

COURSE OUTLINE

Title: Basic EKG Interpretation I

Course Number: NUR-217

Credits: 1

Date: Winter, 2014

Institution: CLACKAMAS COMMUNITY COLLEGE

Outline Developed by: Carol Thorn

Type of Program: Professional-Technical

Course Description:

This course presents the student with an introductory overview related to the anatomy and physiology of the heart. It also explores normal electrical conduction as well as common variations as evidenced by changes in the waveform on the cardiac monitoring device. The course will also focus on the student's ability to perform cardiac monitoring via 3, 5 and 12 lead monitoring devices.

Student Learning Outcomes:

Upon the successful completion of this course, the student should be able to:

1. define unique characteristics of cardiac system related to anatomy and physiology of the heart,
2. demonstrate understanding of normal electrophysiology of the cardiac system,
3. recognize normal waveforms in the electrical conduction of the cardiac system,
4. identify common variations in the electrical conduction of the cardiac system,
5. distinguish deadly heart rhythms in the electrical conduction of the cardiac system,
6. demonstrate understanding and differences of 3, 5 and 12 lead cardiac monitoring devices;
7. demonstrate understanding of role and responsibilities of person obtaining & or monitoring EKG,
8. perform a 12 lead EKG.

Length of Course: 11 lecture hours

Grading Method: Letter Grade Only

Prerequisites: None

Co-requisites: None

Recommended: None

Major Topic Outline:

1. Basic Anatomy and Physiology of the Heart
2. Electrical Conduction System of the Heart
3. Basic waveform analysis
4. Components of obtaining an accurate EKG reading
5. Role and responsibilities of person obtaining &/or monitoring EKG

COURSE SYLLABUS

Title: Basic EKG Interpretation I

Course Number: NUR 217

Credits: 1

Date: Spring 2014

Institution: CLACKAMAS COMMUNITY COLLEGE

Outline Developed by: Carol Thorn

Type of Program: Professional-Technical

Course Description:

This course presents the student with an introductory overview related to the anatomy and physiology of the heart. It also explores normal electrical conduction as well as common variations as evidenced by changes in the waveform on the cardiac monitoring device. The course will also focus on the student's ability to perform cardiac monitoring via 3, 5 and 12 lead monitoring devices.

Student Learning Outcomes:

Upon the successful completion of this course, the student should be able to:

- Define unique characteristics of cardiac system related to anatomy and physiology of the heart
- Demonstrate understanding of normal electrophysiology of the cardiac system
- Recognize normal waveforms in the electrical conduction of the cardiac system
- Identify common variations in the electrical conduction of the cardiac system
- Distinguish deadly heart rhythms in the electrical conduction of the cardiac system
- Demonstrate understanding and differences of 3, 5 and 12 lead cardiac monitoring devices
- Demonstrate understanding of role and responsibilities of person obtaining & or monitoring EKG
- Perform a 12 lead EKG

Length of Course: 11 lecture hours
Mondays 1:30 – 3:50 pm

Grading Method: Letter Grade or P/NP; Allow repeat

Prerequisites: None

Co-requisites: None

Recommended: None

Major Topic Outline:

- Basic Anatomy and Physiology of the Heart
- Electrical Conduction System of the Heart
- Basic waveform analysis
- Components of obtaining an accurate EKG reading

- Role and responsibilities of person obtaining &/or monitoring EKG

Method of Evaluation:

Worksheets	10%
Quizzes	30%
Final	60%
Total	100%

Grading Scale:

A	92-100%
B	84-91%
C	75-83%
D	66-75%
F	Below 6-61%

If you do not achieve an average of 75% or higher, you will not pass Nursing 217. You will not be able to progress to NUR 218.

Required Texts:

No required text for this course. Readings and handouts will be provided via Evolve and in class.

Methods of Instruction:

This course is taught in a lecture/discussion/interactive manner.

Theory Outline:

March 31st:

The focus of today's class will be:

- An overview of the course
- Roles and responsibilities of person obtaining an EKG
- Roles and responsibilities of person monitoring an EKG
- Basic Anatomy and Physiology of the Heart
- Electrical Conduction System of the Heart
- Components of the EKG
 - 3 lead, 5 lead and 12 lead EKG
- Proper EKG lead placement
- Practice performing an EKG

April 7th:

The focus of today's class will be:

- EKG Interpretation
 - Identification of waveforms on rhythm strip
 - Measurement of waveforms on rhythm strip
 - Determining heart rate from rhythm strips
- Recognition of sinus rhythms
- Causes and treatment modalities of abnormal sinus rhythms

April 14th:

The focus of today's class will be:

- EKG Interpretation
 - Atrial rhythms
- Causes and treatment modalities of abnormal atrial rhythms

April 21st:

The focus of today's class will be:

- EKG Interpretation
 - Ventricular rhythms
- Causes and treatment modalities of abnormal ventricular rhythms
 - Junctional rhythms
- Causes and treatment modalities of abnormal junctional rhythms

April 28th:

The focus of today's class will be:

- Final Exam
 - Performing an EKG
 - Written exam

NUR-217 Lesson Plan:

March 31st:

The focus of today's class will be:

- ❑ An overview of the course
- ❑ Roles and responsibilities of person obtaining an EKG
- ❑ Roles and responsibilities of person monitoring an EKG
- ❑ Basic Anatomy and Physiology of the Heart
- ❑ Electrical Conduction System of the Heart
- ❑ Components of the EKG
 - 3 lead, 5 lead and 12 lead EKG
- ❑ Proper EKG lead placement
- ❑ Practice performing an EKG

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- ❑ EKG Interpretation
 - Identification of waveforms on rhythm strip
 - Measurement of waveforms on rhythm strip
 - Determining heart rate from rhythm strips
- ❑ Recognition of sinus rhythms
- ❑ Causes and treatment modalities of abnormal sinus rhythms

April 14th:

The focus of today's class will be:

- ❑ EKG Interpretation
 - Atrial rhythms
- ❑ Causes and treatment modalities of abnormal atrial rhythms

April 21st:

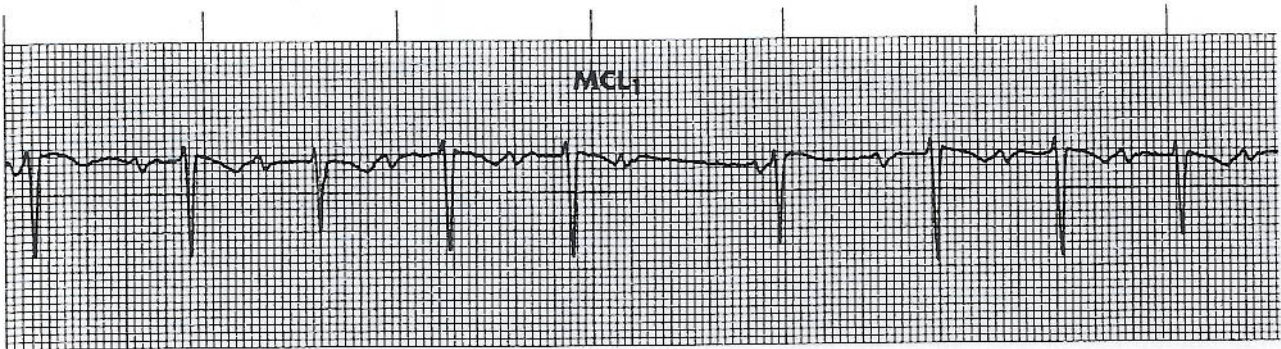
The focus of today's class will be:

- ❑ EKG Interpretation
 - Ventricular rhythms
- ❑ Causes and treatment modalities of abnormal ventricular rhythms
 - Junctional rhythms
- ❑ Causes and treatment modalities of abnormal junctional rhythms

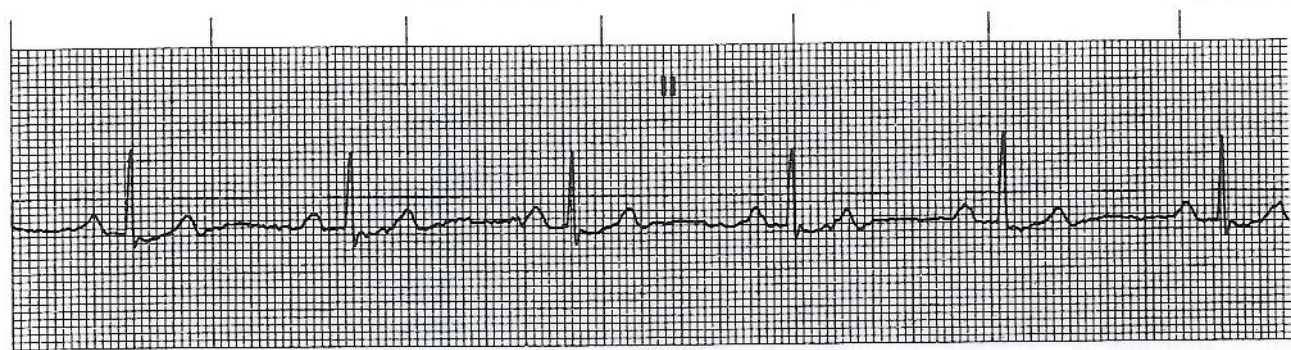
April 28th:

The focus of today's class will be:

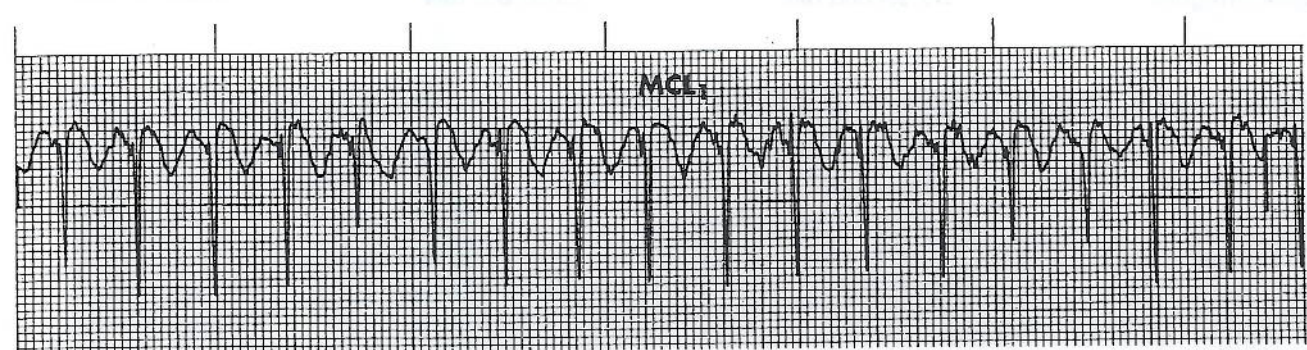
- ❑ Final Exam
 - Performing an EKG
 - Written exam



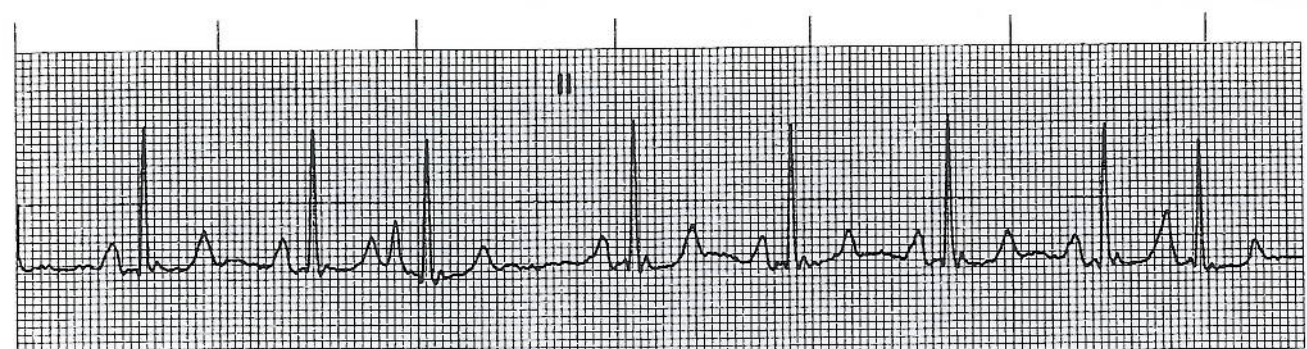
Regular/Irregular Six-second rate Large-box rate Small-box rate



