

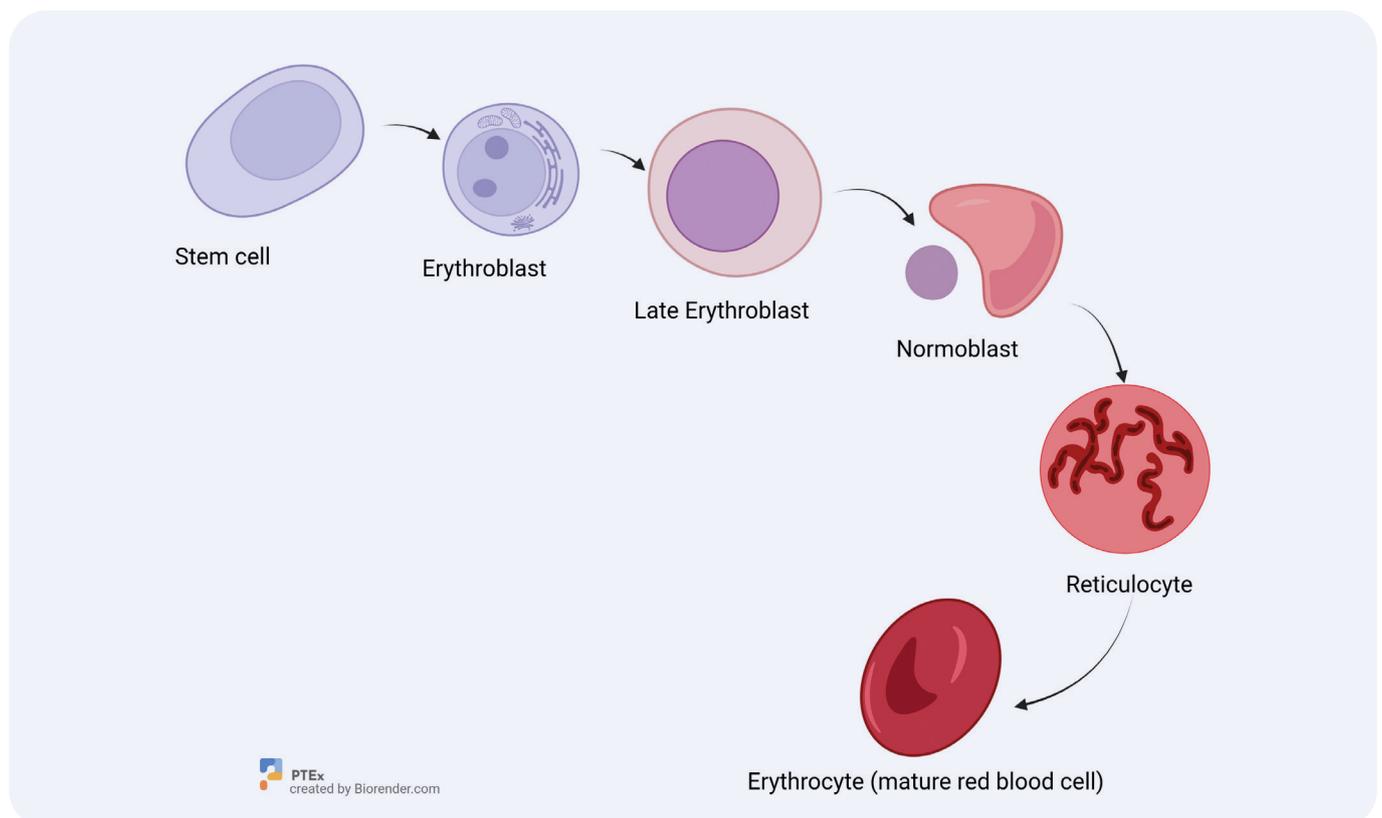


PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT **THE RETICULOCYTE COUNT**

This test measures the number and percentage of reticulocytes in your blood. Reticulocytes are immature red blood cells. If the test shows there are too many or too few, it can indicate a health disorder such as anaemia or problems with red blood cell production in your bone marrow.



The development of a red blood cell

In order to stay healthy, your body must continually make new red blood cells to replace those that age. In general, red blood cells have a lifespan of about 120 days.

New red blood cells are produced as stem cells in the bone marrow. They develop through several stages into reticulocytes and then into mature cells to be released into the blood. Most red blood cells are fully mature before they are released but a tiny percentage are released into the blood as reticulocytes. The reticulocyte count in a healthy adult should be between 0.5 to 2.5 per cent.

Reticulocytes can be distinguished from mature red blood cells because they still contain remnant genetic material (RNA) inside the cells which is not found in mature red blood cells. Circulating reticulocytes generally lose their RNA within one to two days, thus becoming mature red blood cells.



Testing your blood

A reticulocyte count is often ordered when a routine test, the Full Blood Count (FBC), has shown your red blood cell levels are not normal. Based on these results, your doctor may order a reticulocyte count to have further information.



When you lose too many red blood cells

This may be due to acute or chronic bleeding or haemolysis, a condition in which red blood cells get destroyed too soon. The body compensates for the loss of red blood cells by increasing the rate of production in the bone marrow. When this happens, the number and percentage of reticulocytes in the blood rise until the balance is restored or until the production capacity of the marrow is reached.



When you don't make enough red blood cells

This can happen when the bone marrow is not working normally, such as in aplastic anaemia or marrow suppression which can be due to any one of a variety of causes including radiation and chemotherapy treatments. It can also be due to insufficient erythropoietin, a hormone produced by the kidneys to stimulate red blood cell production, or because of deficiencies in certain nutrients such as iron, vitamin B12, or folate.

When not enough red blood cells are being made in the bone marrow there are fewer circulating in the blood. Blood tests results will show:

- lower amounts of haemoglobin, the oxygen-carrying protein inside red blood cells,
- a lower haematocrit, which measures the percentage of red blood cells in the blood, and
- a lower number of reticulocytes, as old red blood cells are removed but not fully replaced.



When you make too many red blood cells

This may be due to a variety of causes including disorders such as kidney disease that increase the production of erythropoietin and disorders such as polycythaemia vera that chronically produce too many red blood cells.



What your results can tell you

Results of the reticulocyte count can give an indication of what may be happening, but they are not directly diagnostic of any particular disorder. They can help decide if further investigations are needed.

Results must be interpreted along with the results of other tests, such as a red blood cell count, haemoglobin (Hb), haematocrit (Hct), or an FBC. In general, the reticulocyte count (absolute number and/or percentage) reflects recent bone marrow activity.



Questions to ask your doctor

- Why does this test need to be done?
- Do I need to prepare (such as fast or avoid medications) for the sample collection?
- Will an abnormal result mean I need further tests?
- How could it change the course of my care?
- What will happen next, after the test?

For more detailed information on these and many other tests go to pathologytestsexplained.org.au



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www.pathologytestsexplained.org.au

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