A GUIDE FOR HEALTH CARE PROVIDERS

Starting the Conversation: HIV Treatment as Prevention

Health care providers who treat patients with HIV have an important role in supporting HIV prevention. Talking to your patients about treatment as prevention and the benefits of viral suppression is one of the best things you can do to help them stay healthy and to stop HIV transmission.

HIV Care is Prevention

Learn more at: cdc.gov/HIVNexus.

LET'S STOP HIV TOGETHER

Ending the HIV Epidemic

Health care providers who treat patients with HIV have an important role in supporting HIV prevention. Talking to your patients makes a difference. Because a patient's needs may change over time, you should engage each patient in brief conversations at every visit to discuss the prevention steps the patient is taking and whether treatment as prevention is right for them.

What Is Treatment as Prevention?

People with HIV should take medicine to treat HIV as soon as possible. HIV medicine is called **antiretroviral therapy**, or ART. If taken as prescribed, HIV medicine reduces the amount of HIV in the body (viral load) to a very low level, which keeps the immune system working and prevents illness. This is called viral suppression—defined as having less than 200 copies of HIV per milliliter of blood. HIV medicine can even make the viral load so low that a test can't detect it. This is called an undetectable viral load.

> People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load (or stay virally suppressed) have effectively no risk of transmitting HIV to their HIV-negative sexual partners.

Getting and keeping an undetectable viral load is the best thing your patients with HIV can do to stay healthy. Another benefit of achieving viral suppression by taking ART is that it prevents transmission of HIV to others through sex. This is sometimes referred to as **treatment as prevention.**

There is strong evidence about treatment as prevention for some of the ways HIV can be transmitted, but more research is needed for other ways, including breastfeeding and injection drug use.

Risk of HIV Transmission With Undetectable Viral Load by Transmission Category

Transmission Category	Risk for People Who Keep an Undetectable Viral Load
Sex (oral, anal, or vaginal)[1]	Effectively no risk
Pregnancy, labor, and delivery[2]	1% or less*
Sharing syringes or other drug injection equipment[3]	Unknown, but likely reduced risk
Breastfeeding[4]	Substantially reduces but does not eliminate risk Current recommendation in the United States is that mothers with HIV should not breastfeed their infants.[2]

* The risk of transmitting HIV to the baby can be 1% or less if the mother takes HIV medicine daily as prescribed throughout pregnancy, labor, and delivery and gives HIV medicine to her baby for 4-6 weeks after giving birth.[4,5]

Undetectable Equals Untransmittable (U=U)

Your patients may refer to treatment as prevention as U=U. The U=U campaign was developed by members of the HIV community to increase awareness about the relationship between viral suppression and the prevention of sexual transmission of HIV. For more information, visit preventionaccess.org.

What Is the Evidence Supporting Treatment as Prevention?

Three landmark studies have shown that treatment prevents **sexual transmission** of HIV.[1,6,7] Across all three studies, no linked HIV transmissions were observed between mixed-HIV-status partners when the partner with HIV was virally suppressed (defined in these studies as having a plasma HIV RNA viral load less than either 200 or 400 copies/mL).

Three Landmark Studies Show That Treatment Prevents Sexual Transmission of HIV

The studies reported transmission risk estimates and their corresponding 95% confidence intervals as:

PARTNER Study[1]

For any sex among heterosexual and male-male couples: 0.00 (0.00 – 0.30) per 100 couple-years

For anal sex among male-male couples: 0.00 (0.00 – 0.89) per 100 couple-years

Opposites Attract Study[6]

For anal sex among male-male couples: 0.00 (0.00 – 1.59) per 100 couple-years

PARTNER2 Study[7]

(which included data from the PARTNER study):

For anal sex among male-male couples: 0.00 (0.00 – 0.24) per 100 couple-years

These data provide conclusive evidence of the power of viral suppression in preventing HIV transmission. Although statistically a non-zero risk estimate can never be completely ruled out in a mathematical sense, despite the number of observations, the data tell us that the best estimate for the transmission risk is zero and that future HIV transmissions are not expected when persons with HIV remain virally suppressed.

While treatment as prevention is a highly effective prevention strategy, its success depends on achieving and maintaining an undetectable viral load. If a patient's viral load increases, so does their risk of transmitting HIV to their HIV-negative partners through sex.

