

Why Live Blood Analysis is Important

Do you want to see how healthy you really are? Look at your blood. The morphology, or how the blood changes, will reveal to what extent your body is changing. If the blood initially looks good at the time of the test, but starts to rapidly degrade or change, then your physical condition may be poorer than suspected, and a great deal of work to build your immunity, nutritional support and absorption may be needed. If the blood initially looks somewhat less than ideal, but doesn't degrade much within the time of the test, it is possible that your constitution is strong and therefore less work may be necessary to help you regain or retain vibrant health.

Live blood analysis may be useful to help change current conditions or symptoms, and it may play an important role in possibly preventing more serious problems by a simple testing of a single drop of blood. This may include the early detection of platelet aggregation, which can lead to clots, and freefloating plaque which may be a sign of cardiovascular problems.

First, blood is taken from the finger in the form of a single drop. The slides are used with a cover glass to reduce rapid deterioration and oxygen damage. Two or three slides are prepared to help determine if similar blood patterns are visible in all samples. These live blood samples are then examined under a darkfield/phase contrast microscope which displays the image on a television monitor. The following conditions may be ascertained:

- Low vitamin B12 and Folic Acid utilization
- Disturbance in protein utilization
- Fat metabolism problems
- Cholesterol crystals
- Liver/bowel toxicity
- Circulatory impairment
- Excessive free-radical damage
- Platelet aggregation (clots)
- Allergic reactions
- Systemic infections
- Immune system function & activity

What the Blood Reveals

Rouleau.

This is the singular of rouleaux in French, and means a "row of coins". Red blood cells are disc-shaped, and when found in this pattern, may indicate a lack of sufficient stomach acid, or an acute phase reaction to an improper food, stress

(adrenalin), or an allergen. Rouleau may be described as having a large number of cells with a greatly decreased surface area. The cells are aggregated into columns that resemble a stack of coins, which decreases the amount of oxygen and nutrients carried to the tissues. Circulation is compromised and oxygen transport and carbon dioxide exchange is diminished.

Symptoms may include poor stamina and overwhelming fatigue, shortness of breath, bad digestion, inflammation, edema, and low skin temperature.

Erythrocyte Aggregation.

When the red cells are drawn together, as if by a magnet, this is a condition known as an erythrocyte aggregation. This is a problem similar to rouleau, but the cohesion is formed into a "clump" instead of a row. It is considered to be more severe than rouleau. It is also referred to as "blood sludge" and when very large formations are evident they may potentially be lifethreatening.

Symptoms are similar to those found in rouleau, but even more problematic and usually not short term, as in a food allergy or stress-related fatigue. Saturated fats and poor fat utilization, as well as excessive proteins are found to be problematic.

Chylous.

This is fat in the blood. It is an evaluation of the triglyceride fat, cholesterol, phospholipids and proteins in the blood at the time. It correlated with what the individual ate before the test. It appears in the bloodstream within 45 minutes after eating and should clear within 4 hours. However, if the person consumed little fat and small portions, but we see considerable fat in the blood, we know that they have high blood fats (cholesterol/triglycerides), poor digestion of fat, and/or a weak liver that is unable to clear this fat.

Spicules.

These are needle-like inclusions which are formed from fibrin. We generally see this condition along with sticky red cells and chronic inflammatory or degenerative problems. This may indicate a liver damaged by blood pressure medications, anti-histamines, steroid and non-steroidal anti-inflammatory agents, antibiotics, alcohol, and other drugs. Fibrinogen is involved in clotting, and when the fibrin needles begin to appear quickly after taking the sample, we need to look at using supplements that reduce inflammation and clotting.

Poikilocytes.

These are deformed red cells. They may resemble bottlecaps or are generally deformed and are not round with sufficient cell wall flexibility. Researchers believe that free-radical damage causes membrane rigidity. However, poor fat metabolism may also be involved. The red blood cell walls are composed primarily of fats. These membranes are subject to peroxidation in the presence of oxygen.

Fatigue usually accompanies poikilocytosis. Cell walls that are deformed don't have sufficient elasticity to pump oxygen and nutrients to the tissues. Fried foods, saturated and hydrogenated fats, people who work in or are exposed to the sun for prolonged periods, or patients undergoing chemotherapy or radiation often exhibit this problem. Also, as stated earlier, poor fat metabolism will show similar cell-wall distortions.

