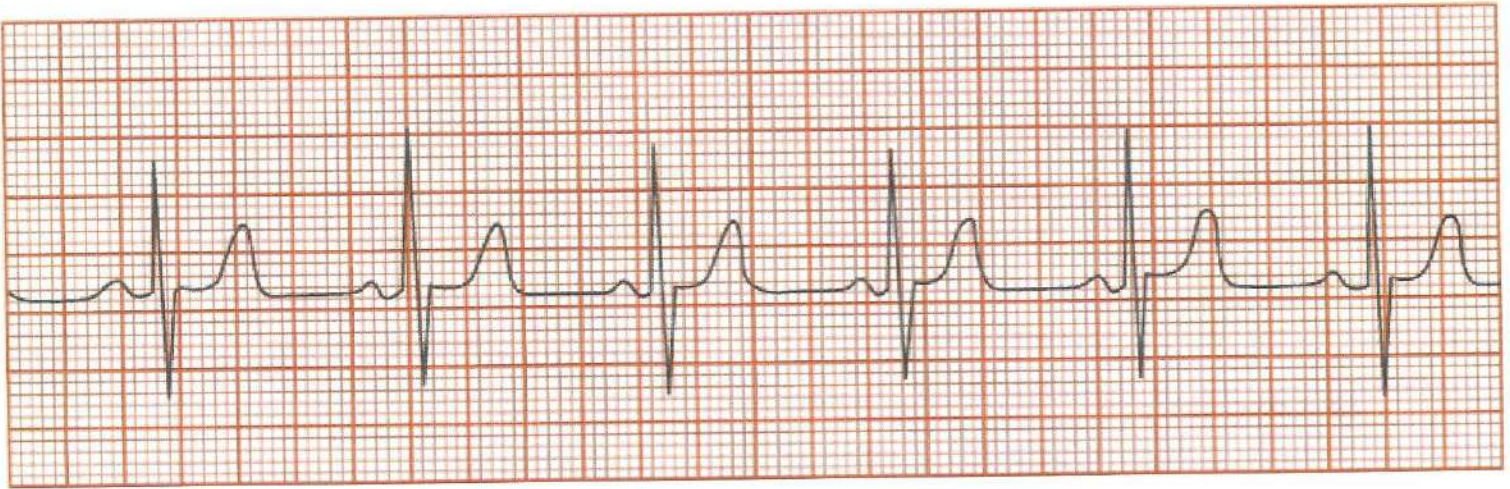
- ☐ **D.** second degree heart block with irregular P-P intervals and regular R-R intervals

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 Bundle 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?

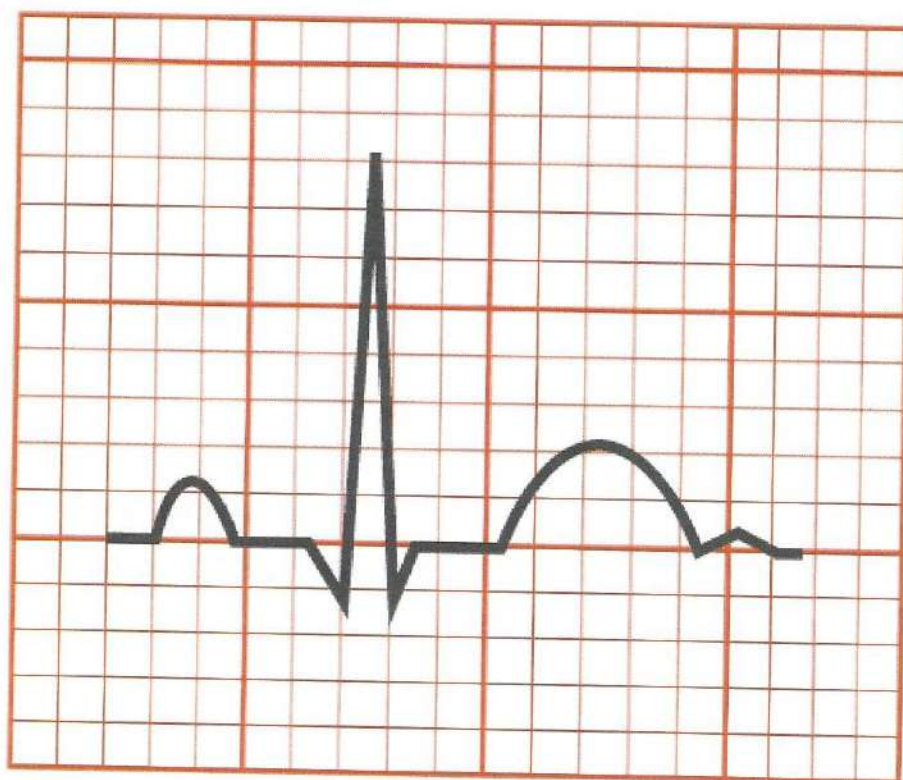
- ☐ A. ventricular
- ☐ B. junctional
- ☒ C. sinus
- ☐ D. idioventricular

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 route 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.