

WMMC FOUR-DAY EKG COURSE

Dear Attendees:

Welcome to your 4-day EKG course. All course days are from 8:30 am to 4:30 pm with a one hour lunch break. In order to make your learning opportunity successful you must do the following prior to attending the course:

- 1) Pick up book 1 week (minimum) prior to start of class
- 2) Review completely chapter 1 on Anatomy and Physiology
- 3) Review completely chapter 2 on EKG Electrophysiology
- 4) Review completely chapter 3 on Sinus Rhythms
- 5) Begin review of chapter 4 on Atrial Rhythms

Books are required to be brought to each class. During the course, you will have the opportunity to work on some practice strips in your book. However, these practices are brief and require additional outside study time.

Therefore, after each day you will have homework including the following:

- 1) Read and review completely next set of assigned chapters
(Prior to Day 2 chapters 4, 5, and 7
Day 3 chapters 6, 7, and 8
Day 4 all chapters reviewed 1-8)
- 2) Work on practice strips in each chapter, prior to taking test—when comfortable with strips complete weekly test.
- 3) Complete and bring to class **TAKE HOME TEST. There will be 3 take home tests and one final. Each test will be ¼ of grade. Each take home test must be completed and turned in at beginning of each class day - NO EXCEPTIONS.**
- 4) Incomplete tests will be not be accepted and the student will not be allowed to continue to next session.
- 5) The **FINAL EXAM**** will be taken on the last day in class. Students will be unable to pass the final written exam without completing the above requirements.

We hope this information will answer any questions regarding the 4-day EKG course

Thank you
Safety Training Plus

**Upon successful completion of class, CEU's will be given for first time class attendees. Please contact Safety Training Plus at 1-888-795-6683 to verify qualification for CEU's.

Take Home Test -- Day 1 Sinus Rhythms**True/False**

Indicate whether the sentence or statement is true or false.

- _____ 1. Blood pressure is the result of cardiac output and peripheral vascular resistance.
- _____ 2. Stimulation of beta-adrenergic receptor sites will result in peripheral vasoconstriction.
- _____ 3. If the wave of depolarization (electrical impulse) moves toward the positive electrode, the waveform recorded on ECG graph paper will be upright (positive deflection).
- _____ 4. If the wave of depolarization (electrical impulse) moves toward the positive electrode, the waveform recorded on ECG graph paper will be inverted (negative deflection).
- _____ 5. In lead MCL1, the negative electrode is placed on the left arm and the positive electrode is placed to the right of the sternum, fourth intercostal space.

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 6. The inferior surface of the heart is formed by the:
- | | |
|------------------------------|-------------------------------------|
| a. Right and left atria | c. Left atrium and left ventricle |
| b. Right and left ventricles | d. Right atrium and right ventricle |
- _____ 7. The _____ is the largest vein that drains the heart.
- | | |
|-----------------------|--------------------------|
| a. Inferior vena cava | c. Anterior cardiac vein |
| b. Coronary sinus | d. Great cardiac vein |
- _____ 8. Blood flows from the right atrium through the _____ valve into the right ventricle.
- | | |
|-------------|--------------|
| a. Aortic | c. Mitral |
| b. Pulmonic | d. Tricuspid |
- _____ 9. "Chronotropy" refers to an effect on:
- | |
|--|
| a. Force of contraction |
| b. Heart rate |
| c. Bronchial smooth muscle |
| d. Speed of conduction through the AV node |
- _____ 10. In most patients, the sinoatrial (SA) and atrioventricular (AV) nodes are supplied by the _____ coronary artery.
- | | |
|-----------------------------|--------------------|
| a. Left anterior descending | c. Left circumflex |
| b. Right | d. Left main |
- _____ 11. The normal pacemaker of the heart is the _____, which is found in the _____.
- | | |
|--------------------------|--------------------------|
| a. SA node; left atrium | c. SA node; right atrium |
| b. AV node; right atrium | d. AV node; left atrium |
- _____ 12. On an ECG, what is the first negative deflection seen after the P wave?
- | | |
|-----------|-----------|
| a. Q wave | c. S wave |
| b. R wave | d. T wave |

- ____ 13. Where is the negative electrode placed in lead II?
- a. Left arm
 - b. Right arm
 - c. Left leg
 - d. Right leg
- ____ 14. The absolute refractory period:
- a. Begins with the onset of the P wave and terminates with the end of the QRS complex
 - b. Begins with the onset of the QRS complex and terminates at approximately the apex of the T wave
 - c. Begins with the onset of the QRS complex and terminates with the end of the T wave
 - d. Begins with the onset of the P wave and terminates with the beginning of the QRS complex
- ____ 15. In sinus arrhythmia, a gradual decreasing of the heart rate is usually associated with:
- a. Expiration
 - b. Inspiration
 - c. Excessive caffeine intake
 - d. Early signs of congestive heart failure

Completion

Complete each sentence or statement.

