STAR VALLEY HEALTH

Lab: 307-885-5827

WELLNESS SCREENING LABORATORY RESULTS

A Guide to General Chemistry Testing and Other Blood Tests

Helping you understand the significance of your routine blood tests.

Because we desire the best health for our community members, Star Valley Health offers each Lincoln County resident one wellness screening per calendar year at discounted prices. It is our hope that this discount access to these routine screenings will enable you to increase and maintain your well-being.

There are two options for your to obtain your labs and receive results:

- Call your provider and request a physician-signed voucher indicating which test you should receive. Bring your signed voucher to the screening date most convenient for you. Your provider will receive the test results.
- Make an appointment with the lab without a physician signed voucher. When arriving, you may choose from the list of discounted screenings which tests you would like to have performed. These tests will be mailed to you, and your doctor *will not* receive them.

  In either case, remember that you must fast for the Lipid Panel. No food or beverages except for water 8 hours prior to the testing.

This material is provided for general information purposes only. It is not intended as a substitute for medical advice and/or consultation with a physician or technical expert.

Bone & Electrolytes

Calcium

A mineral necessary for many important bodily functions, including bone formation, muscle contraction, and blood clotting. In addition, calcium is involved in maintaining the stability of nerve cells. Abnormal blood calcium levels are associated with bone diseases and a variety of other conditions.

Chloride

Chloride is involved in maintaining the normal amount of water and the acid-base balance in body fluids. In general, the serum level of chloride is closely associated with the level of sodium. Chloride levels higher or lower than normal can be associated with metabolic acidosis and alkalosis and with diseases of the gastrointestinal tract, kidney, and adrenal gland.

Cholesterol/ HDL Ratio

A number that is helpful in predicting an individual's risk of developing atherosclerosis, or blockages in the arteries of the heart. This number is calculated by dividing your total cholesterol by your HDL number.

Potassium

Potassium is involved in the functioning of nervous tissues and in heart and muscle contraction. Serum potassium levels higher or lower than normal can be caused by various conditions, including diseases of the gastrointestinal tract, kidney, and adrenal gland.

Sodium

Sodium is involved in maintaining the normal amount of water and the acid-base balance in bodily fluids. Within the cells of the body, sodium is involved in nerve conduction. Serum sodium levels higher or lower than normal can be caused by various conditions, including diseases of the gastrointestinal tract, kidney, and adrenal gland.

Diabetic

Glucose

A sugar and primary source of energy for bodily functions. Glucose levels are useful in diagnosing and evaluating several conditions, most frequently diabetes mellitus.

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Hemoglobin A 1 C

A 1 C test reflects your glucose (blood sugar) control over the past 3 months. Testing your A 1 C level every 3 months is the best way for you and your doctor to understand how well your glucose levels are controlled.

Urine Microalbumin

A test for the presence of albumin in the urine. Proteins are retained by the kidneys and are not usually present in the urine. An elevated level indicates the possibility of kidney damage caused by diabetes, hypertension (blood pressure) or other health issues.

Heart & Kidney Functions

Blood Urea Nitrogen (BUN)

The main waste product produced during the breakdown of proteins and is excreted by the kidneys. Elevated BUN levels are found in kidney disease, urinary tract obstruction, congestive heart failure, gastrointestinal bleeding, and in individuals on a high-protein diet. Low BUN values may be associated with severe liver damage, acromegaly, and pregnancy. Diets low in protein and high in carbohydrates may also be responsible for low BUN levels.

Creatinine

A waste product released from muscle tissue and excreted by the kidneys. The creatinine test is frequently used to assess kidney function. Elevated levels of serum creatinine may indicate kidney disease.

Uric Acid

Following processing by the kidney, uric acid is excreted in the urine. Elevated serum uric acid has been found in kidney failure, gout, dehydration, endocrine disorders, and other disease states. Certain drugs can also cause uric acid levels to be elevated. Decreased uric acid levels may be associated with liver disease and kidney tubule defects.

