



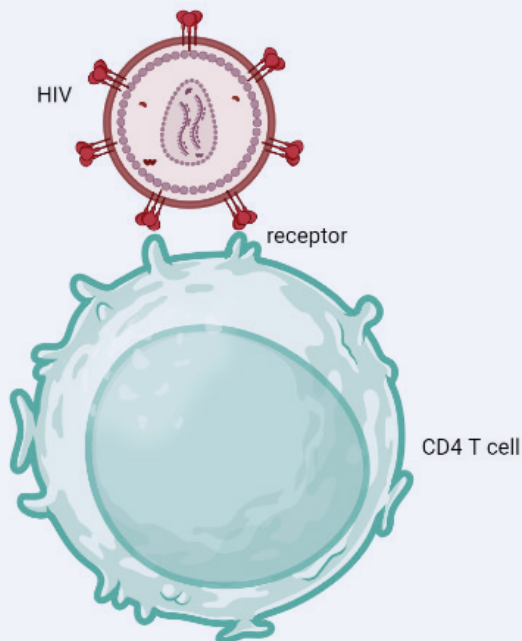
PATHOLOGY TESTS EXPLAINED

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 TESTS FOR MANAGING HIV

If you've been diagnosed with HIV (human immunodeficiency virus) it's important to start treatment as soon as possible. HIV medications, called antiretroviral therapy (ART), reduce the amount of virus in your body helping you to lead a normal life. They stop the virus from multiplying and although they can't cure HIV, they can keep it under control.

Before you start treatment, tests will be needed to give some baseline measurements. These will be repeated regularly to see how well your medication is working and make sure you have the virus under control. Evidence shows that keeping viral levels as low as possible for as long as possible decreases the complications of HIV and reduces transmission of the virus.



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HIV attaches itself to a white blood cell



Testing

There are two main tests used to monitor HIV. These are the viral load and the CD4 count. It is recommended that viral load tests and CD4 counts are done every three to six months.

Your health care team may also suggest other routine health tests to be done such as a Full Blood Count (FBC), Liver Function tests (LFTs), glucose, and lipids (cholesterol).



CD4 cell count

This test measures the number of CD4 cells, also known as T-helper cells, in your blood. CD4 cells are a type of white blood cell, and they play an important role in your immune system. HIV attacks and destroys CD4 cells. The number of CD4 cells in the blood gradually declines as HIV disease progresses.



What can your CD4 count results tell you?

Normal CD4 counts in adults range from about 500 to 1,500 cells per cubic millimetre of blood. In general, the CD4 count goes down as HIV disease progresses.

Any single CD4 count value may differ from the previous one even though your health status has not changed. You should not place too much importance on any one result. What is more important than any single value is the pattern of CD4 counts over time. The CD4 count does not always reflect how someone with HIV disease feels and functions. For example, some people with higher counts are ill and have frequent complications, and some people with lower CD4 counts have few medical complications and function well.

If your CD4 count declines over several months, your doctor may recommend starting or changing anti-HIV treatment and/or starting preventive treatment for possible infections. Your CD4 count should increase or stabilise in response to an effective combination anti-HIV therapy.



HIV viral load

Viral load means the number of HIV particles or copies of the virus in your blood. There are several methods for testing viral load and results are not interchangeable, so it is important that the same method and the same laboratory be used each time.



What can your viral load results tell you?

Viral load tests are reported as the number of HIV copies in a millilitre (copies/mL) of blood.

High viral load	From 5,000 to 10,000 copies and in extreme cases ranging as high as one million or more. A high viral load means the virus is reproducing.
Low viral load	Less than 500 copies, with results depending on the type of test used, but still detectable. This result indicates that HIV is being well suppressed by your immune system.
Detectable - undetectable	<p>If you are on anti-HIV therapy the goal is to have an undetectable viral load. If your viral load is persistently detectable on treatment, it may mean that the therapy is not being taken correctly – such as some doses were missed – or that the therapy needs to be changed because the virus has developed resistance. You may be asked to have a genotypic resistance test.</p> <p>An undetectable viral load result does not mean that you are cured. It means that the level of HIV virus in your blood is below the threshold needed for detection by this test. Most viral load tests used in Australia have a lower limit of detection of HIV virus between 20-75 copies/mL. Regardless of blood viral load, HIV is still present and will re-emerge if treatment is stopped.</p> <p>A non-infected person should have no circulating HIV virus in his or her blood and, therefore, a negative or undetectable viral load.</p>
Changes in viral load	<p>A change in viral load is also a very important measurement.</p> <p>A rising level indicates an infection is getting worse, while a falling level indicates improvement and suppression of the HIV infection.</p> <p>However, a threefold change in the viral load copies/mL is required before the change is considered significant.</p>



HIV genotypic resistance test

The virus can mutate and change form, making it resistant to some HIV medicines. Genotypic resistance testing looks for genetic mutations in the virus' RNA that are known to cause resistance to specific antiretroviral medications.

If drug resistance is found, a new treatment can be used instead. Drug resistant HIV can be transmitted from person to person so it's possible that you can have a drug resistant type of virus before you start taking medication. The genotypic test is also used at the start of therapy to help your doctor choose the most appropriate and effective combination of antiretroviral medications. **For more information see separate sheet on HIV genotypic resistance test.**



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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