Viral Load

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'Viral load' is the term used to describe the amount of the HIV virus [1]A small infective organism which is incapable of reproducing outside a host cell. present in your bloodstream. Knowing how much HIV is present is an important indicator of how much your immune system is at risk of damage, how well your treatments are working, or whether you should consider starting or changing treatments.

A viral load test is a simple blood test. The result of a test is given as the number of viral copies of HIV per millilitre of blood. A 'copy' is what HIV produces every time it grows inside a cell: the more copies, the more virus.

The amount of virus in your blood may range from a very small number of copies in your blood (below 50 copies per millilitre of blood) to levels in the thousands, hundreds of thousands, or even millions. In some Australian states and territories the tests can measure down to 40 copies per millilitre of blood.

Understanding Your Viral Load results

Viral load is perhaps the simplest and easiest HIV test to understand as it is simply a count of the virus expressed in number per millilitre.

When you first have your viral load tested, you will usually have two tests several weeks apart, which gives a result known as your 'baseline', and which can be used to compare changes over time. These results can be a useful guide if you are considering treatment:

a) 'Undetectable' viral load?
One result you can get back from a viral load test result is 'undetectable'. Undetectable viral load does not mean that you have 'cleared' the virus from your body. It means that HIV is present, but in very small amounts (below the capacity of current commercial tests to accurately measure: that is, below 40 to 50 copies per millilitre of blood). Virus at such levels is replicating so slowly that little, if any, damage will be happening to your CD4 cells and immune system.

Viral load tests are slowly becoming more sensitive. However, special laboratory tests are able to detect HIV in even minute quantities. HIV infects cells which may remain active in lymph glands, known as resting cells, and has also been shown to infect small amounts of other types of cells. To totally cure or eradicate HIV, you would need to also eradicate the virus in these 'resting cells'.

b) Detectable viral load results
You will often be told that your viral load result is 'high' (i.e. more than 100,000 copies per ml), 'moderate' (i.e. 10,000 to 100,000 copies per ml), or 'low' (i.e. less than 10,000 copies per ml). On their own your viral load results are no cause for alarm. For example, a high viral load result does not mean you are going to be sick tomorrow. Or a low result after your results have been undetectable for some time does not mean you have suddenly "failed" in any way.

Your viral load level is a rough guide to the likelihood of future damage to the immune system. So if your viral load is high it means that future damage is more likely. If it is low or undetectable it means future damage is less likely.

In order to make decisions about treatments, the viral load has to be read in conjunction with the CD4 cell count, see Putting it all together - Using test results to inform treatments decisions [2].

Attachment	Size	Type
HIV Tests and Treatments 2009 Edition [3]	2.15 MB	PDF

- Viral load and the pattern over time is important [4]
- The CD4 count [5]

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From the NAPWA website at
http://www.napwa.org.au/resource/hiv-tests-and-treatments/viral-load

- Understanding HIV treatments
- ANET resources

Links:
[1] http://www.napwa.org.au/glossary/term/125
[2] http://www.napwa.org.au/resource/hiv-tests-and-treatments/viral-load/putting-it-all-together-using-test-results-to-inform-tr
[3] http://www.napwa.org.au/files/HIV Tests and Treatments 2009 4th Edition_2.pdf
[4] http://www.napwa.org.au/resource/hiv-tests-and-treatments/viral-load/viral-load-and-the-pattern-over-time-is-important
[5] http://www.napwa.org.au/resource/hiv-tests-and-treatments/viral-load/the-cd4-count
[6] http://www.napwa.org.au/resource/hiv-tests-and-treatments/viral-load/other-common-tests
[7] http://www.napwa.org.au/resource/hiv-tests-and-treatments/how-hiv-works
[8] http://www.napwa.org.au/resource/hiv-tests-and-treatments