PrEP for Women [1]
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What Is PrEP?

PrEP stands for Pre-Exposure Prophylaxis. It means taking medicine before being exposed to something to prevent yourself from getting a disease or condition. We use several kinds of medicine this way.

One example is taking anti-malaria medication when we travel to areas where we might be bitten by mosquitoes that carry malaria. When the medicine is in a person's body before getting a mosquito bite, that person is much less likely to get sick from malaria when they are bitten.

For women, another example is taking contraceptive [3] (also known as "birth control") pills to avoid pregnancy. When contraceptives are already in a woman's body when she is exposed to semen during sex, she is much less likely to get pregnant [4].
PrEP here means that people who do not have HIV take an HIV drug to reduce their risk of acquiring HIV if they are exposed to the virus. Some people use the term "topical PrEP" to describe the use of microbicide [5] gels (e.g., vaginal gels containing HIV drugs). However, in this article we are referring to "oral PrEP," or HIV drugs taken by mouth to prevent acquiring HIV. We will also discuss "long-acting PrEP," which became available in the US in late 2021.

**How Does PrEP Prevent the Spread of HIV?**

Here is how PrEP works:

- When [CD4 cells][6] are infected with HIV, they become little factories that make thousands of new copies of this virus each day
- HIV drugs work by blocking HIV from making copies of itself
- If an HIV-negative woman already has HIV drugs in her bloodstream when she is exposed to HIV, for example during sex without a condom, the medicine can keep the virus from making copies of itself and prevent her from acquiring HIV

**Daily Oral PrEP**

In July 2012, the US Food and Drug Administration (FDA) approved the daily use of Truvada (tenofovir disoproxil fumarate plus emtricitabine, or TDF/FTC), an oral (by mouth) medication, as PrEP for sexually active adults at risk of getting HIV. Truvada is often used as part of combination drug treatment for people living with HIV. This was the first time the FDA approved any medication for the prevention of HIV. The FDA has since approved Descovy (tenofovir alafenamide plus emtricitabine or TAF/FTC) for PrEP, but only for people assigned male at birth (cisgender men or transgender women). The approval was based on a clinical trial that excluded non-trans women. As a result of pressure from HIV advocates, the company that makes Descovy committed to studying the drug for PrEP in cisgender and young women.

The World Health Organization (WHO) released updated guidelines in June 2016 that expand earlier recommendations. It now recommends that daily oral PrEP be offered as an additional prevention method to all people at substantial risk of getting HIV. The WHO has approved the use of Truvada, and Viread (tenofovir disoproxil fumarate) as a component of Truvada, for this purpose. However, each country must individually approve the use of any drug and determine how it will provide that drug.

**Long-Acting Injectable PrEP**

Some people do not want to take a pill daily, have trouble remembering to do so, or have circumstances in their lives that make it difficult to take daily medications. In late 2021, the FDA approved a long-acting injectable form of the integrase inhibitor cabotegravir for PrEP. The first two injections of Apretude (the US brand name for cabotegravir's extended-release injectable form) are given one month apart. After that, the drug is injected once every two months. Cabotegravir can also be taken as an oral medication for four weeks before starting injections to make sure that there are no bad reactions to the drug.
The injectable is approved for adults and adolescents in the US who weigh at least 77 pounds (35 kilograms). Advocates are hopeful that the drug will quickly be made available throughout the world, especially in countries with high HIV rates - and are very concerned about the extremely high cost of each dose of the drug, which makes it impossible for most people to access. The drug also has a "long tail" - meaning it stays in people's bodies long after the person stops taking it. This was especially true for women in studies of the drug. This means that, if a woman acquired HIV soon after stopping the injectable PrEP drug, she could have a higher chance of developing drug resistance [8].

Has PrEP Been Shown to Be Effective?

Several clinical trials [9] have shown that taking daily oral PrEP lowers the risk of acquiring HIV from sex by more than 90%. That risk is reduced by more than 70% among people who inject drugs. Several studies in southern Africa did not find either oral or topical PrEP to be effective in preventing HIV transmission [10] to women. However, researchers discovered that, for a number of reasons, many women enrolled in the study were not taking the medication as prescribed, which made it less effective. These findings are discussed in the section below.

Another way of taking PrEP that proved highly effective in another African study involved using PrEP as a "bridge" until the partner living with HIV in a serodifferent [11] (one partner is living with HIV, the other is HIV-negative) heterosexual couple has an undetectable viral load. Recent research has shown that people living with HIV, if their viral load has been undetectable (defined as less than 200 copies of the virus, and cannot be detected by standard tests) for six months and stays undetectable, do not transmit the virus to their sexual partners. For more information on this exciting development, please see our fact sheet Undetectable Equals Untransmittable: Building Hope and Ending HIV Stigma [12].

Why Are Some Research Findings Unclear?

