

ECG Analysis Study Guide

Knowledge check – For the purposes of the CSCT Certification examination, can you identify the following?

1. Rhythm
 - a. Rate
 - b. Axis
 - c. PRI
 - d. QRST
 - e. QTc (Bazetts formula)
2. P Wave Morphology
3. ST segment
 - a. Elevated
 - b. Isoelectric
 - c. Downsloping
 - d. Upsloping
 - e. Horizontal depression
4. T wave
 - a. Upright
 - b. Inverted (symmetrical / asymmetrical)
 - c. Flat
 - d. Pointed / Tenting

ECG Analysis:

1. Rhythms that are associated with the SA Node
 - a. Sinus Rhythm
 - b. Sinus Bradycardia
 - c. Sinus Tachycardia
 - d. Sinus Arrhythmia
 - e. Sinus Arrest
 - f. Sinus Block
 - g. Sick Sinus Syndrome
2. Rhythms that are associated with the Atria
 - a. Multifocal Atrial Tachycardia
 - b. Paroxysmal Atrial Tachycardia
 - c. Atrial Premature Beats
 - d. Atrial Fibrillation
 - e. Atrial Flutter
 - f. Ashman Phenomenon
 - g. Aberrancy
3. Rhythms that are associated with the AV node

- a. Junctional Escape Rhythm
 - b. Accelerated Junctional Rhythm
 - c. Junctional Bradycardia
 - d. Junctional Tachycardia
 - e. Premature Junctional Beats
4. Reentry Tachycardias
- a. Paroxysmal Supraventricular Tachycardia
 - a. Supraventricular Tachycardia
 - b. AV Nodal Reentry Tachycardia
 - c. SA node reentry
5. Preexcitation
- a. Pre excitation type 1
 - b. Pre excitation type 2
 - c. LGL
6. Rhythms that are associated with the Ventricles
- a. Idioventricular Rhythm
 - b. Accelerated Ventricular Rhythm
 - c. Premature Ventricular Beats
 - d. Ventricular Tachycardia
 - e. Ventricular Fibrillation
 - f. Ventricular Flutter
 - g. Agonal Rhythm
 - h. Torsades de Pointes
 - i. Parasystole
7. Blocks
- a. 1st degree AV Block
 - b. 2nd degree AVB type 1
 - c. 2nd degree AVB type 2
 - d. 3rd degree AVB
 - e. High Grade AV Block (Ventricular Standstill)
 - f. Right Bundle Branch Block
 - g. Left Bundle Branch Block
 - h. Bifascicular Block
 - i. Trifascicular Block
 - j. Left Anterior Fascicular Block
 - k. Left Posterior Fascicular Block
8. Structural abnormalities
- a. Bi-Atrial Enlargement
 - b. Right Atrial Enlargement
 - c. Left Atrial Enlargement

- d. Right Ventricular Hypertrophy
- e. Left Ventricular Hypertrophy

9. Myocardial Ischemia

- a. T Wave Abnormalities
- b. Wellen's Syndrome
- c. Myocardial Injury and Infarction
 - i. STEMI
 - ii. NSTEMI
- d. Hyperacute T Waves

10. Miscellaneous ST changes

- a. Early Repolarization
- b. Pericarditis
- c. Brugada Syndrome
- d. Ventricular Aneurysm

11. Electrolyte imbalances

- a. Hypercalcemia
- b. Hypocalcemia
- c. Hyperkalemia
- d. Hypokalemia

12. Miscellaneous

- a. Dextrocardia
- b. Hypothermia
- c. Electrical Alternans
- d. Pulmonary Embolism
- e. Pulseless Electrical Activity (PEA)

13. Pacemaker function

- a. Pacing modes
- b. Capture
- c. Sense
- d. Fusion
- e. Pseudo fusion
- f. Pacemaker Mediated Tachycardia (PMT)