



BLOOD & BODY

FLUID

EXPOSURE

MANAGEMENT

JANUARY 2010

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INTRODUCTION AND CONTACT INFORMATION

Introduction

- These guidelines outline the risk assessment and management for potential percutaneous, mucosal, or non-intact skin exposures to human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV) from blood or body fluids.
- This manual is intended for Emergency Department Staff, Community Health Nurses, Nurse Practitioners, Physicians, Infection Control Practitioners, Occupational Health Practitioners and Infectious Disease Nurses.

Yukon Communicable Disease Control (YCDC) Role in Post Exposure Management

- YCDC provides consultation services to health care professionals when questions arise on post exposure management during hours of operation.
- Individuals exposed to blood and/or body fluids can be referred to YCDC for management during hours of operation.
(Refer to pg. 3 for YCDC contact information and hours of operation)

Yukon Consultation with BC Centre for Excellence in HIV/AIDS

- The BC Centre for Excellence in HIV/AIDS (BC-CfE) has an agreement with the Yukon to provide consultation services for managing cases of accidental exposure or risk of exposure to HIV.
- The BC-CfE service is available to Yukon physicians and nurses working in Community Health Centres, who request consultation regarding case management of an exposed person to HIV or risk of HIV exposure.
- This support is offered via telephone consultation with an on-call BC-CfE pharmacist with expertise in this specialized field.
- Community Nurses – When using BC-CfE consultation service, please be advised that should HIV post exposure prophylaxis be recommended, this should be discussed and prescribed by a licensed Yukon Physician.
- The program also allows Yukon Health Professionals access to BC-CfE guidelines. Including: “Management of Accidental Exposure to HIV” guideline which can be found online at:
http://cfenet.ubc.ca/webuploads/files/07_1121_AEGuidelines.pdf
(Refer to pg. 3 for BC-CfE contact information)

For Questions Regarding Post Exposure Management

Contact YCDC - Monday – Friday 0830 to 1630hrs

Yukon Registered Nurses

When calling YCDC for consultation please indicate that your call is regarding post exposure management.

After Hours/Weekends

1. Whitehorse General Hospital - Emergency Department Physician on call or the Community Physician.
2. The Medical Officer of Health may be called if required **after** calling the WGH ER Physician, or Community Physician.
3. *BC-CfE may be called by the RN if requested by the physician, MOH and in the situation of a complex case, i.e. exposure occurred in a pregnant woman.

* Community Nurses – When using BC-CfE consultation service, please be advised that should HIV post exposure prophylaxis be recommended, this should be discussed and prescribed by a licensed Yukon Physician.

Yukon Physicians

Contact any of the following (depending on the nature of the inquiry):

- Yukon Communicable Disease Control
- Dr. Brendan Hanley MOH
- BC Centre for Excellence in HIV/AIDS

Contact Information

Yukon Communicable Disease Control

Hours: Monday- Friday (0830-1630)

#4 Hospital Road,
Whitehorse, Yukon
Y1A 3H8

Telephone

Local (867) 667-8323
Within Yukon 1-800-661-0408

Fax

(867) 667-8349

Whitehorse General Hospital

Emergency Department

(Ambulatory Care)
#5 Hospital Road,
Whitehorse, Yukon
Y1A 3H7

Tel: (867) 393-8700
Fax: (867)393-8707

Dr. Brendan E. Hanley MD CCFP (EM) MPH

Chief Medical Officer of Health, Yukon

#4 Hospital Road,
Whitehorse, Yukon
Y1A 3H8

Tel: (867) 456-6136
Fax: (867) 667-8349
Cell: (867) 332-1160

BC Centre for Excellence in HIV/AIDS

608-1081 Burrard St.

Vancouver, BC V6Z 1Y6

Tel: (604) 806-8477

Fax: (604) 806-9044

24 Hour Pharmacist Hotline (604) 341-1410

Website: www.cfenet.ubc.ca

E-mail: info@cfenet.ubc.ca

Accessing Care in the Yukon for Post Exposure Management (Exposed Person)

Whitehorse General Hospital

Employees

- The exposed employee should report to the WGH Infection Control/ Occupational Health Practitioner or designate.
- After hours and weekends the exposed employee should be assessed by a physician in the Emergency Department.

In-Patient

- The attending physician or Nurse in Charge should contact the WGH Infection Control/ Occupational Health Practitioner or designate. For after hours and weekends the attending physician or Nurse in Charge will be responsible for the assessment and initial management.

Infection Control and Occupational Health Practitioner Whitehorse General Hospital

Hours: Monday-Friday
Tel: (867) 393-8933
Fax: (867) 393-8943

Whitehorse General Public

- The exposed Whitehorse community member can be referred to the following locations:

Yukon Communicable Disease Control
#4 Hospital Road
Whitehorse, Yukon, Y1A 3H8
Hours: Monday- Friday (0830-1630)
Tel: (867)667-8323
Fax: (867)667-8349

**Whitehorse General Hospital
Emergency Department**
(Ambulatory Care)
#5 Hospital Road
Whitehorse, Yukon, Y1A 3H7
Tel: (876) 393-8700
Fax: (867)393-8707

Communities Surrounding Whitehorse

- The exposed community member should go to the Community Health Centre to be assessed by a Community Health Nurse or physician.

POST EXPOSURE MANAGEMENT

Indications for Post Exposure Management

Post-exposure management is required when all of the following 4 indications are present:

- percutaneous, mucosal or non-intact skin (i.e. presence of wound/s, dermatitis) exposure;
- the exposure is to blood, potentially infectious body fluid or tissue(see Appendix A: “Fluids and Tissues Capable of Transmitting Bloodborne Pathogens”);
- the source is considered potentially infectious (positive test, or in a higher risk group, or exposure occurred in a higher risk setting);

AND

- the exposed person is considered susceptible to at least one of the following viruses:
 - HIV,
 - HBV, or
 - HCV

Important Steps Following Exposure to Blood or Body Fluid

1. Cleanse the Exposed Area

- Mucous membrane or eye: rinse well with water and/or normal saline.
- Skin: wash well with soap and water.
- Allow injury/wound site to bleed freely, and then cover lightly.
- **Do not promote bleeding of percutaneous injuries by cutting, scratching, squeezing, or puncturing the skin.** This may damage the tissues and increase uptake of any pathogen(s).
- Do not apply bleach to the injury/wound or soak it in bleach.

2. Triage Points for Consideration

If percutaneous, mucosal, or non-intact skin exposure has occurred, the exposed person should have a risk assessment performed by a qualified health professional, **preferably within 2 hours of exposure.**

Hepatitis B

- If indicated, Hepatitis B immune globulin (HBIG) should be given as soon as possible and preferably within 48 hours following the exposure.
- If indicated, following a percutaneous exposure, HBIG should be received no later than 7 days following the exposure.
- If indicated, following a mucosal or sexual exposure, HBIG should be received no later than 14 days following the exposure.

HIV Antiretroviral Therapy

- If antiretroviral therapy is indicated, it should be initiated **as soon as possible after exposure, preferably within 2 hours.**
- There is no absolute cut-off time for the initiation of antiretroviral therapy for “significant risk” exposures (see Table #3, pg. 16 for description of these types of exposures).

3. How to Assess the Risk of Exposure

- Complete a risk assessment using the Blood and Body Fluid Exposure Form (BBFE). The form is designed as an information management tool to facilitate the collection of exposure information and recording of post-exposure treatment and management.
- Refer to Appendix G: “Blood and Body Fluid Exposure Form”
 - Practitioners at WGH can access the form electronically (also see Appendix G)
 - Community nurses can access this form electronically via: Community Nursing G Drive

