

# Overcoming Analysis Paralysis: Laboratory and Diagnostic Test Interpretation



## Course Description

What is the significance of an elevated Mean Corpuscular Volume (MCV)? What does an elevated blood urea nitrogen (BUN) level with a normal creatinine level indicate? What is the diagnostic difference between ST depression and ST elevation? How does pregnancy affect fibrinogen or platelet levels?

This seminar will look at the answers to these and many other questions regarding laboratory and diagnostic tests. Participants will learn the significance of both the normal findings of numerous commonly ordered laboratory tests as well as the implications of various abnormalities. The course is loaded with case studies to bring laboratory abnormalities to life. Content will cover everything from hematology to chemistry studies, liver function tests to kidney function tests, as well as topics such as interpreting the urinalysis, the electrocardiogram and the chest X-ray. The effects of factors such as age and pregnancy will also be considered. This seminar is meant to enhance the practice of healthcare workers in all clinical areas, from critical care to medical-surgical, surgical services to rehabilitation services.

## Program Learning Outcomes

*This program prepares the learner to:*

- List the order that blood tubes should be drawn.
- Verbalize at least three factors when performing phlebotomy that can alter the reliability of blood tests.
- Differentiate between specificity and sensitivity when analyzing blood test results.

## Agenda

*Sign-in begins at 7:30 am.* Each day includes a one-hour lunch (on your own), as well as a morning and afternoon break of 15 minutes each. The order of lectures presented and break times may vary according to speaker preference.

### Day 1, 8:00 am to 4:00 pm

#### **Overcoming Analysis Paralysis: An Introduction to Laboratory Tests**

Definitions | Phlebotomy | Units of Measure

#### **Untangling the Alphabet Soup of Hematology Studies**

Studies of the Various Blood Cells | Erythrocyte Indices and Anemia | The White Blood Cell Differential

#### **The Positives and Negatives of Electrolyte Studies**

Potassium Imbalances | Sodium Imbalances | Chloride Imbalances | Magnesium Imbalances | Calcium Imbalances | Phosphate Imbalances

#### **CSI: Culture and Sensitivity Investigations**

Basics of Microbiology | Collecting Various Cultures | Markers for Infection and Sepsis

#### **Lunch 12:00 pm to 1:00 pm**

#### **Minding Your “Pees” and “Q’s”: Renal Function Tests**

Blood Urea Nitrogen | Creatinine | Osmolality | Urinalysis

#### **More Alphabet Soup: Liver Function and Pancreatic Function Tests**

Liver Enzymes | Ammonia Levels | Bilirubin | Albumin | Lipase and Amylase

#### **Plugging Up the Mysteries of Coagulation Studies**

Prothrombin Time and Partial Thromboplastin Time | Platelet and Fibrinogen Levels | Fibrin Degradation Products

#### **What a Bloody Mess: The Blood Bank**

Differentiating Blood Types | Blood Transfusions and Reactions | Coombs Test

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## Day 2, 8:00 am to 4:00 pm

### Arterial Blood Gas Interpretation for the ABG Challenged

Basic Blood Gas Abnormalities | Mixed Blood Gas Abnormalities | Partially Compensated and Compensated Blood Gas Abnormalities

### It's All Shades of Gray to Me: Interpreting the Chest X-Ray

How the X-Ray Works | Identifying Major Landmarks on the Chest X-Ray | Recognizing Pathologies on the Chest X-Ray

### Testing Through the Ages

Geriatric Patients | Pregnant Patients

### Heart Smarts: Lipid Profiles and Cardiac Enzymes

Lipid Profiles | Cardiac Enzymes

### Case Studies: Group Work

### Lunch 12:00 pm to 1:00 pm

### Squiggles and Squawks: Interpreting the 2- and 12-Lead ECG

Basics of Electrophysiology | Approaching 2-Lead ECGs | Differences Between 2-Lead ECGs and 12-Lead ECGs | The 12-Lead ECG and the MI

### Review of Case Studies

## Accreditation

### RN/LPN/LVN/Other: 13 Contact Hours

### RT: 13 Category 1 CRCE Hours

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If your profession is not listed, we suggest contacting your board to determine your continuing education requirements and ask about reciprocal approval. Many boards will approve this seminar based on the accreditation of the boards listed here.

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