



British Columbia
Centre *for* Excellence
in HIV/AIDS

THERAPEUTIC GUIDELINES

ACCIDENTAL EXPOSURE GUIDELINES

As of February 2009

Providence
HEALTH CARE

How you want to be treated.

MANAGEMENT OF ACCIDENTAL EXPOSURE TO HIV

Counseling should be offered to all persons experiencing an exposure event. If there is evidence of a significant risk exposure, initiation of antiretroviral therapy is recommended.

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INTRODUCTION

This guideline is intended to guide health care providers caring for persons who have sustained exposure to blood and body fluids in the work place or community setting. This guideline is designed to deal specifically with exposure to Human Immunodeficiency Virus (HIV) and is not applicable to other infections such as hepatitis.


This guideline provides a framework for a program of expert advice and prompt anti-retroviral prophylaxis for accidental exposures in the health care setting and the community. The guideline is based on scientific principles and with our extensive experience, in providing antiretroviral prophylaxis for the past fifteen years. The guideline is somewhat different than the United States CDC Guideline due to the structure of our program and our evaluations of compliance and adverse effects of the program.

The Centre provides publicly funded antiretroviral drugs for prophylaxis of HIV exposures if the risk benefit is appropriate and these issues are discussed in the guideline. One must weigh the risks of becoming infected with HIV (which are frequently extremely small) against the risk of taking antiretroviral therapy which is significant. If the risk of infection with HIV is extremely small, the Centre will not provide prophylaxis as the risk/benefit ratio is unfavorable. Such individuals may, if they wish, purchase antiretroviral therapy but this is not a PharmaCare benefit in British Columbia.

This program does not provide coverage for events which arise in the individual's personal life such as consensual adult sex or incidents arising in drug using environments. Individuals who feel they have been exposed in these situations can purchase drugs and a guideline for this eventuality is available at MMWR January 21, 2005/Vol54/No.RR-2. This guideline can be viewed on the internet by going to www.cdc.gov/mmwr.

This program does provide antiretroviral prophylaxis for sexual assault survivors where there are substantial reasons to believe the perpetrator is HIV positive. The guidelines in this setting are prepared by the sexual assault teams and the drugs are provided by the Centre for Excellence HIV/AIDS.

The Centre provides 5-day starter kit of tenofovir, lamivudine, and Kaletra in all emergency rooms in British Columbia, and outpost nursing stations and Provincial prisons. It is recommended that the starter kit be initiated within two hours of the event if at all possible. The remaining five days can be used to seek more information and risk assessment about the specific exposure. The remaining 23 days of treatment will be dispensed by the Centre pharmacy.



If is difficult to provide a reliable estimate of the effectiveness of this prophylaxis and the only real study of this is available at MMWR 1996; 44:929-933 and also MMWR 1996: 45, 22, 468-472. These studies showed a high level of effectiveness of prophylaxis with Zidovudine alone but there are many variables in this setting. It is safe to say that it appears that prophylaxis is very effective and the risk/benefit ratio is favorable for significant exposures.

Inquires about the program should be directed to the Centre pharmacy: 1-888-511-6222.

Dr. W.A. McLeod

Chair, Committee on Accidental Exposures
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1. GOAL

To reduce the risk of transmission of Human Immunodeficiency Virus (HIV) to persons accidentally exposed to blood or body fluids.

This will be accomplished by:

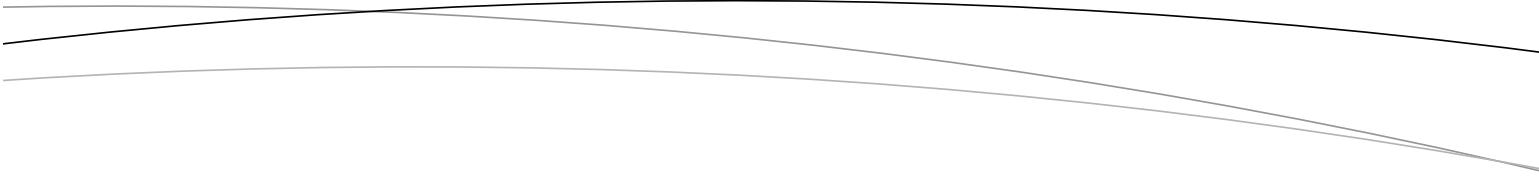
1. Dissemination of these guidelines to health care providers and others who encounter persons accidentally exposed to blood and body fluids.
2. Assessment of the risk of HIV transmission in exposed persons.
3. Counseling of exposed persons to reduce anxiety, to ensure adequate management and follow-up and to reduce the risk of HIV transmission to others.
4. Appropriate use of antiretroviral therapy in exposed persons.
5. Avoiding antiretroviral prophylaxis (which is potentially toxic) in those persons who are not at significant risk of infection.
6. A program evaluation will occur each year.

The risk from occupational and community exposures is treated as equal in this guideline, and with the exception of abandoned needles the same recommendations for management can be applied. However, the actual risk of exposures outside the healthcare setting is probably significantly less than in the health care setting.

When the source is unknown, each individual exposure should be carefully evaluated for the risk of HIV infection in the source within that community and in that particular setting. In many years of follow-up it appears that no one has become infected with HIV from an abandoned needle in Canada, the United States or Europe. Therefore, the risk of HIV prophylactic medications clearly exceeds the risk of an individual becoming infected from an abandoned needle. The Centre does not recommend prophylaxis for needlesticks from an abandoned needle outside the health care setting when there is no history of the origin of the needle or the time of its abandonment. There may be exceptional circumstances for such an event to merit prophylaxis and the attending physician must contact the Centre Pharmacy (1-888-511-6222) for expert advice.

It is not the intention of this program to provide provincially funded drugs to persons exposed to HIV as part of their personal lives, e.g. consensual adult sex or sharing injection equipment. The principles enunciated here may be applicable to some of those exposures, and the exposed person and their physician may choose to obtain the medications through another source. Physicians considering prescribing antiretroviral prophylaxis in the setting of sexual or injection exposures should review the US Public Health Service recommendations in the MMWR. January 21,2005/Vol54/No.RR-2. www.cdc.gov/mmwr





Exposure to blood and body fluids may also result in transmission of other blood-borne pathogens, e.g. hepatitis B or hepatitis C viruses. It is not the intent of these guidelines to discuss the assessment of risk and management of exposures to pathogens other than HIV. All Emergency Departments assessing persons accidentally exposed to blood or body fluids should assess the risk of exposure to blood-borne pathogens including hepatitis B and hepatitis C viruses, and manage patients accordingly. Guidelines for the risk assessment and management of persons exposed to blood and body fluids are available from your local Health Unit.



2. DEFINITIONS

2.1. ACCIDENTAL EXPOSURE TO HIV

An event where blood or other potentially infectious body fluid inadvertently comes into contact with non-intact skin, mucous membranes, or subcutaneous tissue (via percutaneous injury).