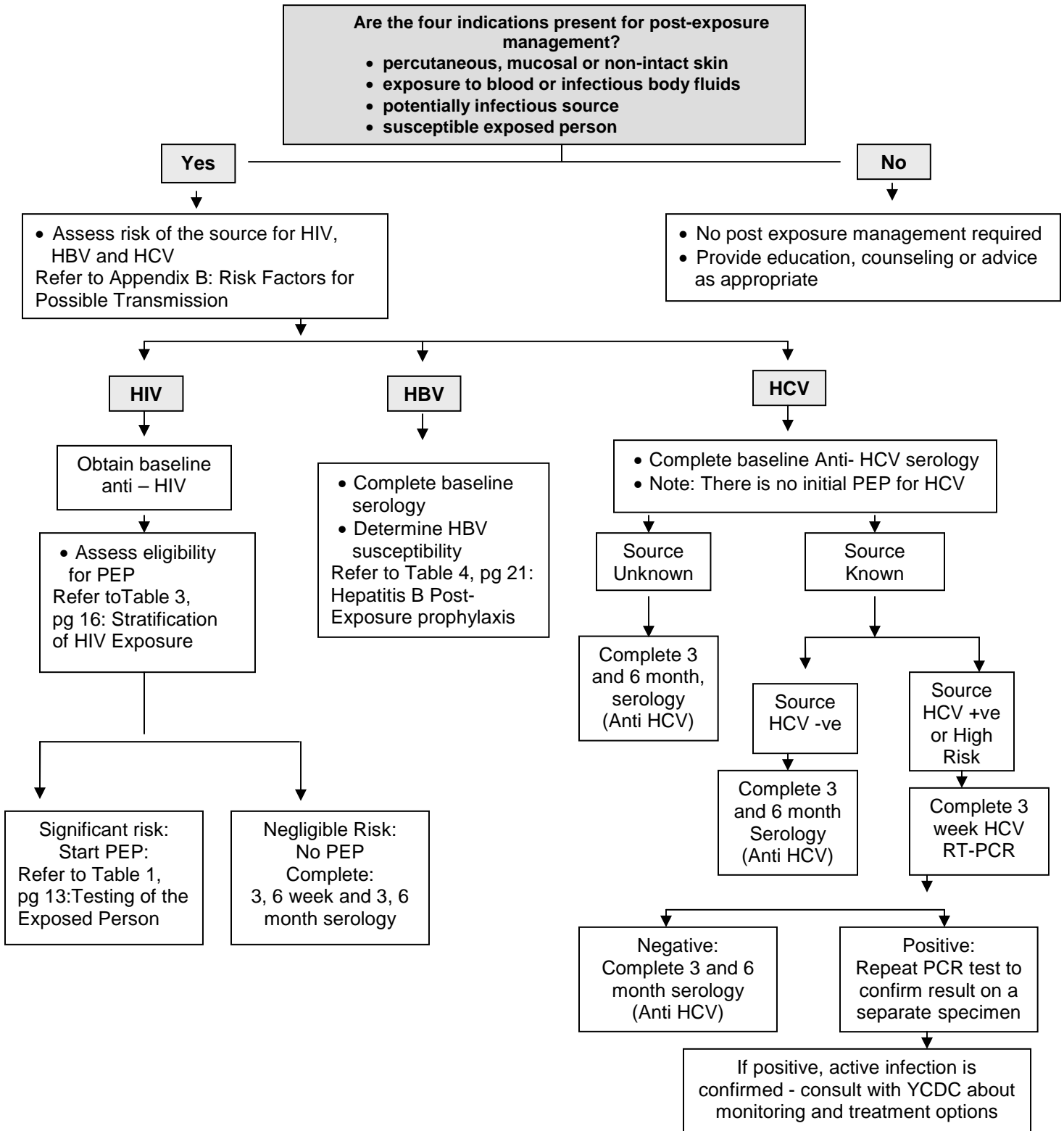
What is the Risk of Transmission from the Exposure?

The following body substances have **not** been implicated in the transmission of HIV, HBV, or HCV **unless they contain visible blood**: (Refer to Appendix A: “Fluids and Tissues Capable of Transmitting Bloodborne Pathogens”).

- faeces
- nasal secretions
- sputum
- sweat
- tears
- urine
- vomitus

(Refer to Appendix L: “Probability of Transmission of HIV, HBV, HCV”)

Blood and Body Fluid Exposure Management Algorithm: Exposed Person



4. Assess the Risk of Transmission from the Source

- Determine if the source identity of the blood or body fluid is known. If source is known, attempts should be made to have the source tested as soon as possible.
- For consideration of window periods – HIV, HBV, HCV, Refer to Appendix I.
- The source should be managed by someone OTHER THAN the exposed individual.
- Obtain the source person's consent for testing for (Refer to Table 2, pg 14: Lab Collection of Specimens).
 - Anti-HIV
 - Anti-HCV
 - HBsAG
 - Anti-HBs
 - Anti-HBc
- The appropriate pre- and post-test counselling should be done for each test. Obtaining informed consent from the source is an integral part of all post-exposure testing procedures, as is maintaining confidentiality of all information.

Discuss the following with the source person:

- Why/how their test results are needed for the management of the exposed person, as well as the importance for follow-up of their own test results.
- Their consent is needed for:
 - Disclosure of their test results to their Health Care Provider (so they can be contacted with the results).
 - Disclosure of their test results to the exposed person's Health Care Provider.
 - Test results to be sent to Yukon Communicable Disease Control.
- That the exposed person will not be informed of their (the source) test results, nor their identity, if not already known.

Inform the source that:

- For all positive results, a lab report will be sent to the submitting Health Care Provider and to Yukon Communicable Disease Control.

If the source refuses testing, carefully consider the reasons for refusal. If there is no reason to suspect the source is in a high-risk group for HIV, HBV, HCV and refusal is based on factors other than fear of disclosure, then consider this a low risk source. It is not appropriate to automatically consider persons who refuse testing to be at high risk of infection.

Please note: A mandatory testing and disclosure act (of source) is not currently in place in the Yukon.

Counsel

- Provide counselling in the health facility as required, with more detailed counselling to be provided by the follow up health care provider.

5. Determine the HIV, HBV and HCV Status of the Exposed Person

Do not wait for test results before commencing post-exposure treatment

- Determine the status of the exposed person with respect to prior infection with HIV, HCV or HBV and previous immunization against HBV.
- Obtain the exposed person's consent and collect samples for the appropriate tests (Refer to Table 1, pg 13: Testing of the Exposed Person, Table 2, pg. 14: Laboratory Collection of Specimens).
 - anti-HIV
 - anti-HCV
 - HBsAG
 - anti-HBs
 - anti-HBc
- This baseline testing is critical for occupational exposures and possible compensation by the Worker's Compensation Board (WCB) – please refer to facility specific information regarding WCB claims as this is not discussed further in this guideline.
- Obtain and document consent from the exposed person for disclosure of lab results to their:
 - Follow-up Physician
 - Yukon Communicable Disease Control
- The appropriate pre- and post-test counselling should be done for each test. Obtaining informed consent from the source is an integral part of all post-exposure testing procedures, as is maintaining confidentiality of all information.

Inform the exposed person that:

- For all positive results, a lab report will be sent to the submitting Health Care Provider and to YCDC.

6. Counsel

- Provide post-exposure counselling in the health facility, with more detailed counselling to be provided by the follow up health care provider or by Yukon Communicable Disease Control in a follow up visit.
- Counselling should include points in Appendix E: "Blood and Body Fluid Exposure Counselling Guidelines".

7. Arrange Clinical and Laboratory Follow-Up

If possible, draw the required initial bloodwork of the exposed person and source while they are in the health facility.

- The specimens obtained from both exposed and source should be sent to the WGH lab **STAT**.
- Community Nurses should refer to the laboratory guidelines on sending a STAT specimen to the WGH lab.
- **Key points:**
 - **The requisition should clearly identify the nature of testing as a blood and body fluid exposure incident**
 - **Send the specimens as a STAT so that rapid turn around can be achieved**
 - **Notify WGH lab staff of this request.**

**Whitehorse General Hospital
Laboratory**
#5 Hospital Road
Whitehorse, Yukon
Y1A 3H7
Phone: (867) 393-8739

Follow-Up Testing:

- Clinical and laboratory follow-up should be arranged with the exposed person's health care provider.
- Use the Blood and Body Fluid Exposure Form (BBFE) (Refer to Appendix G), which outlines tests performed at baseline and to specify dates for follow up tests.
- Complete the last page of the BBFE form and give it to the client. This is the client's summary of steps taken for initial management and any follow up (including blood tests) that may be required.

When referring clients to YCDC for follow up:

- **Please note that YCDC obtains specimens for the following investigations with respect to post exposure management: Anti HCV, Anti HIV, AntiHBc, HBsAg, AntiHBs**
- **HCV PCR tests are ordered by a physician and are not performed at YCDC, however, arrangements can be made through YCDC to have the testing done at the WGH lab.**
- **Investigations for monitoring clients on HIV antiretroviral therapy are ordered by a physician and are not performed at YCDC, however, arrangements can be made with YCDC to have this testing done at the WGH lab.**

Table 1: Testing of the Exposed Person ①

TIME SINCE EXPOSURE	Anti-HIV	Anti-HCV	HCV PCR	HBsAg ②	Anti-HBs ②	Anti-HBc ②	RATIONALE FOR TESTING OF THE EXPOSED PERSON
ASAP	√	√		√	√	√	To check baseline status of the exposed person. Negative or non-reactive test results suggest no prior infection.
3 weeks after exposure	√		√				If source is HCV+ or in a high risk group, test exposed person for HCV infection by RT-PCR ③. If HCV RT-PCR +, early treatment may be beneficial. If the exposed person is confirmed PCR+, active infection is present and there is no need to test for anti-HCV.
6 weeks after exposure	√						To check whether seroconversion has occurred. A change from the initial negative (or non-reactive) test result to a positive (or reactive) result indicates that seroconversion has occurred. Seroconversion following a blood or body fluid exposure does not definitively establish that the exposure was the source of the virus if the exposed person has other risk factors.
3 months after exposure	√	√		②	②	②	
6 months after exposure	√	√		②	②	②	

- ① If the source person tests negative for HBV, HCV, and HIV and is not in a high-risk group, only baseline testing of the exposed person is indicated.
- ② See Table 4, pg. 21: Hepatitis B Post-Exposure Prophylaxis
- ③ If PCR+, a second sample needs to be tested to confirm the result.

Note: If the exposed person is a pregnant woman, request HBV testing as close to delivery as possible.

