Pre-hire Testing Guide

Cataldo Ambulance Service administers a Pre-hire evaluation to all candidates seeking employment as a chair car driver, Emergency Medical Technician or Paramedic. This guide will help you prepare for your testing appointment. The testing is conducted at our Malden Operations Center located at 25 Eastern Avenue, Malden, MA 02148 in the Training and Education Center on the First floor. When you arrive a sign will direct you to the testing location. Please sign in with the Pre-hire coordinator and s(he) will request the you fill out some paperwork and make a photocopy of your current credentials (all required credentials must be valid i.e. drivers license, MA EMT Certification, CPR card, ACLS card)

Chair Car Driver

Estimated appointment time - 2 hours

Credentials Required – valid driver's license

The Test - consists of 5 multiple choice questions, 9 short answer questions covering your ideas of customer service and "what would you do if" type questions. The final section is a map reading game where you will need to find the most direct route to your destination.

Emergency Medical Technician – Basic

Estimated appointment time – 3 to 4 hours

Credentials required – Valid MA EMT-B certification, valid CPR card

The Test – most candidates will begin with a written evaluation testing your basic EMS knowledge. The questions are multiple choice and short answer and may be in a scenario format (short scenario with questions about the case in the scenario) or question and answer format. The test looks at the following areas:

a. Scene Safety
b. Pediatrics
c. Medical / Legal
d. Common Medical Emergencies
    a. Diabetic Emergencies
    b. Environmental Emergencies
    c. Cardiac Emergencies
    d. Respiratory Emergencies
    e. Neurological Emergencies
e. Common Traumatic Emergencies
    a. Burns
    b. Cervical Spine Injuries
    c. Musculoskeletal Injures
f. Anatomy & Physiology
g. Ambulance Operations
h. Pharmacology
i. Clinical Decision Making
j. Splinting and Spinal Immobilization
k. Patient Assessment
l. Patient Care Scenarios asking you to document, *in proper narrative form*, <u>all</u> assessments, treatments, interventions, extrication techniques, safety considerations and transportation considerations.
m. Map Reading - point A to point B using the most direct route. (Current Cataldo and Atlantic Employees are exempt from this portion of the test)

Example EMT-Basic Pre-hire Test Questions:

1. Which of the following statements regarding the hepatitis B vaccine is correct?
   A) Vaccination against hepatitis B provides partial immunity for life.
   B) OSHA requires that your employer offer you the vaccine free of charge.
   C) The hepatitis B vaccine provides protection against the disease for 2 years.
   D) Vaccination with the hepatitis B vaccine confers immunity against hepatitis A.

2. Shortly after loading your patient, a 50-year-old man with abdominal pain, into the ambulance, he tells you that he changed his mind and does not want to go to the hospital. He is conscious and alert and has no signs of mental incapacitation. You are suspicious that the man has a significant underlying condition and feel strongly that he should go to the hospital. Which of the following statements regarding this situation is correct?
   A) A mentally competent adult can withdraw his or her consent to treat at any time.
   B) Any patient who refuses EMS treatment must legally sign a patient refusal form.
   C) Because of your suspicions, the best approach is to transport him to the hospital.
   D) Once a patient is in the ambulance, he or she cannot legally refuse EMS treatment.

3. A fracture of the humerus just above the elbow would be described as a:
   A) distal humerus fracture.
   B) proximal elbow fracture.
   C) distal forearm fracture.
   D) proximal humerus fracture.

4. How is nitroglycerin usually given by the EMT?
   A) orally
   B) inhaled
   C) injected
   D) sublingually

5. The goal of the primary assessment is to:
   A) determine if the patient's problem is medical or trauma.
   B) identify patients that require transport to a trauma center.
   C) determine the need to perform a head-to-toe assessment.
   D) identify and rapidly treat all life-threatening conditions.

6. Inhalation occurs when the:
   A) diaphragm and intercostal muscles relax and cause an increase in intrathoracic pressure.
   B) diaphragm and intercostal muscles ascend and cause an increase in intrathoracic pressure.
   C) diaphragm and intercostal muscles contract and cause a decrease in intrathoracic pressure.
   D) diaphragm ascends and the intercostal muscles contract, causing a decrease in intrathoracic pressure.