Hemogram - Complete Blood Count (CBC)

Hemoglobin

Red blood cells contain hemoglobin, the molecules that carry oxygen and carbon dioxide in the blood. People with a low hemoglobin level have anemia and usually have low red blood cell count and a low hematocrit.

Hematocrit

Measurement used to determine the ratio of plasma (clear liquid part of blood) to red cells in the blood. Hematocrit measurement is useful in identifying anemia, liver disease, and red cell production within the circulatory system. (Hematocrit increases with altitude training or dehydration.)

Mean Corpuscular Hemoglobin (MCH)

Reflects the average amount of hemoglobin in the red blood cell.

Mean Corpuscual Volume (MCV)

The MCV measure the average size of red blood cells.

Platelets

Platelets are the smallest type of cell found in the blood. Platelets help stop bleeding after an injury by gathering around the injury site, plugging the hole in the bleeding vessel and helping the blood to clot more quickly.

Red Blood Count (RBC)

Red blood cells are the most common type of cell in the blood and are produced by the bone marrow continuously in healthy adults. The cell contains hemoglobin, which carries oxygen and carbon dioxide throughout the body. The RBC determines if the number of red blood cells in your body is low (anemia) or high (polycythemia).

Red Cell Distribution Width (RDW)

Reflects the distribution of the size of the red blood cell.

White Blood Count (WBC)

An increased number of white blood cells may occur with infections, appendicitis, pregnancy, leukemia, hemorrhage, strenuous exercise, emotional distress and

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anxiety. A decreased number of white blood cells may occur in viral diseases such as mumps, lupus erythematosus, cirrhosis of the liver, radiation therapy and certain types of drug therapy.

The total WBC can be broken down into 5 white blood cell populations. An abnormal level of cells can indicate an infection (bacterial, viral, fungal or parasites), inflammation, allergies, autoimmune problems, Leukemia or other health problems.

Hepatitis C

A mild hepatitis virus that can go undetected however it can cause chronic liver disease such as cirrhosis and liver cancer. If you are positive contact your physician for follow up lab tests and treatment options.

Iron

Iron Binding Capacity (IBC)

Iron is transported in your blood bound to a protein called transferrin. A low IBC suggests malnutrition or iron excess. A high IBC suggest iron deficiency.

Iron

Iron is essential to the formation and function of hemoglobin, which carries oxygen from the lungs to the tissues. Iron levels may be measured to help in diagnosing a number of conditions, including anemia.

Transferrin Percent Saturation

This calculation is obtained by comparing the iron level to the IBC level. It is a simple way to compare the amount of iron in the blood to the capacity of the blood to transport. If the level is greater than 40-50% in women and over 60% in men, a Ferritin level result is recommended.

Unbound IBC

A test of iron or empty iron stores calculated by the IBC minus the serum iron to help diagnose various iron disorders. A high UIBC may be found in an individual with iron deficiency, while a low UIBC can indicate inflammatory disorders.

Lipids (Fats) - Heart

Cholesterol, Total

Studies have established that total blood cholesterol levels may be independently and positively correlated with risk for coronary heart disease.

HDL

High-density lipoprotein (HDL) cholesterol is sometimes referred to as “good” cholesterol. High levels of HDL are thought to be associated with a reduced risk for coronary heart disease.

LDL

Low-density lipoprotein. LDL is sometimes referred to as “bad” cholesterol. High levels of LDL are thought to be associated with an increased risk for coronary heart disease.

Triglycerides

Elevated serum triglyceride levels are found in metabolic disorders, liver disease, diabetes, and hypothyroidism (deficiency of thyroid activity). When serum triglyceride and cholesterol levels are both elevated, the probability of coronary artery disease may be increased.

VLDL

Very low -density lipoprotein. VLDL contain large quantities of triglyceride and 10% to 15% of total plasma cholesterol.