Table 2: Laboratory Collection of Specimens

Test	Specimen	Requisition
Anti-HIV	1 Yellow Top SST 7mL Tube	Use BCCDC PHSA Laboratory Requisition (Refer to Appendix M)
Hepatitis Screening: Anti-HCV HBsAg Anti-HBs Anti-HBc	1 Yellow Top 7mL SST Tube	
HCV PCR	2 pink top EDTA 7mL tubes *Must be kept cold if transporting from a community to Whitehorse	

8. Record

- Use the Blood and Body Fluid Exposure Form (BBFE) (Appendix G) to capture:
 - exposed person's risk assessment
 - treatment given
 - laboratory testing
 - recommendations and follow up
 - client copy of initial management and required follow up
- For an occupational exposure follow WCB guidelines (not included in this guideline) for injury reporting. This must not delay emergency assessment and management.

Please Fax the Completed Form to:

The exposed person's designated follow up health care provider and YCDC
Fax (867) 667-8349.

9. Follow-Up of Exposed Person

- Encourage the exposed person to follow-up with their family physician or other designated physician as it is extremely important to discuss the results of baseline testing and to arrange for subsequent testing. It is also necessary to complete the hepatitis B vaccine series and/or a month of antiretroviral therapy, if indicated.

If antiretrovirals are started, it is essential that the exposed person follow-up with a physician as soon as possible. The antiretroviral starter kits contain only a five day supply of medication.

- Complete and provide the exposed person with the last page of the BBFE form which will act as a summary of initial management and any required follow up.

(Refer to Appendix G: Blood and Body Fluid Exposure Form/Exposed Person's Follow-up Plan)

Follow-up of source person

- Encourage the source person to follow-up with their family physician.
- If the source person is HBV negative, consider hepatitis B vaccine if indicated.

HIV EXPOSURE

Management of Specific Pathogens – HIV

Table 3: Stratification of HIV Exposures

EXPOSURE RISK	EXPOSURE EXAMPLES	RECOMMENDATION
<p>SIGNIFICANT RISK:</p> <ul style="list-style-type: none"> Infectious body fluid and an HIV positive source or a known high-risk source. (Refer to Appendix B). 	<p>Any percutaneous exposure to infectious body fluids ❶</p> <ul style="list-style-type: none"> Mucous membrane or non-intact skin exposure (3 or more drops for 3 or more minutes). In the event of a large prolonged exposure of blood on intact skin, assess the integrity of the skin. If appropriate, treat as a significant risk exposure. 	<p>Antiretroviral starter kit (5 day kit)</p> <p>Consult: YCDC Weekdays 0830-1630hrs Tel: (867) 667-8323</p> <p>Medical Officer of Health: Dr. Brendan Hanley Tel: (867) 456-6136 Cell: (867) 332-1160</p> <p>BC Centre for Excellence in HIV/AIDS 24 hour Pharmacist hotline (604) 341-1410</p> <p><i>* Community Nurses – When using BC-CfE consultation service, please be advised that should HIV post exposure prophylaxis be recommended, this should be discussed and prescribed by a licensed Yukon Physician.</i></p>
<p>NEGLIGIBLE RISK:</p> <ul style="list-style-type: none"> Source known or presumed to be HIV negative OR Injury not known to transmit HIV OR Body fluid not known to transmit HIV 	<ul style="list-style-type: none"> Percutaneous, mucous membrane or skin exposure to non-infectious body fluid – source HIV positive or negative. Bites unless there has clearly been transmission of infected blood. A superficial scratch that does not bleed. Injuries received in fights would rarely be appropriate indications for prophylaxis unless it is clear that transfer of infected blood has occurred. 	<ul style="list-style-type: none"> No antiretrovirals recommended. Offer counselling clarifying the negligible risk of HIV infection and advise re: risk prevention (i.e. preventing recurrences of exposure incidents).

❶ Antiretrovirals (ARTs) are not provided free to persons exposed to HIV as part of their personal lives (i.e. consensual adult sex, or sharing drug injection equipment). However, the assessing physician may elect to prescribe ARTs for these situations and should consult with YCDC or the BC Centre for Excellence in HIV/AIDS regarding which ARTs to prescribe.

Note: Prophylaxis is not recommended for needlesticks from abandoned needles when they are outside the healthcare setting or when there is no history of the needle or the time of abandonment.

- If antiretroviral therapy is indicated for possible HIV exposure, it should be administered **as soon as possible after exposure, preferably within 2 hours.**
- There is no absolute cut-off time for the initiation of antiretroviral therapy for “significant risk” exposures (see Table 3, pg 16 for description of these types of exposures).
- Antiretroviral therapy should be initiated for eligible exposed persons even if they present more than 2 hours after the exposure.
- 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 later onset of advanced disease.
- Antiretrovirals are not recommended for needlesticks from an abandoned needle in a community setting when there is no history of the origin of the needle or the time of its abandonment.
- For Sexual Assault, HIV Risk/Post Exposure Prophylaxis refer to Appendix K.

Antiretroviral therapy will vary for:

- Children (see Appendix C)
- Pregnant women (see Appendix D)
- Those exposed to a source known to have been on antiretroviral therapy
- Source whose HIV infection is known to be drug resistant

Yukon Practitioners are encouraged to consult with the BC Centre for Excellence in HIV/AIDS to tailor a prophylactic regimen for these individuals. Immediately contact the BC Centre for Excellence in HIV/AIDS 24 hour Pharmacist Hotline (604) 341-1410.

Contraindications to Antiretroviral Therapy

- There are many potential drug interactions with antiretroviral medication. Therefore, a careful medication history is required before medications are prescribed.
- Non-essential medications and all alternative therapy should be discontinued during antiretroviral therapy.
- Avoid or use with extreme caution in persons with chronic renal insufficiency, hepatic insufficiency, or bone marrow dyscrasia.
- Avoid or use with extreme caution in persons treated with myelosuppressive, nephrotoxic or hepatotoxic drugs in the two weeks prior to starting antiretroviral therapy.

The Antiretroviral Starter Kit

- Each starter kit contains a 5-day supply of antiretroviral medications according to current recommendations of the BC Centre for Excellence in HIV/AIDS. Drug information sheets are included in each kit.
(Refer to Appendix N, O, P for Drug Information Sheets)
- The starter kit is intended to provide 5 days of therapy while a more detailed assessment of the risk of transmission can occur.
- **Within three days, follow-up should occur with the exposed person’s family physician or designated follow up physician so that an assessment can be made of the need for a full month of antiretroviral therapy.**

(Refer to Appendix J: “Counselling Guidelines for Antiretroviral Therapy Initiation”)

Antiviral Medications

Three Drug Regimen	Dosage
Tenofovir (VIREAD)	300mg once a day
Lamivudine (3TC)	150mg bid or 300mg once a day
Kaletra (lopinavir/ritonavir)	2 tablets bid

(Refer to Appendix N, O, P for Medication Information Sheets)

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 haematological hepatic or renal disease.

Persons continuing therapy after the starter kit should have the following laboratory evaluation:

Interval During Antiretroviral Therapy	Required Tests
Baseline	CBC and Diff, AST, ALT, Phosphorus, Creatinine, Urinalysis
Two weeks of therapy	
Four Weeks of therapy	

(BC-CfE Management of Accidental Exposure to HIV)

Availability of Antiretroviral Kits

Whitehorse

- Starter kits with a five day course of basic therapy (i.e. Tenofovir, Lamivudine, Kaletra) antiretrovirals are available at the WGH Emergency Department and at YCDC.
- To obtain the remainder of the 23 day antiretroviral therapy, arrangements should be made with YCDC by the designated follow-up physician. The medications will then be released to the client by YCDC.

Outside of Whitehorse

- Each Community Health Centre will have one starter kit (5 day).
- To obtain the remainder of the 23 day antiretroviral therapy, arrangements should be made with YCDC by the designated follow-up physician.
- The medications will then be sent to the community by YCDC.
- For kit replacement due to usage or drug expiry contact YCDC.

For guidelines regarding the ongoing management of those on a one month course of antiretroviral medication, health care providers can consult the BC Centre for Excellence in HIV/AIDS website:

<http://www.cfenet.ubc.ca/content.php?id=12>

HEPATITIS B EXPOSURE

HBV Exposure

- A risk for HBV transmission can occur in the following situations:
 - Any percutaneous, permucosal exposure (including bites), non-intact skin exposure i.e. wound/s, dermatitis.
- If indicated, hepatitis B immune globulin (HBIG) should be given as soon as possible and preferably within 48 hours following the exposure.
- If indicated, following a percutaneous exposure, HBIG should be received no later than 7 days following the exposure.
- If indicated, following a permucosal or sexual exposure, HBIG should be received no later than 14 days following the exposure.
- A person partially immunized in the past requires only the number of doses needed to complete the recommended series, regardless of the time elapsed since the previous dose.