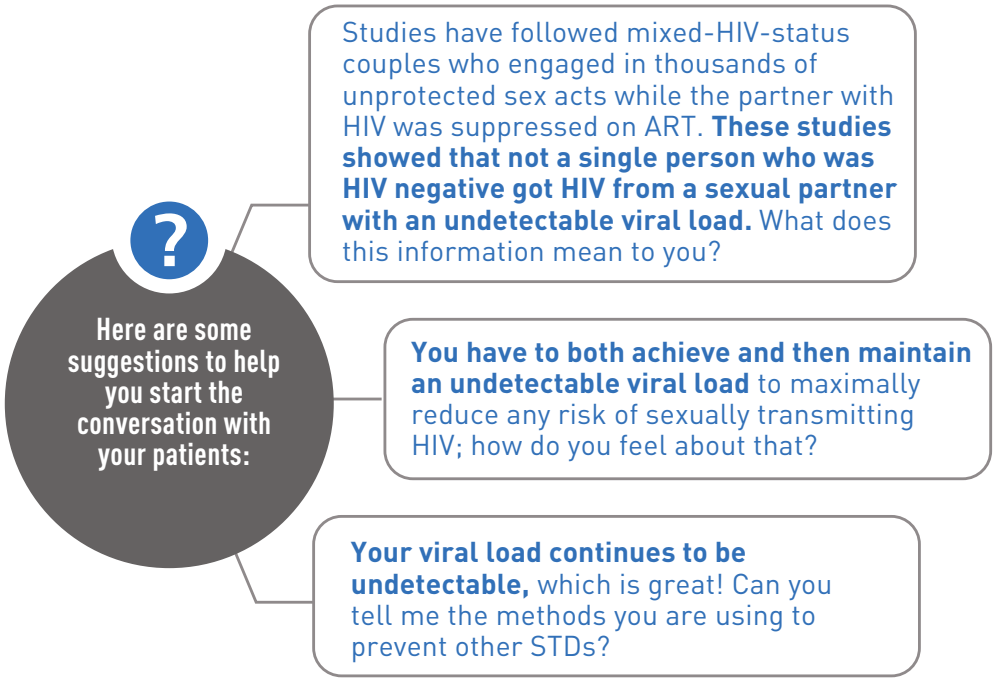
Your patients with HIV who use or want to use ART as their primary means of prevention may benefit from additional prevention methods if either partner desires added security for HIV protection or is concerned about sexually transmitted diseases (STDs). These methods could include pre-exposure prophylaxis and/or condoms. Using multiple HIV prevention methods is especially important if the person with HIV has trouble with adhering to ART, has taken ART for less than 6 months, or has not yet achieved or maintained viral suppression.

How Do I Talk to My Patients About Treatment as Prevention?

Talking to your patients with HIV about treatment as prevention and the benefits of viral suppression is one of the best things you can do for their overall health and to stop HIV transmission.

At every office visit, aim to engage your patients in brief conversations about the prevention steps they are taking. These conversations can help you become more familiar with each patient, including their adherence and transmission risk. In addition, these conversations can normalize discussions about factors that may affect your patients' health, such as sex, substance use, and mental health disorders.

It may be helpful to share information with your patients about the research on treatment as prevention and then ask them open-ended questions to start the conversation.



Once the conversation has started, you can use the information your patients share with you to identify barriers they may have to adhering to ART and regular, ongoing care that may make it difficult for them to achieve and maintain viral suppression.

What Are Some of the Challenges My Patients May Face Achieving and Maintaining Viral Suppression?