Anisocytosis.

Abnormal sizes of red blood cells indicate low iron, folic acid, and vitamin B-12 deficiencies. Anisocytosis is seen in autoimmune hemolytic anemia, liver disease, megaloblastic anemia of infancy, pernicious anemia, and sickle cell disease. Intrinsic factor is a relative small glycoprotein secreted by the stomach wall that is essential for the absorption of vitamin B-12. Insufficient B-12 must be replaced by either injection or to a lesser extent by sublingual absorption. Anisocytes are larger or smaller than the normal size cells.

Macrocytes.

These are larger than normal red cells, with a diameter greater than 9 microns. The normal average is 7.2 microns. Some of the conditions associated with macrocytes are poor absorption, pernicious anemia, lack of hydrochloric acid and quick food transit. Macrocytes, like other anisocytes, are found in vitamin B-12 and folic acid deficiencies. Macrocytes are frequently seen in individuals who have had stomach surgeries, tumors, small bowel inflammation, parasitic bowel infection and inflammation of the pancreas.

Microcytes.

Microcytes are smaller than normal red cells, with a diameter of less than 6 microns compared to a normal of 7.2 microns. They frequently have an MCV of less than 80-82 cubic microns. They often have less hemoglobin than normal cells and are seen in iron deficiency anemia and other forms of anemia.

Ovalocytes.

These are oval-shaped red cells which have more total volume than normal sized cells. They indicate folic acid and vitamin B-12 deficiency. Without sufficient folic acid or vitamin B-12, DNA synthesis is interrupted. Junk food may be a major causative factor. They are often found in late stages of pregnancy, depression, alcoholism, individuals with poor fat metabolism, and those with vitamin B depletion caused by certain medications.

Codocytes.

These are also called Target Cells. They are red cells whose membranes have collapsed inwards, leaving a ring of elevated membrane around a central "hole" with a dot in the center,

looking like a target. Target cells can indicate iron deficiency or reduced hemoglobin synthesis. Less often, they may indicate thalassemia. Possible low iron, bile insufficiency, or liver issues may be causal.

In women, target cells often appear during menstruation and pregnancy. Symptoms may include pale skin and low energy due to malabsorption.

Echinocytes (Burr Cells).

Echinocytes are deteriorating red blood cells. They derive their name from the Greek word for "sea urchin". They indicate damaged cells (either improper slide preparation or internal conditions), toxins, alcohol, poor dietary habits, antibodies due to possible infection, or a pH imbalance.

Symptoms may include low energy, circulatory problems, and degenerative disease.

Ghost Cells.

These are "shadow" cells. Ghosting may occur as a result of pressure from the cover glass resting on the slide. The pressure may cause weakened cell walls to lose their shape. However, if ghosting is seen while the specimen is being examined, there may be an overall cell-wall weakness. The membrane walls have lost integrity and allowed the hemoglobin to escape.

Poor fat metabolism or utilization, oxidative stress, smoking, alcohol, or drug-induced damage may also be problematic. Usually low energy and depression may accompany this condition.

Plaque.

Plaque is an irregular, hard or soft, abnormal formation that is generally composed of a lipid core (fat), along with thrombocyte aggregations plus calcification and collagen formations. This indicates poor fat metabolism/utilization, and may also indicate dehydration. Generally, accumulated debris from the blood stream has solidified to form this destructive mass.

Conditions associated with plaque include cold hands and feet, poor circulation, reduced energy and stamina, pain in the calves when walking, chest pain, and high blood pressure. Plaque may indicate a history of diabetes, heart attack, or stroke.

Thrombocyte Aggregation.

This is also called platelet aggregation. Platelets are less than 2 microns, or approximately 1/3 to 1/4 the size of a red blood cell, and normally circulate freely in the blood. They are essential to the clotting of blood immediately after injury.

An elevated amount of thrombocyte aggregation may indicate high stress, high fat diet or poor fat metabolism, drugs, food allergy, high serum epinephrine, and/or injury (acute phase reaction). Stress increases the release of adrenaline into the bloodstream. Smoking, alcohol, and caffeine can also stimulate abnormal platelet aggregation.

Alex Thompson offers live blood analysis at Vaughan Integrative Medicine, 1301-A West Wendover Avenue in Greensboro. Call 336-808-3627 for an appointment or visit www.Vaughan-Integrative.com for more information.