



## UNDERSTANDING YOUR LAB RESULTS

As with all medical tests, please provide a copy of your test results to and consult with your primary care physician for individual evaluation.

### **ALANINE AMIONOTRANSFERASE (ALT;SGPT)**

An enzyme found in the cells of the body, most commonly the liver. ALT testing is typically used to detect liver injury. It is often ordered in conjunction with aspartate aminotransferase (AST) or as part of a liver panel to screen for and/or help diagnose liver disease. Very high levels of ALT (more than 10 times the highest normal level) are usually due to acute hepatitis and should be discussed with your physician.

### **ALBUMIN**

A protein that helps regulate the distribution of water between the blood and tissue. It is also an indicator of general nutritional status. While elevated levels are generally not significant, decreased levels may be associated to various diseases and should be evaluated by your physician.

### **ALBUMIN / GLOBULIN (A/G) RATIO**

The calculated ratio of albumin to globulins. Normally, there is a little more albumin than globulins, giving a normal A/G ratio of slightly over 1. Because disease states affect the relative amounts of albumin and globulin, the A/G ratio may provide a clue as to the cause of the change in protein levels.

### **ALKALINE PHOSPHATASE**

An enzyme found in bone and the liver. It is normally elevated during periods of bone growth including childhood/puberty and pregnancy. While low levels of alkaline phosphatase are probably not significant, high values, other than times of expected bone growth, may indicate damage to the bone or liver and should be discussed with your physician.

### **AMINOTRANSFERASE (AST;SGOT)**

An enzyme found in the cells of the body. It is most prevalent in the cells of the heart, liver, and muscle. When the heart, liver, or muscle is injured, AST is released into the blood. While low levels of AST are probably not significant, high values may indicate heart or liver problems and should be discussed with your physician.

### **BLOOD UREA NITROGEN (BUN)**

The waste product of the digestion of protein in the liver. Testing the blood for BUN along with the creatinine help to evaluate kidney function and diagnose kidney disease. Increased BUN levels may suggest impaired kidney function and should be discussed with your physician.

### **C-REACTIVE PROTEIN (CRP)**

A protein that measures inflammation levels in the body. By checking CRP levels, an individual can learn about possible infection and effectiveness of certain treatments.



## **CALCIUM**

A mineral found predominantly in bone, is regulated by the parathyroid glands and the kidneys. It has important functions in proper clotting of blood, nerve activity, and muscle activity. Any abnormal result should be discussed with your physician.

## **CARBON DIOXIDE (CO<sub>2</sub>)**

An electrolyte in the blood, which occurs mostly in the form of bicarbonate. It is used by the body to help maintain the body's acid-base balance (pH) and secondarily to work with sodium, potassium, and chloride to maintain electrical neutrality at the cellular level. Measuring bicarbonate (or total CO<sub>2</sub>) as part of an electrolyte or metabolic panel may help diagnose an electrolyte imbalance or acidosis or alkalosis as the result of a disease process or condition.

## **CHLORIDE (CL)**

Chloride along with other electrolytes, are performed as part of a regular physical to screen for a variety of conditions. These tests may also be ordered to help diagnose the cause of signs and symptoms such as prolonged vomiting, diarrhea, weakness, and respiratory distress. Discuss with your physician if an electrolyte imbalance is detected.

## **CHOLESTEROL/HDL RATIO**

A calculation used to predict an increased or decreased risk of cardiovascular disease relative to a normal ratio. The higher the ratio, the greater the risk of developing coronary disease, arteriosclerosis, and heart attack.

## **CHOLESTEROL and TRIGLYCERIDES**

Fats necessary for normal cell function. However, elevated levels of these fats have been associated with an increased risk of developing coronary disease, arteriosclerosis, and heart attack. A patient's dietary status, medications, presence of illness, lifestyle, and family history may represent factors influencing cholesterol levels. The significance of cholesterol levels should be determined within the context of each individual patient. If your cholesterol level is 200 mg/dl or greater, please consult your physician. Triglyceride levels greater than 150 mg/dl, in a true fasting specimen, are considered elevated. In this case, please consult your physician.

## **COMPLETE BLOOD COUNT (CBC)**

A complete count of the following components; White Blood Cells (WBC), Red Blood Cells (RBC), Hemoglobin (Hgb), Hematocrit (Hct), and Platelets (Plt).

## **CREATININE**

A waste product produced by the body and removed by the kidneys. While low levels of creatinine are probably not significant, high values may indicate kidney problems and should be discussed with your physician.

