

Thank you for using the Lab Wellness Screening program. You can learn a great deal about your health from testing a sample of your blood. Testing may expose risk factors that could affect your health but it is not possible to diagnose or treat any health problems with blood screens alone. You should discuss this information with your healthcare provider so he or she can help you target any needed lifestyle changes or treatments that may be indicated. There are many factors that can affect your blood test results. Prescription and non-prescription drugs, alcohol, and your fasting status can all affect your blood chemistry results. It's important for your healthcare provider to have a complete and accurate picture of your medications to effectively interpret your results.



Powell Valley Healthcare

EXPLANATION OF TESTS

Glucose: Glucose is the body's main source of fuel for growth and energy. The cells in our bodies cannot use this glucose without insulin which is a hormone produced in the pancreas. People with diabetes usually do not produce enough insulin, so glucose builds up in the body (hyperglycemia). Conversely, some people have low blood glucose levels (hypoglycemia).

BUN (Blood Urea Nitrogen): BUN is a waste product from protein breakdown in the liver. The kidneys excrete BUN and when your kidneys are not functioning properly, the level of BUN in your blood will rise. Strenuous exercise, a high protein diet, blood loss, and dehydration can also cause a high BUN level.

Creatinine: The concentration of creatinine in your blood depends on your kidney function and your individual muscle mass. High levels usually indicate decreased kidney function.

Sodium & Potassium: These are electrolytes which function to control water and salt balance in your body. Low levels of Sodium can be caused by heart or kidney failure, or Sodium loss due to Diarrhea or vomiting. High levels can be caused by excessive intake of salt or dehydration. Low levels of potassium may be found in persons taking water pills or in those not receiving enough dietary potassium. Low potassium may cause muscle weakness or heart problems. High levels may be found in kidney disease or overuse of potassium supplements, and may also result in heart problems. Values outside of the reference ranges provided should be evaluated by your healthcare provider.

Chloride: Chloride is an electrolyte regulated by the kidneys and is important to the function of nerves, cells, and muscles. Borderline high or low levels have little significance.

Calcium: Calcium screens for and monitors a range of conditions relating to the bones, heart, nerves, kidneys, and teeth. Blood calcium levels do not directly tell how much calcium is in the bones but rather, how much total or ionized calcium is circulating in the blood. Low levels of calcium are related to malnutrition. High levels can be caused by bone disease, excessive use of antacids and milk, overdosing on vitamin D and hyperparathyroidism. Excessively high calcium levels should be evaluated by your healthcare provider.

Total Protein: Total protein measurements can reflect nutritional status, kidney disease, and many other conditions. If total protein is abnormal, further tests may be performed to identify which protein fraction is abnormal so that a specific diagnosis can be made.

Albumin: About two-thirds of the total protein circulating your blood is albumin. Low albumin levels are associated with malnutrition, too much water in the body, liver disease, kidney disease, severe injury or major bone fractures.

Total Bilirubin: High levels of bilirubin results in a condition called jaundice (yellowing of the skin and the whites of the eyes). Further testing is required to determine the cause. Too much bilirubin may mean that too many red cells are being destroyed, or that the liver is incapable of removing the bilirubin from the blood either because of liver disease or blockage of the bile ducts.

SGOT/AST: This enzyme is mainly found in the heart, liver, and muscles. It is released into the blood when any of these organs are damaged. Elevated levels are usually associated with liver or heart disease.

SGPT/ALT: This enzyme is found mainly in the liver. Damage from alcohol, strenuous exercise, and many diseases can cause high values for both SGPT and SGOT. Your healthcare provider should evaluate high results. Low results are not considered significant.

Alkaline Phosphatase: This enzyme is found in all areas of the body but the most important sites are the bone, liver, bile ducts, and gut. A high level ALP may indicate disease of the bone, liver, or bile ducts. Certain drugs may also cause increased levels. Growing children have much higher levels of ALP due to bone growth. Low results are not considered significant.

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Powell Valley Hospital Powell Valley Care Center The Heartland Assisted Living Powell Valley Clinic

Powell Valley Rehab Services ExpressCare Clinic



CORONARY RISK COMPONENTS

Cholesterol: Elevated blood cholesterol levels have been associated with hardening of the arteries and heart disease, therefore cholesterol testing is considered a routine part of preventative health care. High results should be discussed with your healthcare provider.

Triglycerides: Triglycerides are fatty substances in the body that are related to higher risk of heart disease. Triglycerides measurement are recommended as routine tests to evaluate risk of heart disease. If you have elevated triglycerides and are being treated, a triglyceride test may be helpful to evaluate treatment.

HDL-Cholesterol: High density lipoprotein cholesterol is another test used to determine your risk of heart disease. HDL is considered “good” cholesterol so a high result indicates a lower risk of heart disease.

LDL-Cholesterol: Low density lipoprotein cholesterol is another test used to predict your risk of heart disease. LDL-Cholesterol is considered “bad” cholesterol and elevated levels increase your risk of heart disease.

HEMOGRAM COMPONENTS

WBC: Is the number of white blood cells per volume of blood. Both increases and decreases of the number of white cells can be significant. The WBC count is often used to monitor or screen for infection in the body.

RBC: Is a count of the number of red blood cells per volume of blood. Both increases and decreases can indicate abnormal conditions.

Hemoglobin: Measures the amount of oxygen carrying protein in the blood.

Hematocrit: Measures the percentage of RBCs compared to the amount of liquid (plasma) in the blood.

Platelet count: Is the number of platelets in a volume of blood. Platelets play a major role in the natural clotting mechanism of blood. Both increased and decreased platelet counts can be an indication of an abnormal condition and should be evaluated by your healthcare provider.

MCV: Mean corpuscular volume is a measurement of the average size of your red blood cells. The MCV can be used to help differentiate different types of anemia.

MCH and MCHC: These measurements are calculations of the amounts of oxygen-carrying hemoglobin in the blood.

IRON PANEL COMPONENTS

TIBC (Total Iron-Binding Capacity): Total iron-binding capacity is a measure of the serum transferrin binding capacity. Measurements of serum iron and total iron-binding capacity are widely used in the diagnosis and treatment of iron deficiency anemia and chronic inflammatory disorders.

Iron: Measures the level of iron in the blood. Iron measurements are used in the diagnosis and treatment of diseases such as iron deficiency, anemia, and other disorders of iron metabolism.

Ferritin: Ferritin is a protein that functions as the primary iron storage compound in the body. Measurements of ferritin aid in the diagnosis of diseases affecting iron metabolism, such as hemochromatosis and iron deficiency anemia.

Prostatic Specific Antigen (PSA): PSA is a blood test that measures a protein that is only found in the male prostate gland. PSA is used to screen for and monitor treatment of prostate cancer. A normal PSA does not exclude the possibility of prostate cancer and a high PSA does not always indicate cancer. All elevated PSA results should be evaluated by your healthcare provider.

Hemoglobin A₁C (Glyco-Hemoglobin): Hemoglobin A₁C is a measurement of a person’s average blood glucose over time. A high Hemoglobin A₁C may indicate lack of control in a diabetic person. Your healthcare provider should evaluate abnormal results.

TSH (Thyroid Stimulating Hormone): TSH is the pituitary hormone which controls thyroid gland function. A TSH test is used to screen for and diagnose thyroid disorders and monitor treatment. Very high or low values should be evaluated by your physician.