2.2. INFECTIOUS

Source known to be HIV-positive or at high risk of being HIV-positive (if source unknown, evaluate on a case-by-case basis: See page 6).

2.3. DEFINITION OF PERSONS AT HIGH RISK FOR HIV

Active injection drug users

Men who have sex with men

Persons who have had multiple transfusions of blood or blood products, e.g. hemophiliacs prior to November 1985

Sexual partners of persons known to be HIV-positive

2.4. NON-INTACT SKIN

1. Healing wound (< 3 days old)

Skin lesion causing disruption of the epidermis

2.5. INFECTIOUS BODY FLUIDS¹ (capable of transmitting HIV)

1. BLOOD

2. Any body fluid visibly contaminated with blood

3. Semen

4. CSF; amniotic, pleural, pericardial, peritoneal and synovial fluids and inflammatory exudates

5. Tissue or organs e.g. transplantation

6. Breast milk

7. Vaginal secretions





2.6. HIGH-RISK EXPOSURE

Exposure to blood of a person known to be HIV positive.

2.7. NON-INFECTIOUS BODY FLUIDS (UNLESS BLOODY)¹

(not implicated in the transmission of HIV unless visibly bloody)

Stool, urine, tears, saliva, nasal secretions, vomitus

1. These definitions apply to HIV only and not to hepatitis.



3. PROCEDURES FOR ASSESSMENT AND MANAGEMENT OF EXPOSURES

NOTE TO PHYSICIANS:

Ethical and legal responsibility for the use and adverse effects of antiretroviral therapy lies with the physician who prescribes, as with any other medical prescription. The Centre is not the prescriber, but provides expert advice.

Persons accidentally exposed to blood or body fluid should be referred to the nearest Emergency Department as soon as possible. If antiretrovirals are indicated, they are most effective if initiated **within two hours of exposure**. Delays in presenting to an Emergency Department or delays therein should be avoided.

The health care provider (e.g. Emergency Room Physician or Nurse) should complete a risk assessment of the exposure as soon after arrival in the department as possible.

ASSUME EXPOSURE HAS OCCURRED IF:

Material to which exposure has occurred is blood or a potentially infectious body fluid capable of transmitting HIV (See 2.5, page 5).

AND

Source is known to be HIV positive or known to be at a high risk for HIV infection (See 2.3, page 5).

If the source person is in a high-risk group consider him/her positive until the results of testing are available. If they are not in a high-risk group consider them negative until the results of testing are available.

NOTE: If the HIV test is negative, prophylaxis is not required.

UNKNOWN SOURCE:

When the source is unknown each individual exposure should be carefully evaluated for the risk of HIV infection in the source within that community and in that particular setting. In many years of follow-up it appears that no one has become infected with HIV from an abandoned needle in Canada, the United States or Europe. Therefore, the risk of HIV prophylactic medications clearly exceeds the risk of an individual becoming infected from an abandoned needle. The Centre does not recommend prophylaxis for needlesticks from an abandoned needle outside the health care setting when there is no history of the origin of the needle or the time of its abandonment. There may be exceptional circumstances for such an event to merit prophylaxis and the attending physician should contact the Centre Pharmacy (1-888-511-6222) for expert advice.



SOURCE WHO REFUSES TESTING:

If the source refuses testing, carefully consider the reasons for refusal. If there is no reason to suspect that the source is in a high-risk group and that the refusal is based on factors other than fear of disclosure, then consider this a low risk source. It is not appropriate to consider all persons who refuse testing as positive.

RECOMMENDATIONS FOR TESTING OF THE SOURCE:

In the event of a possible occupational or community exposure to HIV, the specimen sent to Provincial Lab (604-660-9709) or UBC Virology at St. Paul's Hospital (604-806-8420), or Canadian Blood Services (604-879-6001) should be identified as a possible exposure so rapid turn around can be achieved. A phone call to the lab is also appropriate to notify the lab that this is an occupational exposure.

On Vancouver Island all testing is done at Victoria General Hospital's Hepatitis Lab: 250-727-4212.

It should be made clear to the lab and to the exposed person who is to receive test results. The exposed person is entitled to know if continued prophylaxis is required or not: no information regarding the source should be provided to the exposed person.

When the results of HIV testing are known, the risk assessment should be re-evaluated.

If point-of-service testing is done we recommend that if the test is positive, prophylaxis should be provided until confirmatory testing is available. If the test is negative and this is a high-risk exposure, prophylaxis should be given until confirmatory testing is completed.

ASSUMING THE EXPOSED PERSON IS HIV-NEGATIVE, AND THE EXPOSURE IS TO AN INFECTIOUS BODY FLUID, THE NEED FOR CHEMOPROPHYLAXIS SHOULD BE ASSESSED USING THE TABLES OF ASSESSMENT. A NUMERICAL RISK ASSESSMENT CAN BE ROUGHLY ESTIMATED. (Appendix 2a)

4. ASSESSMENT OF THE RISK OF HIV TRANSMISSIONS AND RECOMMENDATIONS FOR CHEMOPROPHYLAXIS

SIGNIFICANT RISK OF TRANSMISSION:

Infectious body fluid and an HIV positive source or a known high-risk source.

A worker exposed to the blood of a known HIV-positive person should be urgently evaluated regarding the need for prophylaxis.

Types of exposure	Recommendation
<p>Any percutaneous exposure to infectious body fluids</p> <p>Mucous membrane or non-intact skin exposure, i.e. more than a few drops of blood and/or duration of exposure of several minutes or more.</p> <p>Perhaps prophylax large prolonged exposure of blood on intact skin.</p>	<p>Recommend Strongly</p> <p>Tenofovir 300mg once a day + Lamivudine (3TC) 150 mg bid or 300mg once a day dosing + Kaletra 2 tablets bid</p> <p>Consult with the Centre as soon as possible</p> <ul style="list-style-type: none"> • test source if possible • counseling • baseline HIV test of the exposed person with repeat testing 6, 12 and 24 weeks and 1 year after exposure • arrange for follow-up with physician as soon as possible to arrange continuing antiretroviral therapy if prescribed • if high-risk exposure, we encourage referral to an HIV consultant <p>SEE NOTES</p>

NOTE 1: If the source patient is known to be on antiretroviral therapy, contact the Centre Pharmacy as soon as possible and we will tailor a prophylactic regimen depending on the possibility of drug resistance in the source. However, start the starter kit immediately while making these arrangements. Centre Pharmacy (1-888-511-6222).

NOTE 2: If the exposed person is pregnant, contact the Centre Pharmacy (1-888-511-6222) as soon as possible. It should be explained to the exposed person that tenofovir has not been used extensively in pregnancy. The Center will provide zidovudine as soon as possible but if there has been a significant exposure, prophylaxis should be started with the existing kit. Tenofovir is a Pregnancy Category B drug.

NOTE 3: The Centre does not recommend prophylaxis for needlesticks from an abandoned needle when there is no history of the use or time of abandonment.