For any drug or other HIV prevention tool to work, it must be used - and used correctly and consistently. This is true for condoms [13] and is proving true for PrEP as well. In the studies mentioned above, the key to PrEP's success was adherence [14], which means taking the drug when and how it is prescribed. In all studies, people who took the drug daily as prescribed were significantly less likely to acquire HIV when exposed to the virus during sex or injection drug use.

We do not yet fully understand the reasons why people - especially women - do not take oral PrEP consistently as prescribed. Research into issues that might affect women's interest in or ability to take a drug for HIV prevention is very important. To answer these questions, women need to take part in future studies about PrEP. For more information about understanding, finding, and participating in research studies, see our fact sheet clinical trials [9].

CDC and WHO Guidelines for PrEP Use

In the past, guidelines [15] from the US Centers for Disease Control and Prevention (CDC) on the use of PrEP in the US have been similar to the WHO guidelines recommending that daily oral PrEP be considered for HIV-negative people who are at "substantial risk" for acquiring HIV. CDC defines this as people who:

- are in a sexual relationship with a partner living with HIV
- do not regularly use condoms and who do not know the HIV status of their sexual partner(s)
- have a high number of sexual partners
- are engaged in commercial sex work
- have had a recent bacterial sexually transmitted disease
- use injection drugs and (1) share drug equipment, or (2) have an injecting partner who is
In 2021, CDC updated its guidelines to encourage providers to inform all people who are having sex that PrEP can protect them from acquiring HIV, and to offer PrEP to anyone who asks for it. One desired effect of this change is that it will reduce stigma and increase awareness about PrEP, which since its approval has reached only a small fraction of people in the US who might need it. For example, CDC has estimated that only 7 percent of women who could benefit from PrEP were prescribed the drug.

There are also some cases when PrEP is NOT recommended. These include having:

- unknown HIV status; it is important that only people who test negative for HIV take PrEP
- signs or symptoms of acute HIV infection
- decreased kidney function
- unknown hepatitis B status and/or vaccination status

The guidelines also suggest that providers consider PrEP for people who live in areas or have personal networks where HIV is more common (high-prevalence areas). The guidelines provide tools to help providers identify these areas. The CDC also published a clinical providers’ supplement, which includes a patient/provider checklist, counseling about using PrEP while trying to become pregnant and during pregnancy, counseling about adherence and HIV risk reduction, and information sheets for patients in English and Spanish.

PrEP needs to be taken daily as prescribed to be as effective as possible. The CDC recommends using it in combination with other HIV prevention strategies, such as condoms or safer injecting practices. PrEP is one tool that can be used to prevent the transmission of HIV.

It is also important that people have a negative HIV test before starting PrEP. The CDC recommends that people be tested every three months to make sure they remain HIV-negative while taking PrEP.

Lastly, it recommends that HIV-negative people who are pregnant or who are trying to become pregnant talk with their health care providers about the risks and benefits of taking PrEP. In 2014, the US Public Health Service released clinical practice guidelines suggesting that health care providers now discuss PrEP as one of several options for protecting HIV-negative partners in serodifferent couples who want to get pregnant. Viread and Truvada have been taken by women living with HIV for many years and appear to be safe during early pregnancy.

The **PrEP Debate**

While many HIV advocates believe that PrEP is a good addition to the prevention toolbox, some people disagree. Just as adherence is a factor for people living with HIV, some are worried that HIV-negative people may not take the drug as prescribed and therefore PrEP will not be effective.

There are also concerns that HIV-negative people will use PrEP instead of condoms or other safer sex measures. Although PrEP is designed to be used in addition to condoms or other HIV prevention practices, it can be taken without the agreement or knowledge of one's sex partner, for example by a woman whose male partner is not using a condom. Since condoms, when used properly, are more effective and less expensive than PrEP in preventing HIV, some believe that allowing PrEP may affect traditional HIV prevention efforts. PrEP also does not prevent sexually transmitted diseases, such as gonorrhea or syphilis.

Some women have expressed concerns about possible side effects of PrEP. The most common side effects in the studies were nausea and vomiting, which often went away after a few days or weeks. While no serious side effects were found during the studies, Truvada can occasionally cause serious effects, including kidney problems, liver problems, lactic acidosis, lipoatrophy, and bone problems. Studies in men and transgender women taking Truvada as PrEP have...
shown small decreases in bone mineral density (a measure of bone strength). Bone density does return to previous levels six months after stopping PrEP. However, these results may not apply to women who generally have lower bone mineral density than men. In the studies, another problem with Truvada was a small decrease in kidney function. This means that older people and those with kidney problems who start this drug may need to see their doctor and have lab tests more often.

If HIV-negative people take PrEP, acquire HIV and continue to take the PrEP drug, their virus may become resistant [8] to that drug and to similar HIV medications. This not only can reduce treatment options for these people but may transmit drug-resistant HIV to others.