Table 4: Hepatitis B Post-Exposure Prophylaxis

Vaccination history of exposed person	Test exposed person for: HBsAg, anti-HBc & anti-HBs.	If source is known HBsAg positive <u>or</u> high risk <u>or</u> tests positive within 48 hours of exposure	If source is unknown <u>or</u> Not tested <u>or</u> Low risk <u>or</u> Tests HBsAg negative within 48 hours of exposure	Post-exposure re-testing
Documented anti-HBs level (≥ 10 IU/L) on prior testing	Test for all three markers for medical-legal purposes	No action required.	No action required.	No action required.
Unvaccinated	Test for all 3 markers	Give Hepatitis B Immune Globulin (HBIG) ③ and Hepatitis B vaccine series ④	Give Hep B vaccine series	Re-test for HBsAg at 3 months & for all 3 markers at 6 months ⑤
Known non-responder ① to one Hep B series	Test for all 3 markers		Give 2 nd Hep B vaccine series	
Received 1 dose of Hep B vaccine, anti-HBs status unknown	Test for all 3 markers	Give HBIG & complete Hep B vaccine series.	Complete Hep B vaccine series.	Re-test for HBsAg at 3 months & for all 3 markers at 6 months ⑤
Received 2 doses of a 3 dose Hep B series, anti-HBs status unknown	Test for all 3 markers. If anti-HBs is < 10 IU/L, then →	Give HBIG & 3rd dose of Hep B vaccine. Repeat 3 rd dose if given too early in series.	Give 1 dose of Hep B vaccine & retest for anti-HBs in 4 wks; if < 10 IU/L repeat series.	Re-test for HBsAg at 3 months & for all 3 markers at 6 months ⑤
	Test for all 3 markers. If anti-HBs is ≥ 10 U/L, then →	Do not give HBIG. Complete Hep B vaccine series.	Do not give HBIG. Complete Hep B vaccine series.	No re-testing required.
Complete Hep B vaccination (2 or 3 dose series) and anti-HBs status unknown <u>or</u> anti-HBs < 10 when tested > 6 months post-series	Test for all 3 markers. If anti-HBs is < 10 IU/L, then →	Give HBIG and 1 dose of vaccine.	1 dose Hep B vaccine & retest for anti-HBs in 4wks; if < 10 IU/L complete second series.	Re-test for HBsAg at 3 months & for all 3 markers at 6 months ⑤
Known non-responder ① after two courses of Hep B vaccine	Test for HBsAg & anti-HBc. Do not test for anti-HBs.	Give HBIG only & give another dose of HBIG in 1 mo.	No action required.	Re-test for HBsAg at 3 months & for HBsAg & anti-HBc at 6 months.

- ① A non-responder to a series of Hepatitis B vaccine is someone who demonstrates an anti-HBs level of < 10 IU/L, when measured 1 to 6 months post-vaccination.
- ② Consensual adult sex with known Sex Trade Worker or IDU is not generally an indication for HBIG, nor is a community acquired needlestick injury; where the risk of transmission is low and the number needed to treat to prevent infection is extremely high. However, in the case of sexual assault or if one of the individuals is known to have acute or chronic Hepatitis B infection, HBIG is indicated.
- ③ HBIG dose for all clients ≥ 8.3 kg is 0.06ml/kg. Give HBIG as soon as possible, preferably within 48 hours of the exposure. For a percutaneous exposure, HBIG may be given up to 7 days following the exposure. If the client presents > 7 days following a percutaneous exposure, give Hepatitis B vaccine only. For per mucosal or sexual exposures, HBIG may be given up to 14 days following the last exposure. If the client presents > 14 days following a per mucosal or sexual exposure, give Hepatitis B vaccine only.
- ④ Hepatitis B vaccine schedule is 0, 1 and 6 months for post-exposure prophylaxis.
- ⑤ A second series of Hepatitis B vaccine should be offered to non-responders

Note: This table does not apply to post-exposure management of immunocompromised persons. This group requires consultation with a physician specializing in infectious diseases.

How to Access HBIg

Whitehorse

- With physician authorization, HBIg is requested and released from the WGH laboratory as required.
- Administration of HBIg can be done at the WGH ER.

Whitehorse General Hospital Laboratory
#5 Hospital Road
Whitehorse, YT Y1A 3H7
Telephone: (867) 393-8739
Fax: (867) 393-8772

Regular Hours:

Monday through Friday excluding Holidays 7:00am to 11:30 am and
12:30pm to 04:00pm

After Hours:

Please call Admitting and Discharge (867) 393-8700 and ask that the on-call laboratory personnel be paged for the release of HBIg.

Communities Outside of Whitehorse

The following Community Health Centres each have a supply of HBIg:

Beaver Creek	Haines Junction	Old Crow	Watson Lake
Ross River	Dawson City	Mayo	

These seven sites have been selected as being important locations for HBIg; due to close proximity for other health centres to access and/or due to having unique barriers i.e. geographic, which could make the administration of this therapeutic within 48 hours challenging.

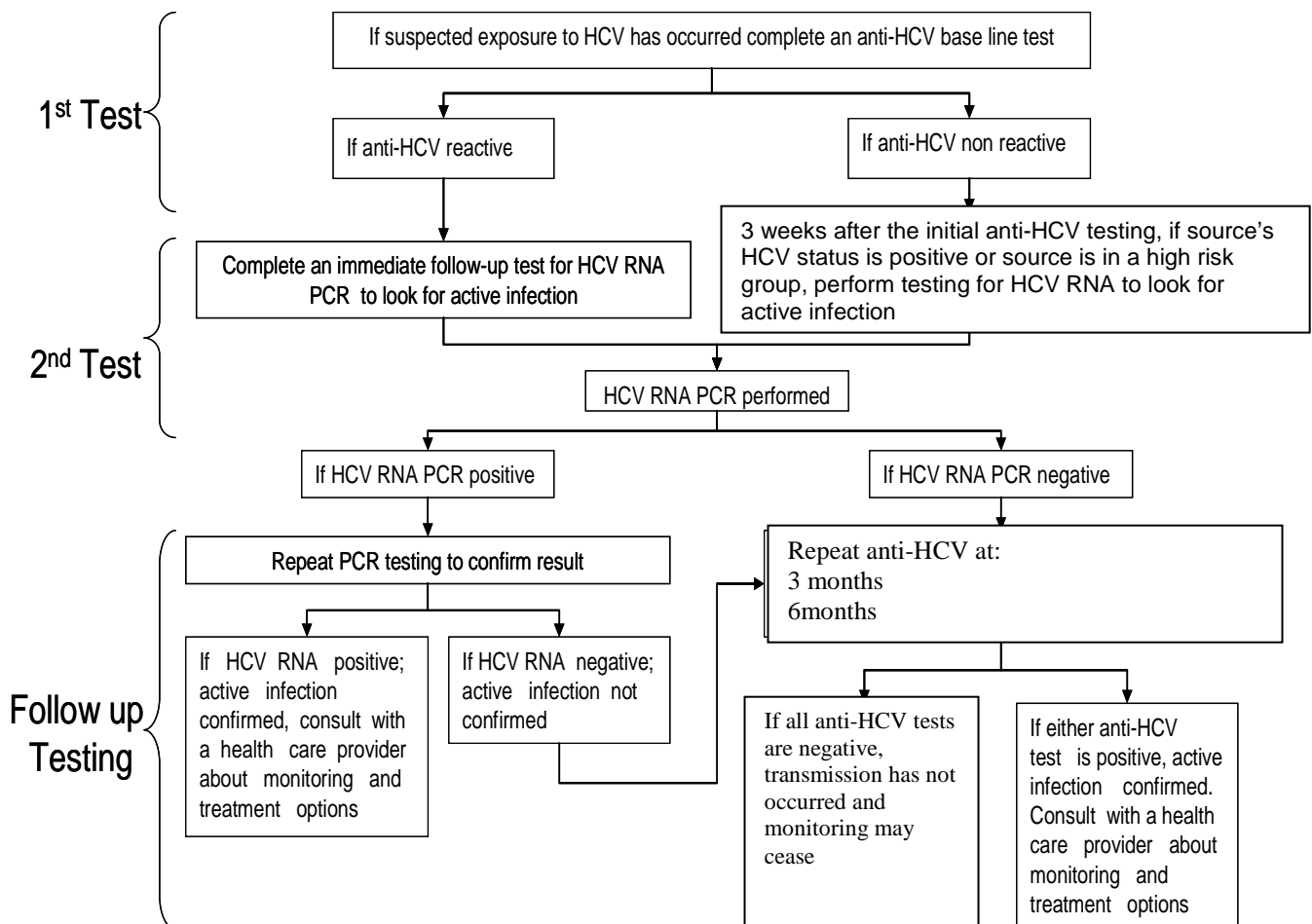
Arrangements for the timely administration of HBIg will be made on a case by case basis via Yukon Communicable Disease Control or the Medical Officer of Health. Should HBIg not be stocked in the community requesting it, arrangements will be made to have it provided from the most feasible location.

HEPATITIS C EXPOSURE

HCV Exposure

At the present time, no immediate post-exposure treatment is recommended for HCV. However, the anti-HCV status of the exposed person should be determined to assess whether the person has been infected with HCV in the past.

Testing schedule for a person exposed to HCV:



Fluids and Tissues Capable of Transmitting Bloodborne Pathogens

FLUID	HIV	HBV	HCV
Blood and fluids visibly contaminated with blood	Yes	Yes	Yes
Semen	Yes	Yes	Rare
Vaginal secretions	Yes	Yes	Rare
Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids and inflammatory exudates	Yes	Yes	Yes
Saliva	No, unless contaminated with blood	Yes	No, unless contaminated with blood
Transplanted tissue or organs	Yes	Yes	Yes
Breast milk	Yes	Plausible, particularly if nipples are cracked or bleeding or if the mother is HBeAg positive	Plausible, particularly if nipples are cracked or bleeding
Faeces Nasal secretions Sputum Sweat Tears Urine Vomit	No, unless they contain visible blood.		

