Counselling Guidelines for Clients with Accidental Exposure to Blood or Body Fluids

COMMUNICABLE DISEASE CONTROL

Persons accidentally exposed to blood or body fluids will usually be extremely anxious about the possibility of HIV transmission. It is important that they be appropriately counselled about their potential risk of infection, the reasons for recommending (or not recommending) anti-retroviral therapy, and the need to avoid potential HIV transmission to others. In an acute care setting, it may be difficult for clients to absorb all of the information provided in counselling, so it is important that counselling be repeated on follow-up visits with occupational health or family physicians.

The following are general guidelines for initial counselling:

1. *Confidentiality*

   Confidentiality of test results is often a major concern for persons tested for HIV. Provide assurance that all test results will be treated in a strictly confidential manner, and will be sent only to the person's physician. Blood specimens are sent to the laboratory without personal identifying information. Thus, only the exposed person and his/her physician will have access to the test results.

2. *Risk of HIV transmission after exposure*

   The average risk of HIV transmission after accidental percutaneous exposure to HIV infected blood or body fluids is estimated to be 0.25%, or 1 in 400 (*MMWR* 1995; 44(50):929-933). This figure was derived from a meta-analysis of 21 prospective studies examining the risk of HIV transmission following accidental percutaneous exposures in occupational settings. Previous studies had estimated this risk to be about 0.4%. The same meta-analysis found the risk of HIV transmission following mucocutaneous exposure to be 0.1% (1 in 1,000). Previously, this risk had been estimated to be about 0.3%.

   These figures represent only average risks; the risk to an individual may be higher depending upon the presence of other risk factors. Factors that increase the risk of HIV transmission include:

   - high viral load in the source (e.g. source in late stage AIDS),
   - deep wounds,
   - large volume of blood transmitted during exposure,
   - wide gauge of needle in needlestick exposures (larger bore needles represent a greater risk).

3. *Reasons for taking anti-retroviral therapy*

   Some persons may be reluctant to take anti-retroviral therapy after a seemingly minor event. Explain that:

   - if HIV transmission occurs, it will almost certainly lead to AIDS, which is a fatal disease. Drug therapy taken soon after exposure may prevent infection.
   - if anti-retrovirals are taken and HIV infection still occurs, the early use of anti-retrovirals may favourably alter the course of the infection.
   - anti-retroviral drugs taken for one month will generally have no long-term side effects.

4. *What is zidovudine?*

   Zidovudine (ZDV or AZT) is an anti-retroviral drug that works by stopping HIV from replicating. It is commonly used in the treatment of AIDS and also has a beneficial effect in people with HIV infection who have not yet developed AIDS.

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5. ***What is lamivudine?***

   Lamivudine (3TC) is also an anti-retroviral drug used in the treatment of AIDS and HIV infection. Use of ZDV has resulted in the emergence of some ZDV-resistant strains of HIV, which may respond to other anti-retrovirals such as 3TC.

6. ***Evidence that anti-retroviral therapy can prevent HIV transmission***

   Several studies have been conducted in animals in which ZDV was used to try to prevent infection with viruses similar to HIV, and in many of these studies, ZDV has been shown to have a positive effect. In addition:

   - A study in the USA of pregnant women with mildly symptomatic HIV disease and no prior treatment with anti-retroviral drugs during pregnancy showed that ZDV, given between 14 and 34 weeks of gestation and during delivery to the mother, as well as to the newborn for six weeks after delivery, reduced the risk of maternal-infant HIV transmission by approximately two-thirds. Anti-retroviral treatment has become the standard of practice for all HIV positive pregnant women (*MMWR* 43(RR-11): 1-20).
   - A multinational case-control study of HIV seroconversion in health care workers after percutaneous exposure to HIV infected blood has been conducted by the Needlestick Surveillance Group, Centers for Disease Control and Prevention in Atlanta. Health care workers who were occupationally exposed to HIV infected blood (i.e. the source was known to be HIV seropositive or determined to be so after testing) were divided into cases (those who subsequently seroconverted to HIV) and controls (those who did not seroconvert). A robust statistical analysis using logistic regression of many possible risk factors for seroconversion determined that ***NOT*** receiving zidovudine chemoprophylaxis after percutaneous exposure was a definite risk factor for HIV transmission. Zidovudine reduced the risk of HIV transmission by a factor of five, i.e. the risk was reduced by 80% (*MMWR* 1995; 44(50):929-933).

7. ***Possible side effects and contraindications of anti-retrovirals***

   Although anti-retroviral drugs may have important side effects when taken over a long period of time, or by individuals with established HIV infection or AIDS, short courses of anti-retrovirals taken in a post-exposure context have been associated with few immediate side effects and no evidence of long-term side effects. A study of 148 health care workers given ZDV post-exposure for 28 days and followed for a mean of 30 weeks examined the risk of toxicity. None stopped taking the ZDV for objective toxicity and 35% stopped for subjective toxicity (for example, fatigue, nausea or headache). These symptoms did not coincide with objective toxicity. For those who took the ZDV for at least 22 days, blood counts remained stable. No health care workers on ZDV became infected with HIV. Lamivudine is also well tolerated in short-term therapy. However, only zidovudine is approved for use in pregnancy. In studies of zidovudine used in HIV-infected pregnant women after 14 weeks gestation to prevent vertical HIV transmission, no adverse effects related to zidovudine administration have been observed. Experience with the use of zidovudine in the first trimester of pregnancy is limited. The long-term effects of *in utero* exposure to zidovudine are unknown, but available data do not indicate a higher risk of adverse sequelae than in the general population.