Regular/Irregular Six-second rate Large-box rate Small-box rate

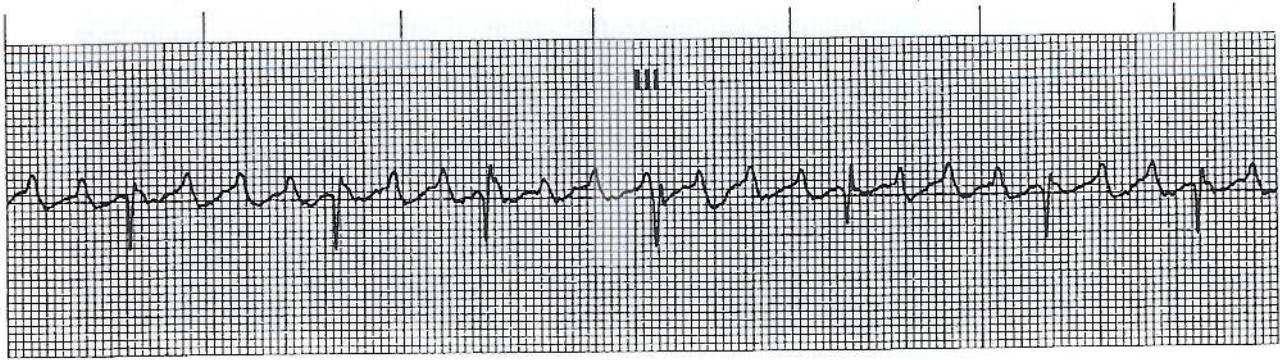


Regular/Irregular Six-second rate Large-box rate Small-box rate



Regular/Irregular Six-second rate Large-box rate Small-box rate

The ECG Canvas

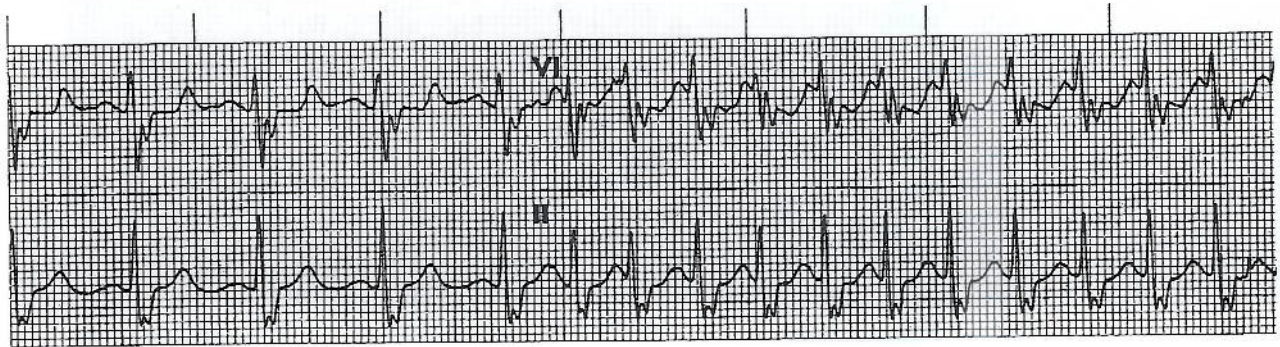


Regular/Irregular

Six-second rate

Large-box rate

Small-box rate

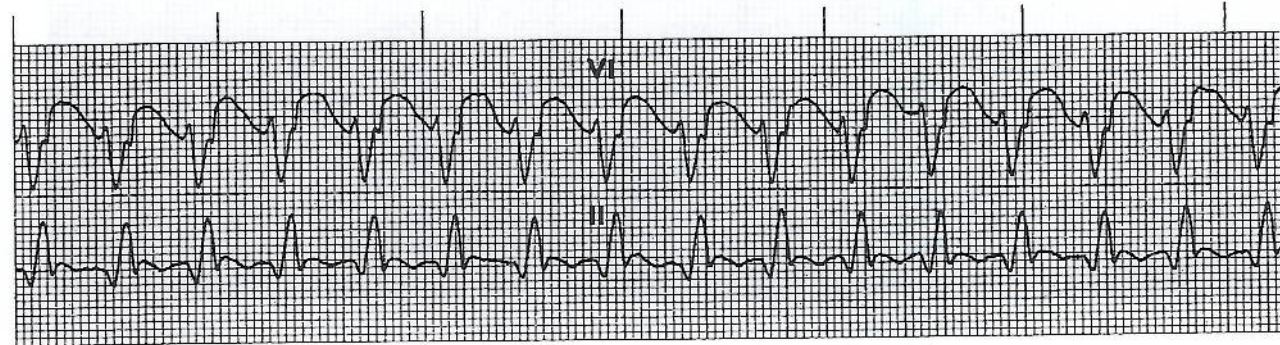


Regular/Irregular

Six-second rate

Large-box rate

Small-box rate

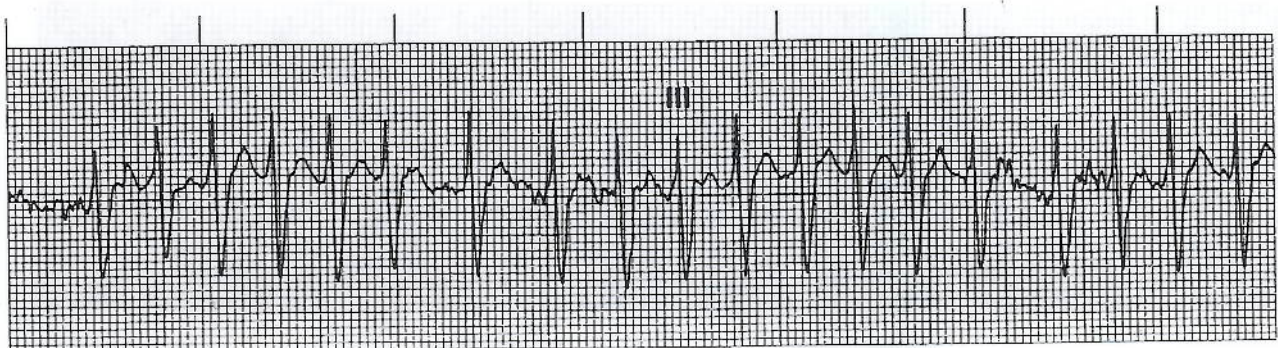


Regular/Irregular

Six-second rate

Large-box rate

Small-box rate



Regular/Irregular

Six-second rate

Large-box rate

Small-box rate

● ECG Rhythm Identification Practice

For each of the ECG practice rhythms:

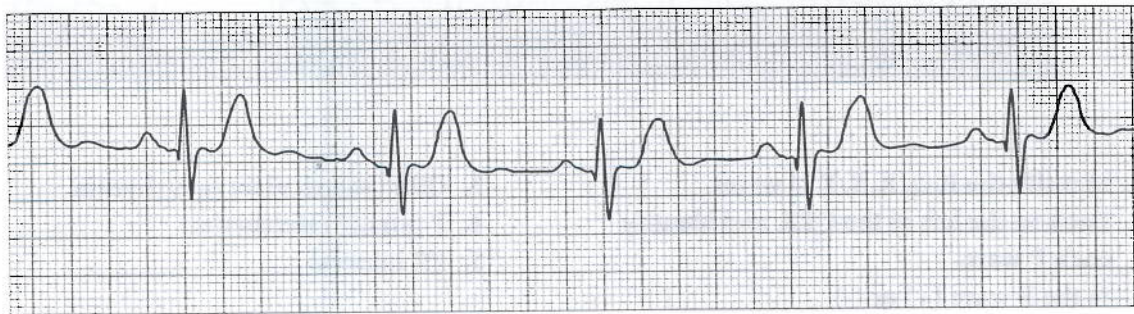
1. Identify the P, Q, R, S, T (and U waves if any are seen).
2. Calculate the measurement and rates asked for in each strip.

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Figure 3-18



1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

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Figure 3-19



1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

Figure 3-20



1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

Figure 3-21



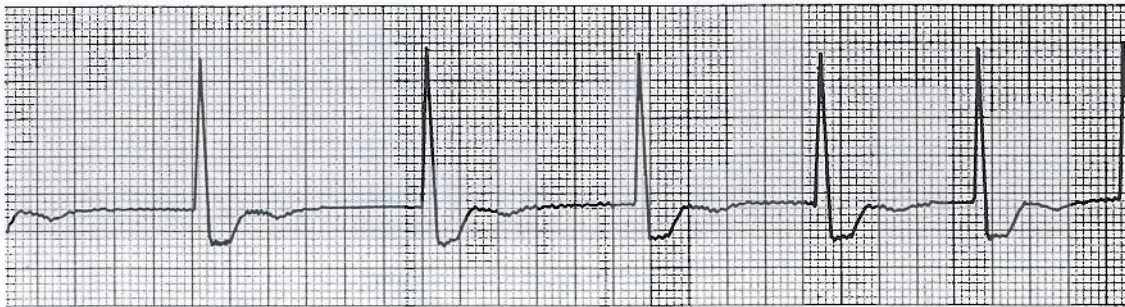
1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

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Figure 3-22



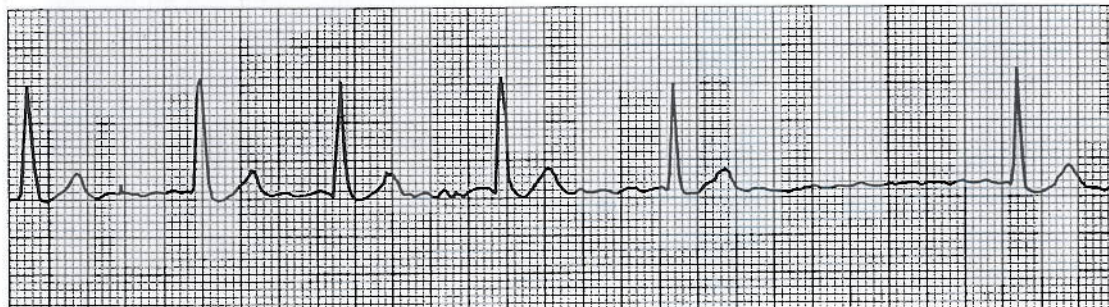
1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

.....
Figure 3-23



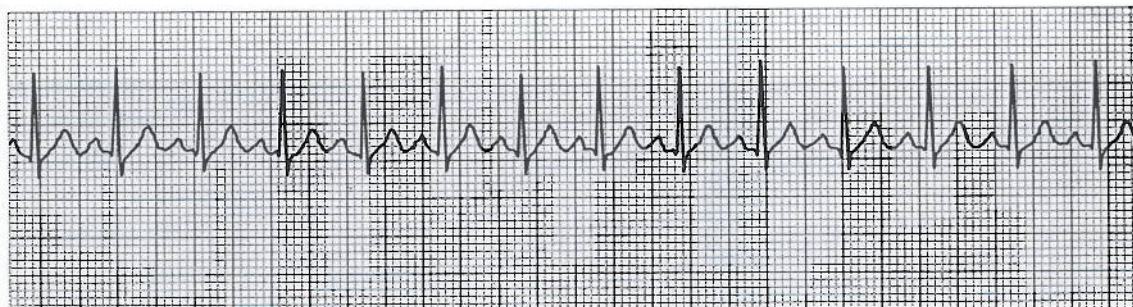
1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

Figure 3-24



1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

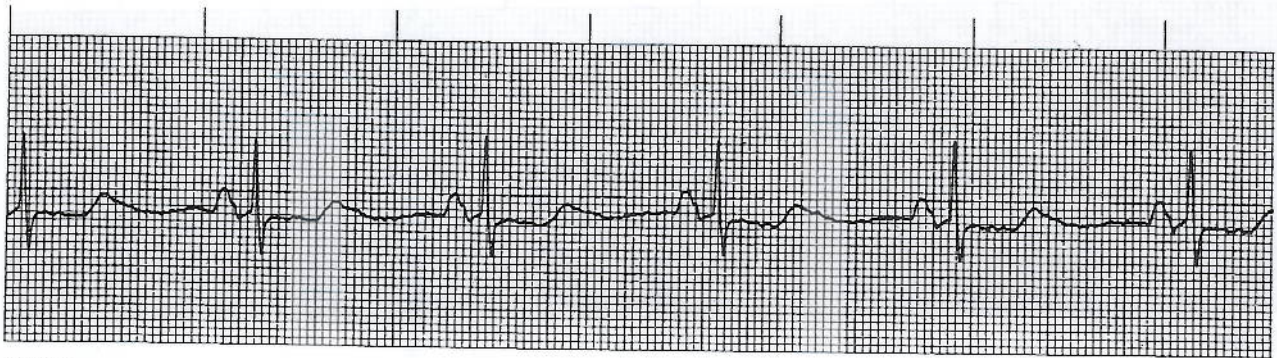
Figure 3-25



1. Identify the P, Q, R, S, T, U waves.
2. Look to the left of the QRS, and identify each P wave.
Is the P wave (+) or (-) _____?
3. QRS (ventricular) rate/rhythm _____.
4. P (atrial) rate/rhythm _____.
5. PR interval _____.

