



Monitoring Tests

Common blood tests for monitoring your health

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Blood tests can provide important information about your overall health and HIV disease. Some tests are done on a periodic basis as a basic screening tool for health problems, and some are done when there are specific concerns about the functioning of different parts of the body.

Usually, laboratories have different “reference range” or “normal values” for each test. The test results that fall outside the normal range may indicate some conditions or concerns. Make sure you review the test results with your doctor and get an understanding of what they may mean for your health.

Here are some examples of blood tests:

Complete Blood Count (CBC)

The CBC is the most common screening blood test for people with HIV/AIDS. It measures and analyzes the different types of cells that make up the blood, including red blood cells, white blood cells and platelets.

Red Blood Cell Tests

Red blood cells carry oxygen from the lungs to cells throughout the body. Three common tests that measure the red blood cells are:

1. Red Blood Cell count (RBC)—measures the total number of red blood cells
2. Hemoglobin (Hgb)—measures a protein in red blood cells that carries oxygen to different parts of the body
3. Hematocrit (HCT)—measures the percentage of blood volume taken up by red blood cells.

Low values in the red blood cell tests indicate anemia, which can be due to abnormal blood loss or insufficient blood production. In people with HIV/AIDS, anemia may be caused by HIV infection itself or by anti-HIV medications such as AZT (Retrovir).

White Blood Cell Tests

White blood cells (leukocytes) help prevent and fight infections in the body. Two common tests that measure the white blood cells are:

1. White Blood Cell count (WBC)—measures the total number of white blood cells
2. the “Differential”—measures the percentage of five different types of white blood cells in the body: neutrophils, lymphocytes, monocytes, eosinophils and basophils. Each is involved in different ways to prevent and fight infections. T cells (or CD4 cells), the cells responsible for regulating the immune system, are subtypes of the white cells called lymphocytes.

Platelet Count

Platelets are a part of the blood that is needed for clotting. A low platelet count may be caused by HIV disease or by certain drugs. The risk of bleeding may increase when your platelet count drops below the normal range.



Chemistry Screen

These tests measure the various chemicals in your blood to see if your body is working properly.

Electrolytes

Electrolytes measure the level of minerals in your body, including sodium, potassium, chloride and bicarbonates. Electrolytes are related to fluid balance in your cells. Electrolyte imbalance may indicate problems with the function of the heart or kidneys.

Kidney Function Test

The most commonly used test to measure kidney function is creatinine. Creatinine is a waste product of protein digestion and muscle breakdown. High levels of creatinine indicate a problem in the kidneys' ability to do their job of removing waste from the body.

Liver Function Tests (LFTs)

LFTs include a number of tests that measure various enzymes or proteins found in the liver, heart and muscles. These include ALT (alanine aminotransferase, sometimes called SGPT), AST (aspartate aminotransferase, sometimes called SGOT), LDH (lactic dehydrogenase), alkaline phosphatase and bilirubin. The levels of these enzymes are increased if there is liver damage. Common causes include damage from alcohol, hepatitis, medications or other drugs.

Amylase

Amylase is an enzyme secreted by the salivary glands and the pancreas. A large increase in the amylase level may indicate a risk for pancreatitis (inflammation of the pancreas), which may be a side effect of the anti-HIV medications ddI (Videx), ddC (Hivid) and d4T (Zerit).

Glucose

Glucose is sugar in the blood. High glucose levels may indicate diabetes mellitus. HIV infection or anti-HIV medications (such as ddI, ddC, d4T and protease inhibitors) may cause abnormal glucose levels by damaging the function of the pancreas, which produces insulin to control blood sugar, or by making the insulin less effective at doing its job (insulin resistance).

Cholesterol and Triglycerides

Cholesterol and triglycerides are different types of fats, or lipids, in the blood and are used to measure nutritional status and risk for heart disease. Abnormal levels of fats may be caused by long-term HIV infection as well as some anti-HIV medications, specifically protease inhibitors. (See the Fact Sheet on "Lipodystrophy" for more information.)



In addition, other tests that may provide important information about your health, organ function and nutritional status include: protein and albumin, calcium, vitamin B12, thyroid function and free testosterone level in men.

These tests, along with the T-cell (CD4) count and viral load, give a more complete picture of your overall health and your body's functional status. Keeping track of your test results will help you monitor your health and participate more fully in your treatment planning and decision-making.

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