

Diagnosis and Management Internal Disorders
#1007 - Additional Blood Tests/Tumor Markers

Title of Program: #1007 - Additional Blood Tests/Tumor Markers
Times: Saturday 9:00 am to 6:00 pm, Sunday 9:00 am to 1:00 pm
Total CE hours: 12

Program Description:

This session provides an overview on the principles, practices, nomenclature, patient work-up and management and will serve as foundational information in the conservative practice of diagnosis and management of patient presenting with internal disorders.

Program Goals / Objectives:

At the end of the session, the student will have a detailed understanding of:

- Relationship between innate and acquired immunity
- Thyroid function
- Interpreting cardiovascular laboratory markers
- Immune and anti-inflammatory markers
- Appropriate nutritional therapy based on laboratory markers

Program Topics:

- Immune system
- Thyroid function
- Lipid and cardiovascular markers
- Inflammatory and autoimmune markers
- Glycemic markers
- Phase 1 and phase 2 pathways
- Tumor markers

Program Outline:

Saturday

8:00 am - 9:00 am

Introduction to immune function

- The leukocytes and the complement system

9:00 am – 10:00 am

Immune function basics

- Innate vs. adaptive immunity
- Phases of the immune response
- B and T lymphocytes
- Helper T cells
- Autoimmunity
- Immune-competence survey
- Immune function markers
- Cell mediated immune function
- Immunoglobulins (IgG, IgA, IgM)

10:00 am – 11:00 am

Understanding thyroid function

- Common mistakes in diagnosing and treating thyroid issues
- Hormonal influences on thyroid function
- Laboratory testing
- Helper T cells

11:00am- 12:00pm

- Iodine deficiency
- The Wolff-Chaikoff effect
- Thyroid cancers
- Thyroid hormone replacement conversion chart
- Parathyroid Function
- Hyperparathyroidism
- Indications for parathyroid surgery

1:00pm-2:00pm

- Cardiovascular diagnostics
- Lipid testing
- LDL cholesterol
- LDL phenotypic classifications
- HDL Cholesterol
- Total Cholesterol/HDL ratio and coronary risk
- Subtypes of HDL cholesterol
- VLDL cholesterol

2:00pm-3:00pm

- Triglycerides

- Lipoprotein(a)
- Intermediate-density lipoproteins (IDL)
- Apolipoprotein A
- Apolipoprotein B

3:00pm-4:00pm

- Other cardiovascular biomarkers
- High Sensitivity C-reactive protein
- Homocysteine
- Fibrinogen
- Myocardial infarction biomarkers
- Troponin

4:00pm-5:00pm

- Creatine kinase (CK and CK-MB)
- Elevated serum CPK and LDH isoenzymes
- Creatine phosphokinase (CPK)
- Lactic dehydrogenase (LDH)
- Phased out biomarkers >> AST, LDH

5:00pm-6:00pm

- Inflammatory biomarkers
- Erythrocyte sedimentation rate (ESR)
- C-reactive protein (CRP)

Sunday

9:00am-10:00am

- Inflammatory disorders
- Autoimmune testing
- Antinuclear antibody (ANA)
- Rheumatoid factor (RF)
- Cyclic citrullinated peptide antibody
- Clotting testing
- Coagulation time
- Other special testing
- Alpha 1 Antitrypsin (AAT)

10:00am-11:00am

- Nutritional assessment and blood typing (Types A and O)
- Glucose testing
- Oral glucose tolerance test (OGTT)
- Glycosylated hemoglobin A1C (HbA1C)
- Cortisol
- Triglycerides
- Pancreatic enzyme assessment
- Amylase
- Lipase
- Leptin

11:00am-12:00pm

- Liver detoxification pathways
 - Phase One – detoxification pathway
 - Substrates of cytochrome P-450 enzymes
 - Phase Two – detoxification pathway
 - Substrates of the glycine pathway
 - Substrates of the sulfonation pathways
 - Substrates of glucuronidation
 - Toxic overload
 - Liver disorders
 - Liver therapies
 - Hepatitis
 - Hepatitis A (HAV)
 - Laboratory testing
 - Hepatitis B (HBV)
 - Laboratory testing
 - Hepatitis C (HCV)
 - Laboratory testing
 - Hepatitis D (HDV)
 - Hepatitis E (HEV)
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- Viral diseases
 - Other common viral diseases and testing
 - Epstein Barr Virus (EBV)
 - Mononucleosis
 - Cytomegalovirus (CMV)
 - Serologic testing

12:00pm-1:00pm

- Tumor markers for specific cancers
- Introduction and background
- AMAS Test
- CEA and colorectal cancer
- Lung cancer
- 4 major types of bronchogenic carcinoma
- Breast cancer
- Ovarian cancer
- Testicular cancer
- Prostate cancer
- Pancreatic cancer
- Other tumor markers
- Alpha-Fetoprotein (AFP)
- Phosphohexoseisomerase (PHI)
- Human Chorionic Gonadotropin (HCG)
- Ferritin
- Serum ferritin
- Transferrin
- Prolactin
- Gastrin, gastritis and neoplasms of the stomach
- Calcitonin
- Index of tumor markers by disease site
- Blood workshop: quick reference interpretation
- Nutritional therapy dosage determination chart

Instructional Methods:

Lecture, practical demonstrations and case presentations

Assessment Methods:

Review homework from previous session 5.