16. The right atrium receives deoxygenated blood from the _____ (which carries blood from the head and upper extremities), the _____ (which carries blood from the lower body), and the _____ (which receives blood from the intracardiac circulation).
17. _____ is the period during which a heart chamber is contracting and blood is being ejected.
18. _____ is the period of relaxation during which a heart chamber is filling.
19. The absolute refractory period is also known as the _____ refractory period.
20. _____ refers to the ability of cardiac muscle cells to respond to an external stimulus, such as that from a chemical, mechanical, or electrical source.

Short Answer

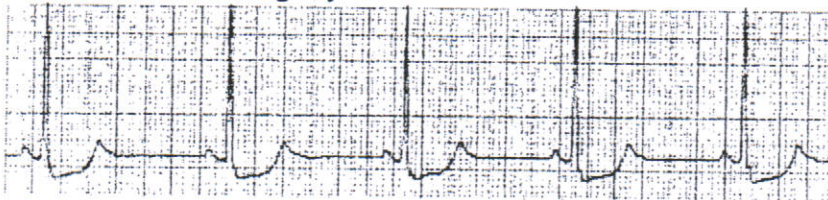
21. List two (2) factors that may affect the heart's efficiency as a pump.
- 1.
 - 2.
22. Name the valve that separates the right ventricle from the right atrium.
23. Define "systole."

- 24. Name the first positive deflection seen after the P wave on the ECG.
- 25. Indicate the inherent rates for each of the following pacemaker sites:
Sinoatrial (SA) node: _____
Atrioventricular (AV) junction: _____
Ventricles: _____
- 26. List four (4) properties of cardiac cells.
 - 1.
 - 2.
 - 3.
 - 4.
- 27. List three (3) uses for ECG monitoring.
 - 1.
 - 2.
 - 3.
- 28. List the ECG leads that view the heart in the horizontal plane, allowing a view of the front and left side of the heart.
- 29. On the ECG, what do the ST-segment and T wave represent?
- 30. What is a biphasic waveform?
- 31. List three (3) causes of artifact on an ECG tracing.
 - 1.
 - 2.
 - 3.
- 32. Identify the following rhythm:



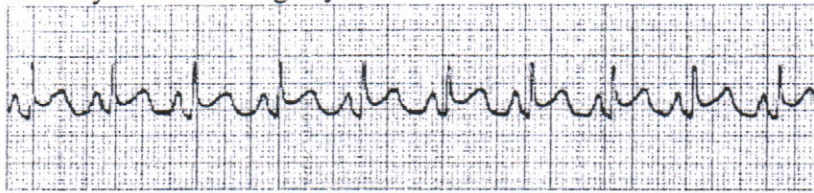
Identification: _____

- 33. Identify the following rhythm:



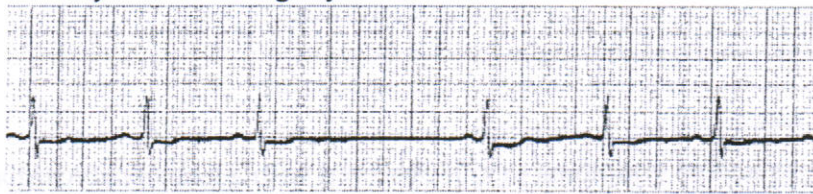
Identification: _____

34. Identify the following rhythm:



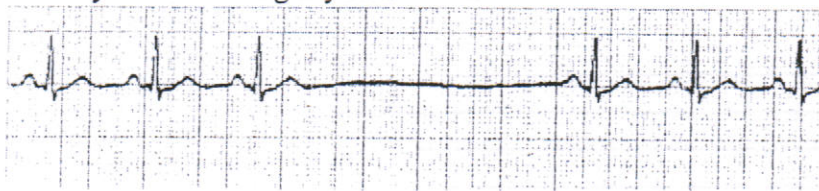
Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

35. Identify the following rhythm:



Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

36. Identify the following rhythm:



Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

Name: _____

37. Complete the following ECG criteria for a sinus rhythm.

Rate _____
 Rhythm _____
 P waves _____
 PR interval _____
 QRS duration _____

38. Complete the following ECG criteria for a sinus tachycardia.

Rate _____
 Rhythm _____
 P waves _____
 PR interval _____
 QRS duration _____

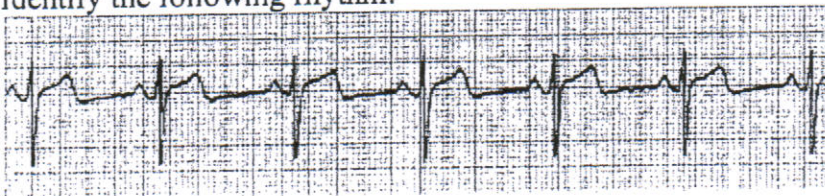
39. Complete the following ECG criteria for a sinus arrest.