NEGLIGIBLE RISK OF TRANSMISSION:

Source known or presumed to be HIV negative, OR an injury not known to transmit HIV
OR body fluid not known to transmit HIV.

Types of exposure	Recommendation
<ol style="list-style-type: none">1. Minor percutaneous, mucous membrane or skin exposure to non-infectious body fluid – source HIV positive or negative.2. Intact skin exposure to a small quantity of blood (less than three drops) or fluid visibly contaminated with blood of short duration i.e. less than three minutes.*3. Bites unless there has clearly been transmission of infected blood.4. A superficial scratch which does not bleed.5. Injuries received in fights would rarely be appropriate indications for prophylaxis unless it is clear that transfer of infected blood has occurred.	<p>No antiretrovirals recommended.</p> <p>* The treatment of a high anxiety level in the exposed person is reassurance counseling and education. It is not antiretroviral therapy. Antiretroviral therapy may be toxic and should be provided for medical indications only.</p> <p>Anxiety in this situation is extremely high and the workers should be counseled thoroughly by someone familiar with this type of injury and, if necessary, referred for professional counseling.</p>

* In the event of a larger blood splash or longer duration, assess the integrity of the skin: If appropriate revert to significant risk exposure.



5. DOSAGES FOR CHILDREN

Recommended antiretroviral chemoprophylaxis is for a total of 28 days.
Pediatric starter kits are not available.

TENOFOVIR

Child's body weight	Tenofovir dose
8 – 25 kg:	75 mg (quarter tab) once daily
16 – 25kg:	150 mg (half tab) once daily
26 – 35kg:	225 mg (3/4 tab) once daily
Over 36 kg:	300 mg (one tablet = adult dose) Once daily

Tenofovir tablets are difficult to split. Parents should get a pill splitter. The tablets may be crushed and mixed with a small amount of jam, yogurt or peanut butter to mask the bitter taste.

LAMIVUDINE (3TC)

Child's body weight	Lamivudine (3TC) dose
Children less than 40 kg:	4 mg/kg per dose – dose bid
Children over 40 kg:	150 mg bid

KALETRA

Child's body weight	Kaletra dose
Children 7 – < 11 kg:	½ tablet bid
Children 11 – < 17 kg:	¾ tablet bid
Children 17 – < 22 kg:	1 tablet bid
Children 22 – < 27 kg:	1¼ tablet bid
Children 27 – < 32 kg:	1½ tablet bid
Children 32 – ≤ 40 kg:	1¾ tablet bid
Children over 40 kg:	2 tablets bid

Kaletra tablets are difficult to split. Parents should get a pill splitter.



NOTES:

1. Children < 36 kg may be unable to swallow capsules and tablets. The capsules and tablets in the starter pack can be used to initiate therapy as follows:
 - a. For Tenofovir: as above
 - b. For 3TC calculate dose to nearest 75 mg (1/2 tablet). Tablets and half tablets can be crushed and mixed with food.
 - c. Kaletra tablets are not recommended to be crushed, by the manufacturer. Physicians should contact the Centre Pharmacy (1-888-511-6222) as soon as possible to arrange for a supply of Kaletra oral solution.
2. For therapy for the remaining 23 days: Physician should contact Center Pharmacy (1-888-511-6222) and provide a prescription. At that time the need for prophylaxis will be reassessed.
3. Please refer any questions on initiation of therapy to the Centre Pharmacy at (1-888-511-6222).



6. MANAGEMENT OF EXPOSURES

1. COUNSELING

- Refer to counseling guidelines Appendix 1.
- Counsel all exposed persons in the emergency room setting. Initial counseling should concentrate on initiating antiretroviral therapy and reducing potential risks of HIV transmission from exposed person to others (practicing safe sex, refraining from blood or organ donation, etc.).
- Repeat counseling on follow-up with family physician or other qualified counselor as anxiety may limit comprehension in the emergency room setting. This should include more in-depth counseling concerning pre-test and post-test issues and emotional support for this critical incident.
- Advise prompt HIV, HBV and HCV testing of exposed person.

2. LABORATORY TESTING OF SOURCE PERSON

- Ascertain identity of source, if possible.
- If the source has no risk factors for HIV and has been tested for HIV in the preceding three months (insurance etc.) and the results were negative, this can be accepted as evidence of HIV seronegativity. However, if the source engaged in high-risk HIV transmission activities before or after the negative test, HIV serology should be repeated. If there is evidence of exposure of the source in the preceding 12 weeks (seroconversion window period) and the source lives in a high incidence area, e.g. Vancouver Downtown Eastside, they can be considered high-risk. If the source tests HIV negative, the prophylaxis should be stopped.
- Obtain consent for HIV testing of source. In B.C., the source person must not be tested without consent. Explain to the source that the exposed person will not be informed of the result of the HIV test; **nor the source's identity unless the source is already known to the exposed person.** The exposed person will only be told whether or not to continue prophylaxis. If the source person is apprehensive about testing, expert counseling should be sought from the B.C. Centre for Disease Control (Dr. Reckart, 604-660-7484).
- **The fact that verbal consent has been obtained should be documented in the record of the event.**
- Test for HIV if consent given. Testing cannot occur without consent. Testing may be done under a pseudonym or using non-nominal identifiers, as long as these can be traced appropriately.



- If the attending physician of the source person is known, that physician may without breaching confidentiality, or with the patient's permission, provide some insight into whether or not the exposure should be regarded as higher risk. Point-of-service testing; see note page 6.

Specimens drawn from the source should be clearly identified as coming from an accidental exposure episode and they will be dealt with promptly by the laboratory.

The specimens can be sent to either the UBC Virology Laboratory at St. Paul's Hospital (604 806-8420) or the Provincial Laboratory (604-660-9709) or Canadian Blood Services (604-879-6001). All tests on Vancouver Island are sent to Victoria General Hospital Hepatitis testing lab (250-727-4212). If the necessity for rapid turnaround is indicated on the requisition there can be a 24 – 48 hour turnaround. Otherwise, the turnaround may be as long as three weeks. Direct communication with the laboratory is desirable.

- Ensure appropriate follow-up for the source person to obtain their test results through their family physician, admitting physician or other identified follow-up physician.
- If the exposed person is a health care worker in an institution and the source is a patient of that institution or known to the institution, the source's HIV status can be disclosed to the exposed health care worker's physician and then to the worker. This information will fall within the appropriate confidentiality guidelines of the institution.

3. ANTIRETROVIRAL THERAPY

a. Toxicity

The toxicity of the antiretroviral drugs is high (see page 16). The exposed person should be aware of those risks and the potential adverse effects before starting antiretroviral therapy. This information is provided on the attachments to the antiretroviral package provided in the emergency room. A small proportion of patients taking prophylaxis will be unable to work during the month of treatment.

b. Timing

- If prophylaxis is required, initiate antiretroviral therapy as soon as possible after exposure, preferably within two hours of exposure, to offer the best chance of preventing HIV transmission.

