



Lab Test Result Guide

The following is a list of the tests performed, with some indication of their significance, and further guidance as to consulting your physician. Your test profile may or may not include all of the tests described here. In general, abnormal results are marked on your report with an “H or L”.

GLUCOSE is a measure of blood sugar and is one of the tests for diabetes. Glucose will often be high if you have eaten or had anything, other than water, to drink before your blood was drawn. If the value is more than 180 mg/dL you should consult your physician, even if you know you have diabetes. Low values may be a cause of weakness or dizziness.

CHOLESTEROL AND TRIGLYCERIDES are fatty substances in the blood which are evaluated together with the high-density lipoprotein (HDL) cholesterol. The cholesterol to HDL ratio (RISK) gives a measure of your risk of coronary heart disease (CHD). Triglyceride values may be high if you have eaten within 12 hours of having blood drawn. You should consult your physician if the level is over 500 mg/dL. Low values of triglyceride or cholesterol are beneficial.

HDL CHOLESTEROL (HDL) is the “good” cholesterol. Higher values mean less risk of CHD.

LDL CHOLESTEROL (LDL) is the major cholesterol carrier in the blood. If too much LDL circulates in the blood, it can slowly build up in the walls of the arteries feeding the heart and brain. Together with other substances it can form plaque, a thick, hard deposit that can clog those arteries. A high level of LDL cholesterol (160 mg/dL and above) reflects an increased risk of heart disease. That’s why LDL is called “bad” cholesterol. Lower levels of LDL reflect a lower risk of heart disease.

TOTAL PROTEIN, ALBUMIN, AND GLOBULIN measure the major proteins in your blood. Low values suggest poor nutrition or kidney disease. High total protein values may be seen in some diseases with an abnormal immune response, some tumors or dehydration.

SODIUM, POTASSIUM, AND CHLORIDE are mineral elements in the blood primarily controlled by the adrenals and kidneys. Abnormalities suggest dehydration, kidney disease, adrenal disease, vomiting, diarrhea, or some other metabolic disease. Abnormal potassium levels are significant. Patients taking diuretics (water pills) often get low potassium levels and should definitely contact their physician if the potassium is 3.3 mg/dL or less.

CALCIUM is a mineral in the blood controlled by the parathyroid glands and kidneys and is mainly involved in bone formation. Calcium is affected by marked changes in albumin.

ANION GAP is a calculated result of the electrolytes that have an electrical charge that helps them maintain the body's pH level. They are vital for many bodily functions and include substances such as sodium, potassium, chloride, bicarbonate, and other minerals.

ASPARTATE AMINOTRANSFERASE (AST/SGOT) is an enzyme whose main sources are the liver, skeletal muscle and the heart. AST elevations are often seen in alcoholism. Mild elevations may be seen with aspirin usage. Low values are not of significance. You should consult your physician for elevations.

ALANINE AMINOTRANSFERASE (ALT/SGPT) is also an enzyme found in a wide variety of tissues and organs with high activity localized in the liver. Elevations are associated with liver disease, infectious mononucleosis, acute heart attack, skeletal muscle disease, acute pancreatitis and patients receiving heparin therapy. Levels greater than 400 U/L are usually associated with liver disease or skeletal muscle injury.

BILIRUBIN, TOTAL is a pigment formed from the breakdown of red blood cells, which is excreted by the liver. It may be elevated with increased red blood cell breakdown or liver damage. You should consult your physician for elevated values, especially if SGOT/AST is also elevated. Low values are not of significance.

CREATININE, BLOOD UREA NITROGEN (BUN) AND BUN/CREATININE RATIO, and GFR are waste products primarily excreted by the kidneys. BUN may be slightly elevated in people on a high protein diet or having exercised heavily. Both tend to be elevated in kidney disease and if either is elevated, you should consult your physician. Low BUN values may be seen in liver disease. Minor abnormalities of BUN/creatinine ratio with normal BUN and Creatinine values are of no significance. Your glomerular filtration rate (GFR) is used to measure how well your kidneys are cleaning the waste out your blood.

THYROID-STIMULATION HORMONE (TSH) is a test that measures how well your thyroid gland is working because the gland can be underactive or overactive. The test measures your body's response to the thyroid hormone level in your blood. The TSH test is one of several thyroid tests and the one most often used to look for thyroid disease.

WHITE BLOOD CELL COUNT (WBC) measures the number of white blood cells in the blood. They may be elevated in infection and leukemia and low in bone marrow damage due to chemicals, drugs, etc. You should consult your physician for abnormalities.

HEMOGLOBIN, HEMATOCRIT, AND RED BLOOD CELL COUNT (HGB, HCT, & RBC) measures the amount of hemoglobin or red blood cells in the blood. Low values indicate anemia, which may have many causes, and should be evaluated. High values are seen in a few diseases and should also be evaluated by your physician.

MEAN CORPUSCULAR VOLUME (MCV) is a measure of the size of the red blood cells. Small cells are seen in iron deficiency and some hereditary defects, both usually associated with anemia. Large cells are seen in the anemia due to some vitamin deficiencies and in the rapid replacement of red blood cells by the bone marrow. Both should be evaluated by your physician.

MEAN CORPUSCULAR HEMOGLOBIN (MCH) is a measure of the amount of hemoglobin in each cell and abnormalities will almost always be associated with other abnormal results.

MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC) measures the concentration of hemoglobin in the red blood cells. It is low in iron deficiency and some other anemias. Abnormalities will almost always be associated with other abnormal results.

PLATELETS (Platelet Count) are part of the clotting process of blood. Low or high values should be interpreted by a physician. A difficult blood draw *can* lower platelet values.

PROSTATE-SPECIFIC ANTIGEN (PSA) is a substance released into a man's blood by his prostate gland. Low amounts of PSA may be found in the blood of healthy men. The amount of PSA in the blood normally increases as a man's prostate enlarges with age. It is also increased by inflammation of the prostate gland (prostatitis) and by prostate cancer.

VITAMIN D (25-Hydroxy), also known as the sunshine vitamin, plays an essential role in maintaining healthy bones, teeth, and even your immune system. A low number resulting in vitamin D deficiency can indicate a higher risk

of developing Osteoporosis or other symptoms and should be interpreted by a physician.

URINE (MICRO)ALBUMIN Diabetic nephropathy (kidney disease) is a complication of diabetes and is characterized by proteinuria (normal urinary albumin excretion is <30 mg/day; overt proteinuria is >300 mg/day). Before overt proteinuria develops, albumin excretion increases in those diabetic patients who are destined to develop diabetic nephropathy. Therapeutic maneuvers (eg, aggressive blood pressure maintenance, particularly with ACE inhibitors; aggressive blood sugar control; and possibly decreased protein intake) can significantly delay, or possibly prevent, development of nephropathy. Thus, there is a need to identify small, but abnormal, increases in the excretion of urinary albumin. A ratio of albumin/creatinine of > or =30 is indicative of overt proteinuria.