

## Blood Test Reference Guide

In a blood test, a technician uses a needle to take blood from a vein. The technician usually sticks the needle into a vein in the arm to get the blood sample. This sample can then be tested to find the amount of different substances in the blood. Some common substances that are measured in blood tests are described below.

**Cholesterol:** Cholesterol is a substance that is used to make cell membranes, parts of bile, and growth hormones. The body needs some cholesterol to work correctly. The cholesterol blood test is different from many blood tests. The results of most blood tests help a doctor diagnose a disease or monitor the disease. A doctor uses the results of a cholesterol blood test to measure the *risk* of developing heart disease. High levels of cholesterol mean a person has a higher risk of having heart disease or a heart attack than other people have.

*Normal range:* Less than 200 milligrams/deciliter (mg/dL)

**Creatinine:** Creatinine is a waste product made by muscle cells. It is normally filtered out of the blood by the kidneys. If the kidneys are not working the way they should, there is an increase of creatinine in the blood.

*Normal range:* 0.6–1.2 mg/dL in males, 0.5–1.1 mg/dL in females

**Glucose:** Glucose is a simple sugar, so this test is sometimes called a blood sugar test. The glucose test measures the amount of glucose in the blood. Blood for glucose tests is usually collected after a person has fasted, or has not eaten, for eight to 10 hours. The body needs the hormone insulin for glucose to move out of the blood and into body cells. This means that glucose and insulin need to be in balance in the body. If there is not enough insulin, glucose levels in the blood will be high.

*Normal range:* 70–99 mg/dL

**Insulin:** Insulin is a chemical made by the pancreas. It helps move glucose out of the blood and into the cells of the body. By doing this, it helps regulate the levels of glucose in the blood. If the pancreas is not working correctly, insulin levels will not be in the normal range. Insulin levels may also be out of normal range if the body is no longer responding to the insulin made by the body.

*Normal range:* 5–20 microunits/milliliter (mcU/mL)

**Protein (total):** Proteins are the building blocks of cells. They also are the enzymes that control cell functions. This test can show if a person is undernourished. Values that are out of the normal range can also show some kidney or liver diseases.

*Normal range:* 6.0–8.3 grams/deciliter (g/dL)

**White blood cell count:** White blood cells are part of the immune system in the body. If there is an infection, the white blood cells will attack and destroy the bacterium or virus that is causing the infection. A high white blood cell count can show that a person has an infection or inflammation. The count may also be affected by trauma, stress, intense exercise, pregnancy, or certain types of cancer.

*Normal range:* 3,900–10,000 cells per milliliter (cells/mL)