References

- Conover, M. B. *Nurse's pocket guide to electrocardiography* (3rd ed.). St. Louis, MO: C. V. Mosby; 1994.
- Conover, M. B. *Understanding electrocardiography: Arrhythmias and the 12-lead ECG* (7th ed.). St. Louis, MO: Mosby-Year Book, Inc.; 1996.
- Marriott, H. J. *Practical electrocardiography* (8th ed.). Baltimore: Williams and Wilkins; 1988.

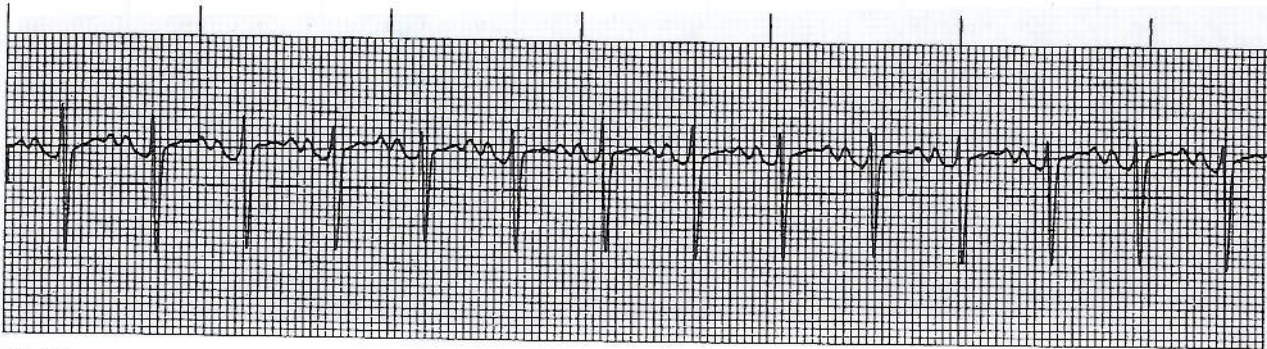


10-22

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

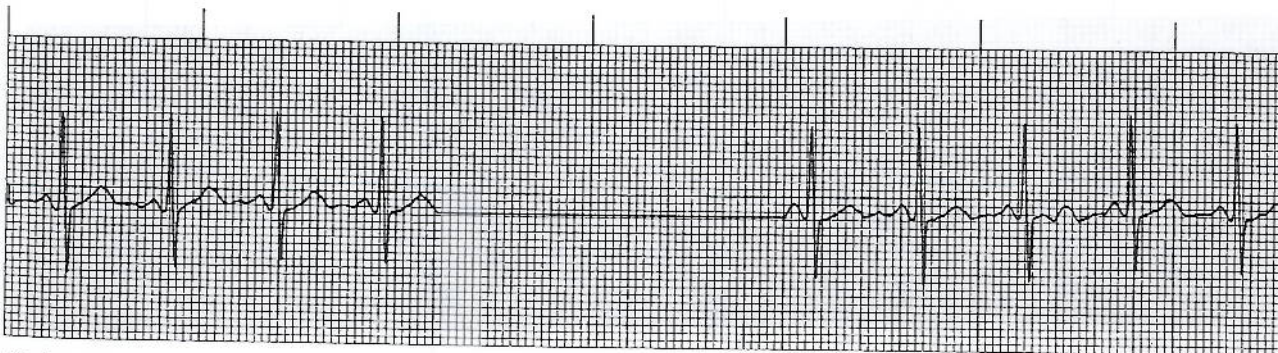


10-23

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____



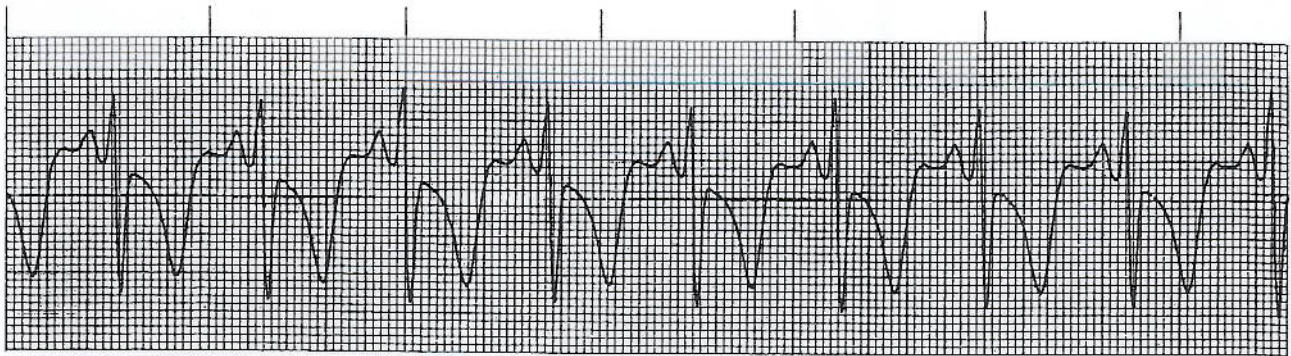
10-24

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

Sinus Rhythms

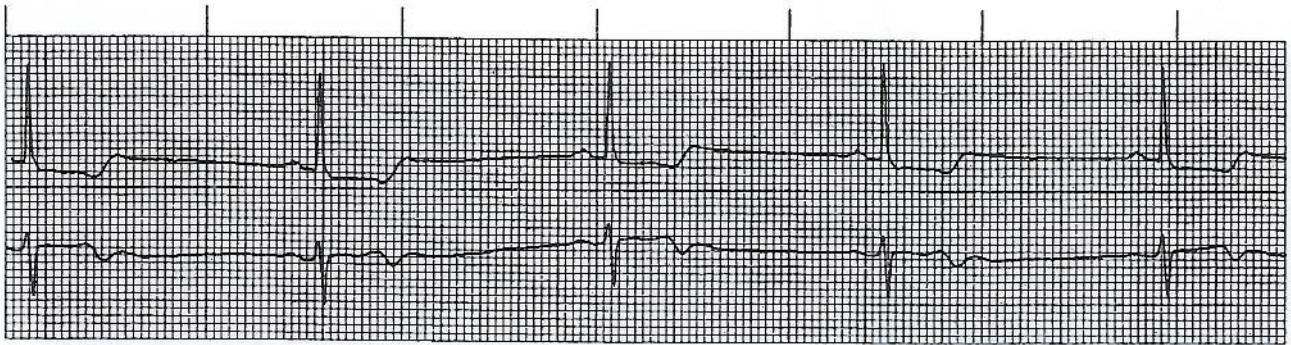


10-19

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

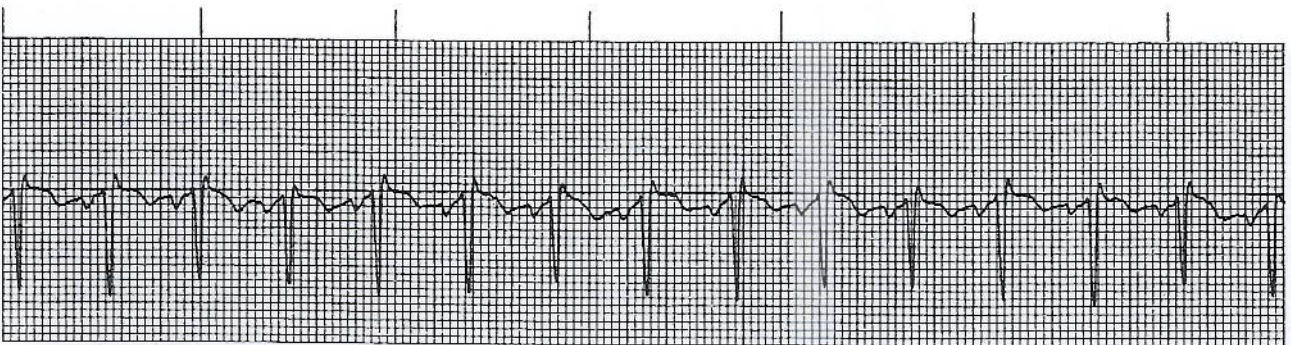


10-20

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

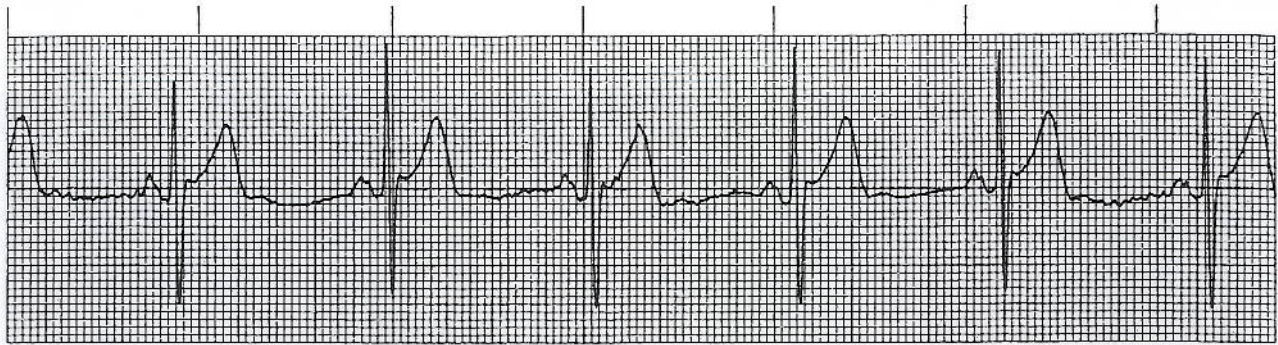


10-21

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

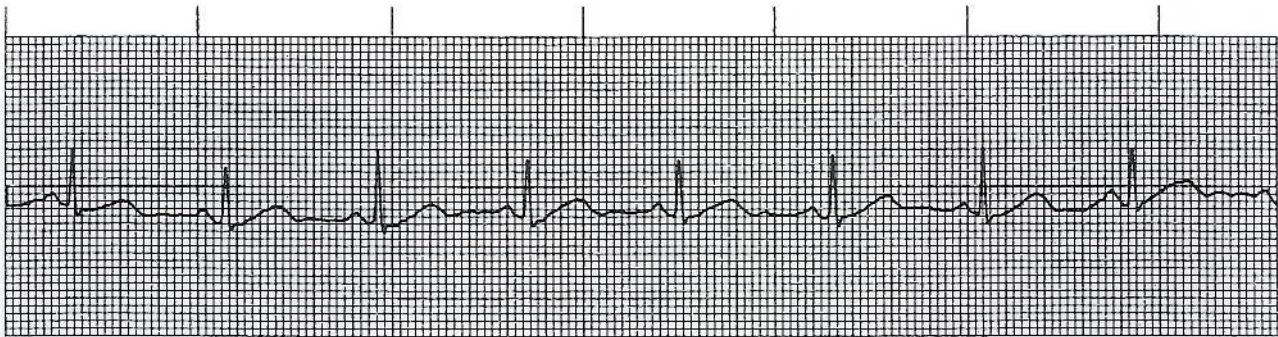


10-7

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

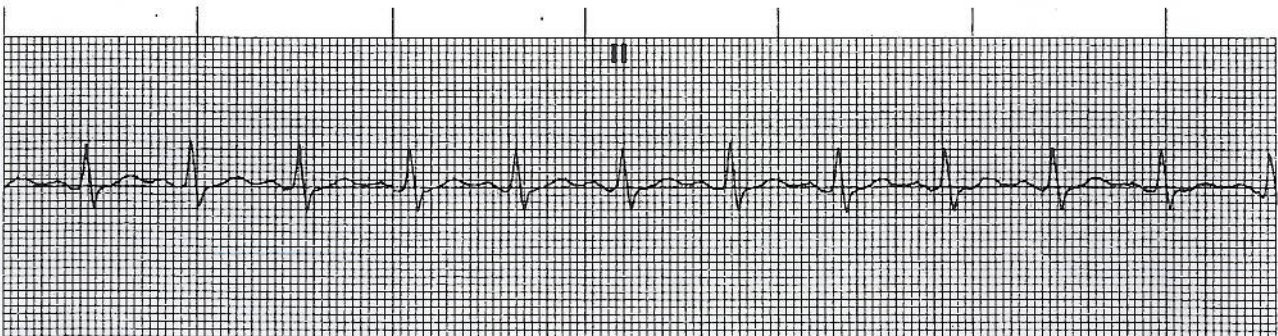


10-8

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

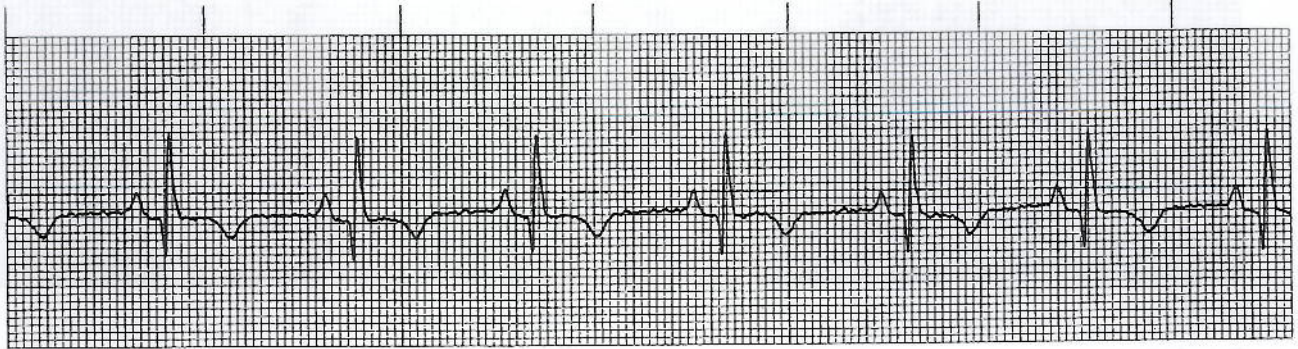


10-9

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

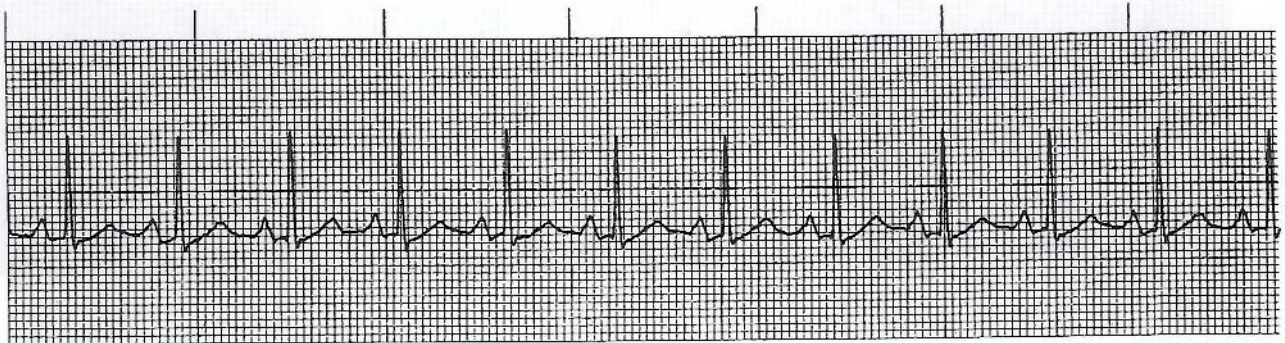


10-4

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

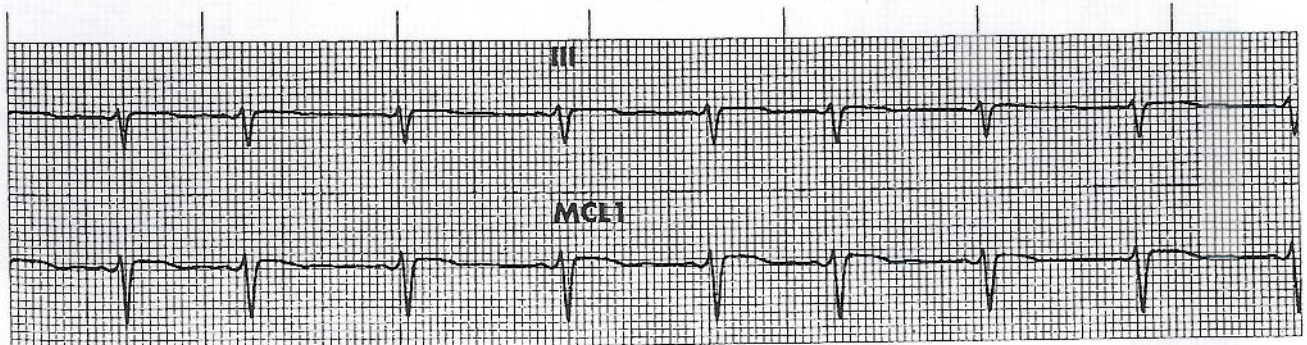


10-5

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____



10-6

Regularity: _____ Heart rate: _____ PR interval: _____

P-waves: _____ QRS complex: _____

Interpretation: _____

RHYTHM STRIP INTERPRETATION

Identify which of the following rhythms represent:

Sinus tachycardia _____

Atrial fibrillation _____

Sinus rhythm w/ PVC's _____

Normal sinus rhythm _____

Ventricular tachycardia _____

Atrial flutter _____

Sinus bradycardia _____

Ventricular fibrillation _____

Copies of rhythms are placed on this form...