Risk Factors for Possible Transmission from the Source to the Exposed Person

HIGHER RISK		
HIV	HBV	HCV
The source is a person who has ever had:	The source is a person who has ever had:	The source is a person who has ever had:
<ul style="list-style-type: none"> • injection drug use 	<ul style="list-style-type: none"> • injection drug use 	<ul style="list-style-type: none"> • Illicit drug use
<ul style="list-style-type: none"> • high-risk sexual behaviour (i.e. multiple sex partners, anal sex) 	<ul style="list-style-type: none"> • high-risk sexual behaviour (i.e., multiple sex partners, anal sex) 	<ul style="list-style-type: none"> • blood contact with a known case of HCV infection
<ul style="list-style-type: none"> • a sexual partner who is an injection drug user (IDU), or who is HIV+ ❶ 	<ul style="list-style-type: none"> • a sexual partner who is an IDU, or who has acute or chronic HBV ❶ 	
<ul style="list-style-type: none"> • blood contact with a known case of HIV infection 	<ul style="list-style-type: none"> • blood contact with a known case of HBV infection for which there was no provision of post-exposure prophylaxis 	
MODERATE RISK		
HIV	HBV	HCV
<ul style="list-style-type: none"> • emigration from a country where HIV is endemic 	<ul style="list-style-type: none"> • emigration from a country where HBV is endemic 	<ul style="list-style-type: none"> • high-risk sexual behaviour (i.e. multiple sex partners, anal sex)
		<ul style="list-style-type: none"> • a sexual partner who is an IDU, or who is HCV+ ❶
<ul style="list-style-type: none"> • a history of multiple transfusions of blood or blood products prior to Nov. 1985 ❶ OR a history of receipt of blood-derived coagulation products before July 1988 ❷ 	<ul style="list-style-type: none"> • a history of multiple transfusions of blood or blood products prior to Jan. 1972 ❶ OR a history of receipt of blood-derived coagulation products before January 1972 	<ul style="list-style-type: none"> • a history of multiple transfusions of blood or blood products prior to May 1992 ❶ OR a history of receipt of blood-derived coagulation products before July 1988 or a history of receipt of IV immunoglobulin products prior to 1997 ❷
LOWER RISK		
HIV	HBV	HCV
<ul style="list-style-type: none"> • a diagnosis of sexually transmitted disease(s) 	<ul style="list-style-type: none"> • a diagnosis of sexually transmitted disease(s) 	
<ul style="list-style-type: none"> • tattoo, body piercing, electrolysis, acupuncture 	<ul style="list-style-type: none"> • tattoo, body piercing, electrolysis, acupuncture 	<ul style="list-style-type: none"> • tattoo, body piercing, electrolysis, acupuncture
<ul style="list-style-type: none"> • a history of dialysis 	<ul style="list-style-type: none"> • a history of dialysis 	<ul style="list-style-type: none"> • a history of dialysis

❶ In Canada, testing of donated blood for anti-HIV began in November 1985; for HBsAg in January 1972; and for anti-HCV first generation in June 1990 and anti-HCV second generation in May 1992.

❷ All factor concentrates distributed in Canada were heat treated after July 1988. IV immunoglobulin products were either PCR tested for HCV or had solvent detergent virucidal treatment after 1997

Post-Exposure HIV Antiretroviral Therapy in Children

The risk of children being infected with HIV from accidental needle stick injuries, biting, or sexual assault is very low. Antiretroviral agents should be considered for children where the exposure is likely to have resulted in a transfer of potentially infectious body fluid. In children this would most commonly occur from blood or semen from a person who is known to be HIV+ or could potentially be HIV+.

Consult accordingly: BC-CfE 24 hour Pharmacist hotline (604) 341-1410.

For timely intervention, **Kaletra** tablets should be used until Kaletra oral solution can be obtained. Kaletra oral solution will be provided as soon as possible as it is recommended by the manufacturer that the tablets not be split or crushed. Kaletra oral solution is stored only at Whitehorse General Hospital pharmacy.

Kaletra® (Lopinavir / Ritonavir)			
Dose	Supplied	Tablets	
		Weight	Dose
Adult or adolescent (>12 yrs): 400 lopinavir/100 ritonavir po BID (2 tabs po BID)	Tablets: (use the tablet formulation) 200 mg lopinavir + 50 mg ritonavir Pediatric oral solution: 80 mg lopinavir + 20 mg ritonavir per mL. Contains 42.4% alcohol.	Children:	
Children (6 months to 12 yrs): 7 to <15kg: 12 mg/kg lopinavir/3 mg/kg ritonavir po BID 15 to 40 kg: 10 mg/kg lopinavir/2.5mg/kg ritonavir po BID > 40 kg: use adult dosing		7 - < 11kg	½ tablet bid
		11 - < 17kg	¾ tablet bid
		17 - < 22kg	1 tablet bid
		22 - < 27kg	1¼ tablet bid
		27 - < 32kg	1½ tablet bid
		32 - ≤ 40kg	1¾ tablet bid
		over 40kg	2 tablets bid

(Alberta MTDA PEP Protocol, January 2009, Revision 2, pg. 31)

(British Columbia Centre for Excellence in HIV/AIDS, Therapeutic Guidelines 2009 Antiretroviral Treatment of Adult HIV Infection, pg. 13)

Post-Exposure HIV Antiretroviral Therapy in Pregnant Women

- For the post-exposure HIV antiretroviral therapy of pregnant women or women who may be pregnant, consult accordingly (BC-CfE, 24 hour Pharmacist hotline (604) 341-1410).
- It should be explained to the exposed person that neither Kaletra nor Tenofovir has been used extensively in pregnancy. Zidovudine will be provided to replace Tenofovir 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 and Kaletra is a pregnancy category C.

Blood and Body Fluid Exposure Counselling Guidelines

Initial counselling should be done in the Emergency Department or other health facility where post-exposure management is provided. More detailed counselling should be done by the follow-up health care provider.

Risk of transmission to the exposed person:

- The risk of infection after exposure to infected blood or body fluid varies by bloodborne pathogen.

(Refer to Appendix L: “Probability of Transmission of HIV, HBV and HCV”)

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

Evidence shows that antiretroviral therapy can reduce the risk of transmission of HIV by 86%.

The risk will vary somewhat depending on the body site of the exposure, the type of exposure, and the source. In the instance of HIV transmission through percutaneous injury, increased risk is associated with the following factors: greater depth of the injury, greater volume of blood injected, visible blood on the device and/or the device previously in a source's artery or vein, and larger gauge of needle (larger bore needles present greater risk because of the larger volume of blood exposure). Exposures from sources with a high viral load of HIV, HBV, or HCV (i.e. seroconversion in the acute phase of these viral infections, or in late stage AIDS) are also associated with a greater risk of transmission.

The risks and benefits of post-exposure immunoprophylaxis or treatment should be discussed and appropriate measures recommended to the exposed person.

Reducing Transmission to Others

Exposed persons will be anxious and upset when initially assessed. They may not remember all the information provided in initial counselling. It is therefore important that there is repeated and more detailed counselling.

Physicians inexperienced in counselling of this nature should contact YCDC and enquire about counselling resources. Information pamphlets or BC Health Files may be helpful in providing information that the exposed person can review at home:

<http://www.bchealthguide.org/healthfiles/>

If it was a significant exposure and the exposed person requires follow-up testing beyond the baseline testing, the exposed person should be told that it may not be possible to determine for at least 6 months whether infection has occurred. If infection has occurred, the exposed person then is capable of transmitting infection to others. While waiting for 6 month follow-up testing to determine if seroconversion to exposed antigens has occurred, the exposed person should be advised to take the following precautions to prevent potential transmission of pathogens to others:

- Abstain from sexual intercourse (vaginal, oral or rectal) or use a latex condom with a water-based lubricant for all acts of sexual intercourse.
- Do not donate blood, plasma, organs, breast milk, tissue or sperm.
- Do not share toothbrushes, dental floss, razors, needles or other implements that may be contaminated with blood/body fluids.
- Cover open cuts/lesions until healed.
- Put articles with blood on them (i.e. bandages, tampons, pads, tissues, dental floss) in a separate plastic bag before disposing into household garbage. Dispose of bloody sharp items (razors, needles, etc) into a hard-sided container, taped shut. Dispose in regular garbage; do not place in container for recycling.
- To clean up blood spills, wet surfaces with 1 part bleach to 9 parts water and leave sitting for 10 minutes before wiping off.
- Avoid sharing needles, drug snorting equipment, etc.
- Defer a planned pregnancy; but if you become pregnant, discuss with Family Physician.