7. Shock is the result of:
   A) hypoperfusion to the cells of the body.
   B) the body's maintenance of homeostasis.
   C) temporary dysfunction of a major organ.
   D) widespread constriction of the blood vessels.

8. The respiratory distress that accompanies emphysema is caused by:
   A) repeated exposure to cigarette smoke.
   B) chronic stretching of the alveolar walls.
   C) massive constriction of the bronchioles.
   D) acute fluid accumulation in the alveoli.

9. Ischemic heart disease is MOST accurately defined as:
   A) absent myocardial blood flow due to a blocked coronary artery.
   B) decreased blood flow to one or more portions of the myocardium.
   C) death of a portion of the heart muscle due to a decrease in oxygen.
   D) decreased blood flow to the heart muscle due to coronary dilation.

10. Hypoperfusion is another name for:
    A) shock.
    B) cyanosis.
    C) hypoxemia.
    D) cellular death.

11. A closed soft-tissue injury characterized by swelling and ecchymosis is called a(n):
    A) abrasion.
    B) contusion.
    C) hematoma.
    D) crush injury.

12. Common signs and symptoms of a serious head injury include all of the following, EXCEPT:
    A) constricted pupils.
    B) combative behavior.
    C) CSF leakage from the ears.
    D) decreased sensory function.

13. A fracture is MOST accurately defined as a(n):
    A) total loss of function in a bone.
    B) break in the continuity of the bone.
    C) disruption in the midshaft of a bone.
    D) abnormality in the structure of a bone.

14. A normal level of consciousness in an infant or child is characterized by:
    A) normal interactiveness, awareness to time, and pink skin color.
    B) awareness to place, pink and dry skin, and consistent eye contact.
    C) crying or combativeness, good muscle tone, and awareness to time.
    D) age-appropriate behavior, good muscle tone, and good eye contact.

List **ALL** your assessments, treatments, transportation, and safety considerations you would have/do for the following patient care scenarios.

15) 44 y/o male with chief complaint of left substernal chest pain radiating into the left arm. Patient has no pertinent medical history. This has never happened to him before.

16) 25 y/o female with history of asthma is experiencing an asthma attack. Her attempted use of her own Proventil MDI has failed to relieve her symptoms.

17) Medium speed single car MVC into the "*Jersey Barrier*". Front end is significantly damaged, airbags did deploy, and the patient is a 32 y/o male who appears to have ingested copious amounts of beer. He appears to be the only occupant and the driver as he is sitting behind the wheel. He has some facial lacerations with minimal bleeding. Patient is alert and is denying pain or loc.

    Map Reading Analysis (Describe the most direct route from point A to point B

18) You are posted at the intersection of Route 16 and Route 28 in Medford. You receive a response to 25 Eastern Avenue in Malden.

Answer Key:

1. D
2. A
3. A
4. D
5. D
6. C
7. A
8. B
9. B
10. A
11. B
12. A
13. B
14. D

Note: the answers below are based on the Massachusetts Statewide Treatment Protocols and are intended to demonstrate a complete and through answer to the questions above.

15. According to Statewide Treatment Protocol - Ensure scene safety and maintain appropriate body substance isolation precautions. Maintain open airway and assist ventilations as needed. Administer oxygen, using appropriate oxygen delivery device, as clinically indicated. Obtain appropriate assessment, (O-P-Q-R-S-T), related to event. Obtain appropriate (S-A-M-P-L-E) history, related to event. Monitor and record vital signs. Initiate transport as soon as possible, with or without ALS. Do not allow patients to exert themselves and properly secure to cot in position of comfort, or appropriate to treatment(s) required. Activate ALS, if available and deemed necessary. Initiate transport as soon as possible, with or without ALS. Determine patient's history of allergies, and administer aspirin (Dose= 162-325 mg., chewable preferred) if not contraindicated and if not already administered. If patient complains of chest pain, chest pressure or chest discomfort administer patient's nitroglycerin (NTG), 1 tablet or spray sublingual, If BLOOD PRESSURE is greater than 100mm Hg systolic. May repeat dosage in 5 minute intervals times two (x2), if blood pressure remains greater than 100 mm Hg systolic, to a maximum of three doses**,** including any doses the patient may have self administered prior to EMS arrival. If patient's BLOOD PRESSURE drops below 100mm Hg systolic, treat for shock. Note: For patients, both male and female, who have, within the last 48 hours, taken any medications classified in the phosphodiesterase-type-5 inhibitor category (e.g. Viagra, cialis, lavitra), nitrates should not be administered unless medical control has been contacted and has provided the Emergency Medical Technician with a medical control order to administer nitrates. Notify receiving hospital.