NUR 217

EKG FINAL

Name:

On the following diagram, identify the components of the electrical conduction of the cardiac system. Using a colored pen, trace the path of electrical conduction in the normal heart.

Identify the P, Q, R, S, T waveforms on the following EKG strips:

Accurately measure the HR, PR interval, QRS interval and the QT interval in the following rhythm strips.

Utilizing the following EKG strips:

- Determine the heart rate of the following rhythms utilizing all three techniques learned
- Analyze the strips to determine if the heart rate is within normal limits, bradycardic, tachycardic.
- Distinguish whether the heart rate is potentially life threatening and needing immediate attention. Provide rationale for your answer

Rhythm strips are attached to this page

Evaluate the following EKG strips and interpret the findings related to waveform/rhythms represented.

Rhythm strips are attached to this page

Complete the following crossword puzzle:

This will be re-done to represent questions related to NUR 217 content

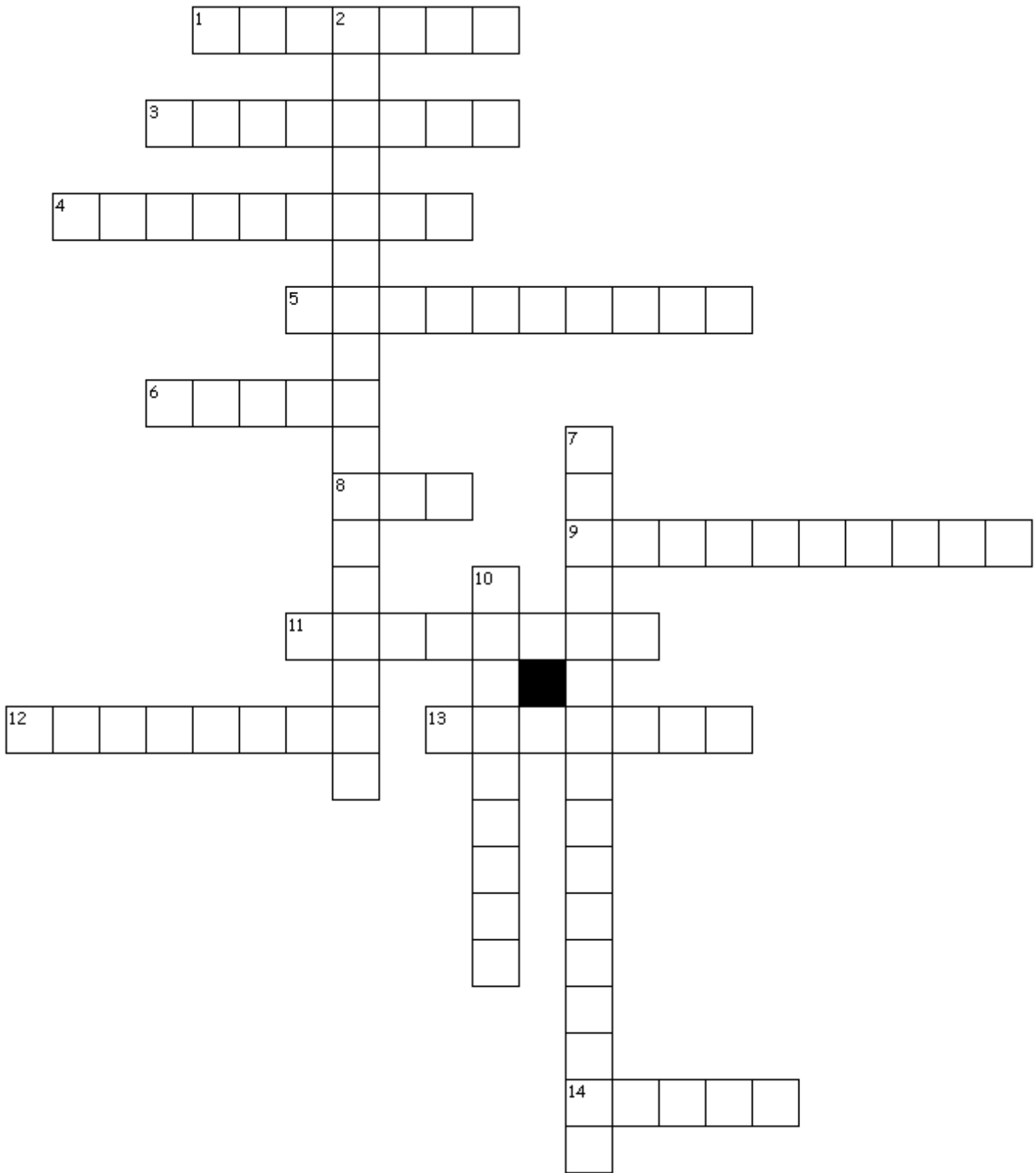
ACROSS

1. A rhythm with a saw tooth base line is atrial _____.
3. If there is ST elevation in leads II, III, and AVF the patient is having ischemic changes in the _____ portion of the heart.
4. Second degree heart block Mobitz I is also called _____.
5. If a person is having ischemic changes identified on an EKG, you should look for _____ changes in opposing leads.
6. When the atria and ventricles are both contracting but independently of each other, it is known as _____ degree heart block.
8. When the atria contract early, it may be a conducted or blocked _____.
9. If an irregular heart rhythm suddenly starts and stops, it is called _____.
11. A _____ PVC signifies that it is generated from one irritable spot in the ventricle.
12. _____ is a common trigger for atrial arrhythmias.
13. Leads V 5 and 6 look at the _____ section of the heart.
14. The P wave signifies contraction of the _____.

