

Introduction to Electrocardiography (ECG)

Outline, Objectives & Credit Information

- I. Cardiac Anatomy
 - a. The Heart
 - b. Arteries and Veins
 - c. Chambers of the Heart
 - i. Atria and Ventricles
 - ii. Syncytia
 - d. The Heart Valves
 - e. Papillary Muscles and Chordae Tendineae
 - f. Sinoatrial Node
 - g. AV Node and the His bundle
 - h. Bundle Branches
- II. Cardiac Electrophysiology
 - a. Depolarization and Repolarization
 - b. Conduction System
 - c. ECG Components
 - i. Electrocardiogram
 - 1. What is an ECG?
 - 2. ECG paper
 - ii. ECG Complexes
 - 1. Atrial Depolarization: the P wave
 - 2. PQ or PR Interval
 - 3. QRS Complex
 - 4. ST Segment
 - 5. T wave and STT Segment
 - iii. Determination of Heart Rate
 - iv. The Leads
 - 1. Electrodes and Leads
 - 2. Einthoven's Triangle
 - 3. The Augmented Limb Leads
 - 4. The Precordial Leads

- v. The Electrical Heart Axis
 - 1. What is the Electrical Heart Axis?
 - 2. Variations in Electrical Heart Axis
 - 3. Determination of the Electrical Heart Axis
- vi. Sinus Rhythm
- vii. Ectopic Pacemaker Structures

III. Pathophysiology (ECG Abnormalities)

- a. Premature Complexes
 - i. Premature Atrial Complexes (PAC's)
 - ii. Premature Junctional Complexes (PJC's)
 - iii. Premature Ventricular Complexes (PVC's)
 - 1. Multiform and Uniform PVC's
 - 2. Run of PVC's
 - 3. PVC Patterns (Ventricular Bigeminy, Trigeminy, and Quadrigeminy)
- b. Infarction and ischemia
 - i. Hyperacute T waves
 - ii. T wave Abnormalities
 - iii. ST Elevation
 - iv. ST Depression
 - v. Q waves
- c. Atrial Flutter
- d. Atrial Fibrillation
- e. AV Nodal Reentrant Tachycardia (AVNRT)
- f. Ventricular Tachycardia (VT)
 - i. Monomorphic VT
 - ii. Polymorphic VT
- g. Ventricular Fibrillation
- h. Bundle Branch Blocks
 - i. Right Bundle Branch Block (RBBB)
 - ii. Left Bundle Branch Block (LBBB)
 - iii. Summary of Criteria for RBBB and LBBB

IV. Exercises

- a. Anatomy
- b. Electrophysiology
- c. ECG Complexes

- d. Leads and Electrodes
- e. V. Electrical Heart Axis
- f. VI. Determination of Heart Rate
- g. VII. Bundle Branch Blocks
- h. VIII. Premature Complexes
- i. IX. Ventricular Complexes
- j. X. Rhythm Analysis
- k. XI. Ischemia and Infarction

Course Objectives

At the conclusion of **Introduction to Electrocardiography** the participant will be able to:

1. Discuss the cardiac anatomy essential for understanding the basic principles of ECG interpretation.
2. Discuss the difference between depolarization and repolarization.
3. List three ECG complexes.
4. List two common ECG abnormalities encountered in clinical practice using a standard 12-lead ECG tracing.

Course Credit

CEUs

Students who complete the exercises with a 95% rating or higher will receive a certificate of completion and 1.6 Continuing Education Units (CEUs). Introduction to ECG utilizes a nontraditional assessment mechanism. Ratings are determined by progress indicators and interactive assessments contained in the course. Ratings rise and fall as students respond to the exercise questions. If an answer is incorrect the courseware will return the correct response with detailed feedback. The student will be asked additional questions on that topic as they progress through the exercises. The courseware adjusts based on their knowledge level. Students can earn back your rating points by answering the questions correctly the next time.

Corexcel is an authorized CEU sponsor of the International Association of Continuing Education and Training (IACET). 1 CEU is equivalent to 10 hours of class time. Individual colleges and universities may accept CEUs. To determine an institution's policy, ask them if a course that is "accredited for CEUs by IACET (International Association for Continuing Education and Training)" can be translated into credit hours. They will often ask for objectives and a course outline, which are included in this packet. If you're sure you need college credit read the information below.

If you need additional information or have other questions please call 1-302-477-9730 or toll-free in the U.S. 1-888-658-6641