

Each test performed will provide

you two pieces of information: the test result and then the “normal” value for a person of your age and sex. If a test result is outside of the normal range for your sex and age it will be marked H (for high) or L (for low).

Lab results are only one part of your overall health evaluation. Results within the normal range do not ensure health. Results that fall outside the normal range may not indicate disease. We recommend you consult a healthcare provider to discuss your test results as part of a complete medical examination.

CHEMISTRY/HEMATOLOGY PROFILE:

Chemistry/Hematology Profile is a comprehensive test that includes Hemogram with Platelets, Comprehensive Metabolic Panel, and Lipid Profile, as described below:

Hemogram with Platelets

WHITE BLOOD CELL COUNT (WBC)

White blood cells, also called leukocytes, fight infection. High values often indicate bacterial infection, although the presence of a normal count does not always indicate the absence of disease.

RED BLOOD CELL COUNT (RBC)

Red Blood Cell Count is a measurement of the number of red blood cells. Red blood cells, or erythrocytes, carry oxygen from the lungs to body tissues and to transfer carbon dioxide from the tissues to the lungs. A lower result is known as anemia and may be caused by bleeding, abnormal destruction of red blood cells, or a lack of substances needed for RBC production.

HEMOGLOBIN & HEMATOCRIT

Hemoglobin is the oxygen-carrying component found in your red blood cells. Hematocrit is a measurement of the percentage of red blood cells found in your blood. Hemoglobin and Hematocrit may be decreased in anemia due to many causes. An increase may be due to dehydration, heart or lung disease or an abnormal production of red blood cells by the body.

RED BLOOD CELL INDICES (MCH, MCHC, MCV, & RDW)

Red blood cell indices relate to the size, shape and color of

the red blood cells and help in the diagnosis and determination of the type of anemia.

PLATELETS

Platelets are cells in the blood which are necessary for blood clotting.

Comprehensive Metabolic Panel

SODIUM, POTASSIUM, CHLORIDE & CO₂

Sodium, potassium, chloride and CO₂ are electrolytes regulated by the kidneys, adrenal glands and lungs and are very important in the proper functioning of all cells, but especially nerve and muscle. Anion Gap is a calculation using electrolyte values. The electrolyte values may be abnormal in kidney or adrenal disease, and many other conditions. Potassium is especially important if you are taking diuretics (water pills) or heart medication.

GLUCOSE

Glucose is the name for the sugar in your blood. The normal fasting glucose range is 65-99 mg/dl. Increased levels may be due to eating before the test, diabetes, stress, or illness. It is best to be fasting for 12 hours for this test.

TOTAL PROTEIN, ALBUMIN, GLOBULIN & A/G RATIO

Protein measurements can reflect nutritional state, kidney disease, liver disease, and many other conditions. Albumin is a protein in your blood which is decreased in chronic illness, malnutrition, or through excess loss of albumin through the kidneys or intestinal tract. An increase can occur in dehydration. Globulin is a protein associated with immune system and typically increase with infection. Albumin/Globulin ratio is helpful in differentiating between liver and kidney function problems and the possible cause of a high Albumin or Globulin result.

CALCIUM

This mineral is found most commonly in bone, but is also important for proper blood clotting and cell activity, especially nerve and muscle activity. Calcium may be increased in parathyroid disease, bone disease, or excess intake of calcium and vitamin D. Some diuretics (water pills) may increase calcium.

BLOOD UREA NITROGEN (BUN), & CREATININE & BUN/ CREATININE RATION

Blood Urea Nitrogen (BUN) and Creatinine are waste products excreted by the kidney. Increased values may mean the kidneys

are not working as well as they should. BUN increases with high protein diets, strenuous exercise, or dehydration. BUN may be lower in pregnancy.

High values for BUN/CREATININE Ratio suggest abnormal blood flow to the kidneys whereas a low value may be suggestive of liver disease or malnutrition.

GLOMERULAR FILTRATION RATE (GFR)

GFR tells how much kidney function you have. PAML calculated your GFR from the results of your blood creatinine test, your age and gender.

BILIRUBIN TOTAL

Bilirubin is a waste product from the natural breakdown of red blood cells. Bilirubin is formed in the liver and excreted in the bile ducts and gallbladder. Increased values are usually due to liver disease, bile duct obstruction, or increased red blood cell breakdown.