- Antiretroviral therapy should be initiated for eligible exposed persons even if they present later. Many exposed persons in the community do not report the incident for a day or two. While use after 36 hours may not prevent HIV transmission, it is possible that it may favourably alter the subsequent disease in the exposed person, with the later onset of advanced disease. Therefore, there is no absolute cut-off time for the initiation of therapy in higher risk exposures. If uncertain about whether to initiate antiretroviral therapy, consult the Centre Pharmacy (1-888-511-6222) or Centre Physician Hotline (1-800-665-7677).

c. Contraindications to Antiretroviral Therapy

- There are many drug interactions with antiretroviral medication, particularly with protease inhibitors such as Kaletra. A careful medication history and use of all alternative therapy should be reviewed. Non-essential medications and all alternative therapy should be discontinued during antiretroviral therapy. Questions regarding drug interactions should be directed to the Centre Pharmacy (1-888-511-6222).
- Avoid or use with extreme caution in persons with chronic renal insufficiency (creatinine more than three times normal), hepatic insufficiency, or bone marrow dyscrasia. Specific cases should be discussed with a center physician or pharmacist.
- Avoid or use with extreme caution in persons treated with myelosuppressive, nephrotoxic or hepatotoxic drugs in the two weeks prior to starting antiretroviral therapy.

PREGNANCY

If the exposed person is pregnant, contact the Centre pharmacy (1-888-511-6222) as soon as possible. Tenofovir has not been used extensively in pregnancy and we will substitute zidovudine as soon as possible. However in a significant exposure, the existing kit should be given as soon as possible. Tenofovir is a Pregnancy Category B drug.

Efavirenz (Sustiva) and nelfinavir (Viracept) should not be used in pregnancy.

If the source is known to be HIV-positive and on antiretroviral therapy contact the Pharmacy (1-888-511-6222) IMMEDIATELY.

d. Pre-treatment Laboratory Evaluation of the Exposed Person

- No laboratory evaluation except HIV testing is required prior to initiation of the antiretroviral therapy starter kit unless the exposed person is suspected of having significant haematologic or hepatic disease or renal disease.
- Persons **continuing therapy** after the starter kit should have a baseline CBC and differential, liver function tests, creatinine, glucose, and urinalysis after two weeks, and after four weeks of therapy.

e. Drug Dosage

CHILDREN

- See page 9

ADULTS

Basic regimen

- Tenofovir 300 mg once daily
- Lamivudine (3TC) 150 mg bid or 300 mg once a day
- Kaletra 2 tablets bid

In the event of prophylaxis for a source on antiretroviral therapy, modification of the antiretroviral prophylaxis may be appropriate. If further information about the source's antiretroviral therapy becomes available, the exposed person's physician should contact the Centre Pharmacy (1-888-511-6222) as soon as possible.

The starter kit is intended to provide five days of therapy while more detailed assessment of the risk of transmission can occur. The exposed person should see their family physician or designated follow-up physician as soon as possible after the initiation of the starter kit to determine the need for a full 28 days of therapy. Many exposed persons will not require 28 days of therapy, but this decision should be made in consultation with their physician. Due to the complexities of antiretroviral therapy, an expert evaluation of the injury will take place before the last 23 days are dispensed. The centre may recommend a change in the regimen of the prophylaxis or withdrawal of prophylaxis and the physician will be contacted.

f. Availability of Drugs

- Starter kits with a five day course of basic therapy (i.e. tenofovir, lamivudine and Kaletra) antiretrovirals will be kept in the emergency departments of the hospitals in the province. In hospitals without an emergency department, the kits will be kept in the night pharmacy cupboard. Antiretroviral therapy will be provided by the Centre. Refill starter kits and the remainder of the one month's therapy are available on receipt of a physician's prescription by telephone to the Centre Pharmacy in Vancouver: (1-888-511-6222). For patients unable to tolerate the starter kit beyond the first five days of therapy, the Centre will make available other antiretrovirals to be used for the remainder of the month. Physicians should discuss the specific situation with the pharmacy.



4. RECOMMENDATIONS FOR POST-EXPOSURE HIV CHEMOPROPHYLAXIS IN CHILDREN

The risk of children being infected with HIV from accidental needlestick injuries, biting, or sexual assaults is very low. No data are available that show that antiretroviral therapy will decrease the risk of infection in children who sustain needlestick injuries or sexual assault. Data which is available refers to the lower risk of perinatal transmission and lowered risk of transmission in exposed health care workers with zidovudine prophylaxis. Antiretroviral agents should be considered for children where the exposure is likely to have resulted in a transfer of potentially infectious body fluid to the recipient. In children, this would most commonly occur from blood or semen from a youth or adult who is known to be HIV-positive or could potentially be HIV-positive.

Appropriate follow-up management of children should be made with either the family physician or a designate. The remaining 23-day supply of drugs must be ordered as soon as possible through the Centre Pharmacy (1-888-511-6222).

- Hepatitis B prophylaxis is recommended for all children sustaining needlestick exposures.
- Chemoprophylaxis for HIV should only be considered for human bites in children that result in the skin being broken and when bleeding has occurred and there is blood in the mouth of the biter who is known to be HIV positive. **The risk of HIV infection is negligible in bites from children.**
- Chemoprophylaxis may not be effective in preventing transmission if more than 36 hours have elapsed since the injury. Should a child bite an HIV-positive person, prophylaxis may be considered if there is blood in the mouth of the child and there are areas of non-intact mucosa.
- Chemoprophylaxis for HIV should be considered for children sustaining sexual assault resulting in vaginal or anal penetration. Chemoprophylaxis may not be effective in preventing transmission if more than 36 hours have elapsed since the assault.
- See page 4 regarding abandoned needles.
- See notes pages 9 and 10 for recommendations for children unable to take tablets.



5. FOLLOW-UP

- Follow-up is required for all persons receiving anti-retroviral therapy and those having had a significant risk exposure to HIV.
- Follow-up should be done by the exposed person's family physician. If they do not have a family physician, identify a designated physician or clinic for follow-up. This may be an infectious disease physician, an STD clinic or other designated physician.
- Test HIV serology of the exposed person according to the following schedule:
 - » As soon as possible after exposure (copy results to family physician or follow-up agency)
 - » 6 weeks post-exposure
 - » 12 weeks post-exposure
 - » 24 weeks post-exposure
 - » 1 year post-exposure if antiretroviral therapy has been taken.

NOTE: Seroconversion after 12 weeks is uncommon and after 24 weeks extremely unlikely. However, antiretroviral prophylaxis may delay seroconversion, and for insurance and compensation purposes, we would recommend that late testing be done if prophylaxis has been given.

APPENDIX 1 – COUNSELING GUIDELINES

ACCIDENTAL EXPOSURE TO BLOOD AND BODY FLUIDS

Persons accidentally exposed to blood and body fluids are extremely anxious about the possibility of HIV transmission. Frequently, this leads to prolonged absence from work or interference with performance. It is important that they be appropriately counseled about their potential risk of infection, the reasons for recommending or not recommending antiretroviral therapy, and the avoidance of potential HIV transmission to others. In an Emergency Room setting, it may be difficult for them to absorb all the information provided in counseling; therefore it is important that counseling is repeated on the initial follow-up visit with their family physician or designated physician and as needed thereafter.