16. Ensure scene safety and maintain appropriate body substance isolation precautions. Maintain open airway and assist ventilation as needed. Administer oxygen using appropriate oxygen delivery device, as clinically indicated. Determine patient's hemodynamic stability and symptoms. Continually assess Level of Consciousness, ABCs and vital signs. Obtain appropriate (O-P-Q-R-S-T) assessment, related to event. Obtain appropriate (S-A-M-P-L-E) history related to event, including prior asthma, anaphylaxis, and allergies. NOTE: exposures to foreign body, foods, medicines, chemicals or envenomation should be ascertained. Determine if patient is in mild or severe distress: Mild Distress: Slight wheezing and/or mild cough. Able to move air without difficulty. Severe Distress: Evidenced by poor air movement, speech dyspnea, use of accessory muscles, tachypnea and/or tachycardia. Monitor and record vital signs. Initiate transport as soon as possible, with or without ALS. Do not allow patients to exert themselves and properly secure to cot in position of comfort, or appropriate to treatment(s) required. Activate ALS intercept, if available. Initiate transport as soon as possible with or without ALS. If the patient is in mild distress The following may be considered if the patient has not taken the prescribed maximum dose of their own inhaler prior to the arrival of EMS: and the inhaler is present: Encourage and/or assist patent to self-administer their own prescribed inhaler medication if indicated or if not already done. If patient is unable to self-administer their prescribed inhaler, administer patient's prescribed inhaler. Reassess vital signs. Contact Medical Control. The following may be ordered Repeat second doses if required, and if prescribed maximum dose has not been administered, NOTE: EMT-B administration of an inhaler is contraindicated, if: the maximum dose has been administered prior to the arrival of the EMT; the patient cannot physically use the device properly. (Patient cannot receive inhalation properly.) the device has not specifically been prescribed for the patient.

17. According to Statewide Treatment Protocol - 1. Ensure scene safety and maintain appropriate body substance isolation precautions. Maintain an open airway with appropriate device(s) and assist ventilations as needed. Administer oxygen, using appropriate oxygen delivery device, as clinically indicated. Ensure cervical spine stabilization and immobilization. Consider hyperventilation if clinically appropriate with a significant closed head injury and signs of herniation syndrome. Determine patient's hemodynamic stability and symptoms. Continually assess, level of consciousness (Glasgow Coma Scale), ABCs, disability and Vital Signs. Examine head for presence of lacerations, depressions, swelling, Battle Sign, Cerebrospinal Fluid (CSF) from ears/nose, and foreign (impaled) objects. Treat all life threatening conditions as they become identified. When multiple patients are involved, they need to be appropriately triaged. Obtain appropriate S-A-M-P-L-E history related to event, and mechanism of injury. NOTE: Family and friends may be useful during the assessment to determine normal or abnormal mental status. Patient care activities must not unnecessarily delay transport to an appropriate facility.

Prevent / treat for shock. If the scene time and/or transport time will be prolonged, and a landing site is available, consider transport by air ambulance from the scene to an appropriate Trauma Center. Monitor and record vital signs. Initiate transport as soon as possible, with or without ALS. Do not allow patients to exert themselves and properly secure to cot in position of comfort, or appropriate to treatment(s) required. Ensure cervical spine stabilization and immobilization. Consider hyperventilation if clinically appropriate. Control/stop any identified life threatening hemorrhage (direct pressure, pressure points, etc.). Activate ALS intercept, if deemed necessary and if available. Initiate transport as soon as possible with or without ALS. If patient's BP drops below 100mm Hg systolic: treat for shock. Notify receiving hospital.