Rate _____
 Rhythm _____
 P waves _____
 PR interval _____
 QRS duration _____

40. List three (3) significant signs and/or symptoms that, if observed with a sinus bradycardia, would require management of this dysrhythmia.

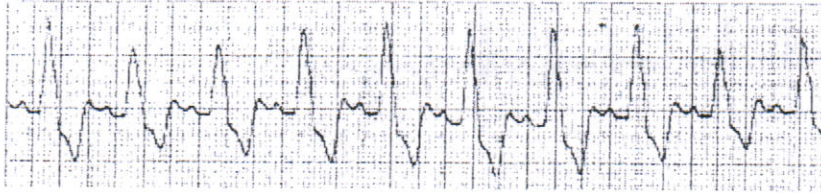
- 1.
- 2.
- 3.

41. Identify the following rhythm:



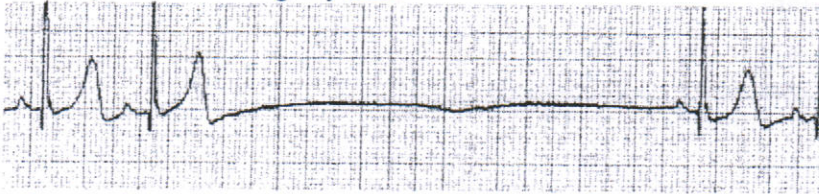
Rate _____
 Rhythm _____
 P waves _____
 PR interval _____
 QRS duration _____
 QT duration _____
 Identification: _____

42. Identify the following rhythm:



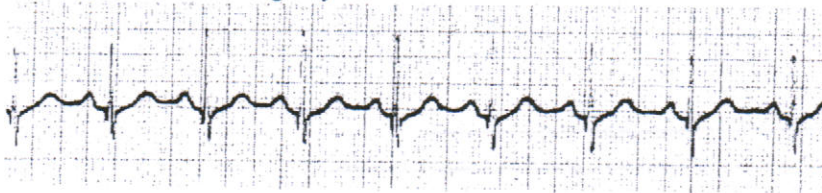
Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

43. Identify the following rhythm:



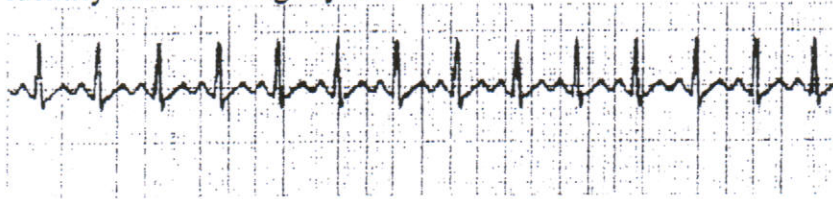
Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

44. Identify the following rhythm:



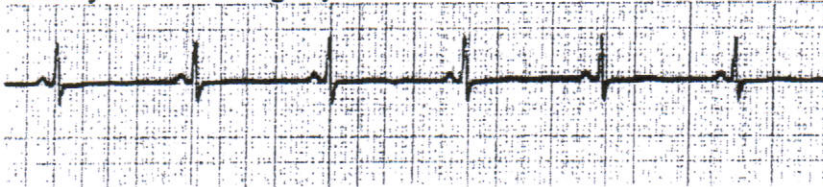
Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

45. Identify the following rhythm:



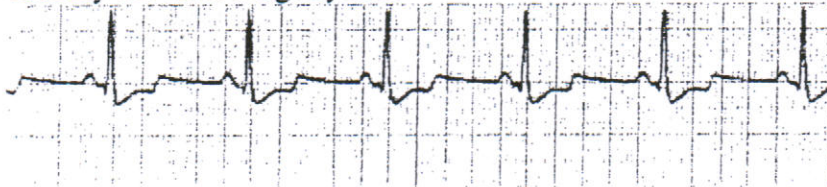
Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

46. Identify the following rhythm:



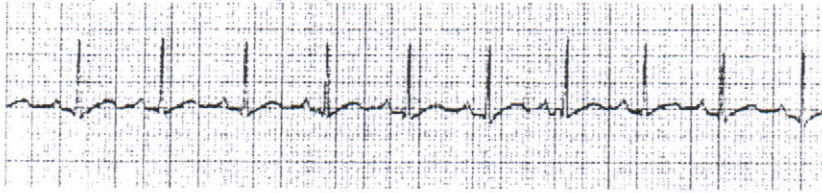
Identification: _____
Rate: _____

47. Identify the following rhythm:



Rate _____
Rhythm _____
P waves _____
PR interval _____
QRS duration _____
QT duration _____
Identification: _____

48. Identify the following rhythm:



Identification: _____

Rate: _____

49. Identify the following rhythm:



Rate _____

Rhythm _____

P waves _____

PR interval _____

QRS duration _____

QT duration _____

Identification: _____

50. Identify the following rhythm:



Identification: _____