The Centre provides a “Dear Patient” letter for persons not receiving prophylaxis. (See Appendix 4)

TRAVELING HEALTHCARE WORKERS

Healthcare workers who will be working in high prevalence areas outside of BC, may wish to purchase a starter supply of prophylaxis to take with them and if required, arrange for the remainder of prophylaxis on site. It may be very difficult to access antiretroviral drugs in these areas and this information should be sought, well before departure. Please contact the Centre Pharmacy for further information (1-888-511-6222).

GENERAL GUIDELINES FOR INITIAL COUNSELING, WITH THE ACCOMPANYING SCIENTIFIC RATIONALE

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 review with the person where the test results are to go, e.g. personal physician, Employee Health Service. If requested, their sample may be sent to the laboratory without personal identifying information. Thus, only the person designated to receive the results will know the results.

HIV positivity is a reportable condition in B.C. and the B.C. Center for Disease Control should be contacted about this issue.

2. Risk of HIV infection after exposure

Based on the type of exposure and the estimated probability that the source person is HIV positive, the risk of HIV seroconversion can be roughly estimated in some circumstances (Appendix 2a).



The average risk of HIV transmission after accidental percutaneous exposure to infected blood or body fluids is estimated to be 0.3% (1 in 300). 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.

The same meta-analysis found the risk of HIV transmission following mucocutaneous exposure to be 0.1% (1 in 1,000).

If the source is not known to be HIV positive the risk of transmission drops dramatically and frequently the risk of prophylaxis exceeds the risk of infection.

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

- High viral load in the source (source in seroconversion illness or late stage AIDS disease). Low or undetectable viral load greatly diminishes the risk but does not eliminate it.
- Visible blood on the device and/or a device previously in a source's artery or vein
- Depth of wound
- Volume of blood
- Gauge of needle in needlestick exposures (larger bore needles carry greater risk because of the larger volume of blood exposure).

3. Reasons for taking antiretroviral therapy

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

- If HIV transmission occurs, it will ultimately lead to AIDS, which is a chronic disease which may be fatal. Drug therapy taken soon after exposure may prevent infection.
- Evidence shows that antiretroviral therapy can reduce the risk of transmission of HIV by 86%. See page 16.
- Three drugs are used to provide increased protection and to overcome the risk of the source virus being resistant to one drug.
- Antiretroviral drugs taken for one month are considered to have few long-term side effects despite significant morbidity in the short term and rare mortality.
- If antiretrovirals are taken and HIV infection still occurs, the early use of antiretrovirals may favourably alter the course of subsequent infection.

4. Potential Adverse Effects

POTENTIAL ADVERSE EFFECTS OF ONE MONTH OF ANTIRETROVIRAL THERAPY

These estimates are based on the experience of the Centre in the use of HIV prophylaxis and also use in the treatment of HIV infection. In most cases, the estimates are based on the use of two drugs and the adverse effects of three drugs may be higher.

- Minor adverse reactions, e.g. nausea, fatigue, etc. (70% of patients).
- Serious reactions, e.g. unable to work for the month of therapy (30 – 60% of patients). This risk is probably lower with newer drugs.
- Long term adverse effects (poorly defined) 1:5,000
- Risk of death is unknown but we would estimate that the risk of dying is 1:15,000 to 1:150,000. With three drugs without good follow-up, it may actually be much higher.

With the exception of the minor adverse reactions, these risks are not based on solid data and are provided only to guide physicians and exposed persons with a crude estimate of the hazards.

5. Why am I being asked to take these medications?

Three drugs are used: Tenofovir, Lamivudine and Kaletra. These drugs are commonly used together to treat patients infected with HIV. Using three drugs together has been found to be much superior to using one or two drugs. It is assumed that using three drugs in accidental exposures will improve their effectiveness and avoid infection with virus resistant to one drug. However this is not proven as it is impossible to test this assumption.

6. Evidence that antiretroviral drugs can prevent HIV transmission

- At the present time, all of the evidence about HIV chemoprophylaxis has been established with zidovudine. However, in British Columbia, 10% of new infections with HIV are zidovudine resistant. Therefore, an expert panel recommends that tenofovir be used instead of zidovudine. Also, in studies of accidental exposures, zidovudine appears to produce most of the adverse effects noted by patients preventing compliance with the regimen.
- The evidence that zidovudine can prevent transmission is presented below and there is every reason to believe tenofovir would function similarly.
 - a) In animal studies zidovudine can be effective in preventing transmission of HIV.

- b) A study of pregnant women with mildly symptomatic HIV disease and no prior treatment with antiretroviral drugs during pregnancy showed that zidovudine given before and during delivery to the mother and to the newborn for six weeks after the delivery reduced the risk of maternal-infant HIV transmission by approximately two-thirds. Zidovudine treatment has become the standard of practice for all HIV-positive pregnant women (REF: MMWR, 1996 Vol 43, No. RR-11). Use of other antiretroviral medications in pregnancy is being studied and may be recommended in the future.
- c) 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, CDC, Atlanta. Health care workers who had an occupational (work-related) exposure to HIV-positive blood (i.e. the source was known HIV-positive or determined to be HIV-positive after testing) were divided into cases (those who 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 getting 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 86% (REF: MMWR, 1996 Vol 44, No. 50: www.cdc.gov/mmwr)

7. Possible side effects and contraindications of antiretrovirals

Tenofovir: Tenofovir is well tolerated and side effects are mild. They may include nausea, diarrhea and gas. Rarely, patients have had liver or kidney changes when taking Tenofovir and appropriate lab testing should be done.

Lamivudine (3TC): Lamivudine is usually well tolerated in short-term therapy and side effects are rare. Reversible decreased white blood cell count is the commonest side effect. Tingling of the hands and feet (peripheral neuropathy) is very unlikely to occur with one month of treatment.

Kaletra: Side effects include diarrhea, nausea, vomiting and abdominal pain. Occasionally there will be changes in liver function tests. Kaletra may interact with a wide number of medications including Pimozide, Midazolam, Triazolam, and Rifampin. Contact the Centre pharmacy (1-888-511-6222) before taking any other type of medication or herbal remedies.



INSTRUCTIONS FOR TAKING ANTIRETROVIRAL DRUGS

Tenofovir: one tablet (300 mg) once a day for 28 days

Lamivudine (3TC): one tablet (150 mg) twice a day or (300 mg) once a day for 28 days

Kaletra: two tablets twice a day with meals for 28 days

NOTE: Taking all three drugs with food may reduce stomach upset.

PROVIDE THE FOLLOWING ADDITIONAL INSTRUCTIONS FOR TAKING THE DRUGS:

- A five-day starter kit will be supplied in the Emergency Department. The remainder of the one-month's therapy will be supplied by the Centre by calling the Centre Pharmacy (1-888-511-6222). Therefore, follow-up of the exposed person by their physician within the first few days of therapy is essential.