18.

1. From Wellington Circle - Head east toward Fellsway
2. Turn right onto Fellsway
3. Slight left to stay on Fellsway
4. Turn left onto Mystic Valley Pkwy
5. Continue onto Revere Beach Pkwy
6. Turn right onto Rivers Edge Dr
7. Turn right to stay on Rivers Edge Dr
8. Turn right onto Medford St
9. Turn left onto Main St
10. Turn right onto Eastern Ave and arrive at 25 Eastern Ave, Malden, MA 02148

Emergency Medical Technician – Paramedic

Estimated appointment time – 6 to 7 hours

Credentials Required – Valid driver's license, valid Massachusetts Paramedic Certification, valid CPR card, valid ACLS card

The Test – There are four components to the evaluation. The first assesses your general statewide treatment protocol knowledge with objective, scenario based questions. The second is a practical component that assesses your applied knowledge in routine cases Medical, Trauma and Megacode. The third is a 12 Lead Competency component meets the requirements of DPH/OEMS Advisory dated January 20, 2011 regarding service responsibility to ensure ALS provider competency in 12-Lead acquisition and interpretation.

Example Test Questions:

1. When performing an unscheduled normal field delivery of an infant, APGAR scores should be obtained at:
    a. 2 and 10 minutes
    b. 3 and 12 minutes
    c. 1 and 5 minutes
    d. Just once at time of delivery
2. You are treating a 19 year old female in decompensated shock. She is unresponsive to repeated fluid boluses and there are no obvious signs of hemorrhage. Your 1st medication of choice and dose for addressing the profuse hypotension is:
    a. Norepinephrine infusion at 2 to 10 mcg/min
    b. Dopamine infusion at 2 – 20 mcg/kg/min
    c. Vasopressin at 10 mg IVP
    d. Dobutamine infusion at 20 – 30 mcg/kg/min
3. The Massachusetts Stroke Scale includes?
    a. History of Hypertension, Headache, Previous TIA

b. Slurred Speech, Arm Drift, Facial Droop, Glucose check.

c. Hypoglycemia, Diaphoretic, Unequal Pupils

d. Unequal Grip strength, One-sided weakness, Confusion

4. You are treating a pediatric patient in severe shock your IV bolus of NaCl should be in increments of:

   a. 45 cc/kg

   b. 100 cc/kg

   c. 20 cc/kg

   d. No boluses just wide open.

5. You have a 10 year old male who has 3rd degree burns to his entire trunk and entire left arm including the hand. What is the approximate percentage of Body Surface Area burned?

   a. 45%

   b. 28%

   c. 35%

   d. 65%

Practical Component:

Practical skills will be assessed utilizing a simulated patient in the Simulation Lab . You will be tested on one Medical and one Trauma scenario. Please review the following current statewide treatment protocols Emergency Medical Services Pre-hospital Treatment Protocols Version 10.01 prior to the exam:

1.1 ASYSTOLE (Cardiac Arrest)

1.2 ATRIAL FIBRILLATION

1.4 BRADYDYSRHYTHMIAS

1.6 POST–CARDIAC ARREST CARE / RETURN OF SPONTANEOUS CIRCULATION (ROSC)

1.10 VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA (Cardiac Arrest)

3.4 BRONCHOSPASM / RESPIRATORY DISTRESS

3.5 CONGESTIVE HEART FAILURE / PULMONARY EDEMA

3.10 SHOCK (HYPOPERFUSION) OF UNKNOWN ETIOLOGY

4.1 ABDOMINAL/PELVIC TRAUMA

4.8 THORACIC TRAUMA

4.5 MULTI-SYSTEM TRAUMA

Example Scenario –

You are called to intercept with a BLS unit for a 54/m complaining of chest pain. BLS reports that is heart rate is "fast and irregular" and he is short of breath and continues to complain of chest pain. They have him on high flow O_2 via non-rebreather. You assess the patient and obtain the HPI the patient tells you that the onset was at rest about an hour ago, nothing makes him feel better or worse, he just has "palpitations". The sensation doesn't go anywhere just in his chest. His skin is pale, cool and dry. BLS obtains a set of vitals for you: BP 100/68, pulse 140, RR 24 slightly labored. You assess the lung sounds and they are clear. His $SP0_2$ is 95% on room air up to 99%. The monitor shows an irregularly irregular rhythm…

