Atherotech

Understanding Your Laboratory Test Results

Additional CVD Risk Factors	Definition
C-Reactive Protein-*hs*	High sensitivity C-Reactive Protein (hsCRP) has been recognized for its ability to predict future coronary events in apparently healthy individuals. Recent data has shown predictive value of hsCRP is significantly higher than that associated with traditional or novel biochemical risk markers. Elevated hsCRP is an excellent marker for assessing the potential risk of an MI because acute inflammation increases the potential for plaque rupture.
Homocysteine	Excess levels of homocysteine can be associated with heart disease and stroke, and may contribute to arterial wall injury. Arteries damaged by this process are more likely to narrow or close completely due to infiltration of cholesterol during atherosclerosis. Elevated levels of homocysteine in conjunction with cholesterol abnormalities raise the risk of patients' development of CAD and other vascular complications.
NT-proBNP	In patients with stable angina or chronic heart conditions, higher-than-normal results may suggest that a person is at risk for heart failure. The level of NT-proBNP in the blood is related to the severity of heart failure. Higher levels of NT-proBNP may also be associated with a worse outlook (prognosis) for the patient.
Fibrinogen	Fibrinogen is an acute phase reactant, meaning that fibrinogen concentrations may rise sharply in any condition that causes inflammation or tissue damage. While fibrinogen levels are elevated, a person's risk of developing a blood clot may be increased and, over time, they could contribute to an increased risk for developing cardiovascular disease.
Vitamin D	Usually Vitamin D is ordered to assess risk for bone loss related to vitamin deficiency. Recent publications have shown that Vitamin D deficiency is also associated with increased cardiovascular risk, above and beyond established cardiovascular risk factors. The higher risk associated with Vitamin D deficiency is particularly evident among individuals with high blood pressure.
Genotype Results	
Apo E genotype	Apo E3/E3 is the most common genotype, and is not associated with coronary heart disease (CHD). Patients with E4/E4 and E3/E4 have elevated LDL cholesterol and triglycerides when their diets are high in saturated fat. These patients respond well to a low fat diet but less well to conventional therapies like exercise, alcohol or statins. Patients with E2/E2, E2/E3 or E2/E4 have lower LDL cholesterol, but elevated triglyceride and triglyceride rich lipids, and respond well to exercise, alcohol and statins; in such patients a low fat diet tends has minimal effect on LDL.
Other Lab Test Results	
Glucose	Glucose is a simple sugar that serves as the main source of energy for the body. Blood glucose testing can be used to screen healthy, asymptomatic individuals for diabetes and pre-diabetes because diabetes is a common disease that begins with few symptoms. Occasionally, a blood glucose level may be ordered along with insulin to monitor insulin production.
HbA1c	HbA1c is measured to monitor a person's diabetes and to aid in treatment decisions. The closer diabetics can keep their HbA1c to < 6%, the better their diabetes is under control. As the HbA1c increases, so does the risk of complications, as well as abnormal cholesterol profiles.
Insulin	Insulin is measured to help evaluate insulin production, to help determine the cause of hypoglycemia, and to document insulin resistance in patients with Polycystic Ovarian Syndrome (PCOS), pre-diabetes or heart disease (especially if overweight), Metabolic Syndrome, or disorders related to the pituitary or adrenal glands.
TSH	Thyroid-stimulating hormone (TSH) is used to screen for and help diagnose thyroid disorders; to monitor treatment of hypothyroidism and hyperthyroidism. Abnormal levels of TSH are one cause of lipoprotein abnormalities. Before treating cholesterol abnormalities thyroid function must be restored.
ALT	Alanine aminotransferase (ALT) is used to screen and test for liver damage. Some patients taking cholesterol-lowering medications can experience liver damage, and should have their ALT monitored to eliminate this risk.
AST	Aspartate aminotransferase (AST) is used to screen and test for liver damage. Some patients taking cholesterol-lowering medications can experience liver damage, and should have their AST monitored to eliminate this risk.
CK	Creatine Kinase (CK) is used to determine whether you have had a heart attack or if other muscles in your body have been damaged due to injury or medications. A high CK, or one that goes up between the first to the second or later samples, generally indicates that there has been some damage to the heart or other muscles.
BUN	Blood Urea Nitrogen (BUN) is used to evaluate and monitor kidney function. Increased BUN levels suggest impaired kidney function and may be a result of therapy and /or some renal conditions. Some lipoprotein abnormalities can occur in patients with diminished renal function.
Creatinine	Increased creatinine levels in the blood suggest diseases or conditions that affect kidney function. These can include death of cells in the kidneys' small tubes (acute tubular necrosis) caused, for example, by drugs or toxins, reduced blood flow to the kidneys due to shock, dehydration, congestive heart failure, atherosclerosis, or complications of diabetes. Some lipoprotein abnormalities can occur in patients with diminished renal function.

Atherotech, Inc.
201 London Parkway
Suite 400, Birmingham, AL 35211
877/901-8510 • www.atherotech.com