



Healthwaves  **Corporate Wellness Team**

Wellness Screenings

Abnormal results should be reviewed by your personal physician.

CBC (Complete Blood Count)

ABOUT THESE LABORATORY EXPLANATIONS:

Test Results and Reference Ranges: The reference ranges on your Laboratory report reflect the age and sex information you provided. Blood test results are known to fluctuate from day to day. This results from changes in the individual and from laboratory variation. As a result of this, a test may be outside the reference range (abnormal) at one time and not another. If you are concerned about those results outside normal reference ranges, please contact your physician. Interpretation by your physician is vital in the assessment of all laboratory data based on individual variation. If there were no test results outside the reference range, all your test results were considered "Normal" for your age and sex.

AN IMPORTANT NOTE...

It is important that you realize that it is not possible to diagnose or define any disease or problem with one blood test alone. The program was designed as a screening only; we make every effort to supply you with appropriate but general health information and rely on your good judgement and conscientious attention to follow-up with a physician as recommended for any abnormal results. As always, if you are not feeling well you should consult with your family doctor. Laboratory screening cannot detect every health problem, and is not a substitute for a checkup by your family physician. The test(s) you ordered may not contain all of the items listed here.

Please keep a copy of these tests with any other information pertaining to your health. You may be able to use this report for a baseline for comparing future laboratory tests.

Red blood count (RBC), hemoglobin, and hematocrit are indications of the number of red blood cells and their oxygen carrying capacity. Decreased levels may indicate anemia—the most common cause in adults is iron deficiency due to blood loss. These levels are usually carefully controlled by the body and even mildly low values deserve further testing. Symptoms vary with the severity and cause of the anemia but may include fatigue, weakness, pallor, headache, dizziness, and anorexia. A common cause of elevated hemoglobin and hematocrit is cigarette smoking, which results in high carbon monoxide levels in the blood. White blood count (WBC), if elevated, may indicate inflammation or infection. Mild elevations are common and often due to stress, and elevated tests should be repeated. This test also assesses your cell morphology, which refers to the cell's size and shape. The MCV, MCH, MCHC are ratios used to identify the type of anemia you may have (types of anemia include aplastic, pernicious, sickle-cell, and thalassemia). Anemias are classified by the size and hemoglobin content of your cells. Platelets initiate tissue repair and clot formation. If your values are out of range you should take this report to your physician.

WBC—determines the number of white blood cells. Elevated levels can indicate infection, inflammation, leukemia and parasitic infections. Below normal levels can indicate bone marrow depression, infections, malignancies, and malnutrition.

RBC—determines the number of red blood cells.

HEMOGLOBIN—primary function is to trans-

port oxygen to cells and remove carbon dioxide to the lungs.

HEMATOCRIT—packed cell volume, measures the proportion of red blood cells in a volume of whole blood and is expressed as a percentage.

RED CELL INDICES (MCV, MCH, MCHC, RDW)—reflect the size, weight, and Hemoglobin content of individual red blood cells:

MCV—Mean Corpuscular Volume (volume of hemoglobin in each red blood cell)

MCH—Mean Corpuscular Hemoglobin (weight of hemoglobin in each red blood cell)

MCHC—Mean Corpuscular Hemoglobin Concentration (proportion of hemoglobin in each red blood cell)

RDW—Red Cell Distribution Width (used to classify types of anemias).

PLATELET COUNT—aids in repairing blood vessels and clot formation.

MPV—Mean Platelet Volume, when platelet numbers are high, platelet size may increase also.

WHITE BLOOD COUNT DIFFERENTIALS—(each type of white blood cell expressed as a percentage of the total amount of white blood cells). These include: Segmented Neutrophils, Lymphocytes (play an important role in immunity), Monocytes, Eosinophils, and Basophils. Absolute Neutrophil, Absolute Lymphocyte, Absolute Monocyte, Absolute Eosinophil, and Absolute Basophil are the actual values. Differential Type refers to the method of analysis.

PSA (Prostate Specific Antigen)

The prostate gland, found only in males, is a component of the male reproductive system. Prostate Specific Antigen (PSA) is a protein that is completely unique to the prostate gland and can be detected in blood serum. A detected elevation in PSA may indicate problems with the prostate ranging from acute inflammation to prostate cancer. Approximately one-third of elevated PSA tests have been associated with prostate cancer while other elevations may be due to a temporary irritation of the prostate. Diagnosis of prostate cancer

can be greatly enhanced by receiving the PSA screen in addition to a digital rectal exam. The American Urological Association recommends that all males age 50 or older should have an annual prostate screening.