DOWN

2. A spiral looking V-tach is significant for _____.
7. If a person has a narrow (QRS) complex tachycardia, you know that it originates _____.

10. If a patient is having increased ventricular ectopy (arrhythmias), you should check this electrolyte.



On the chest diagrams below, identify where the appropriate leads should be placed to accurately capture the electrical conduction of the cardiac system.

Equal Employment Opportunity

CASE is a WIA Title I- financially assisted program and is therefore an equal opportunity employer/program which provides auxiliary aids and services upon request to individuals with disabilities by calling 711 or 800.648.3458 TTY.

US Department of Labor

The CASE grant project (\$18,679,289) is 100% funded through the US Department of Labor's Trade Adjustment Assistance Community College and Career Training program.

DOL Attribution

This workforce solution was funded by a grant awarded by the US Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The Department of Labor makes no guarantees, warranties or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability or ownership.

20 Multiple Choice Questions regarding rhythms and performing an EKG.

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COURSE OUTLINE

Title: Basic EKG Interpretation II

Course Number: NUR 218

Credits: 1

Date: Winter, 2014

Institution: CLACKAMAS COMMUNITY COLLEGE

Outline Developed by: Carol Thorn

Type of Program: Professional-Technical

Course Description:

This course builds upon the knowledge gained in NUR 217. The course will focus on the student's ability to understand and recognize variations in the electrical conduction of the heart as evidenced by changes on the 12 lead EKG. The course will encompass the recognition and treatment modalities of sinus, atrial, junctional and ventricular rhythms as well as heart block. Recognition and treatment of electrical conduction problems related to ischemia, injury and drug/electrolyte imbalances will also be discussed.

Student Learning Outcomes:

Upon the successful completion of this course, the student should be able to:

- Identify normal and abnormal electrical conduction waveforms of sinus rhythms
- Identify normal and abnormal electrical conduction waveforms of atrial rhythms
- Identify normal and abnormal electrical conduction waveforms of ventricular rhythms
- Identify normal and abnormal electrical conduction waveforms of junctional rhythms
- Identify electrical conduction waveforms in various types of heart block
- Describe the determining factors in the use of different types of pacemakers
- Demonstrate recognition of changes on 12-lead EKG due to ischemia, injury, metabolic disorders
- Demonstrate understanding of causes and treatment modalities for various electrical conduction abnormalities related to electrolyte imbalance
- Demonstrate understanding of causes and treatment modalities for various electrical conduction abnormalities related to tissue ischemia, injury or necrosis

Length of Course: 11 lecture hours

Grading Method: Letter Grade Only (willing to do this letter grade or P/NP if better for Allied Health programs); Allow repeat

Prerequisites: Basic EKG Interpretation I

Co-requisites: None

Recommended: None

Major Topic Outline:

- Components of the EKG
- EKG Interpretation
 - Sinus rhythms
 - Atrial rhythms
 - Ventricular Rhythms
 - Heart Block
 - Ischemia, Injury and Changes due to Metabolic Disturbances
- Causes and treatment modalities of abnormal heart rhythms

COURSE SYLLABUS

Title: Basic EKG Interpretation II

Course Number: NUR 218

Credits: 1

Date: Spring, 2014

Institution: CLACKAMAS COMMUNITY COLLEGE

Outline Developed by: Carol Thorn

Type of Program: Professional-Technical

Course Description:

This course builds upon the knowledge gained in NUR 217. The course will focus on the student's ability to understand and recognize variations in the electrical conduction of the heart as evidenced by changes on the 12 lead EKG. The course will encompass the recognition and treatment modalities of sinus, atrial, junctional and ventricular rhythms as well as heart block. Recognition and treatment of electrical conduction problems related to ischemia, injury and drug/electrolyte imbalances will also be discussed.

Student Learning Outcomes:

Upon the successful completion of this course, the student should be able to:

- Identify normal and abnormal electrical conduction waveforms of sinus rhythms
- Identify normal and abnormal electrical conduction waveforms of atrial rhythms
- Identify normal and abnormal electrical conduction waveforms of ventricular rhythms
- Identify normal and abnormal electrical conduction waveforms of junctional rhythms
- Identify electrical conduction waveforms in various types of heart block
- Describe the determining factors in the use of different types of pacemakers
- Demonstrate recognition of changes on 12-lead EKG due to ischemia, injury, metabolic disorders
- Demonstrate understanding of causes and treatment modalities for various electrical conduction abnormalities related to electrolyte imbalance
- Demonstrate understanding of causes and treatment modalities for various electrical conduction abnormalities related to tissue ischemia, injury or necrosis

Length of Course: 22 Lecture/Lab hours
Lecture: Mondays 1:30 – 3:20 pm
Lab: Thursdays 0800-0950am

Grading Method: Letter Grade or P/NP; Allow repeat

Prerequisites: Basic EKG Interpretation I

Co-requisites: None

Recommended: None

Major Topic Outline:

- ❑ Components of the EKG
- ❑ EKG Interpretation
 - Sinus rhythms
 - Atrial rhythms
 - Ventricular Rhythms
 - Heart Block
 - Ischemia, Injury and Changes due to Metabolic Disturbances
- ❑ Causes and treatment modalities of abnormal heart rhythms

Method of Evaluation:

Worksheets	10%
Quizzes	30%
Final	60%
Total	100%

Completion of 25 EKG's during term P/NP

Grading Scale:

A	92-100%
B	84-91%
C	75-83%
D	66-75%
F	Below 6-61%

If you do not achieve an average of 75% or higher, you will not pass Nursing 218. You will not be able to take the ECG Technician exam provided through NCCT.

Required Texts:

No required text for this course. Readings and handouts will be provided via Evolve and in class.

Methods of Instruction:

This course is taught in a lecture/discussion/interactive manner.

Theory Outline:

May 5th:

The focus of today's class will be:

- ❑ An overview of the course
- ❑ Review of material provided in NUR 217 related to:
 - Sinus rhythm, sinus abnormalities and basic treatment modalities
 - Atrial rhythms and basic treatment modalities
 - Ventricular rhythm and basic treatment modalities

The focus of this week's lab will be:

- ❑ Review of performing an EKG
- ❑ Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - Sinus rhythms

- Atrial rhythms
- Ventricular rhythms

May 12th:

The focus of today's class will be:

- EKG Interpretation
 - Heart Block
 - First degree
 - Second Degree Mobitz I
 - Second Degree Mobitz II
 - Third Degree
- Causes and treatment modalities of heart block
- Pacemakers
 - Types of pacemakers
 - Ventricular
 - Atrial
 - Atrial/Ventricular
 - Common problems with pacemakers
 - Failure to sense
 - Failure to capture

The focus of this week's lab will be:

- Performing an EKG
- Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - First degree heart block
 - Second Degree Mobitz I
 - Second Degree Mobitz II
 - Third Degree
 - Paced rhythms

May 19th:

The focus of today's class will be:

- EKG Interpretation
 - Changes on the EKG due to:
 - Ischemia
 - Injury
 - Necrosis
 - Drug/electrolyte effects
 - Digoxin
 - Psychotropic medications
 - Potassium
 - Calcium

The focus of this week's lab will be:

- Performing an EKG
- Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - EKG changes related to cardiac ischemia

- EKG changes related to cardiac injury
- EKG changes related to cardiac necrosis
- EKG changes related to drug/electrolyte effects
 - Digoxin
 - Psychotropic medications
 - Potassium
 - Calcium

May 26th:

The focus of today's class will be:

- Enjoying your Memorial Day Holiday ☺

The focus of this week's lab will be:

- Open lab time to practice performing an EKG and recognition of waveforms

June 2nd:

The focus of today's class will be:

- Review of course material in preparation of final exam

June 9th:

The focus of today's class will be:

- Final Exam

NUR-218 EKG II Lesson Plan:

May 5th:

The focus of today's class will be:

- An overview of the course
- Review of material provided in NUR 217 related to:
 - Sinus rhythm, sinus abnormalities and basic treatment modalities
 - Atrial rhythms and basic treatment modalities
 - Ventricular rhythm and basic treatment modalities

The focus of this week's lab will be:

- Review of performing an EKG
- Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - Sinus rhythms
 - Atrial rhythms
 - Ventricular rhythms

May 12th:

The focus of today's class will be:

- EKG Interpretation
 - Heart Block
 - First degree
 - Second Degree Mobitz I
 - Second Degree Mobitz II
 - Third Degree
- Causes and treatment modalities of heart block
- Pacemakers
 - Types of pacemakers
 - Ventricular
 - Atrial
 - Atrial/Ventricular
 - Common problems with pacemakers
 - Failure to sense
 - Failure to capture

The focus of this week's lab will be:

- Performing an EKG
- Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - First degree heart block
 - Second Degree Mobitz I
 - Second Degree Mobitz II
 - Third Degree
 - Paced rhythms

May 19th:

The focus of today's class will be:

- EKG Interpretation
 - Changes on the EKG due to:
 - Ischemia
 - Injury
 - Necrosis
 - Drug/electrolyte effects
 - Digoxin
 - Psychotropic medications
 - Potassium
 - Calcium

The focus of this week's lab will be:

- Performing an EKG
- Recognition of normal and abnormal waveforms when performing an EKG related to the following rhythms:
 - EKG changes related to cardiac ischemia
 - EKG changes related to cardiac injury
 - EKG changes related to cardiac necrosis
 - EKG changes related to drug/electrolyte effects
 - Digoxin
 - Psychotropic medications
 - Potassium
 - Calcium

May 26th:

The focus of today's class will be:

- Enjoying your Memorial Day Holiday 😊

The focus of this week's lab will be:

- Open lab time to practice performing an EKG and recognition of waveforms

June 2nd:

The focus of today's class will be:

- Review of course material in preparation of final exam

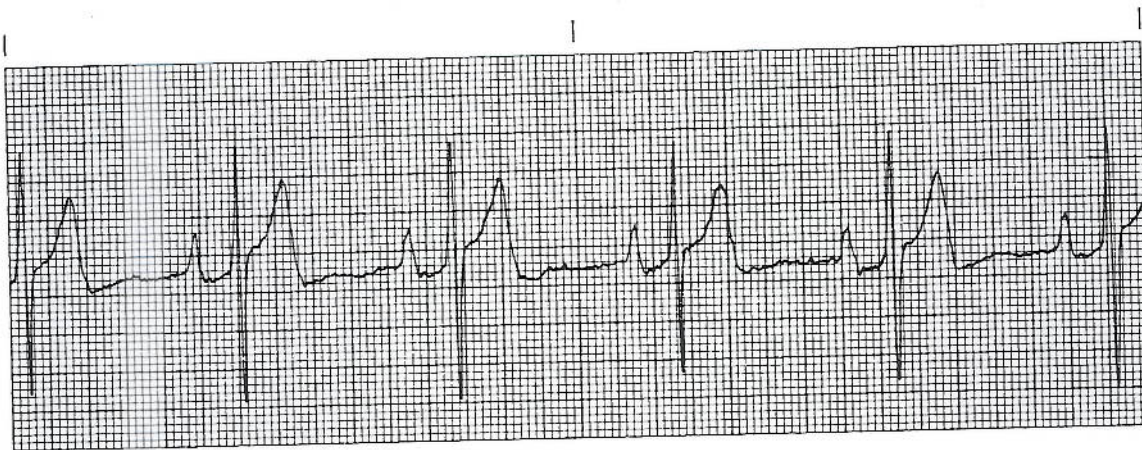
June 9th:

The focus of today's class will be:

- Final Exam

PRACTICE SHEET FOR CHAPTER 7

Heart Blocks



7.1

Regularity: _____

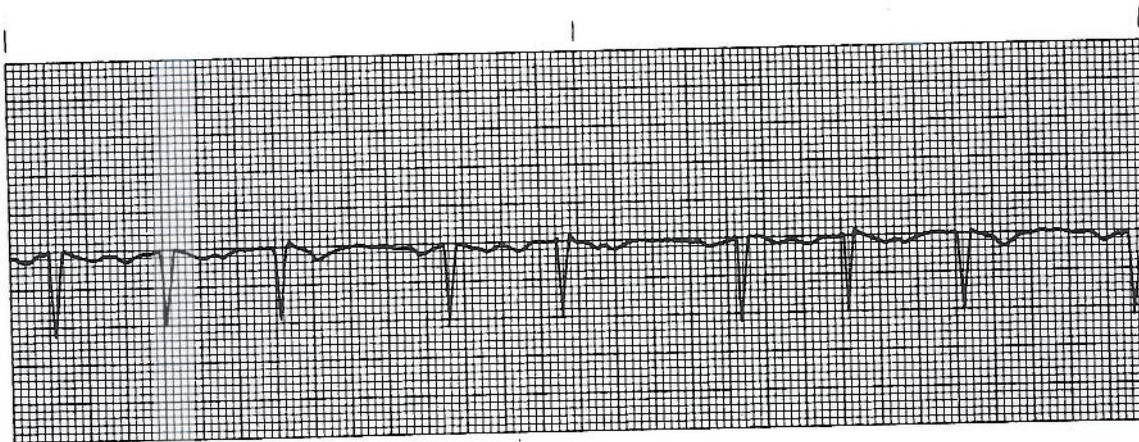
Rate: _____

P Waves: _____

PR: _____

QRS: _____

Interp: _____



7.2

Regularity: _____

Rate: _____

P Waves: _____

PR: _____

QRS: _____

Interp: _____



7.3

Regularity: _____

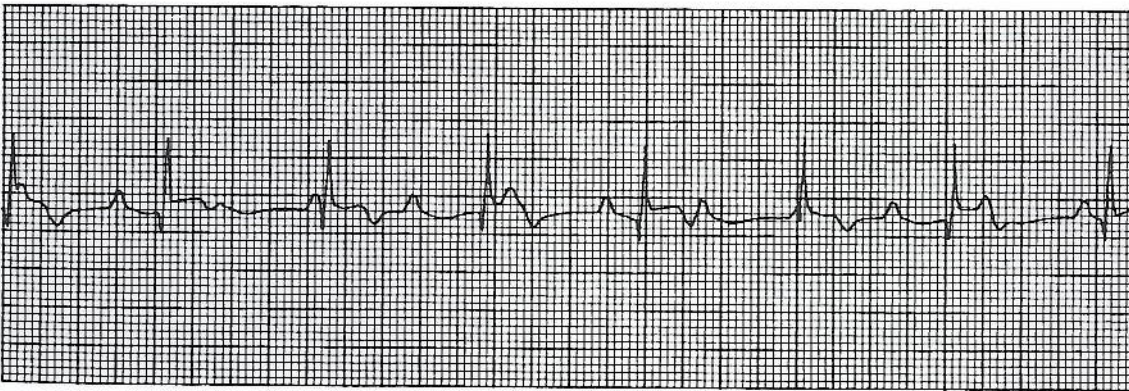
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P Waves: _____

PR: _____

QRS: _____

Interp: _____



7.4

Regularity: _____

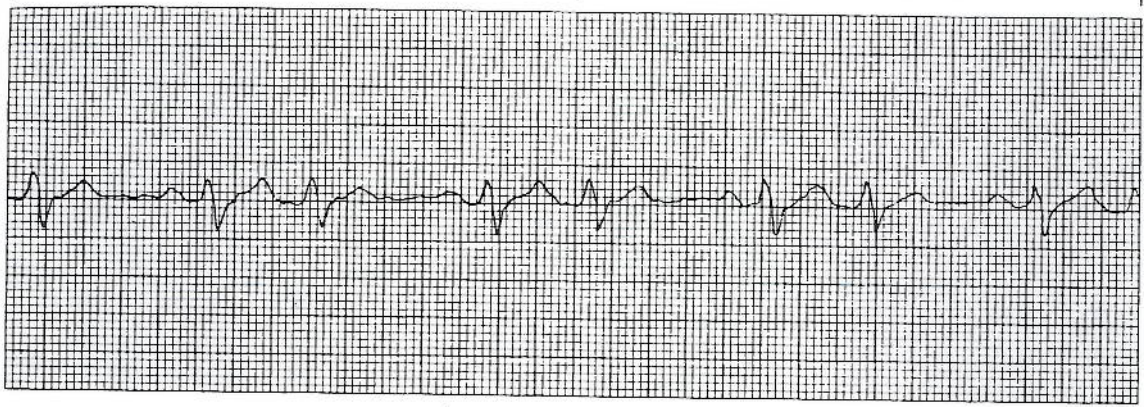
Rate: _____

P Waves: _____

PR: _____

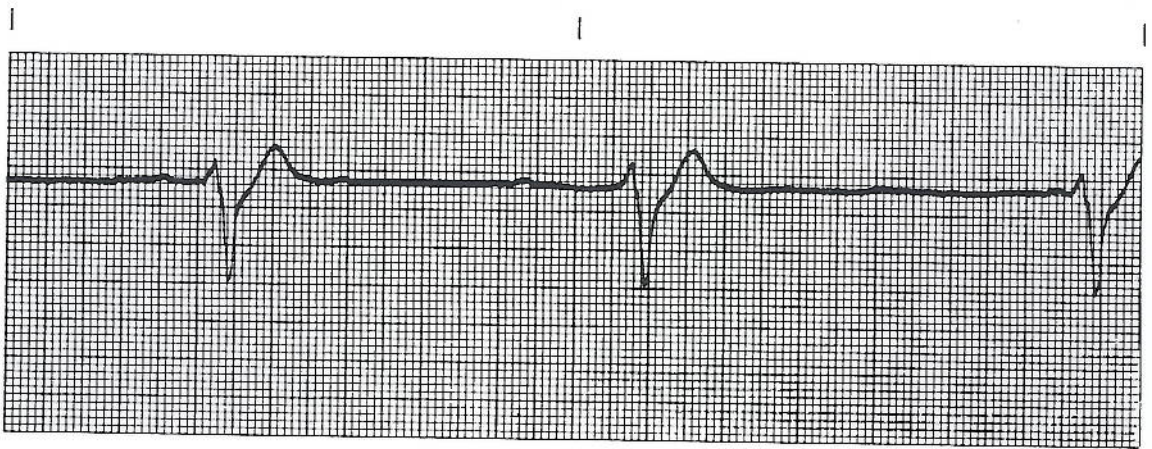
QRS: _____

Interp: _____



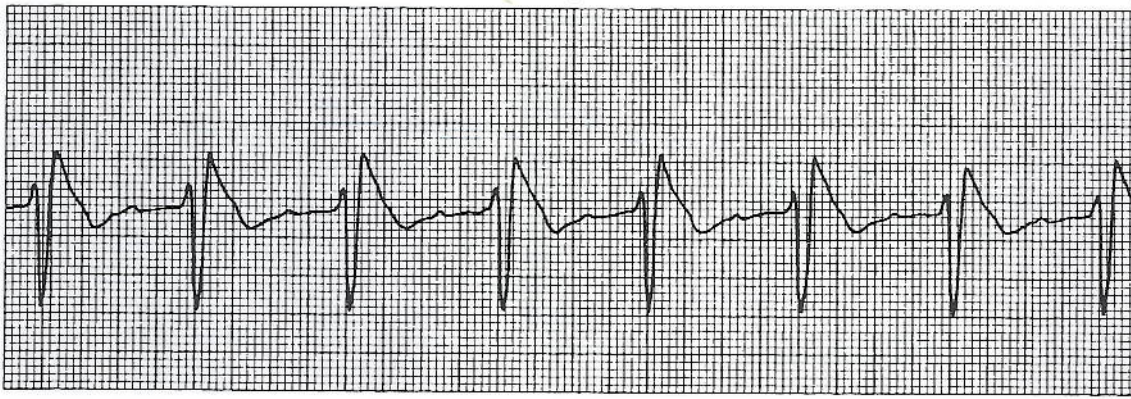
7.9

Regularity: _____
 Rate: _____
 P Waves: _____
 PRI: _____
 QRS: _____
 Interp: _____



7.10

Regularity: _____
 Rate: _____
 P Waves: _____
 PRI: _____
 QRS: _____
 Interp: _____



