



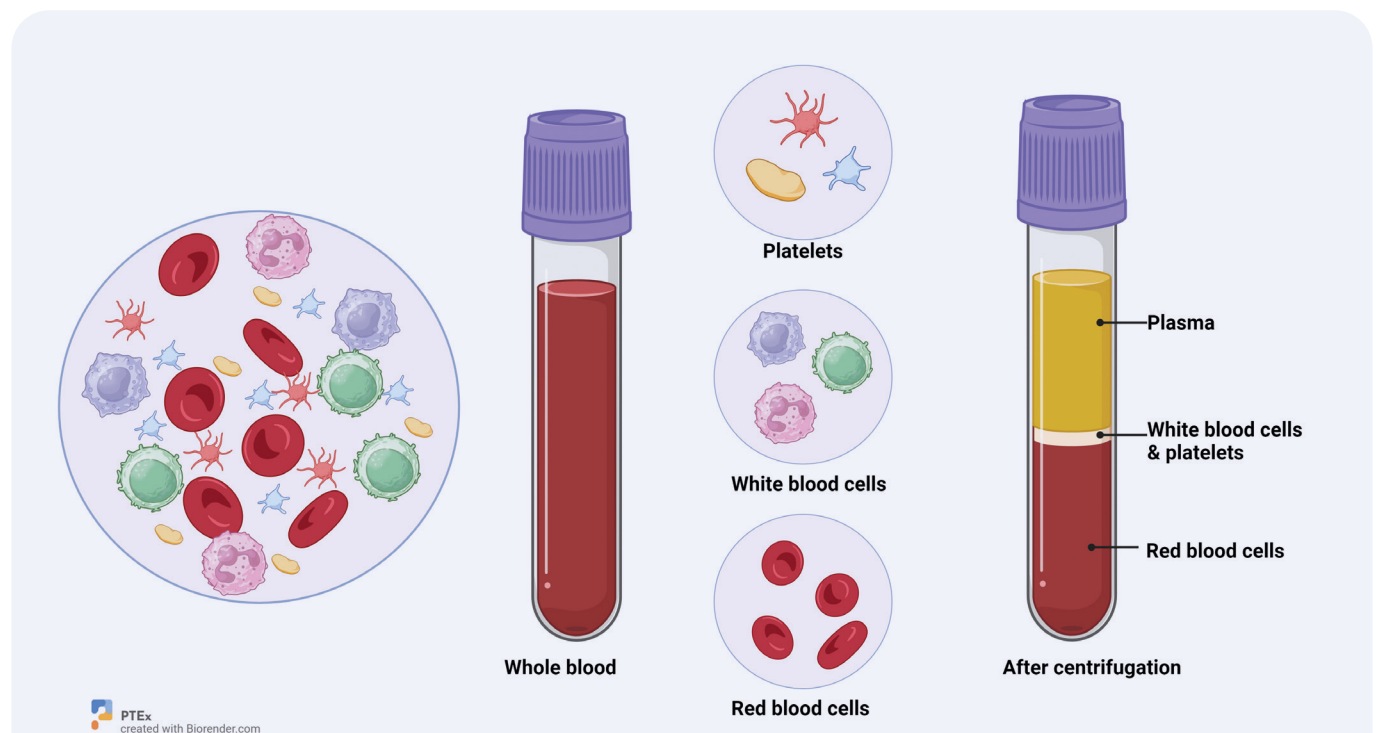
# PATHOLOGY TESTS EXPLAINED

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 YOUR **FULL BLOOD COUNT (FBC)**

This is one of the most common medical tests and is used in a wide range of situations because it provides important information about your overall health. The Full Blood Count (FBC) is also sometimes called the Complete Blood Count (CBC) or Complete Blood Examination (CBE).

A great many health conditions can affect the blood and interpreting the many variations in test results is complex. It's important that your doctor interprets your test results in relation to your medical history and that together you discuss what they mean for you personally.



