

Name of the test

Red blood cell count

Alternative name(s) of the test

RBC count; Erythrocyte count

What is this test used for?

RBC-es are also called erythrocytes and they are the blood cells that contain hemoglobin and transport oxygen throughout the body. Erythrocytes are produced by the bone marrow. Their production is stimulated by erythropoietin - a hormone which is produced in kidneys. The lifetime of erythrocytes is about 100-120 days. The RBC count may drop when the bone marrow does not produce enough erythrocytes or when there is an excessive loss of red blood cells due to either bleeding or some other condition affecting their lifespan.

This test counts the number of erythrocytes in the blood sample. The RBC count is usually performed with other tests and it is used to screen for, diagnose or monitor the diseases affecting the red blood cells.

When is the test ordered?

The RBC count is a part of complete blood count test and is often performed with other tests, such as a hemoglobin test or a hematocrit. It is ordered as a part of a general health checkup, or when a patient has symptoms of anemia, polycythemia or any other condition that affects the erythrocytes.

How is this test performed?

A blood sample is needed for the test. It can be taken from a vein or from a fingertip.

How to prepare for the test

No preparation is needed.

Interpretation of results

Drop of RBC count may caused by various reasons including:

- Iron or B12 deficiency
- Different types of anemia
- Chronic or acute bleeding
- Kidney diseases that affect erythropoietin production
- Bone marrow disorders, like tumors and cancers or damages of bone marrow caused by different agents – radiation, chemotherapy, infection

Increased RBC count may be due to:

- Polycythemia
- Smoking
- Congenital heart disease
- Pulmonary disease

People living at high altitudes have slightly increased RBC count and this is normal.