<p style="text-align: center;">Blood & Body Fluid Exposure Form</p>	
Disclaimer: This information is being collected for the purposes of determining appropriate service.	
A. Exposed Person (recipient of exposure) information	
Date Form Initiated _____	
Name _____	D.O.B. _____ Age _____ Gender M <input type="checkbox"/> F <input type="checkbox"/>
Address _____	City/town _____ Province _____ Postal code _____
PHIS # _____	Contact phone # Home _____ Work _____ Cell _____
Reporting person _____	Health care facility _____
B. History of exposure	
Date of exposure _____ <small>YYYY/MM/DD</small>	Time of exposure _____ <small>(24hr)</small>
C. Type of exposure (check all that apply)	
Percutaneous injury (specify) <input type="checkbox"/> needlestick (specify type & gauge) _____ <input type="checkbox"/> cut by sharp object (type of instrument) specify instrument _____ <input type="checkbox"/> gloves worn <input type="checkbox"/> Bite - breaks the skin <input type="checkbox"/> other (specify) _____ <input type="checkbox"/> Contact with exposed mucous membranes (specify) _____ <input type="checkbox"/> Contact with exposed non-intact skin (specify) _____ <input type="checkbox"/> (wound < 3 days) <input type="checkbox"/> cut skin <input type="checkbox"/> chapped/abraded skin Body site _____	Type of bodily fluid exposed to <input type="checkbox"/> Blood <input type="checkbox"/> Serum <input type="checkbox"/> Plasma
	Bodily fluid substance visibly contaminated with blood (specify) _____ Other bodily fluid or substance (specify) _____
Description of circumstances surrounding the exposure (as provided by exposed person)	Examination of exposed person Findings related to the exposure including assessment of injuries (e.g. depth/type of injury).
D. History of Immunization & Serostatus of exposed person	
Immunization history	History UNK N Y Date of last test Result
Rec'd Hep B vaccination - dose 1 UNK N Y Date _____	HBsAg <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
Rec'd Hep B vaccination - dose 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____	Anti-HBc <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
Rec'd Hep B vaccination - dose 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____	Anti-HBs <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
Tetanus vaccination (date of last immunization) _____	Anti-HCV <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
	Anti-HIV 1&2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
E. Information on source of blood and/or bodily fluid	
Name _____	D.O.B. _____ Age _____ Gender M <input type="checkbox"/> F <input type="checkbox"/> YHIS# _____
<input type="checkbox"/> Source risk factors unknown <input type="checkbox"/> Not considered high risk <input type="checkbox"/> High risk lifestyle or other concern for high risk (specify) _____ _____ See High Risk Page 25 of Guidelines	Status UNK N Y Date of last blood test HIV + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____ HBsAg + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____ HCV + <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> _____
YG (5674Q) F2 02/2010	

F. Blood work testing of exposed & source person (mark <i>baseline</i> testing requisition "STAT" Indicate nature of STAT request on req. - Notify WGH Lab) F/U BW recommendations refer to page 12 of Guidelines																				
EXPOSED recommended blood tests	Baseline :		_____ Wk Date:		_____ Wk Date:		_____ Wk Date:		_____ Wk Date:											
	DUE		DUE		DUE		DUE		DUE											
	DONE		DONE		DONE		DONE		DONE											
Baseline Results:		Results:		Results:		Results:		Results:		Results:										
HBsAg																				
Anti-HBc																				
Anti-HBs																				
Anti-HCV																				
Anti-HIV 1&2																				
SOURCE blood tests	Date Draw n	Results		Lab results to be sent to:				Name												
HBsAg				Source person	Source person's follow -up Health Care Provider:															
Anti-HBc					Yukon Communicable Disease Control															
Anti-HBs				Exposed person	Exposed person's Follow -up to Health Care Provider:															
Anti-HCV					Yukon Communicable Disease Control															
Anti-HIV 1&2																				
G. Counseling																				
Exposed person has been counseled as outlined in Yukon Blood & Body fluid Exposure Guidelines (see page 28)																				
<input type="checkbox"/> yes <input type="checkbox"/> no (specify reason) _____																				
H. Recommendations for Management of exposed person						I. Post-exposure prophylaxis of exposed person														
Recommendations _____ _____ Consult with: <input type="checkbox"/> BCCFE <input type="checkbox"/> MOH <input type="checkbox"/> YCDC Other _____						<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 20%; text-align: center;">Date given</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Hep B vaccine (HBV) Dose# _____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> Hep B immune globulin (HBIG)</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> HIV post-exposure Prophylaxis (5 day starter kit)</td> <td style="text-align: center;">_____</td> </tr> <tr> <td><input type="checkbox"/> Tetanus Immunization</td> <td style="text-align: center;">_____</td> </tr> </tbody> </table>						Date given	<input type="checkbox"/> Hep B vaccine (HBV) Dose# _____	_____	<input type="checkbox"/> Hep B immune globulin (HBIG)	_____	<input type="checkbox"/> HIV post-exposure Prophylaxis (5 day starter kit)	_____	<input type="checkbox"/> Tetanus Immunization	_____
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<input type="checkbox"/> HIV post-exposure Prophylaxis (5 day starter kit)	_____																			
<input type="checkbox"/> Tetanus Immunization	_____																			
J. Follow-up Plan:																				
_____ _____ _____																				
Designated Follow -up Health Care Provider: _____ (CLINIC)						Phone # _____		FAX # _____												
The following will be required by Follow -up Health Care Provider:																				
<input type="checkbox"/> Further post exposure counseling (specify) _____ <input type="checkbox"/> Hepatitis B Vaccine (HBV) - further doses of HBV to complete 3 dose series (0, 1& 6 Months) (Refer to YCDC, WHC, CHC) Other: _____					<input type="checkbox"/> HIV 5 day starter kit has been provided. Client must be assessed within 3 days. Determine need for remainder of one months supply of antiretroviral. Consult YCDC, MOH & BC Centre for Excellence HIV/AIDS. <input type="checkbox"/> Follow -up Blood work as per section F. - Baseline Lab results will be sent to you - Please follow -up with the client for results.															
Signature of Reporting Physician or RN			Name (printed)				Date YYYY/MM/DD													
Copy to Follow-up Health Care Provider, Fax copy to YCDC (867) 667-8349, Original to stay in Chart																				

**Exposed Person's Follow up Plan for Post Exposure
to Blood & Body Fluids**

_____ was seen at _____
Name Date of Birth location of Health Care facility
on _____ following an exposure to blood or body fluids.
Date
Initial assessment was done by _____ The date of exposure was _____
Name of initial Health Care Provider

You received the following post-exposure treatment:

- Wound cleaning Started on antiretroviral starter kit (5 days)
 Tetanus Immunization
 Hepatitis B Vaccine List medications name, dose, & instructions
 Hepatitis B immune globulin (HBIG) _____
 Initial counseling for blood and body fluid exposure _____
 Other _____

You have had baseline Blood tests for: Hepatitis B Hepatitis C HIV

Your follow up Health Care Provider is:	Location of Health Care Facility	Phone Number
--	---	---------------------

**It is recommended that you have the following follow up:
(Check all that may apply).**

Follow up is recommended for:	Location for follow-up	Date
<input type="checkbox"/> Further doses of Hepatitis B vaccine		
<input type="checkbox"/> Hepatitis B Immune Globulin (HBIG)		
<input type="checkbox"/> You have been started on HIV antiretroviral medications. You must see your follow up Health Care Provider within 3 days to determine if you should continue taking the medication for a remaining 23 days		
<input type="checkbox"/> Results of baseline blood tests.		
<input type="checkbox"/> Follow up blood work		
<input type="checkbox"/> Other (specify)		

For information related to exposure of blood and body fluids and disease specific information please visit
<http://www.healthlinkbc.ca/healthfiles/hfile97.stm>

If you have any questions or concerns please contact your follow up Health Care Provider or

Window Periods

Window Periods

If the test result(s) is negative, the source person may be uninfected **or** may be in the window period for laboratory detection (i.e. the period of time between exposure and development of measurable antigen / antibodies (positive blood test).

The window period for HIV infection is most often 4 – 6 weeks. It is estimated that under the standard testing algorithm, approximately 95% of individuals will have detectable antibodies by 4 to 6 weeks, with >99% sero-converting by 3 months. Accordingly, 3 months is the recommended interval for HIV testing following a risk event or exposure. The window period for HBV infection ranges from 4 weeks to 6 months. For HCV infection, the window period ranges from 2 weeks to 6 months.

Considerations Pertaining to Breast Feeding

HIV:

The transmission of HIV through breastfeeding is highest for women who seroconvert while breastfeeding. Therefore, if the source is HIV positive, breastfeeding is not recommended. **Breastfeeding is also contraindicated if the mother is receiving antiretroviral medication.** If the HIV status of the source is unknown and high risk, breastfeeding should be temporarily discontinued. During this time, the mother may pump and freeze breast milk while awaiting source test results. If a source person has baseline HIV-negative test results and has no recent high risk behaviour, then breastfeeding can be resumed and the frozen milk used. If a source person has baseline HIV-negative test results but has ongoing or recent high risk behaviour, then further laboratory follow-up of the source will be required to determine if the source may have been infectious at the time of exposure. Breastfeeding can be resumed and the frozen milk used once results of this further testing indicate that the source was not infectious at the time of exposure.

HCV:

If a breast feeding mother is exposed to an anti-HCV+ source or a source at high risk for HCV, she should be counselled regarding the low risk nature of HCV transmission via breast milk, even in the setting of seroconversion. Therefore, the mother should be able to breast feed if she desires.

HBV:

If a breastfeeding mother is exposed to a HBV positive source **or** an unknown source immunize both the mother and her infant against hepatitis B, using both hepatitis B vaccine and HBIG (depending on the infant's age and history of HBV immunization). The mother can then continue to breast-feed.

