Wellness Blood Screening Explanations

Wellness Chemistry Profile Explanation

The following are included in the Wellness Chemistry:

❖ **Sodium (NA), Potassium (K), Chloride (CHLOR), and Bicarbonate (CO2)** are known as electrolytes and are normal in all of us unless we are: 1) taking diuretics, or 2) have diarrhea, vomiting or some fluid balance problem in the body.

❖ **Blood Glucose (GLUC)** is the test for blood sugar and its elevated abnormality is often described as diabetes mellitus. In this test we are measuring only the level of blood sugar fasting on the day of your exam. The desirable fasting blood sugar level is 70-110.

❖ **Blood Urea Nitrogen (BUN) and Creatinine (CREAT)** tests may detect the presence of kidney disease. Creatinine is the single most important evaluator of kidney function. It is a substance made in the muscles and released into the blood and thereafter removed from the body by the kidneys. Therefore, when kidney function decreases the creatinine in the blood rises.

❖ **Calcium (CA++) and Phosphorus (PHOS)** are two basic minerals, which are very rigorously controlled by the parathyroid glands and the kidneys working together. An important thing to note about blood calcium is that it can be high, normal, or low, but in fact, tells us nothing about whether bone disease exits.

❖ **Total Protein and Albumin** reflect the ability of the liver to synthesize protein in the body. There are a number of large proteins made of which these are just three. These are the most important values in assessing clinical nutrition, absence of liver disease, and absence of any chronic infection or malignant diseases.

❖ **Cholesterol (CHOL)** is a blood fat. There are several different substrates that compose a total cholesterol reading. A healthy cholesterol is considered to be 200 or below. The borderline/at risk range is between 200 and 239. A cholesterol reading above 240 is considered high. The best way to lower cholesterol is by a combination of dietary intake alterations, weight loss and exercise.

Total Cholesterol	<200	201-239	>240
Classification	Desirable	At risk	High

❖ **Triglycerides** are another type of blood fat. It is more volatile, in terms of change than in the total cholesterol. It is greatly affected by alcohol and sweets. It is recommended that this value be kept at or below 150.

❖ **HDL (High Density Lipoprotein) Cholesterol** is the *protective type* of cholesterol. The higher the value the better the protection you have. This value is largely affected by exercise. Women tend to have higher value than men do. The goal should be to have a HDL cholesterol level of 50 or higher.

❖ **LDL (Low Density Lipoprotein) Cholesterol** is the type of cholesterol that is considered the "bad" type. The lower the value, the better off you will be. It is affected by the same dietary modifications, weight loss and exercise programs that are good for reducing the total cholesterol level. A desirable level is below 130.

❖ **VLDL (Very Low Density Lipoprotein) Cholesterol** is the type of cholesterol that needs to be monitored with LDL and HDL. A desirable level is 5-40.

❖ **Total Cholesterol / HDL Cholesterol Ratio**. The ratio of cholesterol to HDL cholesterol is used to further assess an individual's risk of heart disease. The goal should be to obtain a ratio of 3.5 or less. The higher the ratio the more at risk you become.

❖ **Total Bilirubin (BILI).** This is a breakdown product of red blood cells and is modified by the liver and excreted into the bile. It is the substance that gives our stool a dark color. It also is the substance, which is elevated in the blood in alcoholic lever disease and other kinds of liver disease and makes human beings appear yellow

❖ **Alkaline Phosphatase (Alk Phos)** is generally thought to be an enzyme, which elevates in lever disease.

❖ **ALT, AST, GGT** are very sensitive tests of liver function. Elevations are frequently seen with moderate alcohol intake as a result of taking drugs such as Phenobarbital or Dilantin.

❖ **Iron** (FE) Is mainly found in hemoglobin. The measurement of Iron is useful in the differential diagnosis of many Iron related diseases. Normals: Male 49-181 ug/dl   Female 37-170 ug/dl

❖ **Hemoglobin A1c** – The A1c is a test that measures the average glucose in patients where the test has relevance, such as diabetic patients. It determines the average glucose for the preceding three months. One of the values of the a1c is that it can determine risk of damage to the larger arteries that determine stroke risk. It is intended to be repeated at three month intervals to determine adequacy of glucose control as well as effectiveness of current treatment. HbA1c is a test that measures the amount of glycosylated hemoglobin in your blood. Glucosylated hemoglobin is a molecule in red blood cells that attaches to glucose (blood sugar). You have more glycosylated hemoglobin if you have more glucose in your blood.

COMPLETE BLOOD COUNT EXPLANATION
The following are included I the Blood Count

Complete Blood Count (CBC) is several different tests which detect numerous conditions.
White Blood Count (WBC) is elevated in infections, or low in
certain types of cancers
Red Blood Count (RBC) determines the number of red blood cells available to carry oxygen to the body.
Hemoglobin & Hematocrit determine the amount of iron carrying blood cells available in the blood stream and can be affected by dehydration and other disease processes.
Other tests included are indicators for a variety of disease
processes.

THYROID EXPLANATION

Thyroid Function Test include values of the TSH (Thyroid Stimulating Hormore), T4 (tetriodothyronine), T3 (triiodorthyronine), and T7 (ratio of T4 and T3). Elevated and /or low values can be an indication of a possible overactive or underactive thyroid.

PSA EXPLANATION

PSA (Prostate Specific Antigen) is an important tool in helping to detect prostate cancer. It measures a substance called prostate-specific antigen made by the prostate. It is normal to find small quantities of PSA in the blood.

GLYCOHEMOGLOBIN A1C EXPLANATION

The A1C is a test that measures the average glucose in patients where the test has relevance, such as diabetic patients. It determines the average glucose for the preceding three months. One of the values of the AlC is that it can determine risk of damage to the larger arteries that determine stroke risk.   It is intended to be repeated at three month intervals to determine adequacy of glucose control as well as effectiveness of current treatment. HBAlC is a test that measures the amount of glycosylated hemoglobin in your blood. Glycosylated hemoglobin

is a molecule in red blood cells that attaches to glucose (blood sugar). You have more glycosylated hemoglobin if you have more glucose in your blood.

LAB TESTS FOR CARDIOVASCULAR RISK PROFILE:

C-Reactive Protein – C-Reactive Protein is released into the bloodstream when the blood vessels leading to the heart are damaged. Also used to diagnose bacterial infectious disease and inflammatory disorders.

Homocysteine – Elevated blood levels of homocysteine may act as an independent risk factor for ischemic heart disease and other vascular diseases.