## **GLUCOSE**

Commonly called a blood sugar, glucose is the transport form of carbohydrates in the body as they move to storage or to utilization. High values are associated with eating before the test or diabetes. If your FASTING glucose result is greater than 100 mg/dl or your NONFASTING glucose result is greater than 140 mg/dl, please consult your physician. If you know you have diabetes, it is still important to report an elevated glucose level to your physician for proper disease management.



### **GLOBULIN**

A protein that is produced in the liver. This protein helps with transporting essential nutrients to the body's organs. Globulin along with albumin levels reflect nutritional status and may be used to screen for and help diagnose kidney disease or liver disease. Any abnormal results should be discussed with your physician.

### **FOLATE**

Folate (Vitamin B9) is necessary for normal red blood cell (RBC) and white blood cell (WBC) formation, repair of tissues and cells, and synthesis of DNA. Both folate and vitamin B-12 are nutrients that cannot be produced in the body and must be supplied by the diet. Folate tests measure vitamin levels in the liquid portion of the blood (serum or plasma) to detect deficiencies.

### **HDL (High-Density Lipoprotein) CHOLESTEROL**

Commonly known as the "GOOD" cholesterol, HDL picks up cholesterol and transports it for removal from the body. The higher the HDL value, the lower the risk of developing coronary disease, arteriosclerosis, and heart attack.

### **HEMOGLOBIN A1C**

Also referred to as glycol or glycohemoglobin, is a test used to monitor the way the body uses glucose (blood sugar) over a period of time. High test values are associated with diabetes.

### **IRON**

A mineral component of red blood cells and needed in energy production and muscle and organ function. By checking iron levels, an individual can learn about iron deficiencies, nutrition status, effectiveness or certain treatments, and risk for hemochromatosis.

### **LDL (Low-Density Lipoprotein) CHOLESTEROL**

Commonly known as the "BAD" cholesterol, LDL picks up cholesterol and transports it to the cells of the body for storage. Desirable LDL levels are less than 130 mg/dl. The higher the LDL value, the greater the risk of developing coronary disease, arteriosclerosis, and heart attack.

### **POTASSIUM (K)**

An analyte necessary for the proper functioning of nerves and muscles. This value is carefully regulated by the kidneys. Therefore, abnormal results should be rechecked and discussed with your physician. This is especially important if you are taking a diuretic or heart medication (i.e. Digitalis, Lanoxin, etc.)

### **PROSTATE SPECIFIC ANTIGEN (PSA)**

PSA is a component of semen produced by the prostate. It is a normal process for some PSA to leak into the bloodstream. As a male progressively ages, more leakage can occur. Problems with the prostate, such as prostatitis (prostate infection), BPH (benign prostatic enlargement), or cancer may cause extra PSA to enter the blood causing an elevation of the PSA blood test.

### **SODIUM (Na)**

An analyte necessary for proper water regulation in the body. Minor changes may result from food intake and/or changes in fluid volume (i.e. dehydration from exercise, etc.). Because sodium is regulated by a number of different organs, variations outside normal limits may indicate a variety of disorders. Abnormal results should be rechecked and discussed with your physician.



### **THYROID STIMULATING HORMONE (TSH)**

TSH is produced by the pituitary gland and stimulates the release of hormones from the thyroid gland. Abnormalities may indicate hypothyroidism or hyperthyroidism.

### **TOTAL BILIRUBIN**

A waste product formed from the breakdown of hemoglobin, the iron-containing portion of a red blood cell. Although low levels are generally not significant, high values may indicate liver disease. In the case of an elevated total bilirubin, please consult your physician.

### **TOTAL PROTEIN**

Composed of the proteins albumin and globulin, can reflect nutritional status, and may be used to screen for and help diagnose kidney disease or liver disease. A low total protein level can suggest a liver disorder, a kidney disorder, or a disorder in which protein is not digested or absorbed properly. A high total protein level may be seen with chronic inflammation or infections such as viral hepatitis. Any abnormal results should be discussed with your physician.

### **VITAMIN B-12**

A nutrient in the vitamin B complex that the body needs in small amounts to function and stay healthy. Vitamin B12 helps make red blood cells, DNA, RNA, energy and tissues, and keeps the nerve cells healthy. Not enough vitamin B12 can cause certain types of anemia and neurological disorders.

### **VITAMIN D**

Naturally produced by the body in reaction to sunlight. Its function is to help the body use calcium for the development of strong bones. By checking Vitamin D levels, an individual can learn if they are deficient in the vitamin and symptoms of deficiency.