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Your blood is made up of Red Blood Cells (RBCs), White blood Cells (WBCs) and platelets.

These float in fluid called plasma. This illustration shows a tube of blood after centrifugation, a process that separates the different components of the blood.

Blood cells are constantly being renewed. New cells are continuously being produced in the bone marrow, the soft fibrous tissue inside many bones. Blood-forming stem cells in the bone marrow can grow into red cells, white cells or platelets. These are released into the bloodstream as needed.



### What happens in the lab?

The FBC is performed on laboratory analysers that automatically count the different components. If some of your results are unclear, the lab may go on to perform further testing in which a scientist or pathologist examines your blood under a microscope. They look more closely at the appearance of the blood cells, such as size, shape and colour, searching for any abnormalities. Your doctor may want you to have other tests to help confirm a diagnosis. Also, they may decide to check on your FBC from time to time because changes in the number of the different cells can be caused by many different illnesses.



## What does the Full Blood Count examine?

The Full Blood Count is a group of tests, performed on a single blood sample, that examines different parts of the blood. Each test gives different information. Looked at together, along with your symptoms and medical history, they help build a picture of the health of your blood.

Your test results report is likely to contain information about some or all of these.

White blood cells (WBCs)	These fight infection and are part of your immune response. The WBC count measures the total number of white blood cells. Both increases and decreases can be signs of health problems.
White blood cell differential	This looks at the different types of white blood cells. There are several, each with their own job to do. Some mainly fight bacteria, some are involved in allergies, while others make antibodies. Increased numbers of particular white blood cells can help pinpoint whether an infection is caused by a bacteria or virus. Some types of blood cancer cause lots of one type of white blood cell to be made, meaning the other cell types can't be made properly.
Red blood cells (RBCs)	RBCs carry oxygen around the body. The RBC count measures red blood cell numbers and size.
Haemoglobin	This is the iron-containing, oxygen-carrying protein in the red cells. Measuring it can show if you don't have enough iron or certain vitamins that are needed to make haemoglobin (anaemia).
Platelets	Platelets are important in blood clotting. Too few of them can lead to bruising or bleeding.
Mean platelet volume (MPV)	MPV measures the average size of your platelets. Newly formed platelets are larger than older ones. A high MPV means that your platelets are larger than average which may mean you're producing too many. If you have a low platelet count and a high MPV, it suggests that the bone marrow is quickly making new platelets, possibly because platelets are being destroyed.
Haematocrit	This measures the percentage of red blood cells in the total blood and is often used to look for anaemia or polycythaemia.
Mean corpuscular volume (MCV)	MCV measures the average size of your red blood cells. It is high when your cells are larger than normal (macrocytic) such as in Vitamin B12 deficiency, folate deficiency, liver disease or hypothyroidism. When the MCV is lower, your RBCs are smaller than normal (microcytic) as in iron deficiency anaemia, and thalassaemia.



## What are reference intervals (reference ranges)?

Some of your results are shown in your report as a comparison against a set of numbers called reference intervals or reference ranges. This is the range of test results considered 'normal' for the general population. If a result in your report is outside this range it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong and depends on your personal situation. Your results need to be interpreted by your doctor.



### 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](http://pathologytestsexplained.org.au)



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[www.pathologytestsexplained.org.au](http://www.pathologytestsexplained.org.au)

Pathology Tests Explained is the primary national source of consumer information on pathology testing. Information is written and edited by practising pathologists and scientists, including leading experts. This ensures integrity and accuracy.

Pathology Tests Explained is managed by a consortium of medical and scientific organisations representing pathology practice in Australia. More details at:

[www.pathologytestsexplained.org.au/about](http://www.pathologytestsexplained.org.au/about)



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### My Health Record

You'll find a direct link to the Pathology Tests Explained website embedded in the pathology results pages of your My Health Record and the my health app.

Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.