



# TREATMENT AFTER EXPOSURE TO HIV

## WHAT IS POST-EXPOSURE PROPHYLAXIS?

*Prophylaxis* means disease prevention. *Post-exposure prophylaxis* (or PEP) means taking antiretroviral medications (ARVs) as soon as possible after exposure to HIV, so that the exposure will not result in HIV infection. These medications are only available with a prescription. PEP should begin as soon as possible after exposure to HIV but certainly within 72 hours. Treatment with 2 or 3 ARVs should continue for 4 weeks, if tolerated.

Researchers are also developing Pre-exposure Prophylaxis (PrEP). PrEP might be used in similar ways as a vaccine. Fact sheet 160 has more information on PrEP.

## WHO SHOULD USE PEP?

**Workplace exposure:** PEP has been standard procedure since 1996 for healthcare workers exposed to HIV. Workers start taking medications within a few hours of exposure. Usually the exposure is from a "needle stick," when a health care worker accidentally gets jabbed with a needle containing HIV-infected blood. PEP reduced the rate of HIV infection from workplace exposures by 79%. However, it is still possible for health care workers who take PEP to get HIV infection.

**Other exposure:** In 2005, the Centers for Disease Control reviewed information on PEP. They concluded that it should also be available for use after HIV exposures that are not work-related. People can be exposed to HIV during unsafe sexual activity, when a condom breaks during sex, or if they share needles for injecting drugs. Infants can be exposed if they drink breast milk from an infected woman. In a study of PEP in 400 cases of possible sexual exposure to HIV, not one person became infected with HIV.

## SHOULD PEP BE USED FOR NON-OCCUPATIONAL EXPOSURE?

HIV exposure at work is usually a one-time accident. Other HIV exposures may be due to unsafe behaviors that can occur many times. Some people think that PEP might encourage this unsafe behavior if people

think that PEP is an easy way to avoid HIV infection.

There are other reasons why PEP might not be a good idea for non-occupational exposure:

- There is no research to show that PEP works for non-occupational exposure. We don't know how soon after exposure to HIV someone has to start PEP.
- PEP is not a "morning-after pill." It is a program of several drugs, once or more each day, for at least 30 days. PEP costs between \$600 and \$1,000.
- For best results, you have to take every dose of every PEP medication. Missing doses could mean that you develop HIV infection. It could also allow the virus to develop resistance to the medications. If that happens they would no longer work for you.
- The medications have serious side effects. About 40% of health care workers did not complete PEP because of the side effects.

Despite these concerns, there is growing interest in PEP for non-occupational exposure. Most programs include counseling to inform and encourage people to avoid exposure to HIV.

## HOW IS PEP TAKEN?

PEP should be started as soon as possible after exposure to HIV. The medications used in PEP depend on the exposure to HIV. The following situations are considered serious exposure:

- Exposure to a large amount of blood.
- Blood came in contact with cuts or open sores on the skin.
- Blood was visible on a needle that stuck someone.
- Exposure to blood from someone who has a high viral load (a large amount of virus in the blood).

For serious exposures, the US Public Health Service recommends using a combination of three approved ARVs for four weeks. For less serious exposure, the guidelines recommend four weeks of treatment with two drugs: zidovudine (Retrovir, AZT) and lamivudine (Epivir, 3TC.)

In January 2001, the Centers for Disease Control warned against using nevirapine (Viramune) for PEP because of the risk of

liver damage. See Fact Sheet 431 for more information on nevirapine. The CDC updated its PEP recommendations in September of 2005.

## WHAT ARE THE SIDE EFFECTS?

The most common side effects from PEP medications are nausea and generally not feeling well. Other possible side effects include headaches, fatigue, vomiting, and diarrhea. For more information, see the fact sheets on individual ARVs.

## THE BOTTOM LINE

Post-exposure prophylaxis (PEP) is the use of ARVs as soon as possible after exposure to HIV, to prevent HIV infection. PEP can reduce the rate of infection in health care workers exposed to HIV by 79%.

The benefits of PEP for non-occupational exposure have not been proven. This use of PEP is controversial because some people fear it will encourage unsafe behaviors.

PEP is a four-week program of two or three ARVs, several times a day. The medications have serious side effects that can make it difficult to finish the program. PEP is not 100% effective; it can not guarantee that exposure to HIV will not become a case of HIV infection.

## FOR MORE INFORMATION

CDC guidelines on PEP are on the Internet.

### Occupational exposure:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm>

### Non-occupational exposure:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5402a1.htm>

The CDC recently issued guidelines on pre-exposure prophylaxis (PrEP):

<http://www.cdc.gov/hiv/prep/>

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