Liver Function

Alkaline Phosphatase

An enzyme found in almost all body tissues, with highest levels observed in the intestine, kidney, bone, liver, and placenta. Measurements of serum alkaline phosphatase are thought to be particularly useful in the evaluation of liver and bone disease. Minor increases in the level of

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alkaline phosphatase are sometimes observed during the normal aging process.

AST (SGOT)

An enzyme that is found in the heart, liver, muscle, kidney, pancreas, spleen, lung, and red blood cell. Diseases involving or affecting these tissues can cause elevations in serum AST levels.

Bilirubin, Total

An orange-yellow bile pigment formed during the breakdown of hemoglobin. Bilirubin is transported by a blood protein (albumin) to the liver for excretion in the feces. Elevated levels of serum bilirubin are often associated with liver disease, bile duct obstruction, hemolytic (red blood cell breakdown) disease, and prolonged fasting.

Transaminase ALT (SGPT)

The ALT enzyme is found mainly in the liver. Damage from alcohol, strenuous exercise and a number of diseases can cause high values for both AST (SGOT) and ALT (SGPT) and should be evaluated by your health care provider. Low values are not generally considered significant.

Prostate

Prostatic Specific Antigen (PSA)

This screening measures a protein that is only produced by the male prostate gland. High levels may indicate prostate cancer or noncancerous prostatic disease.

Protein

Albumin

The major protein of blood. Albumin plays an important role in maintaining the plasma of blood in the blood vessels (osmotic pressure), transporting substances, and in nutrition. It is made by the liver. Consequently, decreased albumin levels may be associated with liver disease. Albumin levels may also indicate general health and nutritional status.

Albumin/Globulin (A/G) Ratio

The calculated ratio of levels of these two serum proteins. A low A/G is found in certain liver diseases, kidney disease, myeloma, and inflammation & other disorders.

Ferritin

Ferritin is a protein in the body that binds to iron. Ferritin is found in the liver, spleen, and bone marrow. The amount of ferritin in the blood may help indicate the amount of iron stored in your body. Levels can be utilized in diagnosis and monitoring of iron overload disorders including sideroblastic anemia & hemochromatosis.

Globulin

One of the main protein groups found in blood. The alpha and beta-globulins are produced by the liver, whereas the gamma globulins (antibodies that play an important role in the body's defense against disease) are produced by some of the white blood cells and plasma cells. The level of serum globulin is often elevated in liver disease, collagen diseases, and myeloma.

Protein, Total

The second most common substance in blood. Serum proteins have many functions, including the transport of other substances, immune defense, blood clotting, and inflammation defense. Serum protein levels are useful for evaluating nutritional status, infection, and various other disorders.

Testosterone

In men, the test may be ordered when infertility is suspected or if the patient has a decreased sex drive orerectile dysfunction, all of which can result from low testosterone levels. Other symptoms include lack of

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beard and body hair, decreased muscle mass, development of breast tissue (gynecomastia), sleep problems, fatigue, and depression.

Thyroid Function

TSH

Thyroid-Stimulating Hormone (TSH), Third Generation
Measures thyroid hormone levels of the thyroid gland. TSH causes the thyroid gland to produce two hormones: Thyrozine (T4) and triiodothyronine (T3).

Vitamin D

A hormonal steroid produced in the body from UV light exposure. It is necessary for mineral and bone metabolism, hormone regulation, immune function and cell regulation. Low vitamin D is seen in seasonal depression, poor immune function, increased risk of cancer and osteoporosis.

Learn more about lab tests: labtestsonline.org

"On behalf of Star Valley Health and the laboratory, I would like to thank you for participating in our community Wellness Screening Program. It is a great opportunity to obtain select lab tests at a significantly reduced cost.

Finding and correcting health problems in the early stages is essential to your long term health, so we strongly encourage you to review your results with your physician. Our physicians and staff are here to support and serve you."

Sincerely,

Gregory Gillespie

Gregory Gillespie, MLS (ASCP), MHL
Lab Director