

Management of non-occupational exposures to blood borne viruses

The Estimated Probability of Acquiring HIV from Various Exposure Scenarios

TABLE 1			
SOURCE			
Type of exposure	Estimated risk that the source is HIV positive (Australian HIV Seroprevalance)	Estimated risk of HIV infection HIV POSITIVE SOURCE	Estimated risk of HIV transmission if SOURCE HIV STATUS UNKNOWN
<u>HOMOSEXUAL MAN</u>			
Receptive anal intercourse	≈15%	≈3.0% (1:33)	≈0.45% (1:250)
Insertive anal intercourse	≈15%	≈0.1% (1:1000)	≈0.015% (1:10,000)
Sharing injecting equipment	≈17%	≈0.6% (1:167)	≈0.1% (1:1000)
Body fluids to non-intact skin	≈15%	≈0.6% (1:167)	≈0.09% (1:1000)
Mucous membrane exposure	≈15%	≈0.1% (1:1000)	≈0.015% (1:10,000)
<u>OTHER</u>			
Receptive vaginal intercourse	≈0.1%	≈0.1% (1:1000)	≈0.0001% (1:1,000,000)
Insertive vaginal intercourse	≈0.1%	≈0.1% (1:1000)	≈0.0001% (1:1,000,000)
Sharing injecting equipment	≈1.0%	≈0.6% (1:167)	≈0.018 % (1:6250)
Body fluids to non-intact skin	≈0.1%	≈0.6% (1:167)	≈0.0006% (1:250,000)
Mucous membrane exposure	≈0.1%	≈0.1% (1:1000)	≈0.0001% (1:1,000,000)

Adapted from:
 ANCHARD Guidelines for the management and post exposure prophylaxis of individuals who sustain nonoccupational exposure to HIV
 ANCHARD Bulletin No 29 September 2001

Notes: These are estimates of infection from a given HIV exposure and are derived from the higher end of the range of probability.

Prophylaxis for HIV

There is some evidence that taking zidovudine reduces the risk of transmission of HIV after an occupational exposure¹⁶. There are also documented cases of seroconversion, despite early use of zidovudine¹⁷. Since combination therapy is now the standard of treatment for established HIV infection, two or three antiretroviral medications should always be prescribed. This is called PEP.

In general, HIV antiretroviral medications can only be prescribed by S100 prescribers, accident and emergency departments, or specialised services.

If the exposed person elects to take PEP, it should be commenced as soon as possible. PEP may be commenced within 72 hours of exposure. While there is no research evidence for the optimal time, it is recommended that it should be commenced within a few hours if possible. If the exposure warrants PEP, commencement should not be delayed whilst waiting for source serology results. PEP is likely to be less effective if commenced more than 24 hours after the exposure.

If the source is known to be HIV positive it is important whenever possible to ascertain the HIV viral load of the source and an account of their current and past antiretroviral therapy (and reasons for stopping previous regimens). This important information may lead to modification of the exposed person's PEP regimen.

The following should be discussed with the exposed person before commencing PEP:

- ◆ that HIV PEP is an experimental, not a proven, therapy;
- ◆ that efficacy is estimated to be around 80%;
- ◆ that PEP consists of a 4 week course of oral therapy;
- ◆ that there can be difficulties taking PEP (especially if working);

- ◆ that there is a high probability of regimen associated, mild side effects which may include nausea, diarrhoea and fatigue;
- ◆ that there is a possibility of moderate to severe regimen associated side effects;
- ◆ the signs and symptoms of HIV seroconversion;
- ◆ that adherence to the regimen needs to be > 95%¹⁸;
- ◆ that the individual can stop PEP at any time but may lose efficacy;
- ◆ that, although unlikely, taking PEP may prolong the HIV antibody testing 'window period' and so testing for HIV continues up to 6 months after the exposure;
- ◆ that where protected sex is not usually practiced (eg within a monogamous relationship) condoms should be used until a clearance is given, usually at 6 months;
- ◆ the possibility of pregnancy for female patients.
- ◆ that taking PEP is inappropriate if the exposed person is already infected with HIV

Patient consent to PEP after discussing the factors above should be documented in the medical record.

If the exposed person is pregnant and the exposure is significant, the use of PEP would be strongly encouraged. If a woman acquires HIV during pregnancy there is an increased risk of the child becoming infected. There is a large body of evidence demonstrating reduction in transmission from mother to child with the use of HIV prophylaxis¹⁷. Many antiretroviral medications can be safely used in pregnancy. An experienced HIV physician should always be consulted about the appropriate regimen, however zidovudine can always be given while waiting for further advice.