Together, we can change the course of the HIV epidemic...one woman at a time.

#onewomanatatime

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What Is Viral Load?

Viral load is the amount of HIV (number of viruses or copies) in your bloodstream

• HIV enters immune system cells called **CD4 cells** (also called T cells) and turns them into “virus factories” that produce thousands of copies of copies of HIV

• As the virus grows, it damages or kills CD4 cells, weakening your immune system

• The higher the amount of HIV, the more your immune system becomes damaged
How Is Viral Load Measured?

- Viral load can be measured by different lab tests:
  - Polymerase chain reaction (PCR) test
  - Branched DNA (bDNA) test
  - Nucleic acid sequence-based assay (NASBA)

- Each lab test measures the amount of virus differently
  - It is best to stick with the same kind of test to compare results over time

- Viral load results are reported as the number of copies of HIV in one milliliter (ml) of blood
  - The lower the number, the less virus there is in your blood
  - Numbers can range from several million copies to as few as 20 copies
What Does “Undetectable” Mean?

• If you have fewer than 50 copies of HIV per ml in your blood, your viral load is considered "undetectable"
  – Being undetectable is a great result; it means your virus is under control
  – Undetectable means that there is not enough HIV in your bloodstream to be measured by the test
  – It does not mean that you have been cured of HIV; HIV is still in your body
  – If you stop taking your HIV drugs, the virus usually starts reproducing and your viral load will increase

• With effective HIV treatment regimens, viral load can be reduced to undetectable in many people
What Does “Undetectable” Mean?

- Labs that test viral load may have different cut-offs below which they cannot detect HIV.
- For example, you could have 35 copies of HIV in your blood, and:
  - At Lab #1, which cannot detect any HIV below 50 copies, your viral load would be considered undetectable.
  - At Lab #2, which cannot detect any HIV below 20 copies, your viral load would be considered detectable.
- Practically speaking, if you stay at or below 50 copies, the virus is considered well-controlled, and your HIV treatment regimen is working well.

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Undetectable Equals Untransmittable (U=U)

• Having an undetectable viral load reduces your chance of passing HIV to sexual partners to effectively zero
• Large studies in couples in which one partner is HIV-negative and the other is living with HIV and has an undetectable viral load while on HIV treatment over time, no HIV-negative partner acquired HIV through sexual relations with their partner
  – Did not look at undetectable viral load and risk of passing HIV through use of shared injection drug equipment
  – More research needed on HIV transmission through breast milk – though risk is very low when parent taking HIV drugs

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How Are Viral Load Results Used?

To Check HIV Progression:

• A viral load test tells you how active HIV is in your body

• When compared over time, viral load results show whether the amount of HIV in your bloodstream is higher or lower than it was before

• The higher your viral load, the more actively HIV is reproducing and the more likely you are to lose CD4 cells in the future
How Are Viral Load Results Used?

To Measure How Well HIV Drugs Are Working:

• Your viral load will usually go down within weeks of starting your drug regimen

• If your viral load goes up while taking HIV drugs, your drugs may not be working as well as they should
  – Possible reasons may include problems with drug absorption, adherence, drug resistance, or interactions with other drugs
  – Talk to your healthcare provider about next steps

• Viral load can be reduced to undetectable in many people

• If you stop taking your HIV drugs, viral load will usually go up again
How Are Viral Load Results Used?

To Enhance Motivation and Promote Treatment Adherence:

• Finding out that you have an undetectable viral load can be both reassuring and motivating.
• Shows that your efforts to control the virus by taking your HIV drugs as prescribed are working well.
When Should You Be Tested?

In the US:

• **If you are not on HIV treatment:**
  – When you start receiving HIV care

• **When you start treatment:**
  – When starting and 2-8 weeks after starting treatment
  – Repeat every 1-2 months until viral load becomes undetectable

• **Once on a stable regimen and undetectable:**
  – Every 3-6 months

• **When you change HIV drugs:**
  – 2-8 weeks after treatment change
  – Repeat every 1-2 months until viral load becomes undetectable
When Should You Be Tested?

Globally:
– 6 months after starting treatment
– 12 months after starting treatment
– Once a year thereafter
When Should You Be Undetectable?

• If drug regimen works, undetectable viral load within 6 months
• If viral load doesn’t come down, discuss with healthcare provider:
  – Problems with drug absorption
  – Adherence issues
  – Drug resistance
  – Drug interaction with other medications
Some studies comparing viral load levels between men and women have found sex differences in viral load:

- At similar CD4 cell counts, women tend to have lower viral load levels than men.
- Differences seem greatest during the early course of HIV (acute HIV).
- This early difference does not result in any overall sex-based difference in the speed at which HIV advances.
Women and Viral Load

- Studies have shown that when taking HIV drugs, men and women are equally likely to achieve **viral suppression** (viral load below 200 copies)
  - Studies **have not** found that pregnancy causes HIV to become more advanced

- The strongest single factor that predicts the health of all people living with HIV is taking HIV drugs
Women and Viral Load

- One study: HIV lives and multiplies more often in female genital fluids than in semen (cum), even at an undetectable viral load
- Later studies: female genital tract serves as a reservoir (place where HIV continues to live and reproduce despite effective HIV treatment)
- Consider viral load, CD4 cell count and other lab results when starting or switching treatment
  - Talk to your healthcare provider!

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Future Research

- Viral load and HIV drug levels may vary during menstrual cycle
  - May affect drug dosing and timing of viral load tests
- Understanding more about sex differences in viral load may improve care for women living with HIV
- Following guidelines for viral load testing is important for monitoring your HIV
- Viral load testing helps your health care provider work with you to keep you healthy

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• To learn more about this topic, please read the full fact sheet on this topic:
  – Fact sheet: Women and Viral Load
• For more fact sheets and to connect to our community of women living with HIV, visit:
  – www.thewellproject.org
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