

# HIV TRANSMISSION & “UNDETECTABLE” VIRAL LOAD: WHAT YOU SHOULD KNOW



Treating HIV infection with medications (antiretroviral therapy) can lower a person’s viral load. Research suggests that having **an undetectable viral load may greatly decrease, but not eliminate the risk of transmitting HIV to others.** Even with an “undetectable” viral load, HIV is still present in the body, and HIV transmission is still possible.

## What is viral load?

Viral load is a measure of the amount of HIV in a body fluid. Usually, viral load is measured in blood. While the virus may be measured in other body fluids (e.g., semen, vaginal secretions, breast milk), this is difficult and usually only done in research studies.

## What is an “undetectable” viral load?

An “undetectable” viral load means the amount of virus in a person’s blood is so low that it cannot be measured by most tests (usually below 48 copies per milliliter of blood). It does not mean a person has been cured of HIV.

## Can treatment help prevent HIV transmission?

Yes. Research suggests that taking antiretroviral therapy as prescribed and having an undetectable viral load may greatly reduce, but not eliminate, the risk of passing HIV to sex partners.

From 2005-2010, a study was conducted in nine countries primarily among heterosexual couples in which one partner was HIV positive and the other was HIV negative (HIV-discordant couples). HIV-positive participants who took antiretroviral therapy *and* were tested and treated for other sexually transmitted diseases (STDs) were 96% less likely to transmit HIV to their uninfected partner.

In a 2008 study of HIV-discordant heterosexual African couples in which one partner was infected with both HIV and herpes simplex virus type 2, use of antiretroviral therapy by the HIV-positive partner was associated with a 92% reduction in the risk of HIV transmission to the uninfected partner.

Based on a review of research conducted primarily among heterosexual HIV-discordant couples, the Swiss National AIDS Commission released a document in 2008 stating that the risk of transmitting HIV to a sex partner is negligible if the HIV-positive partner 1) is taking antiretroviral therapy as prescribed, 2) has had an undetectable viral load for at least 6 months, and 3) has no other STDs.

There is less information about how antiretroviral therapy affects HIV transmission among HIV-discordant couples of gay, bisexual, or other men who have sex with men. In a study among men who have sex with men in San Francisco, HIV infectiousness declined by an estimated 60% after antiretroviral therapy became available in 1996.

## Can HIV be transmitted with an undetectable viral load?

Yes. There are documented cases of transmission when HIV was not detectable in blood.



### **Viral load may be higher in semen, vaginal fluid, or breast milk.**

- An undetectable blood test result may not reflect the amount of HIV present in other body fluids. Some HIV medications are more effective at fighting HIV in blood than in genital fluids. Viral load can also be higher in genital fluids because of the presence of other sexually transmitted diseases (STDs).



### **Viral load may have increased since a person's last test result.**

- People with a generally undetectable viral load may have occasional and brief viral load increases into the detectable range. These “viral blips” can occur even when HIV is being successfully treated. The impact of viral blips on transmission is unknown.
- If HIV becomes resistant to medications (treatment resistance), viral load can increase.



### **STDs in either partner can increase the risk of HIV transmission, even if there are no symptoms.**

- STDs can increase an HIV-positive person's viral load. Some STDs can cause sores or ulcers in the genital area that create an entry or exit point for HIV. Even without a sore, STDs can cause inflammation which can increase the risk of transmission.

## How can I protect my health & my partners' health?

If you are HIV-positive:

- **Take medications exactly as prescribed** to avoid treatment resistance and keep your viral load as low as possible.
- **See a medical provider every 3-4 months** to monitor your viral load.
- **Discuss HIV treatment, other STDs, and sexual safety** with your medical provider and your partner(s).
- **Use condoms** correctly and consistently to lower the risk of transmitting HIV and other STDs. An undetectable HIV viral load will not protect you or your partner(s) from other STDs.
- **Get tested** for STDs and hepatitis C with your partner(s).
- **Get vaccinated** against hepatitis A and B.



## Acknowledgements

This fact sheet was adapted from a [document](#) created by the [Seattle & King County HIV/STD Program](#). Other sources of information include the [Centers for Disease Control and Prevention](#) and numerous peer-reviewed articles.

**Questions?** Call the [Oregon HIV/STD Hotline](#) at (800) 777-2437.

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