12 Lead Competency Components:

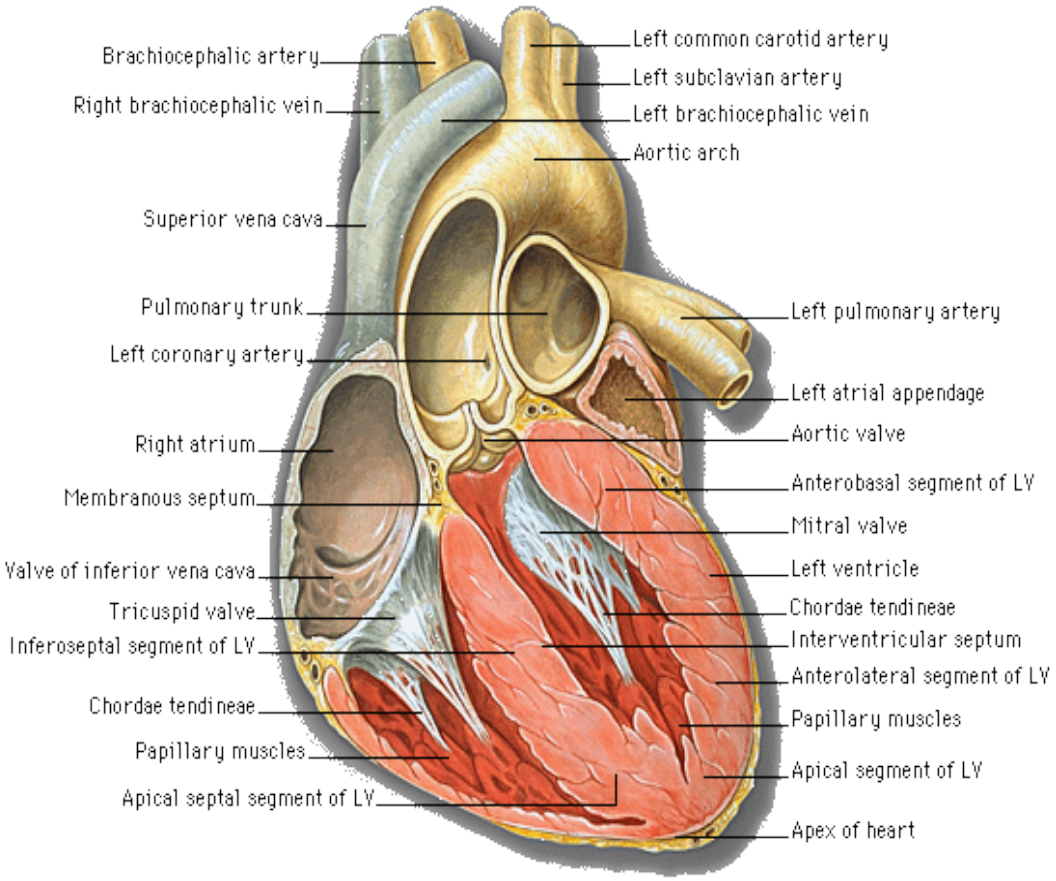
1. Statewide Treatment Protocol 1.5 Acute Coronary Syndrome (ACS)
   (and related Appendices,), as well as the other related Protocols that would be suggestive of 1.5, such as Shock of Unknown Etiology, Syncope of Unknown Etiology, Respiratory Distress, Acute Abdomen, DKA. (See introduction to 1.5 ACS Protocol.)