To help all people with HIV and their partners get maximal benefit from treatment as prevention as a prevention strategy, it is important for providers, persons with HIV, and their partners to have clear information regarding the benefits of and the challenges with achieving and maintaining viral suppression. The challenges include the following:

Time to viral suppression	Most people will achieve an undetectable viral load within 6 months of starting ART. Many will become undetectable very quickly, but it could take more time for some.
Importance of regular viral load testing	Regular viral load testing is critical to confirm that an individual has achieved and is maintaining an undetectable viral load. Data show a discordance between some people's self-report of their viral load status and laboratory measurements, suggesting that people may not know or be able to accurately report their viral load level.[8] It is not known if viral load testing should be conducted more frequently than currently recommended for treatment if someone is relying on treatment and viral suppression as a prevention strategy.
Protection against other STDs	Taking HIV medicine and achieving and maintaining an undetectable viral load do not protect either partner from getting other STDs. Other prevention strategies are needed to provide protection from STDs.
Lack of knowledge or awareness about the benefits of viral suppression	Knowledge of the prevention benefits of viral suppression may help motivate people with HIV and their partners to adopt this strategy. Studies have shown that a significant proportion of people do not know or do not believe that viral suppression works for prevention. For example, message testing conducted by the Centers for Disease Control and Prevention found that many participants did not believe information about the prevention benefits of viral suppression. And a survey among over 12,000 men who have sex with men showed that that the majority of participants who were HIV negative and nearly one-third of participants with HIV thought that a message about the prevention benefits of having an undetectable viral load was inaccurate.[9] Furthermore, even when individuals understand that having an undetectable viral load protects against HIV transmission, they still tend to estimate the risk of transmission as being far higher than is accurate.[10]

HIV Transmission Takeaway for Health Care Providers

It is clear that treatment as prevention is one of the most powerful tools we have to stop the sexual transmission of HIV. Adopting HIV treatment as prevention as an intervention strategy is one of the best things you can do for your patients' health. Motivate your patients with HIV to live longer, healthier lives by talking with them about the benefits of viral suppression and the prevention steps they are taking.

References

1. Rodger AJ, Cambiano V, Bruun T, et al. Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *JAMA*. 2016;316(2):171-181.
2. Panel on Treatment of Pregnant Women with HIV Infection and Prevention of Perinatal Transmission. Recommendations for the Use of Antiretroviral Drugs in Pregnant Women with HIV Infection and Interventions to Reduce Perinatal HIV Transmission in the United States. Updated April 14, 2020. Accessed October 14, 2020. https://clinicalinfo.hiv.gov/sites/default/files/inline-files/PerinatalGL.pdf
3. Wood E, Milloy MJ, Montaner JS. HIV treatment as prevention among injection drug users. *Curr Opin HIV AIDS.* 2012;7:151-156.
4. Townsend CL, Cortina-Borja M, Peckham CS, et al. Low rates of mother-to-child transmission of HIV following effective pregnancy interventions in the United Kingdom and Ireland, 2000–2006. *AIDS*. 2008;22(8):973-981.
5. Townsend CL, Byrne L, Cortina-Borja M, et al. Earlier initiation of ART and further decline in mother-to-child HIV transmission rates, 2000–2011. *AIDS*. 2014;28(7):1049-1057.
6. Bavinton BR, Pinto AN, Phanuphak N, et al. Viral suppression and HIV transmission in serodiscordant male couples: an international, prospective, observational, cohort study. *Lancet HIV*. 2018;5(8):e438-e447.
7. Rodger AJ, Cambiano V, Bruun T, et al. Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study. *Lancet*. 2019;393(10189):2428-2438.
8. Mustanski B, Ryan DT, Remble TA, D'Aquila RT, Newcomb ME, Morgan E. Discordance of self-report and laboratory measures of HIV viral load among young men who have sex with men and transgender women in Chicago: implications for epidemiology, care, and prevention. *AIDS Behav*. 2018;22(7):2360-2367.
9. Rendina HJ, Parsons JT. Factors associated with perceived accuracy of the Undetectable = Untransmittable slogan among men who have sex with men: implications for messaging scale-up and implementation. *J Int AIDS Soc*. 2018;21(1):e25055.
10. Rendina HJ, Cienfuegos-Szalay J, Talan A, Jones SS, Jimenez RH. Growing acceptability of Undetectable = Untransmittable but widespread misunderstandings of transmission risk: findings from a very large sample of sexual minority men in the United States. *J Acquir Immune Defic Syndr*. 2020;83(3):215-222.

FOR MORE INFORMATION ON HIV SCREENING, PREVENTION, TREATMENT, AND CARE, VISIT

CDC.GOV/HIVNEXUS

HIV NEXUS

CDC RESOURCES FOR CLINICIANS

Ending the HIV Epidemic