## What Can Be Learned From Blood Tests

Health screening events are an excellent opportunity to obtain low cost blood testing. These tests are vital health monitors and can provide early detection of serious diseases and conditions. Unless you have received some guidance from your healthcare provider, deciding which tests you should take can be confusing. Following is a brief explanation of the most typically offered health screens including what each test analyzes and why it is important.

A **chemistry panel** provides information about your general health and includes 7 to 25 different tests. The tests measure the health of your kidneys, liver and thyroid. Also measured are –



- Blood glucose (sugar): This is used to detect hyperglycemia (high), hypoglycemia (low) and diabetes
- Lipids: These tests measure various blood fats. They include: total cholesterol, HDL-cholesterol (good), LDL-cholesterol (bad), and triglycerides (a blood fat made from fatty acids)
- Proteins: These include: Albumin, which is made in the liver, globulin which helps with immunity, and total protein which is the total of globulin and albumin
- Electrolytes: sodium, potassium, calcium, chloride and carbon dioxide are important for muscle, heart, nerve and other organ function
- Liver Function Tests: these include ALT, AST and Alkaline Phosphatase when abnormal may indicate liver abnormalities
- Kidney Function Tests: BUN and Creatinine are used to measure kidney function
- Uric Acid: can be elevated in gout and other metabolic diseases
- Thyroid: The TSH measures whether the thyroid is normal over or under active

The chemistry panel is important in identifying a wide range of serious and treatable conditions ranging from heart disease to diabetes and liver malfunction to kidney malfunction and many more.

A **CBC** or **Complete Blood Count** evaluates three types of blood cells - white cells, red cells and platelets.

• White blood cells act as defense agents against infections and cancer. The white blood count is useful in monitoring the progress of a patient's condition when a disease state or infection is present.

- **Red blood cells** carry oxygen throughout the body.
- Platelets are vital for normal blood clotting.

A CBC can help identify conditions and diseases such as anemia, bacterial or viral infections, bone marrow disorders, autoimmune conditions, allergic reactions, nutritional deficiencies.



The **Prostate Specific Antigen** or **PSA** test is used to help detect and monitor prostate cancer in men and other diseases of the prostate. The prostate specific antigen is a protein produced by the prostate gland. Elevated levels of the protein can indicate prostate cancer. National health organizations recommend a baseline PSA test periodically after ages 40 or 50.

The **Vitamin D** test is particularly important for women who have or are at risk of having osteoporosis. Because it helps the body absorb calcium, it is very important in preventing bone loss and fractures. There is increasing evidence that Vitamin D plays a role in many areas of the

body and almost all of the organs. Vitamin D deficiency has been associated with increased risk of breast, colon and prostate cancers, heart disease, diabetes, and autoimmune disorders. It supports a strong immune system. It is known as the sunshine vitamin and it is not uncommon for persons living in Montana to have a low level.

**Hemoglobin A1C**, also known as just "A1C", is a test used to diagnose and monitor diabetes. For diabetics, this test is used to monitor glucose over time with the objective of normalizing the glucose level. It gives the average blood sugar level over the previous 3 months. It is also used for diagnostic purposes when symptoms indicate the possibility of diabetes. These symptoms include increased thirst or urination, blurred vision, and fatigue.

The Ruby Valley Hospital is offering Health Screening Blood Tests to the community on Wednesday, April 3<sup>rd</sup> and Thursday, April 4<sup>th</sup> from 7am to 11am. Ruby Valley Hospital recommends that you share the results of your tests with your healthcare provider. Please call Ruby Valley Hospital at 842-5453 for more information and look for our advertisement in The Madisonian.

For more information about these tests, please visit the following web pages -

Johns Hopkins Lupus Center - Blood Chemistry Panel

Lab Tests On-Line - Chemistry Panel

Lab Tests On-Line - Complete Blood Count

Definition of a Lipid

Medline Plus - Prostate Specific Antigen

Lab Tests On-Line - Prostate Specific Antigen

Lab Tests On-Line - Vitamin D

Lab Tests On-Line - Hemoglobin A1C