



PATHOLOGY TESTS EXPLAINED

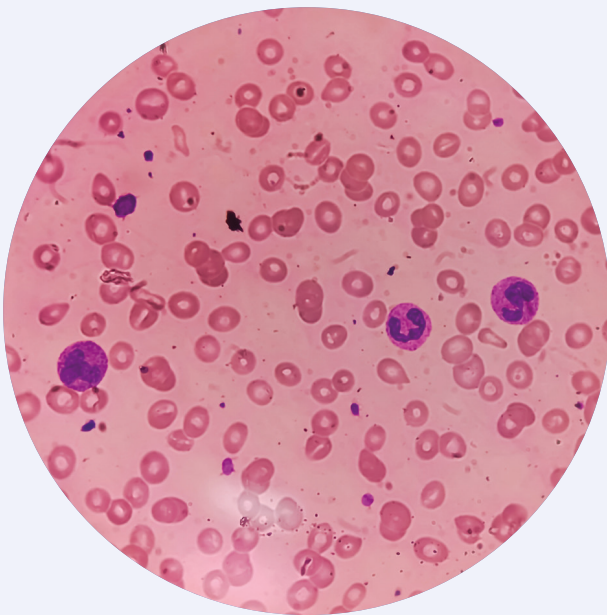
Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT YOUR **B12 AND FOLATE TESTS**

These are two tests that measure the levels of vitamin B12 and folate in your blood.

B12 and folate are not ordered generally and are only used in certain specific situations.

- If you have had a Full Blood Count test and results show you have larger than normal red blood cells that suggests anaemia – such as in chronic kidney disease or Crohn's disease.
- If you have experienced mental health or behavioural changes, especially if you are elderly.
- If you have symptoms suggesting nerve damage.
- If it's possible that you have a health problem that prevents your body from absorbing vitamins.
- If you have chronic fatigue syndrome and previous test results suggests you may benefit from B12.
- If you are pregnant. During pregnancy there is a need for more B12 and folate to cater for the rapidly growing baby. If you have low folate at the start of pregnancy, it will become worse as time goes on. This may lead to premature birth, or the baby is put at risk of being born with spina bifida.



Macrocytic anaemia as seen through a microscope.
Your body produces larger but fewer red blood cells.

Vitamin B12 and folate work with vitamin C to help your body make new red and white blood cells, repair cells, and make DNA and RNA. B12 is also important for nerve health. B12 and folate cannot be produced in the body and so must be taken in as part of your diet.

B12 and folate deficiencies (when you don't have enough) are not common in Australia where most people have a generally healthy diet and there is a program of fortifying cereals, breads and grain products. A healthy adult typically has enough B12 stored to last three to five years.

Since folate is stored in the body in smaller amounts than vitamin B12, it must be taken in more regularly. Low levels of B12 and folate can take months or even years to show up in adults. Infants and children show signs of deficiency more quickly because they haven't had time to store enough.



What happens if you have low levels of B12 and/or folate?

Over time, low B12 or folate can lead to a condition called macrocytic anaemia, in which your body produces larger but fewer red blood cells. This means your blood is unable to carry as much oxygen as it should.

Another type of macrocytic anaemia called megaloblastic anaemia also involves changes in the bone marrow. In this case, your test results will also show lower numbers of white blood cells, red blood cells and platelets. Low levels of B12 can also result in nerve damage.



Having the tests

Ask your doctor for specific instructions before you give a blood sample. Biotin found in some supplements can interfere with testing. Certain medicines can also affect the test results. Your doctor will advise you on which to stop taking. Fasting for six to eight hours before your blood sample is collected is needed because food can affect the results of your test.



What can your result tell you?

Normal B12 and folate levels	This suggests you do not have a deficiency and that your symptoms are due to another cause. However, normal levels may reflect the fact that your stored B12 and/or folate have not yet been fully used up.
Normal or low B12 level but a deficiency is still suspected	A methylmalonic acid (MMA) test may be ordered which is an early indicator of B12 deficiency.
Low B12 and folate level	You have a deficiency. Further tests may be done to investigate the underlying cause.
High B12 level	These are uncommon and not usually clinically monitored. People with chronic myeloproliferative neoplasm, diabetes, heart failure, obesity, AIDS, or severe liver disease may have an increased vitamin B12 level. Taking oestrogens, vitamin C or vitamin A can also cause high B12 levels.



Further testing

A great many conditions can be associated with low B12 and folate levels. It's important to talk with your doctor about what the results mean for your personal situation. B12 and folate tests cannot tell you the severity of a deficiency or the cause.

Sometimes, tests need to be repeated to see if the results change over time. This can indicate whether your condition is getting better or worse and whether any treatment you are having is working. You may need further, different tests to see what's causing your symptoms. You can only receive a Medicare rebate for a vitamin B12 serum test once every 12 months, in line with current best practice.



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



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www.pathologytestsexplained.org.au

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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

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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.