The starter kit is intended to provide five days of therapy while a more detailed assessment of the risk of transmission can occur. The exposed person should see their family physician or designated follow-up physician as soon as possible after the initiation of the starter kit to determine the need for a full 28 days of therapy. Many exposed persons will not require 28 days of therapy, but this decision should be made in consultation with their physician. If 28 days of therapy are necessary, the physician should contact the Centre Pharmacy (1-888-551-6272) as soon as possible to expedite securing the remaining 23 days of therapy.

- The drugs should be taken as prescribed. However, a missed tablet may be taken when it is remembered. The normal schedule is then resumed.
- The drugs should be stored in a cool, dry place out of the reach of children. Do not refrigerate.
- Advise that a doctor must be consulted before taking any other medication; this includes any medications prescribed by a doctor and any over-the-counter medications.
- Advise exposed person to report any side effects that develop.
- Advise exposed persons not to adjust the dose or stop the drugs without consulting the Centre Pharmacy. For those few patients unable to tolerate the starter kit beyond the first five days of therapy, the Centre will make available other antiretroviral drugs to be used for the remainder of the one-month's therapy. In some cases dosage adjustments may be warranted. Physicians should discuss the specifics of the situation with the Centre Pharmacy (1-888-511-6222).
- Guidelines for use in children are on page 9, 10 and 13.



- These medications may interact with other medications or herbal remedies. Questions regarding interactions should be directed to the Centre Pharmacy (1-888-511-6222).
- Advise the exposed person of the importance of keeping their doctor appointments and complete any blood tests that are ordered.

8. How long before an exposed person can be reasonably sure that they have not been infected?

The vast majority of persons infected will seroconvert within three months of infection. HIV testing is recommended at the time of exposure, and at six weeks, twelve weeks, and six months after the exposure. It is recommended that all those who take antiretroviral therapy should be tested again at twelve months after exposure because antiretroviral therapy may delay the appearance of the infection.

NOTE: Seroconversion after 12 weeks is uncommon and after 24 weeks extremely unlikely. However, for insurance and compensation purposes we would recommend that late testing be done.

9. Precautions to avoid transmission to others

While awaiting the test results (three months to be reasonably sure), take the following precautions to prevent potential HIV transmission to others:

- Abstain from sexual intercourse or use a latex condom with a water-based lubricant at all times during intercourse.
- 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, it is all right to continue nursing while waiting for the source's test results. The issue of continuing breastfeeding should be decided when results are available.
- The risk of transmission to others is extremely small and the need for precautions should be discussed with a consultant familiar with HIV transmission.

10. Worker's compensation board issues "WorkSafe BC"

- If the incident occurred in an occupational setting, complete and submit WCB forms. For incidents involving a significant risk of transmission, WCB generally covers the costs of post-exposure antiretroviral therapy by reimbursing the Centre.



- Ensure that the exposure is reported to the employer and properly documented. Adequate documentation including HIV testing is important if the worker becomes HIV-positive. For the WCB to accept a claim for seroconversion, the more likely cause must be the work exposure.
- The exposed worker must be tested for HIV as soon as possible after the exposure.
- The circumstances of the exposure must be investigated to identify causes and contributing factors and implement corrective actions, in order to prevent future exposures occurring in a similar manner.

11. Questionnaire Re: Exposures

- The exposed person should complete the Centre Surveillance questionnaire (which is included with the remaining 23 days' worth of therapy) and return it in the self-addressed, stamped envelope.

INSTRUCTIONS TO PATIENTS RECEIVING STARTER KITS FOR PREVENTION OF TRANSMISSION OF HIV FROM ACCIDENTAL EXPOSURES

1. Carefully read the instructions from the Centre Pharmacy concerning your drugs.
2. The side effects of the drugs can be very troublesome, contact the Centre Pharmacy (1-888-511-6222) for advice if you experience side effects.
3. Contact your personal physician as soon as possible so that the risk assessment issues can be reviewed. There is an instruction sheet in the kit that you should give to your physician as they may not be familiar with this program.
4. If your physician feels that you have a significant risk exposure, they should immediately contact the Centre Pharmacy (1-888-511-6222) so that the most appropriate therapy for your case can be determined. There may be advantages to changing the drugs.
5. If you are to continue drug treatment, your physician should contact the Centre Pharmacy (1-888-511-6222) immediately to arrange for the remaining 23 days of drug. The drug can be picked up at St. Paul's Ambulatory Pharmacy or can be sent to your physician if you live outside the Lower Mainland. PLEASE ALLOW TWO WORKING DAYS FOR DELIVERY.
6. The hours of the Centre Pharmacy are 9:30 am to 4:30 pm, Monday to Friday.
7. If the source person has agreed to be tested for HIV, contact your physician to make sure that the results of the test are available as soon as possible. You should personally make sure that the results of that test are available as soon as possible.