All males age 40 or older with a family history of prostate cancer should have an annual prostate screening. An elevated PSA does not definitively indicate that you have prostate cancer but the results should be brought to the attention of your physician.

Thyroid Testing

Ideally for screening purposes, both tests below are recommended. T3, T4, and T7 measures thyroid function, while the TSH test measures thyroid regulation. Metabolism problems can be caused by high or low levels from either or both of the hormones measured by these two different tests.

Thyroid T3U, T4, T7

The thyroid gland secretes hormones which regulate such activities as cell growth and activity (Triiodothyronine-T3) and stimulate metabolic rate (Thyroxine-T4). T4 (Thyroxine) controls your rate of metabolism. A low level of thyroxine suggests hypothyroidism or myxedema. A high level of thyroxine suggests hyperthyroidism or thyrotoxicosis. T3 uptake test evaluates the quantity of thyroxine-binding globulin (TGB) present in the serum and the quantity of T4 bound to it. T7 index is simply a T4 plus T3. Abnormal results should be discussed with your physician.

TSH

TSH (Thyroid-Stimulating Hormone), also called thyrotropin, accelerates all aspects of hormone production by the thyroid gland and enhances prolactin release. Elevated TSH levels are seen with primary hypothyroidism but also can be due to pituitary dysfunctions and prolonged emotional stress. Decreased levels are associated with secondary hypothyroidism and are also seen with primary hyperthyroidism. Aspirin, adrenal corticosteroids, and heparin may produce decreased TSH levels. Discuss all results with your physician.

Additional Thyroid Testing

Thyroid hormone circulating not attached to a protein—more specific test than the panel.

Free T3

Directly measures thyroid hormone T3 not bound to a protein circulating in the body. Thought to be more accessible for use by the body. The thyroid gland secretes hormones that regulate cell growth, activity and metabolic rate. Abnormal levels should be discussed with your physician.

Free T4

Directly measures thyroid hormone T4 not bound to a protein circulating in the body. Thought to be more accessible for use by the body. The thyroid gland secretes hormones that regulate cell growth, activity, and metabolic rate. Abnormal levels should be discussed with your physician.

Lipoprotein (a) or Lp (a)

The Lipoprotein (a) or Lp (a) blood test is recommended for participants who have an increased risk or family history of heart disease. Sometimes your regular lipid panel results will be normal, but having a higher than normal Lp (a) result could lead to increased risk for heart disease. Increased amounts of Lp (a) in the body are associated with inflammation in the walls of the arteries. Neither diet nor exercise can affect your Lp (a) levels but there are conditions that increase your levels such as uncontrolled diabetes, renal failure, hypercholesterolemia, and estrogen depletion. Lp (a) levels are generally determined by your genes, so the test typically only needs to be done once.

C-Reactive Protein-High Sensitivity

C-Reactive Protein (CRP) helps predict heart attack risk. While high cholesterol causes fatty buildups in the blood vessels, it is believed heart attacks are triggered when inflammation causes the deposits to break off and clog an artery. Elevated levels of C-Reactive Protein indicate arteries are inflamed. In a recent study reported in the New England Journal of Medicine, individuals in the group with the highest CRP levels were 4.4 times more likely to have a heart attack or other cardiovascular trouble than the group with the lowest CRP levels. The study indicates that combining cholesterol screening with testing for CRP improves detection of heart attack risk and other potential cardiovascular problems.

Hemoglobin A1C

The Hemoglobin A1C test measures blood sugar levels over the last three months. Diabetes patients should have this test at least twice a year as it is the best indication of whether blood sugar is under control. Even if you test blood sugar yourself on a regular basis, the hemoglobin test is needed to get a complete picture of blood sugar control. If your levels are too high or too low, your health care provider may need to change the treatment plan.

Apolipoprotein A-I & B

An advanced and very sensitive test for assessing cardiovascular risk related to elevated cholesterol and lipids. Apolipoprotein (Apo) A-I has been identified as the major protein associated with HDL cholesterol. Apolipoprotein (Apo) B is the major protein associated with LDL cholesterol, and is important in regulating cholesterol synthesis and metabolism. Since Apo B is the only protein in LDL cholesterol and Apo-A-I is the only protein in HDL, the ratio of Apo-B/Apo A-I reflects the ratio of LDL/HDL and may be a more sensitive indicator of coronary artery disease than the components of a lipid profile.