Counselling Guidelines for HIV Antiretroviral Therapy

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

Explain that:

- If HIV transmission occurs, it may lead to AIDS, which is a chronic disease that 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%.
- 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.

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 used 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, i.e. nausea, fatigue, etc. (70% of patients).
- Serious reactions, i.e. 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 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 crude estimate of the hazards.

Why am I being asked to take these medications?

- Three drugs are being 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 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 resistance to one drug. However this is not proven as it is impossible to test this assumption.

Possible Side Effects and Contraindications of Antiretrovirals

- 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): Is usually well tolerated in short term therapy and side effects are rare. Reversible decrease 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.

Contact your Health Care Provider before taking any other type of medication or herbal remedies.

Instructions for Taking Antiretroviral Drugs

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

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

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

Taking all three drugs with food may reduce stomach upset.

The 5 day starter kit is intended to provide 5 days of therapy while a more detailed assessment of the risk of transmission can occur. The exposed person should see their follow up health care provider as soon as possible (within 3 days) after the initiation of the starter kit to determine the need for a full 28 days of therapy. (adapted from BC-CfE)

**Male and Female Sexual Assault HIV Risk/Post-Exposure Prophylaxis (PEP)
(Women’s Assault Guideline – BC Women’s Hospital and Health Centre July 2008)**

A) Significant risk - Risk may be indicated by what is known about the source or what is known about the setting in which the sexual assault took place:			
<p>Source: Known HIV positive source or Known high-risk source i.e. Injection drug user (IDU) or men who have sexual contact with men (MSM)</p> <p>and / or</p> <p>Known multiple assailants Setting: Sexual assault occurs in a setting considered high risk for HIV</p>	Plus	<p>Type of Exposure: Non-consensual: Unknown exposure or Anal intercourse or Vaginal intercourse</p>	<p>Recommendations: HIV PEP: Tenofovir Lamivudine Kaletra Initiated within 36 hours after sexual assault</p>
B) Negligible Risk			
<p>Source: Known to be negative or no reason to believe that the source is positive. Setting: Not considered high risk for HIV</p>	OR	<p>Type of Exposure: No vaginal exposure and no anal exposure Oral penetration only</p>	<p>Recommendation: Do not offer PEP to patients in this category Adequate patient counselling and education is needed to reduce anxiety</p>
C) Estimated risks of becoming infected with HIV (Refer to Appendix L: “Probability of Transmission of HIV, HBV and HCV”)			

PROBABILITY OF TRANSMISSION OF HIV, HBV, HCV

Table 1 : Transmission probabilities of HIV

Exposure	Per episode probability of transmission
Blood transfusions (single unit of whole blood)	95%
Intravenous needle or syringe exposure	0.67% (Kaplan, 1992)
Needlestick	0.3% (95% CI = 0.2 to 0.5 %) (Bell, 1997) <i>There have been no reported instances of transmission of HIV from improperly discarded needles outside the health care setting in the USA or UK (MG Fowler, CDC, June 15, 2002, cited in Havens, 2003: Robertson 2001)</i>
Receptive Penile anal sexual exposure	0.1 to 3 % (Mastro, 1996)
Receptive vaginal exposure	0.1 to 0.2 % (Mastro, 1996)
Receptive oral exposure	Described but not quantified; presumed to be less than other routes of sexual transmission (Schacker, 1996; Berrey, 1997)
Mucous membrane exposure to blood or bodily fluids contaminated with blood	0.1% (ANCHARD, 2001)

Table 2 : Transmission probabilities of HBV

Exposure	Per episode probability of transmission
Sexual exposure	<ul style="list-style-type: none"> ▪ Not quantified; however, receptive anal intercourse > Insertive anal intercourse > Vaginal intercourse > Oral-anal contact ▪ Oral-genital and oral-oral contact do not appear to be significant modes of transmission ▪ Estimated to be transmitted 8.6 fold more efficiently than HIV ▪ increased risk of transmission if source more infectious (i.e. higher HBV DNA and/or HBeAg positive)
Needlestick Source: HBsAg positive & HBeAg positive	37 - 62 % (Mast, 1993)
Needlestick Source: HBsAg positive & HbeAg negative	23 - 27 %

Table 3 : Transmission probabilities of HCV

Exposure	Per episode probability of transmission
Sexual exposure	<p>Not quantified; however:</p> <ul style="list-style-type: none"> ▪ Long-term discordant monogamous partnerships area at lower risk of acquisition (0 to 0.6% per year) as compared to persons with multiple partners of those at risk for sexually transmitted diseases (0.4 to 1.8% per year) ▪ risk of transmission increased if source HIV co-infected
Needlestick	1.8 % (range 0 to 7%) (Alter, 1997; Lanphear, 1994; Puro, 1995; Mitsui, 1992)

SER

S

PHSA Laboratories

Public Health Microbiology & Reference Laboratory

BC Centre for Disease Control, 655 West 12th Avenue, Vancouver, BC V5Z 4R4 www.phsa.ca/bccdcpublichealthlab

Serology Screening Requisition

Section 1 - Patient Information and Physician Information

PERSONAL HEALTH NUMBER (or out-of province Health Number and province)	DATE COLLECTED (DD/MMM/YYYY)	TIME COLLECTED (HH:MM)	ORDERING PHYSICIAN (Provide MSC#) Name and address of report delivery Whitehorse General Hospital # 5 Hospital Road Whitehorse, YT Y1A 3H7
PATIENT SURNAME	PATIENT FIRST AND MIDDLE NAME		
DOB (DD/MMM/YYYY)	GENDER <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> UNK		
<input type="checkbox"/> I do not require a copy of the report			
ADDRESS			ADDITIONAL COPIES TO: (Address / MSC#) 1. C00631 2. C00503 3.
CITY / TOWN	POSTAL CODE		
SAMPLE REFERENCE NO.			

Section 2 - Clinical Information

Clinical Information		Reason for Test	
<input type="checkbox"/> Asymptomatic	<input type="checkbox"/> Gastrointestinal symptoms	<input type="checkbox"/> Therapeutic monitoring	<input type="checkbox"/> NEEDLESTICK
<input type="checkbox"/> Headache / Stiff neck	<input type="checkbox"/> Respiratory symptoms	<input type="checkbox"/> Immigration	<input type="checkbox"/> Acute <input type="checkbox"/> Convalescent
<input type="checkbox"/> Rash symptoms	<input type="checkbox"/> STD contact <input type="checkbox"/> STD symptoms	<input type="checkbox"/> Prenatal	<input type="checkbox"/> Outbreak/Cluster/Event
<input type="checkbox"/> Fever	<input type="checkbox"/> Other, specify: _____	<input type="checkbox"/> Follow-up	<input type="checkbox"/> Other, specify: _____
Recent Travel (Date/Location)	Onset Date DD/MMM/YYYY	History	

Section 3 - Test(s) Requested (Note: Codes for PHSA Labs Use Only)