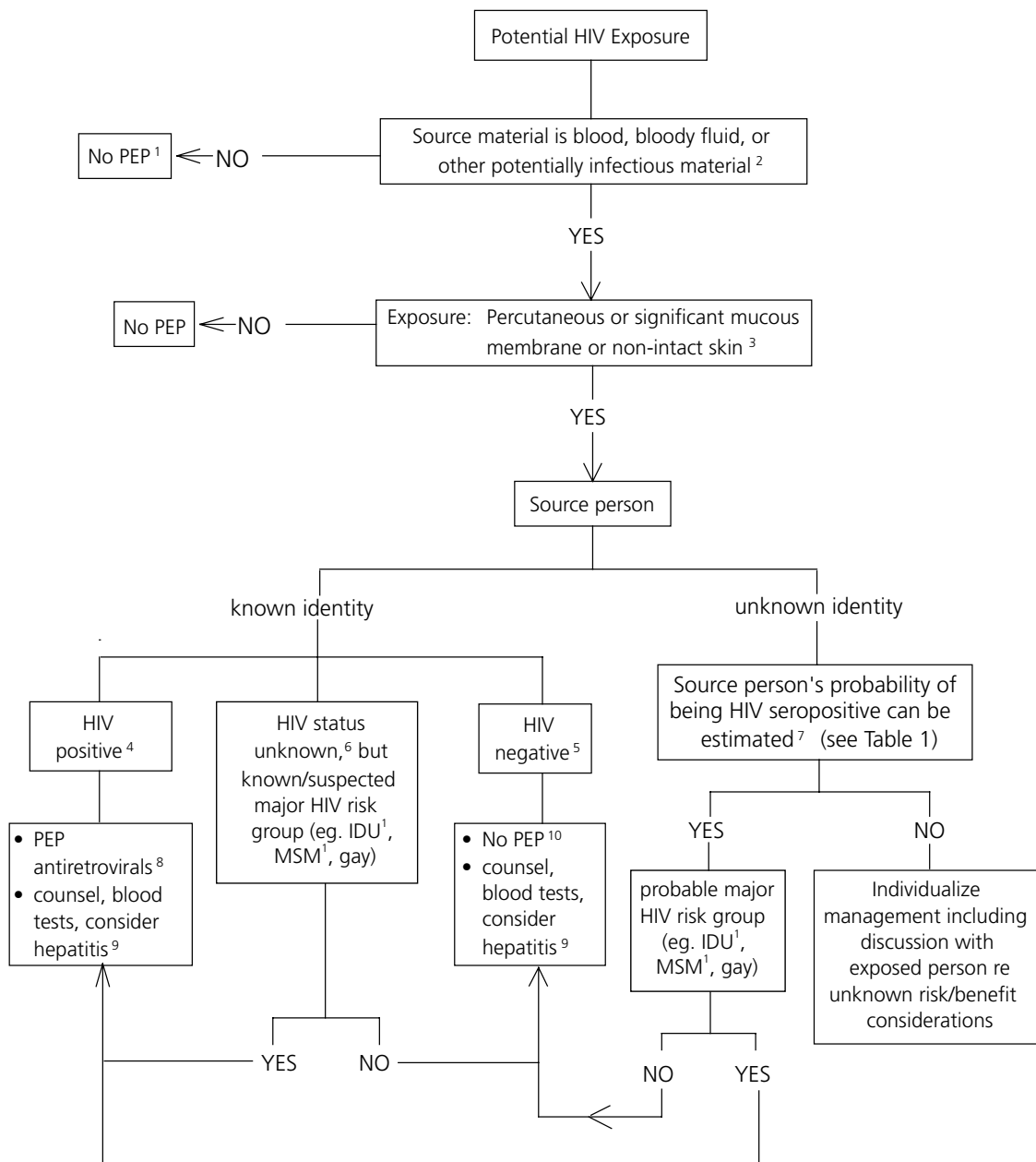


Don't leave it to somebody else; it is important to you. You are only entitled to know if you should or should not continue prophylaxis. You are not entitled to know details of the source's lifestyle or medical history.

8. If it is determined that you do not need the remaining days of the therapy, the drug should be destroyed and not be shared or given to someone else. Preferably return unused drugs to the Centre Pharmacy or to your neighborhood pharmacy to be destroyed.
9. ***This is an extremely stressful event and you should receive counseling from your employer's health service or stress management consultants or through a private counselor if you can find one familiar with this type of risk. Do not try to "tough it out alone". Stress frequently leads to prolonged absence from work and poor job performance.**
10. It is important to recognize that in the last ten years there have been no infections of HIV developing from occupational exposures in B.C. There has only been one, to our knowledge, in B.C. in the last fifteen years. Therefore, this situation is not extremely hazardous but it deserves your careful attention.

APPENDIX 2 – RISK ASSESSMENT

ACCIDENTAL EXPOSURE ALGORITHM



Footnotes on next page.

FOOTNOTES:

1. PEP = post exposure prophylaxis
IDU = injection drug user
MSM = man who has sex with men
2. Semen or vaginal secretions; CSF; synovial, pleural, peritoneal, pericardial, or amniotic fluids or tissue. Not saliva, tears, sweat, urine or feces unless mixed with blood.
3. Exposure type:

Abandoned needles: The Centre does not recommend prophylaxis for abandoned needles outside the health care setting when there is no history of the use of the needle or the times of its abandonment.

Percutaneous exposures are considered more severe for HIV transmission when associated with a large-bore hollow needle, deep puncture, visible blood on device or needle used in source patient's artery/vein (Less severe percutaneous exposure: eg. solid needle or superficial scratch).

Significant mucous membrane or non-intact skin exposures involving potentially infectious material range from minor (e.g. a few drops for a duration of a minute or two) to major (e.g. more than few drops to a major blood splash and/or duration of several minutes or more). Cutaneous exposures are significant if skin is compromised (i.e. chapped, abrasion, open wound, or dermatitis). However there may be a risk of HIV transmission with major exposure (as above) to intact skin. Assess skin integrity.
4. Source person is considered HIV positive if there is a positive test for HIV antibody, HIV PCR, or physician diagnosed AIDS.

A low or undetectable viral load greatly diminishes the risk but does not eliminate the risk.
5. Source person is considered HIV negative if there is a recent negative test result within the past 3 months for HIV antibody or HIV PCR, plus no clinical indication of a recent retroviral-like illness.
6. If source person consents, then test for HIV, anti-HCV, HBsAg.
7. In exposures involving a source person with either unknown HIV status or identity, it is not possible to give reassurance that the risk of HIV seroconversion is zero. However, it may be possible to estimate the risk (see Appendix 2a) and help to explain that the risk of a serious (life-threatening) drug related adverse reaction of PEP (currently unknown) may exceed that of HIV seroconversion.

E.g. needle stick injury involving a sharps bucket on a geriatric ward not known to

have any HIV+ patients. The source would be very unlikely to be in a major HIV risk group, unless information to the contrary is available.

8. PEP: Three drugs are recommended for significant risk exposures involving confirmed HIV sources. Prophylaxis is recommended for significant risk exposures involving sources whose HIV status is unknown, if the source is known/strongly suspected to have a major HIV risk factor.

Counsel regarding precautions for minimizing risk of exposure to blood-borne pathogens; obtain baseline bloodwork (outlined below) and advise patient regarding timing of follow-up testing; management of potential hepatitis exposure.

PEP toxicity monitoring should include CBC, differential, creatinine and liver enzymes, glucose and urinalysis.

9. For individuals who may be susceptible to hepatitis B and C, collect exposed person's blood samples for anti-HBs, HBsAg, and anti-HCV.



APPENDIX 2A – RISK ASSESSMENT: ESTIMATED PROBABILITY OF HIV FOLLOWING A SINGLE EXPOSURE IN BRITISH COLUMBIA

Exposure Type	Source Person Category (estimated seropositive probability ¹)							
		Major Risk Group		Risk factors Unknown			Not in major Risk Group	
	Known HIV+	IDU	Gay Men	Men	Women	Gender?	Men	Women
(Estimated seroconversion probability ²)	(p=1)	(p=.4)	(p=.2)	(p=.005)	(p=.0005)	(p=.0025)	(p=.0005)	(p=.00005)
Occupational:								
Percutaneous needle (p=.003)	.003	.0012	.0006	.000015	.0000015	.0000075	.0000015	.00000015
	(1/300)	(1/800)	(1/1600)	(1/66,000)	(1/660,000)	(1/130,000)	(1/660,000)	(1/6,600,000)
Mucocutaenous (p=0.001)	.001	.0004	.0002	.000005	.0000005	.0000025	.0000005	.00000005
	(1/1000)	(1/2500)	(1/5000)	(1/200,000)	(1/2,000,000)	(1/400,000)	(1/2,000,000)	(1/20,000,000)

1. Based on Provincial STD Control data 1997 and the VIDUS Study.

2. Based on published estimates for each exposure type (Katz et al NEJM 1997; 336:1097; Royce et al NEJM 1997;336:1072)

These figures represented only an average risk; the risk to an individual may be higher depending on the presence of other factors.