7.11

Regularity: _____

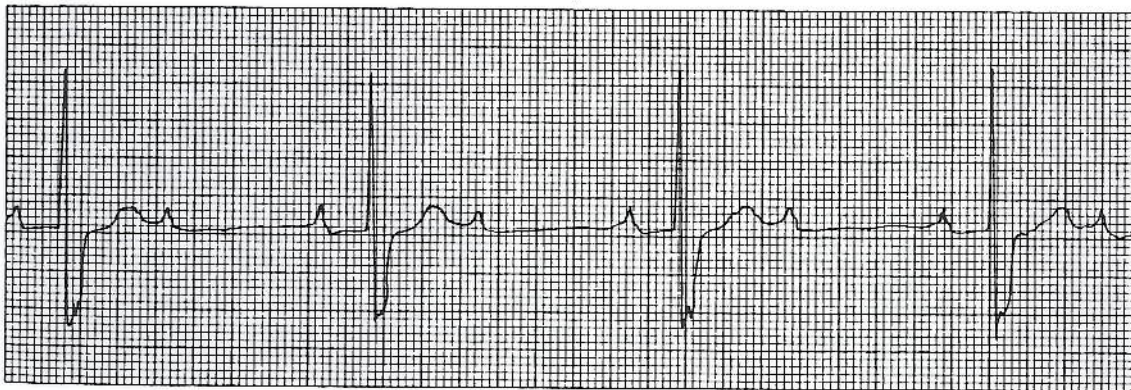
Rate: _____

P Waves: _____

PRI: _____

QRS: _____

Interp: _____



7.12

Regularity: _____

Rate: _____

P Waves: _____

PRI: _____

QRS: _____

Interp: _____

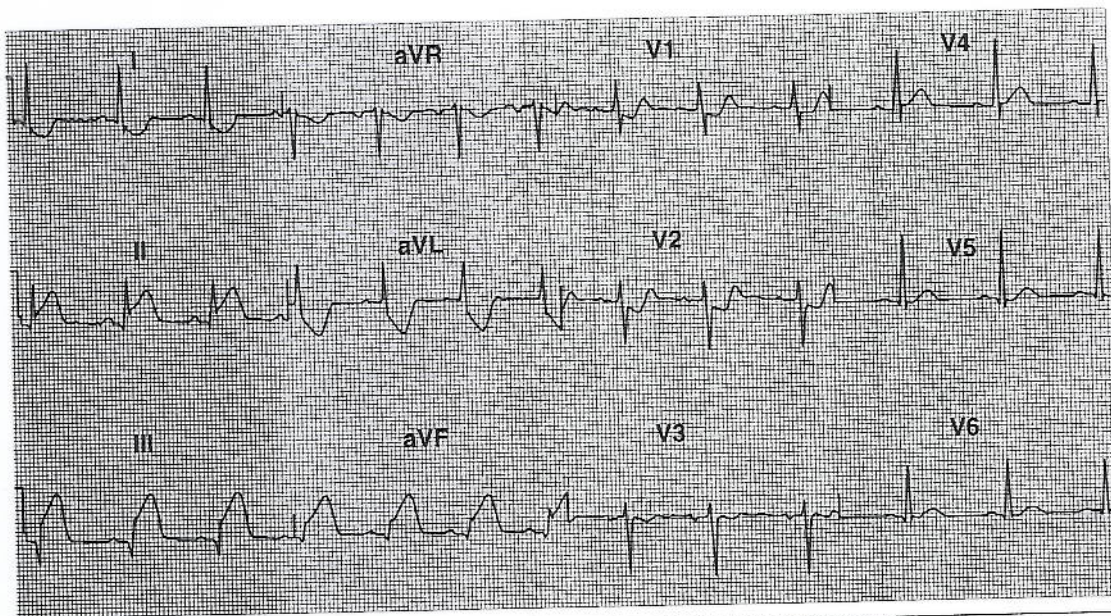


FIGURE 5-37

I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation: _____		

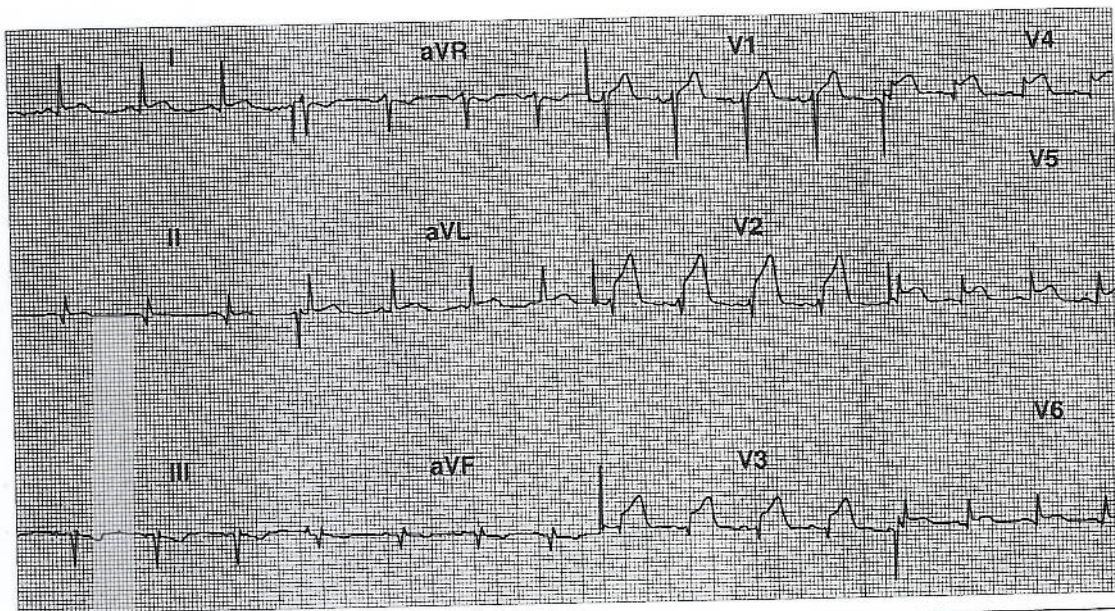
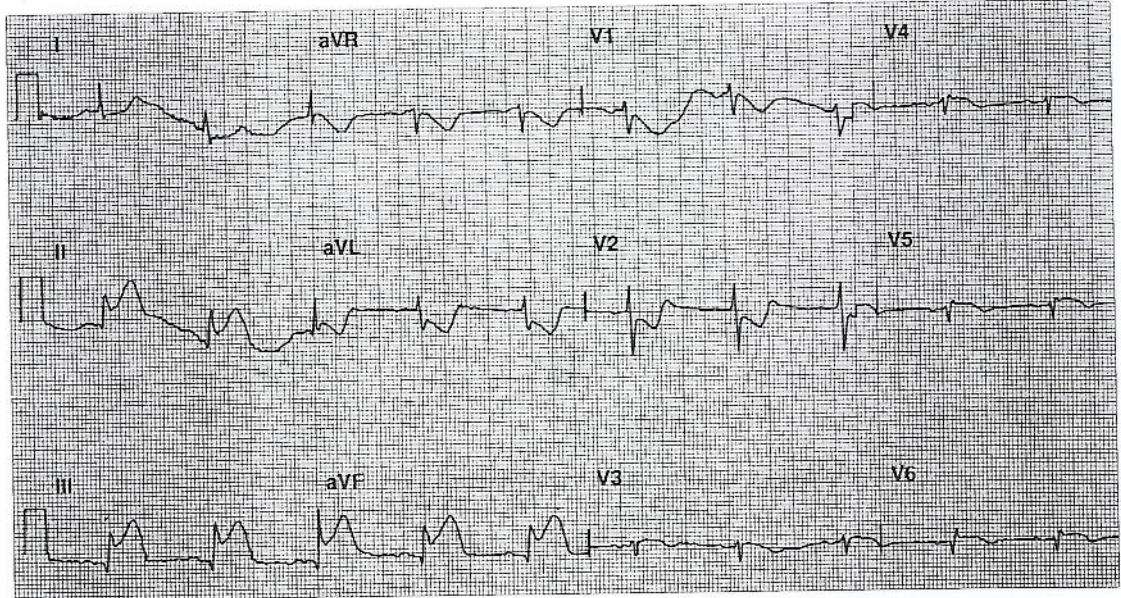


