

Interpreting ECGs, 3e (Shade)
Chapter 2 The Electrocardiogram

- 1) Which of the following is correct regarding the ECG?
- A) Lead wires that adhere directly to the patient's skin detect the heart's electrical activity.
 - B) Waveforms that appear on the oscilloscope are called static ECGs and represent "real time" electrical activity.
 - C) It is much easier to analyze an ECG printout to determine abnormalities than it is to examine an image that is moving across a screen.
 - D) All ECG machines are equipped with a defibrillator.
- 2) A tracing of the heart's electrical activity is called a/an
- A) electrocardiograph.
 - B) oscilloscope.
 - C) electrocardiogram.
 - D) audiogram.
- 3) An ECG machine can be used for which of the following purposes?
- A) Identifying existing or emerging dysrhythmias
 - B) Identifying myocardial ischemia and infarction
 - C) Determining cardiac output
 - D) Identifying existing or emerging dysrhythmias and myocardial ischemia and infarction
- 4) Modern ECG machines are commonly equipped with all the following EXCEPT:
- A) Pulse oximetry
 - B) Pacemaker
 - C) Automatic blood pressure device
 - D) Echocardiograph
- 5) 12-lead ECG machines employ _____ lead wires.
- A) 4
 - B) 8
 - C) 10
 - D) 12
- 6) Which of the following is true regarding ECG lead wires?
- A) Each has a clip, snap, or pin-type connector on the distal end that attaches to the metal snap or tab on the ECG electrode.
 - B) The color coding of the lead wires is standard and can be used to identify where each is placed.
 - C) ECG lead wires are extremely durable and can be used without worry of structural failure.
 - D) ECG lead wires are impervious to bodily fluids and do not require decontamination after use.

- 7) ECG electrodes
- A) are reusable.
 - B) consist of a wet or dry gel, metal snap or tab, and a self-adhesive pad.
 - C) come in one size.
 - D) can be used in patients who are diaphoretic but not in patients who have chest hair.
- 8) Before ECG electrodes are placed
- A) the ECG machine must be turned on.
 - B) the patient should be placed in a supine position.
 - C) all chest hair should be shaved off.
 - D) the skin should be cleaned to remove dead skin cells and oils.
- 9) To get the best possible ECG signal
- A) the patient must be sitting upright.
 - B) there must be good contact between the electrode and the patient's skin.
 - C) the lead wires should be evenly spaced out over the patient's torso.
 - D) all other electronic devices should be turned off.
- 10) When using snap-on lead wires you should attach the lead wire to the electrode _____ affixing the electrodes to the patient's skin.
- A) before
 - B) after
- 11) You are attaching ECG electrodes to a 55-year-old man who is complaining of a racing heart and lightheadedness. You have prepared the skin surface and removed the electrodes from their sealed protective wrap. Which of the following is true?
- A) The protective backings should be peeled away to expose the gel disk and sticky surface of the adhesive pads.
 - B) The electrodes can be used even if they are past their expiration date.
 - C) The gel disk of the electrodes should be dry.
 - D) The electrodes should be applied by pressing down on the gel disk before applying pressure to the adhesive pad.
- 12) Which of the following is TRUE?
- A) The adhesive pad holds the electrode to the skin so well that there is no need to worry that the lead wires might tug on the electrodes and lift the gel pad away from the skin.
 - B) When applying each electrode, you should use a circular motion to smooth the adhesive pad down against the skin.
 - C) When using snap-on lead wires, you should attach the electrode to the lead wire after placing the electrodes onto the patient's skin.
 - D) The gel disk of the electrode is normally dry.

13) Each heartbeat arises as an electrical impulse from the

- A) AV node.
- B) bundle of His.
- C) SA node.
- D) atria.

14) The preferred location for placing each electrode is

- A) over an area of thick skin.
- B) a flat surface.
- C) where large bones are near the skin surface.
- D) an irregular surface.

15) You are performing an ECG on a patient and there is a continuance of a fuzzy baseline despite your determining the ECG leads are in good contact with the skin and the patient's extremities are in a resting position. What else can you do to eliminate the artifact?

- A) Have the patient hold their breath.
- B) Have the patient move about.
- C) Sit the patient upright.
- D) Lay the patient flat.

16) ECG leads

- A) use a positive and negative electrical pole.
- B) are electrically neutral.
- C) detect the mechanical activity of the heart.
- D) All of these are correct.

17) An electrical current traveling toward a positive electrode produces a waveform that

- A) points upward.
- B) points downward.
- C) is both up and down (biphasic).
- D) is mostly flat.

18) The leads arranged on the frontal plane

- A) provide a posterior view of the heart.
- B) provide inferior, superior, and lateral views of the heart.
- C) are called the chest leads.
- D) include at least 10 lead wires.

19) Precordial leads

- A) provide anterior and posterior views as well as a lateral view of the heart.
- B) are also referred to as limb leads.
- C) view the heart along the horizontal plane.
- D) provide anterior and posterior views as well as a lateral view of the heart and are referred to as limb leads.

- 20) Which of the following is true regarding bipolar leads?
- A) Bipolar leads have four additional electrodes which act as a ground.
 - B) A bipolar lead records the difference in electrical potential between six selected electrodes.
 - C) They require two electrodes of opposite polarity (positive and negative).
 - D) Use a positive electrode and a reference point calculated by the ECG machine.
- 21) With lead II the positive electrode is positioned on the
- A) left leg.
 - B) right arm.
 - C) right side of the chest.
 - D) left shoulder.
- 22) The waveforms in lead II are mostly
- A) upright.
 - B) inverted.
 - C) biphasic.
 - D) flat.
- 23) The ECG waveforms produced by lead a VR have mostly a/an _____ deflection.
- A) large.
 - B) upright.
 - C) negative.
 - D) biphasic.
- 24) The ECG waveforms produced by lead V6 are mostly
- A) small.
 - B) upright.
 - C) inverted.
 - D) biphasic.
- 25) With lead V1 the positive electrode is positioned on the
- A) left leg.
 - B) right arm.
 - C) fourth intercostal space just to the right of the sternum.
 - D) fifth intercostal space in the midclavicular line.
- 26) With ECG paper
- A) five small squares, which make up a larger box, represent 0.20 seconds in duration.
 - B) each small square running horizontally represents 0.05 seconds in duration.
 - C) there is a grid of narrow horizontal and vertical lines that intersect to form rectangles.
 - D) each small square running vertically represents 10 mm or 1.0 mV.

- 27) On ECG paper horizontal measurements are used to determine the
- A) electrical voltage of the waveforms.
 - B) amplitude of the waveforms.
 - C) cardiac output.
 - D) heart rate.
- 28) _____ larger boxes equal a three-second interval.
- A) Five
 - B) Ten
 - C) Fifteen
 - D) Twenty
- 29) ECG rhythms shown on the oscilloscope are called _____ ECGs.
- A) animated
 - B) static
 - C) recorded
 - D) dynamic
- 30) The distance between the lines, or boxes, running vertically represents
- A) amplitude.
 - B) duration.
 - C) rate.
 - D) regularity.