2. The appropriate clinical circumstances to obtain a 12-lead ECG (ACS-like symptoms that are of a non-traumatic etiology are to be viewed as being of cardiac origin until proven otherwise).
   a. Classic Anginal Chest Pain
      i. Central anterior pain
      ii. Chest Pressure, tightness
      iii. Crushing, radiates to arm, neck, back
   b. Atypical Presentation (Geriatrics, Diabetics and Women)
      i. Epigastric discomfort
      ii. Musculoskeletal
      iii. Often unilateral
   c. Anginal Equivalents:
      i. Generalized weakness
      ii. Dyspnea
      iii. Excessive sweating
      iv. Dizziness
      v. Syncope or near syncope
      vi. Fatigue
      vii. Palpitations
      viii. DKA
      ix. Exercise-induced pain in the abdominal region, back, jaw, arm, or shoulder
3. Blocks
   a. Right Bundle Branch Block
   b. Left Bundle Branch Block
   c. First Degree AV Block
   d. Second Degree AV Type I
   e. Second Degree AV Type II
   f. Third Degree

4. Know the anatomical relationships of coronary artery and myocardial anatomy as well as anatomical groupings. (Left Coronary Artery [LCA], Left Anterior Descending [LAD], Left Circumflex [LCX], Right Coronary Artery [RCA], Right Posterior Descending Artery [RPDA], Right Marginal [R Marginal]

a.	Inferior	RCA, LCX
b.	Inferior-RV	Proximal RCA
c.	Inferoposterior	RCA, LCX
d.	Isolated RV	LCX
e.	Isolated Posterior	RCA, LCX
f.	Anterior	LAD
g.	Anteroseptal	LAD
h.	Anteroseptal-lateral	Proximal LAD

i. Antero, infero or poterolateral LCX



I Lateral	aVR	V1 Septal	V4 Anterior
II Inferior	aVL High Lateral	V2 Septal	V5 Low Lateral
III Inferior	aVF Inferior	V3 Anterior	V5 Low Lateral

5. Recognition of classic patterns of myocardial ischemia, injury and infarction:

   a. ST depression & inverted T Wave
   b. ST elevation & inverted T Wave
   c. Pathological Q wave, ST elevation & Inverted T Wave

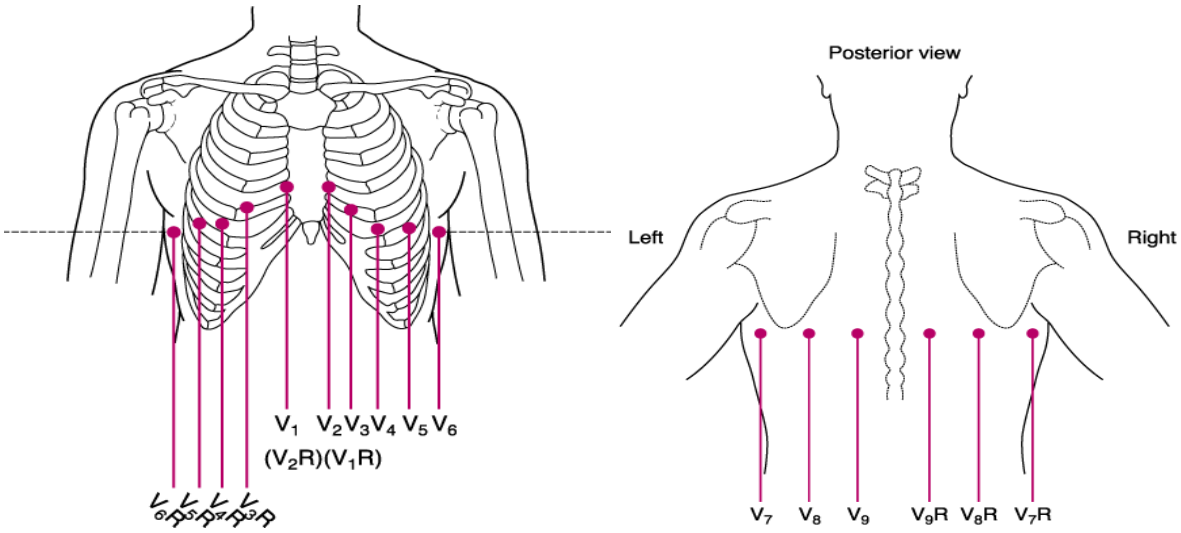
6. Identify the underlying rhythm, rate and any associated ectopy. You will need to put the 12-lead ECG into one of the following categories:

   a. Definite STEMI or New LBBB
   b. Possible STEMI
   c. Suspicious for Ischemia
   d. Non-Diagnostic