**What Does PrEP Mean for Women?**

While we now have evidence that PrEP works to prevent getting HIV if the drugs are taken as prescribed, much more work needs to be done before PrEP becomes widely used and accepted. This includes improving health care systems so that people can get and afford PrEP, and making HIV testing [17] more widely available, since only people who know they are HIV-negative can use PrEP safely.

PrEP is a promising tool that women can use to prevent HIV acquisition without their partners' cooperation. This is particularly important when intimate partner violence [26] is a factor, and a woman fears violence from her partner if she asks them to use condoms.

However, many questions remain. For example: Will women be able to keep the PrEP drugs they receive? Some women worry that their drugs might be taken away and given to another family member who is seen as "needing them more."

**Considering Taking PrEP?**

If you think PrEP may be a good option for you, here are a few questions you can discuss with your health care provider:

- How often—and for how long (i.e., days, weeks)—do I need to take PrEP if I am trying to protect myself from HIV? What happens if I miss a dose or several doses?
- What are likely side effects and how can I manage them?
- How often will I need to be tested for HIV?
- How much will the drug cost me? Will it be covered by my insurance? Will the HIV tests also be covered by my insurance?
- Do any of my current medical conditions make PrEP drugs not a good choice for my health overall?
- Do any of my other prescription medications, over-the-counter drugs, street drugs, herbs, vitamins, or supplements have interactions [27] with the drug?
- What should I do if I become pregnant while on PrEP?

While PrEP is designed to be used in combination with condoms or other safer sex measures, women who cannot or do not use internal condoms may want to use PrEP instead of condoms. It is important to understand the overall risks and benefits of using PrEP to reduce one's HIV risk, as well as to consider methods of protection from other sexually transmitted infections or diseases (STIs or STDs) [20].

**New Developments in the PrEP Arena**

Clinical trials of several other PrEP products are ongoing.

Studies have shown that the tenofovir disoproxil fumarate (TDF) in Truvada can lead to a reduction in kidney function and bone loss [24]. Alternative drugs being considered include:
Maraviroc (Selzentry) has already been approved as an HIV drug and is being studied for PrEP. Both oral (by mouth) and vaginal gel formulations of the drug are being tried.

Beyond the recently-approved injectable, another long-acting form of PrEP is under development. Islatravir is a promising new type of antiretroviral that could be used as an implant (similar to a contraceptive patch), injection, or monthly pill for HIV prevention, or a weekly pill for HIV treatment. However, several clinical trials of the drug were put on hold in late 2021 due to safety concerns.

Tags:

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Additional Resources

Select the links below for additional material related to PrEP for Women.

- What Is PrEP? (PrEP REP Project; video; also available in Spanish)
- Find a PrEP Provider (PleasePrEPMe; interactive map)
- Find HIV Services Near You – PrEP (HIV.gov)
- Pre-Exposure Prophylaxis (PrEP) (aidsmap)
- Knowledge & Attitudes of US Women of PrEP (HIVE)
- HIV PrEP Safe for Breastfeeding Women, Infants (OB GYN News)
- Hormone Levels Not Affected by PrEP in Trans Women (San Francisco AIDS Foundation)
- PrEP (Pre-Exposure Prophylaxis) (CDC; also available in Spanish)
- PrEP (AVAC)
- New Campaign, Toolkit Gets Providers PrEP'd for Women (TheBodyPro)
- Prevention for Women: Resources (HIVE)
- HIV and Women: PrEP Coverage (CDC; also available in Spanish)
- Spreading the Word about HIV Prevention for African-American Women (National Public Radio)
- Women and PrEP: A Q&A with Dr. Judy Auerbach (BETA, via TheBody)
- Black Women and PrEP Toolkit (The Black AIDS Institute)
- PrEP FAQ (Black Women's Health Imperative)
SisterLove's Dazon Dixon Diallo: Our Language Around Risk Perception, PrEP & Women (HIVE; video) [63]

FOR PROVIDERS: Family Planning Provider PrEP Toolkit (HIVE) [64]

D.C. PrEP for Women Initiative (Washington AIDS Partnership) [65]

Women and PrEP (coalition of organizations in the United Kingdom) [66]

US Approves Injectable Cabotegravir for PrEP (aidsmap) [67]

Long-Acting Injectable Cabotegravir (AVAC) [68]

Cabotegravir for Women: A Potential Game Changer (International Workshop on HIV & Women 2021; video) [69]

Injectable PrEP and COVID Show We're All in This Together (aidsmap) [70]

Merck Launches Major Trial of Monthly Islatravir PrEP Pill for Women (POZ) [71]

Long-Acting HIV Therapy Hits a Snag (POZ) [72]

Side-by-side Comparison: Truvada and Descovy for PrEP (San Francisco AIDS Foundation) [73]

Having More Options Makes PrEP More Viable (TheBody) [74]

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