Lab Tests Online AU
Explaining Pathology

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

FBC FACTSHEET

WHAT YOU SHOULD KNOW ABOUT YOUR **FULL BLOOD COUNT (FBC)**

This is one of the most common medical tests and used in a wide range of situations because it provides important information about your overall health.

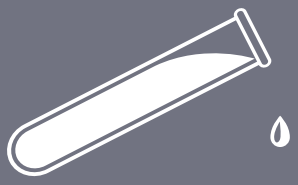
Your doctor may order an FBC

- As part of a routine health check
- If it's possible you have an infection or an illness that affects your blood
- To look for internal blood loss, or to see if you have clotting problems
- To monitor treatment or medication when they are known to affect your blood

What happens in the lab?

The Full Blood Count is a group of tests, performed on a single blood sample, which 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.



The Full Blood Count (FBC) is also sometimes called the Complete Blood Count (CBC) or Complete Blood Examination (CBE).

Your blood is made up of:

- Red blood cells
- White blood cells
- Platelets

These float in fluid called plasma

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 can grow into red cells, white cells or platelets. These are released into the blood stream as needed.

What can your results tell you?

Your results report will include some or all of these tests

- **White blood cells (WBC)** 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** 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 (RBC)** carry oxygen around the body. The **RBC count** measures red blood cell numbers and size.
- **Haemoglobin** is the iron-containing, oxygen-carrying protein in the red cells. Measuring this can show if you don't have enough iron or certain vitamins that are needed to make haemoglobin (anaemia).
- **Platelets** are important in blood clotting. Too few of them can lead to bruising or bleeding. Platelets are produced in the bone marrow and released into the bloodstream.
- **Mean platelet volume (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** is a test that measures the percentage of red blood cells in the total blood. It is often used to look for anaemia or polycythaemia
- **Mean corpuscular volume (MCV)** measures the average size of your red blood cells. The MCV 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 if you have abnormal results?

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 evaluate your results in relation to your medical history and that together you discuss what they mean for you personally.

What happens next?

The Full Blood Count is performed automatically on laboratory analysers. If some of your results are abnormal, 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. This process is called morphology assessment and the test is sometimes called a blood film.

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 important illnesses.

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.

5 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?

Having a medical test

The choice of tests your doctor makes will be based on your medical history and symptoms. Make sure you tell them everything you think might help.

You play a central role in making sure your test results are accurate. Do everything you can to make sure the information you provide is correct and follow instructions closely.

Talk to your doctor about any medication you are taking. Find out if you need to fast or stop any particular foods or supplements. These may affect your results.

For more detailed information on these and many other tests go to labtestsonline.org.au
You'll also find a short video on the Full Blood Count as well as an animation on reference interval.

Please use this QR code to access more information

Reviewed by Reviewed by Dr Kevin Carpenter FFSc(RCPA) FHGSA; 3 March 2020

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www.labtestsonline.org.au

Australasian Association for Clinical Biochemistry and Laboratory Medicine
PO Box 7336 5/85 Bourke Rd Alexandria NSW 2015

Established in 2007 to help Australians understand their pathology tests, **Lab Tests Online**AU is now the primary national source of consumer information on pathology testing. Information is written and edited by practising pathologists and scientists, some of them leading experts, which ensures accuracy and integrity.

- Funded by the **Australian Government**, we are not-for-profit and independent of any commercial interests.
- We are managed by the Australasian Association for **Clinical Biochemistry and Laboratory Medicine (AACB)**, the principal professional association dedicated to the advancement of clinical biochemistry and laboratory medicine in Australasia.
- We are supported by the **Royal College of Pathologists of Australasia**.
- As the consumer pathology testing support resource for **My Health Record**, there is a direct link to the LTO[AU] website embedded in the pathology results pages of every registered person's online record.

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