<p>PRENATAL SCREENING</p> <p>HIV Nominal Reporting <input type="checkbox"/> HIV</p> <p>HIV Non-Nominal Reporting <input type="checkbox"/> HIV</p> <p>HBsAg <input type="checkbox"/> HBVP</p> <p>Rubella IgG <input type="checkbox"/> RUBIG</p> <p>Syphilis Screen <input type="checkbox"/> TPS</p> <p>Other Tests, specify: _____</p> <p>EDC: _____</p> <p>Hospital of Delivery: _____</p> <hr/> <p>SYPHILIS (Non Prenatal)</p> <p>Syphilis Screen <input type="checkbox"/> TPS</p> <p>Syphilis Confirmatory <input type="checkbox"/> TPSC</p> <p>History (Required for confirmatory testing):</p> <hr/> <p>HIV (Non Prenatal) Note: Patient has legal right to choose nominal or non-nominal reporting of Positive HIV to MHO</p> <p>HIV Nominal Reporting <input type="checkbox"/> HIV</p> <p>HIV Non-Nominal Reporting <input type="checkbox"/> HIV</p>	<p>HEPATITIS</p> <p>Acute - undefined etiology</p> <p>HBsAg, Anti-HBc Total, Anti-HBs, Anti-HCV, Anti-HAV IgM <input type="checkbox"/> HEPS</p> <p>Chronic - undefined etiology</p> <p>HBsAg, Anti-HBc Total, Anti-HBs, Anti-HCV <input type="checkbox"/> HEPCH</p> <p>Hepatitis B Screen</p> <p>HBsAg, Anti-HBs, Anti-HBc Total <input type="checkbox"/> HBVSAG</p> <p>Specific Hepatitis Markers</p> <p>Anti-hepatitis A Total (Immune Status) <input type="checkbox"/> HAVT</p> <p>Anti-hepatitis A IgM (Acute Infection) <input type="checkbox"/> HAVIM</p> <p>Anti-HBs (Immune Status) <input type="checkbox"/> HBVSAB</p> <p>Anti-HBc Total (Natural Infection) <input type="checkbox"/> HBCT</p> <p>Anti-HBc IgM (Acute Infection) <input type="checkbox"/> HBCIM</p> <p>HBeAg (Therapeutic Monitoring) <input type="checkbox"/> HEBEAG</p> <p>Anti-HBe (Therapeutic Monitoring) <input type="checkbox"/> HEBEAB</p> <p>Anti-HCV <input type="checkbox"/> HEPC</p>	<p>OTHER SEROLOGY</p> <table border="0"> <tr> <th style="text-align: center;">Immunity</th> <th style="text-align: center;">Acute</th> </tr> <tr> <td>Measles IgG (Rubeola) <input type="checkbox"/> MIG</td> <td>Measles IgM (Rubeola) <input type="checkbox"/> MIM</td> </tr> <tr> <td>Mumps IgG <input type="checkbox"/> MUIG</td> <td>Mumps IgM <input type="checkbox"/> MUIM</td> </tr> <tr> <td>Parvo B19 IgG <input type="checkbox"/> PARVG</td> <td>Parvo B19 IgM <input type="checkbox"/> PARVM</td> </tr> <tr> <td>Rubella IgG <input type="checkbox"/> RUBIG</td> <td>Rubella IgM <input type="checkbox"/> RUBIM</td> </tr> <tr> <td>EBV IgG <input type="checkbox"/> EBGGS</td> <td>EBV IgM <input type="checkbox"/> EBMS</td> </tr> <tr> <td>CMV IgG <input type="checkbox"/> CMVIG</td> <td>CMV IgM <input type="checkbox"/> CMVIM</td> </tr> <tr> <td>Varicella IgG <input type="checkbox"/> VZIG</td> <td>HTLV I / II <input type="checkbox"/> AHTLV</td> </tr> <tr> <td>HSV IgG <input type="checkbox"/> HSVIG</td> <td><i>H. pylori</i> IgG <input type="checkbox"/> HPGS</td> </tr> <tr> <td><i>Mycoplasma</i> IgM <input type="checkbox"/> MPIM</td> <td></td> </tr> </table> <hr/> <p>OTHER TESTS (Specify)</p> <hr/> <p>COMMENTS</p> <hr/> <p style="font-size: small;">For other available tests and additional information, consult the Public Health Microbiology & Reference Laboratory's Guide to Programs and Services at www.phsa.ca/bccdcpublichealthlab</p>	Immunity	Acute	Measles IgG (Rubeola) <input type="checkbox"/> MIG	Measles IgM (Rubeola) <input type="checkbox"/> MIM	Mumps IgG <input type="checkbox"/> MUIG	Mumps IgM <input type="checkbox"/> MUIM	Parvo B19 IgG <input type="checkbox"/> PARVG	Parvo B19 IgM <input type="checkbox"/> PARVM	Rubella IgG <input type="checkbox"/> RUBIG	Rubella IgM <input type="checkbox"/> RUBIM	EBV IgG <input type="checkbox"/> EBGGS	EBV IgM <input type="checkbox"/> EBMS	CMV IgG <input type="checkbox"/> CMVIG	CMV IgM <input type="checkbox"/> CMVIM	Varicella IgG <input type="checkbox"/> VZIG	HTLV I / II <input type="checkbox"/> AHTLV	HSV IgG <input type="checkbox"/> HSVIG	<i>H. pylori</i> IgG <input type="checkbox"/> HPGS	<i>Mycoplasma</i> IgM <input type="checkbox"/> MPIM	
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<i>Mycoplasma</i> IgM <input type="checkbox"/> MPIM																						

For information on sample collection, please call the Central Processing & Receiving Lab at 1-877-PHSALAB

Form CPSE-100-0001f 1.00 Version 1.1 08/2009

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Lopinavir/Ritonavir Tablet (Kaletra)

What is Kaletra®?

- A combination of two protease inhibitors: lopinavir and ritonavir
- Inhibits the replication of the HIV virus in combination with other antiretroviral agents (ARV)
- Available as a film-coated tablet containing 200 mg of lopinavir and 50 mg of ritonavir.

Why am I taking this combination of two protease inhibitors?

- When lopinavir is combined with ritonavir, ritonavir will prevent the breakdown of lopinavir and increase its effect. This allows the medication to be taken twice daily.

How do I take the tablet?

- Usual adult dose is 2 or 3 tablets twice daily. Take only as prescribed by your physician
- The medication can be taken with or without food. The tablets may be taken with food to minimize stomach upset.
- Kaletra tablets should be swallowed whole, not split, crushed or chewed.
- Alcohol is not recommended in the first 4 weeks of therapy and should be used with caution thereafter.

Take Kaletra® every day as prescribed as missing doses can lead to the development of drug resistance. If you miss a dose, take it as soon as you remember. If it is close to your next scheduled dose, skip the missed dose and take your next dose at the usual time. Do not take two doses at the same time. Missed doses (especially if just one drug in the combination) may lead to the virus becoming resistant to all the antiretroviral drugs that you are taking, reducing or eliminating the effect of them against the virus.

What should I expect?

- Side effects may include nausea, vomiting, diarrhea, loss of appetite, abdominal pain, headaches, dry mouth, and rash. These effects usually diminish with the first month of treatment. Contact your physician or pharmacist if any side effects occur and remain persistent.
- Redistribution or accumulation of body fat, blood cholesterol changes and/or diabetes may occur in patients receiving antiretroviral therapy. The cause and long-term health effects of these conditions are unknown at this time.

WARNING:

Protease inhibitors not only interact with each other, but they also can interact with many other medications (i.e. Some anti-histamines, benzodiazepines, anti-tuberculosis medications, analgesics, heart/blood –pressure medications, anti-depressants), resulting in potentially serious and/or life threatening complications. Always check with the pharmacist or your physician before starting any new therapies to ensure the safety of the combination.

How do I store it?

Kaletra® film-coated tablets should be stored at room temperature (between 15 & 25 degrees C). Store all medications out of the reach of children.

Labwork to be done: Contact your Health Care Provider

If you have Questions please call:
Yukon Communicable Disease Control (YCDC)
#4 Hospital Rd
(867) 667-8323 or 1-800-661-0408 extension 8323
or Your Follow-up Health Care Provider

Adapted from BC Centre for Excellence HIV/AIDS (June 2008), Revised July 2009

Lamivudine (3TC)

What is Lamivudine?

- A nucleoside analogue reverse transcriptase inhibitor used to inhibit the replication of the HIV virus in combination with other antiretroviral agents (ARV)
- Available as 150mg tablets, 300 mg tablets and a 10 mg/mL oral solution

How do I take it?

- The usual adult dose is 150 mg twice daily or 300 mg once daily.
- Can be taken with or without food.
- Alcohol is not recommended in the first 4 weeks of therapy and should be used with caution thereafter.

Take lamivudine every day as prescribed as missing doses can lead to the development of drug resistance. If you miss a dose, take it as soon as you remember. If it is close to your next scheduled dose, skip the missed dose and take your next dose at the usual time. Do not take two doses at the same time.

What should I expect?

- Usually well tolerated. Most common side effects are mild nausea, headache and fatigue.
- Serious side effects that have occurred in a small number of patients include allergic reaction, pancreatitis, and elevated liver enzymes.
- Contact your doctor IMMEDIATELY, if you experience severe abdominal pain with nausea and vomiting; these may be symptoms of an inflamed pancreas
- Inform your doctor, if you notice loss of appetite, unusual weight loss, unusual tiredness, weakness or stomach pain
- Redistribution or accumulation of body fat, blood fat changes and/or diabetes may occur in patients receiving antiretroviral therapy. Your doctor or pharmacist can provide you with further information on this topic.

How do I store it?

Lamivudine should be stored in a cool, dry place at room temperature (15-30 degrees C) and out of the reach of children.

Labwork to be done: Contact your Health Care Provider

If you have Questions please call:
Yukon Communicable Disease Control (YCDC)
#4 Hospital Road
(867) 667-8323 or 1-800-661-0408 extension 8323
or Your Follow-up Health Care Provider

Tenofovir (VIREAD)

What is Tenofovir?

- A nucleotide analogue used to inhibit the replication of the HIV virus in combination with other antiretroviral agents (ARV)
- Available as a 300 mg tablet

How do I take it?

- The usual adult dose is 300 mg (1 tablet) once daily.
- Can be taken with or without food.
- Alcohol is not recommended in the first 4 weeks of therapy and should be used with caution thereafter.

DO NOT SKIP DOSES! Missing doses can lead to the development of drug resistance and make the virus more difficult to treat. If you miss a dose, take it as soon as you remember. If it is close to your next scheduled dose, skip the missed dose and take your next dose at the usual time. Do not take two doses at the same time.

What should I expect?

- Nausea, vomiting, diarrhea and gas may occur
- Rarely kidney problems may occur. Certain people (i.e. people with diabetes or high blood pressure, elderly) may be at increased risk for developing this problem.
- Inform your doctor, if you notice loss of appetite, unusual weight loss, unusual tiredness or weakness or stomach pain
- Redistribution or accumulation of body fat, blood fat changes and/or diabetes may occur in patients receiving antiretroviral therapy. Your doctor or pharmacist can provide you with further information on this topic.

How do I store it?

Tenofovir should be stored in a cool, dry place at room temperature (15-30 degrees C) out of the reach of children.

Labwork to be done: Contact your Health Care Provider

If you have Questions please call:
Yukon Communicable Disease Control (YCDC)
#4 Hospital Road
(867) 667-8323 or 1-800-661-0408 extension 8323
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Blood and Body Fluid Exposure Management
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4 Hospital Rd., Whitehorse, YT. Y1A 3H8
Phone: 667-8323 Fax: 667-8349