   ZDV is contraindicated in persons with liver or kidney insufficiency, or anemia. In these situations, alternative drugs may be considered after consultation with an infectious disease specialist. Laboratory evaluation is recommended if therapy is to be continued after the drugs supplied in the initial five-day starter kit are used up (see Manitoba Health Post-Exposure Protocol).

8. ***Instructions for taking zidovudine and lamivudine***

Zidovudine (ZDV or AZT):	2 capsules (200 mg.) 3 times a day for 4 weeks.
Lamivudine (3TC):	1 tablet (150 mg.) 2 times a day for 4 weeks.

Provide the following additional instructions for taking the drugs:

- A five-day starter kit will be supplied in the hospital emergency department or nursing station. There will be no charge to the patient for the starter kit. The remainder of the four weeks of therapy (23 days), if indicated, will also be supplied in the hospital emergency department or nursing station. However, Manitoba Health will not assume the cost of these additional drugs. It will be the responsibility of the client to do so, although it is expected in the case of occupational exposures that either the employer will cover the cost, or that a claim will be filed with the Workers' Compensation Board. The usual Pharmacare procedures and deductibles applicable to a given client would apply to the additional drug costs associated with non-occupational exposures (or occupational exposures where the cost is not covered by the employer or the Workers' Compensation Board). The approximate cost of the drugs required to complete the additional 23 days of therapy is $325.
- The drugs should be taken as prescribed. A missed tablet may be taken when it is remembered, but doses should not be doubled up. The normal schedule is then resumed.
- The drugs may be taken with food.
- The drugs should be stored in a cool, dry place out of the reach of children. They should not be refrigerated.
- A doctor must be consulted before taking any other medication; this includes over-the-counter medications, as well as any drugs prescribed by another doctor.
- Exposed persons should report any side effects that develop. Fifteen to 20 per cent of people who take zidovudine or lamivudine will experience nausea, headache, or sometimes vomiting during the first few weeks. Less common side effects can include skin rash, muscle pain, tiredness, loss of appetite, trouble sleeping, fever, dizziness and diarrhea. Therapy need not be discontinued if these side effects are experienced. Medications that can control them, such as acetaminophen or anti-nauseants, may be taken. A physician should be consulted should a skin rash develop.
- Exposed persons should not adjust the dose or stop the drugs without consulting a physician. For those few patients unable to tolerate the drugs, alternative ones may be considered after consultation with an infectious disease specialist.
- ZDV is contraindicated in persons with liver or kidney insufficiency, or anemia. In these situations, alternative drugs may also be considered after consultation with an infectious disease specialist.
- Laboratory evaluation is recommended if therapy is to be continued after the initial five-day start-up period.

9. ***How long will it be before exposed persons can be reasonably sure that they have not been infected?***

   The vast majority of persons infected with HIV will seroconvert within three months of infection. HIV testing is recommended at the time of exposure, and at three months and six months after the exposure.

10. ***Precautions to avoid transmission to others***

    While the exposed person is awaiting the results of HIV testing, he/she should be given the following advice to prevent potential HIV transmission to others. If exposure to a confirmed or suspected HIV positive source has occurred, this advice pertains until the exposed person tests HIV negative six months post-exposure. If exposure to a source with unknown HIV status at the time of exposure has occurred, this advice pertains until the source has tested negative for HIV.

    - Abstain from any sexual intercourse.
    - If intercourse does continue, use a latex condom with a non-petroleum lubricant at all times.
    - Do not donate blood, plasma, organs, tissue or sperm.
    - Do not share toothbrushes, razors, needles or other implements which may be contaminated with blood/body fluids.
    - Do not become pregnant.

- If breastfeeding a child, discontinue breastfeeding whether or not anti-retrovirals are taken. This is to prevent HIV transmission to the child should the mother become infected. The risk of transmission through breast milk is high for women who seroconvert while breastfeeding. Breast milk can be pumped and discarded, and nursing can be resumed if the source is found to be HIV negative.

11. Other reminders

- If the exposure occurred in an occupational setting, a claim may be filed with the Workers' Compensation Board. Such claims should be submitted in the context of treatment of a needlestick injury or other relevant exposure, and the HIV infection status of the source should be documented.
- The circumstances of the exposure should be investigated to help prevent future exposures occurring in a similar manner.
- Incidents should be reported to the appropriate Occupational Health and Safety Department, including the type of exposure, whether anti-retroviral therapy was taken, and results of HIV testing. Surveillance of exposure incidents can provide valuable information which will assist in the development of future protocols.
- For all individuals who are prescribed a starter kit, please complete the information requested on the "Information Record: HIV Post-Exposure Prophylaxis."