

# HIV viral load testing

## Summary

As a person with HIV, having your viral load tested is an important part of your plan to stay healthy. You should have the test done regularly, and it will be one of several factors you and your healthcare provider will look at when deciding how to manage your HIV infection. This fact sheet introduces you to the viral load test and answers basic questions about how it fits into your care and treatment plan.

## What is the viral load test?

A viral load test measures the amount of HIV in your blood. A sample of blood is sent to a laboratory, where the number of copies of a specific part of the virus called RNA, or ribonucleic acid, is measured. A viral load test result is given as the number of copies per millilitre (ml) of blood. The lower the number, the less virus there is in the blood. Numbers can range from over 1,000,000 copies/ml to undetectable.

## What does an undetectable viral load mean?

Having an undetectable viral load means that there are fewer copies of the virus in your blood than the test can measure. Most viral load tests used in Canada cannot detect HIV in the blood if there are fewer than 40 to 50 copies/ml of the virus but some newer tests can detect as few as 20 copies/ml. An undetectable viral load does not mean that you have been cured of HIV. The virus is still in your body.

## Why is viral load important?

The viral load is a measure of how active HIV is in your blood. The virus kills white blood cells called CD4 cells, which are an important part of your immune system. When the viral load is high then the CD4 count goes down, the immune system weakens and you are more likely to become sick.

When you start HIV treatment (commonly called ART), the viral load test is used to measure how well your treatment is working. One of the goals of treatment is to have and maintain an undetectable viral load, so the immune system can stay strong, or begin to repair itself if it has been weakened. You should have a viral load test every three to six months. The test results are used to monitor how well your HIV treatment is working and whether you may need to change the drugs you are taking.

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Having an undetectable viral load is important because even low levels of HIV in the body can cause inflammation which can damage your body. It is recommended that people start treatment as early as possible after they have been diagnosed. This helps reduce the damage that can be caused by HIV-related inflammation.

Another important benefit of HIV treatment is that it helps prevent HIV from passing to others. This is just one of many prevention options that make it easier than ever to prevent HIV.

Successful HIV treatment that lowers the amount of virus in your body to undetectable levels (called having an undetectable viral load), means you will not pass HIV to the people you have sex with. Having an undetectable viral load also lowers the chance of passing HIV when sharing equipment for injecting drugs, but we don't know by exactly how much. For people who want to get pregnant, maintaining an undetectable viral load throughout pregnancy prevents HIV from being passed to the baby during pregnancy and delivery.

### What does it mean if my viral load rises?

If your viral load rises, you and your healthcare provider will try to find the cause by looking at your past viral load tests and by searching for other clues. Many different factors can affect your viral load, such as the progress of HIV infection, your overall health, if you are on treatment and whether your treatment is working.

If there is a rise in your viral load, your healthcare provider may ask you to have another test right away. The second test helps to check whether the rise in viral load is temporary or a consistent trend. Temporary changes in viral load can have many causes. For example:

- Sometimes, your viral load may become detectable on a single test and then go back to undetectable on the next test. This is called a "blip" and it is normal.

- Your viral load may rise temporarily if you have a cold or other brief illness, or after a vaccination. You might want to wait a month after a vaccination (or an illness) before you have another viral load test.

The way a viral load test is done varies from laboratory to laboratory, and this may change test results. Be aware of this when comparing tests done by two different laboratories, especially if they are in different provinces or countries. If the rise in viral load cannot be explained any other way, it might be a sign that you and your healthcare provider need to look at your treatment plan.

### What does a consistent rise in viral load mean for my treatment plan?

A consistent rise in viral load when you are on treatment may be a sign that your HIV treatment is not working properly. Together, you and your healthcare provider will discuss the possible reasons for this and what to do next.

Your viral load may rise if you are not taking all doses of your medication every day as prescribed. If you are having difficulties taking your medications as prescribed and directed, you might want to think about getting support because sticking to your treatment schedule (or "adhering" to it) is very important.

Some people have side effects when they first start HIV treatment, such as nausea or diarrhea. This can make it hard to stick to the treatment schedule. Side effects are usually mild and temporary. It is important to talk to your healthcare provider about side effects, because they can be managed with over-the-counter treatments.

Sometimes even if all your doses are taken, there is something stopping the drug from working in the body. It may be that your body cannot absorb the drug, or that another drug you are taking is blocking the HIV treatment from working. Be sure to tell your healthcare provider about all the prescription medications, over-the-counter products, herbal therapies, supplements and any other substances you take.

Finally, a significant rise in viral load may be a sign that the virus is replicating even in the presence of HIV drugs. This means you have become resistant to at least one drug in your treatment. Resistance to an HIV drug is a problem because it means that you can no longer use that drug. Low adherence can lead to drug resistance. If your virus does become resistant, you and your healthcare provider will likely discuss changing the combination of drugs you are on.

### **Where can I get more information?**

Your healthcare provider and other members of your healthcare team are good sources of information. They should be able to answer your questions about viral load testing. You might want to use this fact sheet to start a discussion.

### **What you need to know**

- A viral load test measures the number of copies of the virus in your blood. It is reported as copies per ml.
- Viral load is a sign of how active HIV is in your body. A lower number means the virus is less active.
- An undetectable viral load is one of the goals of HIV treatment.
- You will have your viral load tested regularly.
- Even low levels of HIV in the body can cause inflammation and cause damage. This is one reason why early treatment is recommended.
- If you are taking ART and have an undetectable viral load you are significantly less likely to transmit HIV to others, and will not pass HIV through sex.
- If you are taking HIV treatment, a consistent increase in your viral load may be a sign that the virus is developing resistance to one of your HIV drugs. You and your healthcare provider will discuss what to do next.

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