APPENDIX 3

HIV POST-EXPOSURE PROPHYLAXIS (Five-Day Starter Kits)

YES -PROPHYLAX PROMPTLY

(Drug will be provided by Center Program)

- Healthcare, Police, Fire, Ambulance or Corrections Personnel or other workers with significant exposures to blood of a person known to be HIV infected, or a person where there are **significant** reasons* to believe they are HIV infected (WCB /WorkSafe BC coverage if occupational).
- Persons in the community clearly exposed to blood of an HIV infected person, or a person **KNOWN** to be at high risk of being HIV infected (See Guidelines).
- Persons who are sexually assaulted by an individual **KNOWN** to be HIV infected or **KNOWN** to be at significant risk* of HIV infection.

Before the remaining 23 days of prophylaxis is dispensed an expert review will occur and continuing prophylaxis may not be recommended or provided if the potential toxicity outweighs the risk of infection.

NO -DO NOT PROPHYLAX

(Prophylaxis is NOT recommended nor provided by the Centre)

Patient may purchase prophylaxis if prescribed.

There are significant adverse effects associated with use of these medications. A significant proportion of patients will be too sick to work during the month of prophylaxis. The risk of death from the medications is unknown but may lie in the range of 1:15,000 to 1:150,000.

- EXPOSURES WHERE THERE ARE NOT CLEARLY SIGNIFICANT REASONS* TO BELIEVE THE SOURCE IS HIV INFECTED
- Exposure to non-infectious body fluids (e.g. saliva or urine or gastric contents)
- Exposures more than 36 hours old, unless extremely high risk
- Exposures to abandoned needles, where the time of abandonment and use of the needle are not known
- Sexual assault victims where the perpetrator is unknown or there is no significant reason* to believe the perpetrator is HIV infected
- Bites need not be prophylaxed unless it is clear that transmission of infected blood has occurred



- Injuries received in fights would rarely be appropriate indications for prophylaxis unless it is clear that transfer of infected blood has occurred
 - ANXIETY ALONE IS NOT AN INDICATION FOR POST-EXPOSURE PROPHYLAXIS
- * **Significant reasons:** source known to be a man who has sex with men or an intravenous drug user

Exposures resulting from adult consensual sexual activities or accidents in drug-using environments are not part of this program. Exposed persons may wish to purchase prophylaxis, if prescribed. This subject is covered in a guideline from CDC MMWR Jan21,2005/vol54/RR-2

The full guideline and patient handout letter are available on the Centre's website, www.cfenet.ubc.ca. For expert advise or help with interpretation of prophylaxis issues, contact the Centre Pharmacy at (1-888-511-6222).



APPENDIX 4

BRITISH COLUMBIA CENTRE FOR EXCELLENCE IN HIV/AIDS

LETTER TO EMERGENCY ROOM PATIENTS

Dear Patient:

You have been assessed in the Emergency Room regarding prevention of HIV (the virus that causes AIDS) infection following your accident. A wide range of accidents may transmit infectious diseases including blood splashes, needlesticks, sexual assaults, etc. In some of these cases, there is a significant risk that HIV will be transmitted from one person to another and this requires transfer of a significant amount of blood from the infected person to the non-infected person.

Your physician in the Emergency Room has evaluated these risks and feels that the risk of infection is very low and that you would be in more danger from the medications than from acquiring HIV from the event. Therefore, your doctor has recommended that you not take preventative drugs at this time.

RISKS OF ACCIDENTS

The risk of infection from a large hollow bore needle which has just come out of the artery or vein of a known HIV infected patient is one in 300 if it clearly penetrates the skin of another person. The risk of other injuries goes down dramatically to 1 in hundreds of thousands in less severe injuries. This is particularly true if it is not clear that the source person is HIV infected or if less blood is transmitted or if the penetration is less severe.

RISKS OF DRUG TREATMENT

There are very significant hazards associated with the drugs taken to prevent infection (prophylaxis). We estimate that the risk of dying from the toxicity of the drugs lies between 1 in 15,000 and 1 in 150,000, but that is a rough estimate, as to our knowledge, no one has died from one month of drug treatment for prevention. On the other hand, some patients are very ill during prophylaxis and at least one patient required a liver transplant. In our program many patients are unable to continue working while taking the drugs. Therefore, the risks of transmitting the infection has to be weighed against the hazards of the medication and your Emergency Room physician may feel that the drugs are more dangerous than the event.



RISKY SEXUAL ACTIVITY OR DRUG ABUSE

Some people feel that they have been exposed to HIV through adult consensual sexual events or events arising in drug-using environments. It is not within the mandate of the Centre for Excellence to give HIV drugs for those events. If you wish you may purchase medication if prescribed. In Vancouver, the only 24 hr a day, 7 day a week source of drugs is Shoppers Drug Mart at 1125 Davie Street. The cost ranges from \$500.00 to \$1,000 for one month of treatment.

SEXUAL ASSAULTS

The Centre provides drugs to sexual assault victims when it is clear that the perpetrator is probably infected with HIV. It is not appropriate to give drugs to all sexual assault victims as in most cases, the risk of HIV infection occurring is extremely low and the hazards of the drugs are much higher.

We hope this will answer some of your questions. If you have further questions about this, you should contact your family doctor.



ACCIDENTAL EXPOSURE GUIDELINES COMMITTEE

Akagi, Linda	Ambulatory Pharmacy, BC Centre for Excellence in HIV/AIDS
Burdge, Dr. David	Division of Infectious Disease, Oak Tree Clinic
Daly, Dr. Patty	Epidemiology, Vancouver Health Authority
Forbes, Dr. Jack	B.C.'s Children's Hospital
Goldstone, Irene	BC Centre for Excellence in HIV/AIDS
Grafstein, Dr. Eric	Emergency Medicine, St. Paul's Hospital
Harris, Dr. Marianne	BC Centre for Excellence
Jurenka, Blanka	BC Women's Sexual Assault Service
Khoo, Dominic	Pharmacy, Oak Tree Clinic
McLeod, Dr. Alastair	Chair, Committee on Accidental Exposures, BC Centre for Excellence in HIV/AIDS
McMillan, Nancy	Occupational Health & Safety, St. Paul's Hospital
Montessori, Dr. Val	BC Centre for Excellence in HIV/AIDS
Montaner, Dr J.S.G.	Director, BC Centre for Excellence in HIV/AIDS
Murphy, Kim	Occupational Health VGH
Pielak, Karen	Nurse Epidemiologist BC, BC Centre for Disease Control
Phillips, Dr. Peter	Head, Infectious Disease Service, St. Paul's Hospital
Rowland, Jay	WorkSafeBC
Sherlock, Dr. Chris	Director, UBC Virology, Laboratory, St. Paul's Hospital