



TREATMENT TO PREVENT HIV INFECTION (PrEP)

WHAT IS PRE-EXPOSURE PROPHYLAXIS?

PrEP stands for Pre-exposure prophylaxis. *Prophylaxis* means disease prevention. PrEP is a new HIV prevention option for HIV-negative individuals to reduce their risk of HIV infection. PrEP for HIV prevention is the use of antiretroviral medications (ARVs) by HIV-negative individuals to reduce risk. Large research studies showed that PrEP could help prevent new HIV infections when used by people at high risk of getting HIV.

The only research on PrEP is based on using the combination pill Truvada (see fact sheet 421). Research showed over 90% reduction in HIV infections when taken four times a week PrEP taken daily reduced HIV infections by 99%. There is not enough information on other medications. We don't know yet if other drugs or dose timing (like a few times a week instead of every day) might also be a good way to reduce risk of HIV.

Truvada as PrEP was studied in people who were at high risk of HIV infection. HIV-negative men who have sex with men, transgender women and heterosexuals at high risk were studied. Results in these studies have varied. The studies showed that PrEP worked best for people who took the medication every day.

HOW IS PrEP TAKEN?

PrEP is currently one tablet of Truvada daily. It can be taken with food, or between meals. There is research ongoing to look at other medications for PrEP.

Truvada contains two medications, tenofovir (Viread) and emtricitabine (Emtriva). Truvada is only available with a prescription.

WHO SHOULD USE PrEP?

PrEP is more than simply taking HIV pills. The US Centers for Disease

Control and Prevention (CDC) has issued guidelines for the use of PrEP. One set of guidelines is for men who have sex with men. Another is for heterosexuals.

- PrEP should be used by people who are at high risk of becoming infected with HIV by sexual activity
- PrEP should be part of an overall HIV prevention program including condoms and counseling
- Before taking PrEP, people should be tested to confirm that they are not already infected with HIV
- People using PrEP should continue to be tested to make sure they have not been infected
- They should also be tested for kidney damage, hepatitis B and any sexually transmitted diseases

HOW SHOULD PEOPLE USING PrEP BE MONITORED?

The CDC guidelines recommend that people taking PrEP be seen every 2-3 months in order to:

- Test for HIV infection
- Check for side effects of Truvada
- Check for problems taking PrEP every day
- Reinforce condom use and other prevention messages

WHAT ARE THE LIKELY SIDE EFFECTS?

The most common side effects seen in the studies of Truvada as PrEP include headache, nausea, vomiting, rash and loss of appetite. In some people, tenofovir can increase creatinine and transaminases. These are enzymes related to the kidneys and liver. High levels can indicate damage to these organs. Long-term use of tenofovir can damage the kidneys.

Tenofovir can reduce bone mineral density (see fact sheet 557). Calcium or vitamin D supplements may be helpful. This is especially true for people with osteopenia or osteoporosis.

Levels of lactic acid in the blood (lactic acidosis, see Fact Sheet 556) increase in some people taking tenofovir and emtricitabine. Liver problems including "fatty liver" may also occur.

In rare cases, people taking emtricitabine had some temporary changes in skin color.

DOES PrEP HAVE RISKS?

People with HIV have used Truvada, tenofovir and emtricitabine, for several years. They are generally easy to take. Possible long-term side effects include loss of bone mineral density and kidney damage.

Some people worry that people taking PrEP might think they are totally protected. They might be less careful about their sexual behavior. So far, this does not appear to be true.

THE BOTTOM LINE

Pre-exposure prophylaxis (PrEP) is the use of the antiretroviral medication Truvada before exposure to HIV, to reduce the risk of HIV infection. When Truvada as PrEP is used correctly and consistently, it can reduce the rate of HIV infection by sexual activity by as much as 90%.

The benefits of PrEP are potentially very high for reducing new HIV infections in people who recognize their risk of infection and can take Truvada to protect themselves. Some people fear PrEP may encourage unsafe behaviors, but this has not been seen.

FOR MORE INFORMATION

CDC guidelines on PrEP are on the Internet at: <http://www.cdc.gov/hiv/prep/>. Additional information on PrEP is at www.prepwatch.org.

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