ALKALINE PHOSPHATASE

Alkaline Phosphatase is an enzyme found primarily in the bone, liver and bile ducts. Increased values may be due to disease in these areas. Higher values are normally seen in children and pregnant women.

SGOT (AST) & SGPT (ALT)

SGOT (AST) and SGPT (ALT) are abbreviations for enzymes which aid various chemical activities within cells of muscle, liver and heart. Injury to cells from these areas can release these enzymes into the blood and cause increased values.

LACTATE DEHYDROGENASE (LD)

Lactate Dehydrogenase (LD) is an enzyme carried in the cells of the heart, liver, muscles, kidneys and red blood cells. LD is often measured to evaluate the presence of tissue damage, especially to the heart, liver, kidney, and skeletal muscle. It can also be used to detect a variety of malignancies.

Lipid Profile

CHOLESTEROL

Cholesterol is a blood fat. People who have values above this range are at increased risk of coronary heart disease.

TRIGLYCERIDE

Triglyceride is a blood fat that is affected by what you have eaten and may be elevated for up to 12 hours after a meal. A slight increase in triglycerides may be seen in women taking

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birth control pills. Increased triglycerides may be due to an abnormality in the way the body processes dietary fat, and may lead to abdominal pain or other problems.

HDL (HIGH-DENSITY LIPOPROTEIN)

HDL may be considered the “good” cholesterol and appears to have a protective effect. In general, the higher the HDL value, the LESS risk of developing coronary heart disease.

LDL (LOW-DENSITY LIPOPROTEIN)

LDL may be considered the “bad” cholesterol and the higher the LDL value, the GREATER the risk of coronary heart disease. By reducing LDL, you may reduce your risk. Other factors, such as smoking and high blood pressure increase the risk of coronary heart disease.

ADDITIONAL TESTS:

ALASKA ALLERGY PROFILE - Fall 2017

The Alaska Allergy Profile tests for allergic sensitivity to 15 allergens commonly found in Alaska. For more information, visit www.alaskahealthfair.org, Screenings and Tests.

BLOOD TYPING

The blood typing test determines if your blood is type A, B or O. Additionally, this test determines your Rh type which is either Rh+ or Rh-.

CELIAC TEST (TTGIGA)

Celiac disease is a serious genetic autoimmune disease. It is triggered by consuming a protein called gluten, which is found in wheat, barley and rye. When people with celiac disease eat foods containing gluten, their immune system responds by damaging the finger-like villi of the small intestine. When the villi become damaged, the body is unable to absorb nutrients into the bloodstream, which can lead to malnourishment.

FERRITIN - Fall 2017

Ferritin is an iron-containing protein and is the primary form of iron stored inside of cells.

GLYCOHEMOGLOBIN A1C

The Glycohemoglobin A1C test evaluates the average amount of glucose in the blood over the last 2 to 3 months. The A1C test maybe used to screen for and monitor the treatment of diabetes.

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Additional Tests (Continued)

PSA (PROSTATE SPECIFIC ANTIGEN)

The PSA test measures a protein that is only produced by the prostate gland and is only part of the test for prostate disease. In order to be sure of any problems, you must also have a physical examination by your doctor which may include a digital rectal exam.

TESTOSTERONE, TOTAL (ADULT MALE) - Fall 2017

The Testosterone test monitors actively circulating testosterone levels in the blood to detect abnormal testosterone levels in males.

TSH (Thyroid Stimulating Hormone)

TSH is a hormone made by the pituitary gland that tells the thyroid gland when to make thyroid hormone. When the thyroid gland is not making enough hormone (hypothyroidism) the TSH goes up. When the thyroid gland is making too much thyroid hormone, the TSH drops to a very low level. Many medications affect TSH levels so a list of medications should be considered when evaluating the testing result.

VITAMIN B12

Vitamin B12 is part of the B complex of vitamins. Vitamin B12 is necessary for normal red blood cell (RBC) formation, tissue and cellular repair, and DNA synthesis. Vitamin B12 is important for nerve health. A deficiency in vitamin B12 can lead to macrocytic anemia.

VITAMIN D

Vitamin D relates to bone metabolism or parathyroid function, possible Vitamin D deficiency or malabsorption, and to monitor some patients taking Vitamin D. Sources of Vitamin D include exposure to sun, certain foods (salmon, mackerel, tuna), fortified milk and vitamin supplements.

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Blood Test Information



An explanation for health fair participants provided by Alaska Health Fair, Inc. to help you understand your blood test results.