7. ACS imitators - rhythms or patterns (may cause ST elevation)

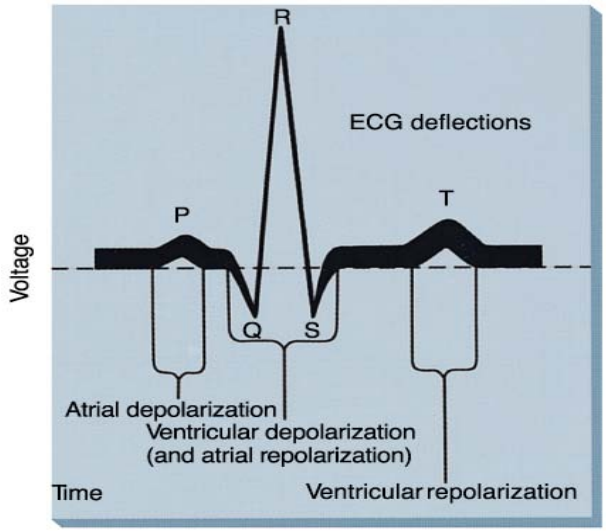
a. Left Ventricular Hypertrophy (LVH) and its ST segment changes
b. Pericarditis;
c. IdioVentricular Rhythms (IVR)
d. Accelerated IdioVentricular Rhythms (AIVR),
e. PVCs, runs of VT, or sustained VT
f. Artificially actively V Paced Rhythms
g. Early Repolarization
h. Brugada Syndrome
i. Pulmonary Embolism
j. Hypothermia
k. Metabolic induced changes in the QRS, ST, and T-wave
    i. hyper / hypokalemia
    ii. hyper/hypocalcemia
l. Drug induced changes.
    i. Short QT interval (Digoxin)
    ii. Long QT interval (antiarrhythmics, antivirals, psychotropic medication, or chemotherapy)

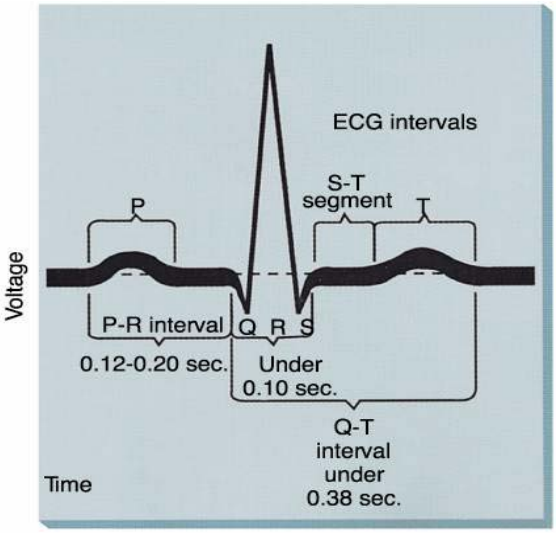
8. The actual acquisition of a 12-lead ECG (You will need to indicate the proper placement of the electrodes on a diagram and print a 12 Lead Strip on a Zoll E-Series Monitor)
    a. correct anatomical locations of electrodes
    b. Left Side
    c. Right side
    d. Posterior



9. Waveforms, Segments, Complexes and Intervals
    a. P Wave
    b. QRS Complex
    c. QT Interval
    d. T Wave
    e. ST Segment
    f. PRI

g. Q Wave





NOTE: This competency exam <u>will not</u> include Axis Deviation or R Wave Progression questions.

Bibliography

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