FIGURE 5-38

I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation: _____		

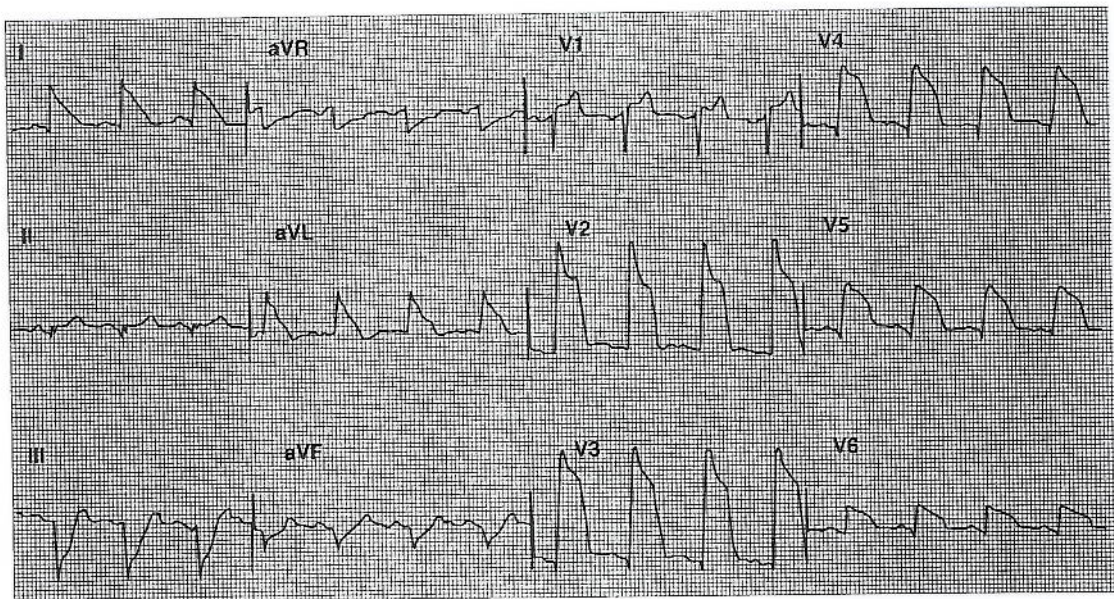


FIGURE 5-39



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

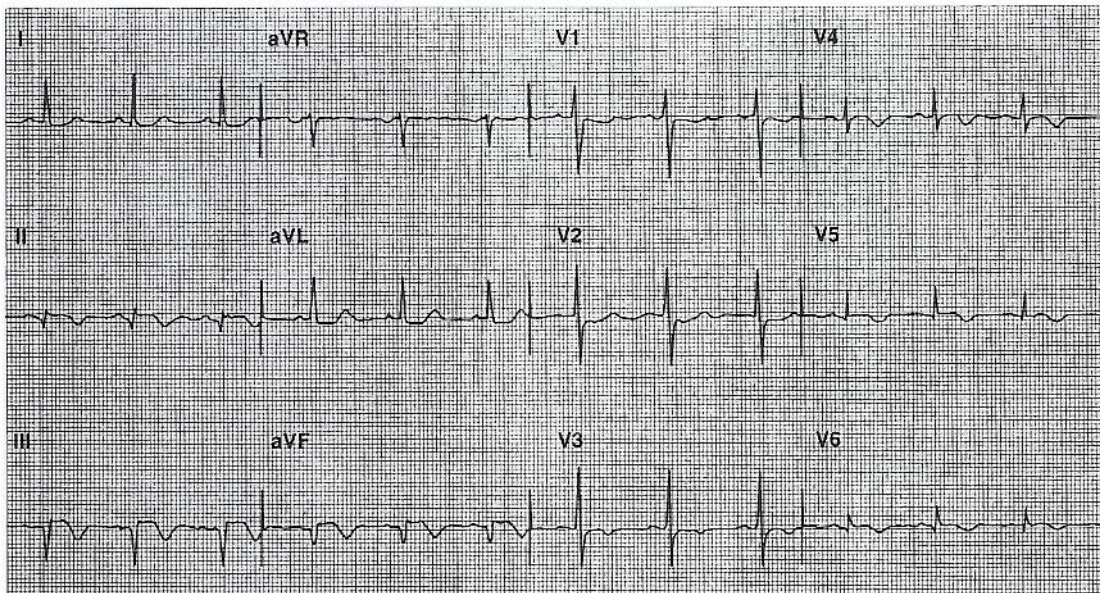
FIGURE 5-40



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

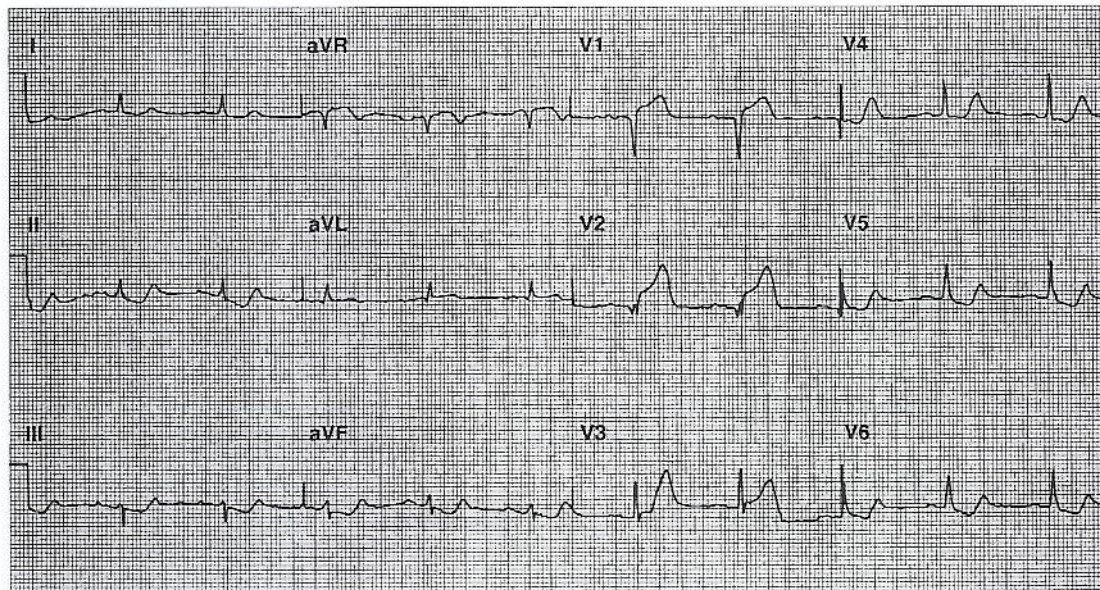


FIGURE 5-41



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

FIGURE 5-42



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

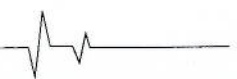
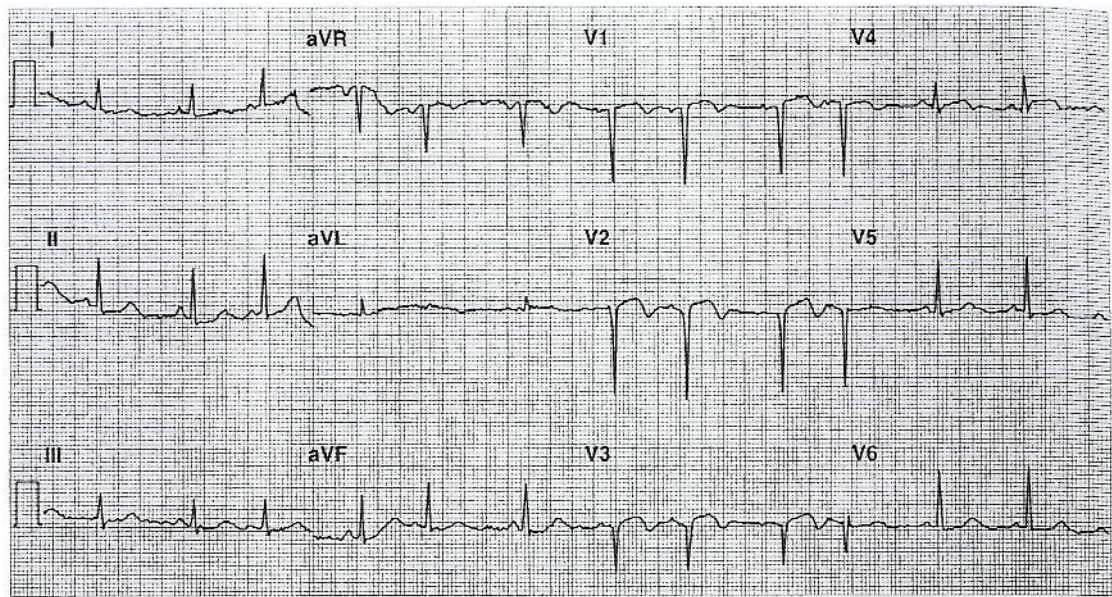
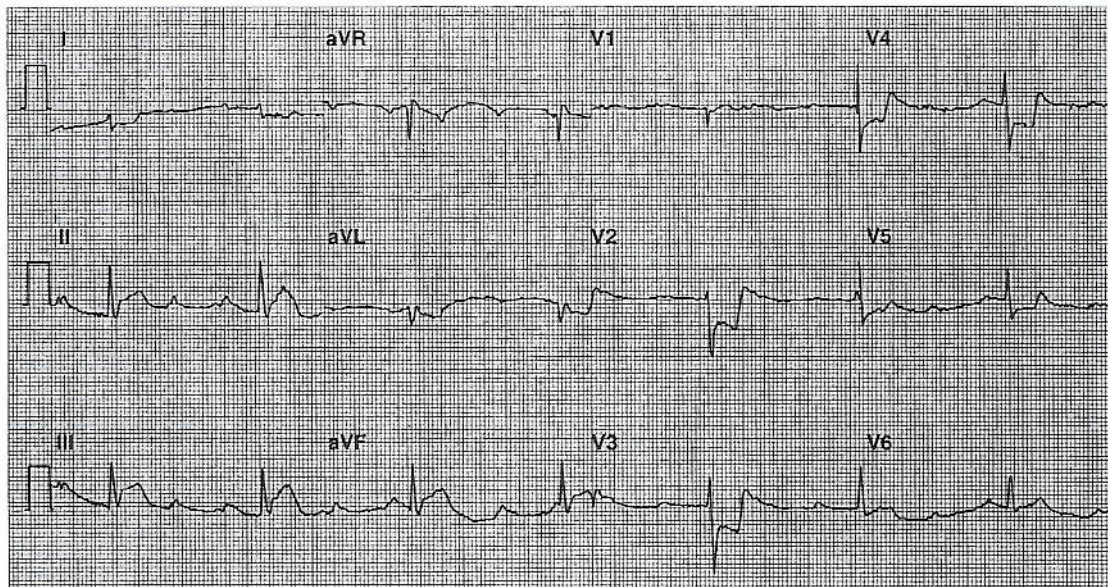


FIGURE 5-43



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V _{4R} Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V _{5R} Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V _{6R} Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

FIGURE 5-44



I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V _{4R} Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V _{5R} Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V _{6R} Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	



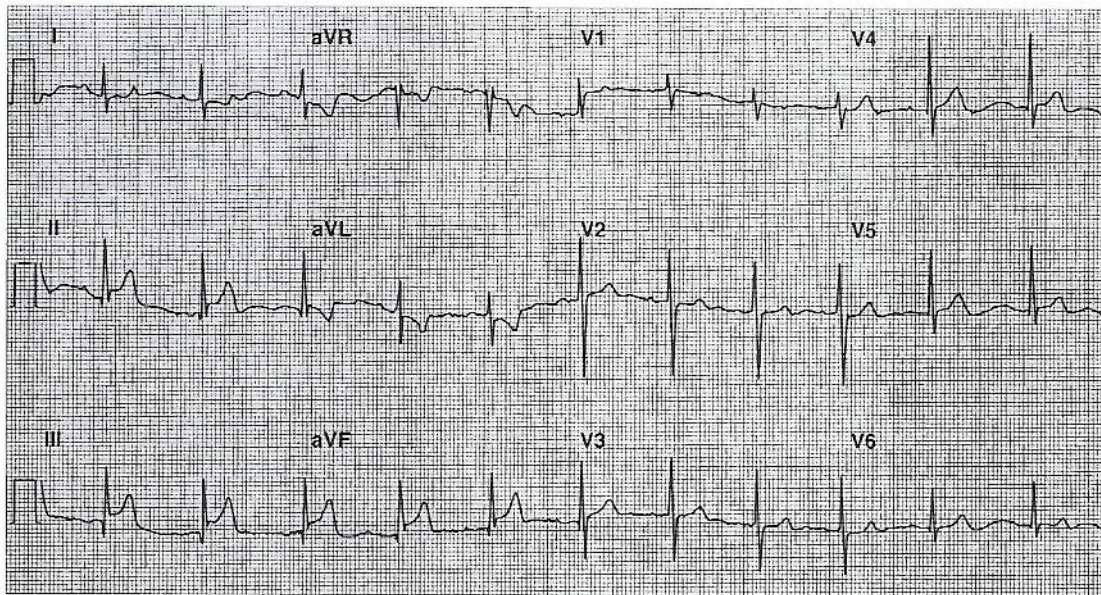


FIGURE 5-45

I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	

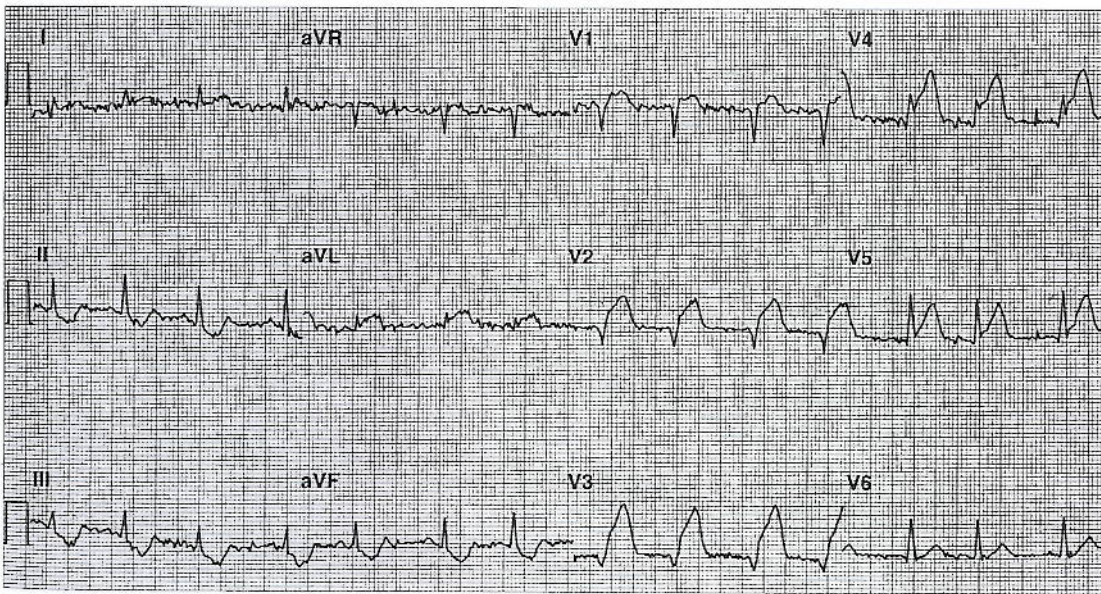
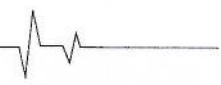


FIGURE 5-46

I Lateral	aVR —	V ₁ Septum	V ₄ Anterior	V ₄ R Right Ventricle
II Inferior	aVL Lateral	V ₂ Septum	V ₅ Lateral	V ₅ R Right Ventricle
III Inferior	aVF Inferior	V ₃ Anterior	V ₆ Lateral	V ₆ R Right Ventricle
Baseline wander or artifact?	Yes <input type="checkbox"/> No <input type="checkbox"/>	ST-segment elevation?	Leads: _____	
Underlying rhythm?	_____	ST-segment depression?	Leads: _____	
Pathologic Q waves?	Leads: _____	T wave changes?	Leads: _____	
Poor R-wave progression?	Leads: _____	Interpretation:	_____	



NUR 218
EKG INTERPRETATION

NAME

RHYTHM STRIP INTERPRETATION

Identify which of the following rhythms represent:

First degree heart block _____

Second degree heart block Mobitz I _____

Second degree heart block Mobitz II _____

Third degree heart block _____

Ventricular tachycardia _____

Atrial flutter _____

Ventricular paced rhythm _____

Atrio/ventricular sequentially paced rhythm _____

Copies of rhythms are placed on this form...

NUR 218

EKG FINAL

Name:

Evaluate the following EKG strips and interpret the findings related to waveform/rhythms represented.

Rhythm strips are attached to this page

Complete the following crossword puzzle:

This will be re-done to represent questions related to NUR 218 content

ACROSS

1. A rhythm with a saw tooth base line is atrial _____.
3. If there is ST elevation in leads II, III, and AVF the patient is having ischemic changes in the _____ portion of the heart.
4. Second degree heart block Mobitz I is also called _____.
5. If a person is having ischemic changes identified on an EKG, you should look for _____ changes in opposing leads.
6. When the atria and ventricles are both contracting but independently of each other, it is known as _____ degree heart block.
8. When the atria contract early, it may be a conducted or blocked _____.
9. If an irregular heart rhythm suddenly starts and stops, it is called _____.
11. A _____ PVC signifies that it is generated from one irritable spot in the ventricle.
12. _____ is a common trigger for atrial arrhythmias.
13. Leads V 5 and 6 look at the _____ section of the heart.
14. The P wave signifies contraction of the _____.

DOWN

2. A spiral looking V-tach is significant for _____.
7. If a person has a narrow (QRS) complex tachycardia, you know that it originates _____.
10. If a patient is having increased ventricular ectopy (arrhythmias), you should check this electrolyte.

Related to the following EKGs:

- Diagnose the rhythm
- Determine if this is a life threatening rhythm or not. What is the responsibility to the person obtaining &/or monitoring the EKG
- Identify potential underlying causes for the rhythm
- Determine appropriate treatment modalities for this rhythm

In relation to pacemakers, describe the difference between 'failure to sense' and 'failure to capture'.

30 Multiple Choice Questions regarding various rhythms, treatment modalities.

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US Department of Labor

The CASE grant project (\$18,679,289) is 100% funded through the US Department of Labor's Trade Adjustment Assistance Community College and Career Training program.

DOL Attribution

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