



Health and
Wellness

Prince Edward Island Blood and Body Fluid Exposure Guideline

May 2019

**Department of Health and Wellness
Chief Public Health Office**

Blood and Body Fluid Exposure Guideline

Table of Contents

| | |
|---|---|
| 1. Introduction | 3 |
| 2. Goals | 3 |
| 3. Definitions | 3 |
| 4. Immediate Post-Exposure Procedure..... | 4 |
| 5. Follow Up Procedure | 4 |
| 6. Attending Physician / Delegate | 5 |
| 7. Sexual Exposure..... | 5 |
| 8. Appendices | 5 |
| References | 6 |

Blood and Body Fluid Exposure Guideline

1. INTRODUCTION

Exposure to blood and body fluids (BBF) in a community or healthcare setting (via a needlestick, sharp, or splash) is a public health concern.

These guidelines are designed for Health Care Providers involved in assessing and/or treating persons exposed to potential infections of hepatitis C virus (HCV), hepatitis B virus (HBV), or Human Immunodeficiency Virus (HIV).

2. GOALS

The goal of this guideline is to provide the information to support the risk assessment and clinical management of persons exposed to BBF, in order to reduce the risk of transmission of bloodborne viruses.

3. DEFINITIONS

Bloodborne pathogen - Any pathogen that can be transmitted from one person to another via blood. Pathogens may also be transmitted by other body fluids. The mode of transmission varies depending on the pathogen, the type of body fluid and the nature of the exposure.

BBF – Blood and Body Fluid

BBF exposure - An event where a person is exposed to potentially infectious blood and bodily fluids through one of the following:

- **Percutaneous** - exposure through puncture of skin by needlestick or another sharp object
- **Permucosal** - exposure through contact with mucous membranes
- **Non-intact skin** - exposure through eczema, scratches, and damaged skin
- **Sexual** – exposure through sexual activity

CPHO – Chief Public Health Office

RASP – Risk Assessment Stratification Protocol to determine PEP recommendation for HIV

Post-exposure prophylaxis (PEP)- Short-term treatment started as soon as possible after high-risk exposure to an infectious agent such as: HIV or hepatitis B virus (HBV). The purpose of PEP is to reduce the risk of infection. Specific direction regarding PEP for HBV and HIV can be found in Appendix E Post-Exposure Prophylaxis (PEP) Recommendations. There is no PEP for HCV but treatment is available.

SDM - Substitute Decision Maker

Blood and Body Fluid Exposure Guideline

4. IMMEDIATE POST-EXPOSURE PROCEDURE

Needlestick:

Allow free bleeding of the wound. Do not squeeze the wound as this may destroy surrounding tissue. Wash injured area thoroughly with soap and water. Do not use bleach.

Mucous membranes (eye, nose mouth):

Flush the area(s) thoroughly with copious amounts of water or normal saline solution.

Skin:

Wash thoroughly with soap and water. Do not use bleach.

5. FOLLOW UP PROCEDURE

5.1 If the exposure occurred in an occupational setting:

- Notify the Manager/Supervisor in the work area
- Initiate Workers Compensation paperwork following the incident.

The health care provider involved in assessing /treating the exposed person should:

5.2 Fill out the *Blood and Body Fluid Exposure Worksheet* (Appendix A).

5.3 If completion of sections 1 and/or 2 of the *Blood and Body Fluid Exposure Worksheet* confirms **NO significant exposure** then no further action is required.

5.4 If completion of sections 1 and/or 2 of the *Blood and Body Fluid Exposure Worksheet* indicates significant exposure is confirmed, follow steps provided in section 3 of the *Worksheet*.

5.5 Assess the risk of the source fluid by completing the *Source Risk Assessment* (Appendix B) with the Source or the Substitute Decision Maker (SDM). This form is completed using the information available. If the source refuses testing, treat as an unknown source. Testing for the source should be ordered STAT.

- **Unknown Source** – If the source is unknown and the exposure is significant, the exposed should proceed to the nearest Emergency Department for assessment and blood work.
- **Known Source** - Complete the *Source Risk Assessment* (Appendix B). If the source is available for testing, order serology testing for the source (**needlestick source** and page QEH microbiology staff if source is a patient in the hospital).

NOTE: If the exposure was from a discarded needle in the community setting, PEP is not required.

5.6 If the source is considered to be high risk order the “needle stick exposed” panel in CIS. If ordering from a community setting order the following tests: ALT, ALP, HBAB, HBAG, HCV, HBC, HIV, CBC, Urea, Creatinine, Electrolytes, Total Bilirubin.

5.7 Complete the treatment section (Tables 1 and 2) of the *Body Fluid Exposure Worksheet*.

5.8 Provide exposed person with the *Blood and Body Fluid Exposure Fact Sheet* (Appendix C).

5.9 Provide support, education and counselling to the exposed person.

5.10 Arrange for follow up testing as required.

Blood and Body Fluid Exposure Guideline

6. ATTENDING PHYSICIAN / DELEGATE

6.1 Review Tables 1 and 2 of the *Blood and Body Fluid Exposure Worksheet*.

6.2 Review RASP decision tool (Appendix D) for HIV PEP.

6.3 If HIV PEP is required:

- Prior to ANY PEP (Post Exposure Prophylaxis) medication being started, perform a **urine pregnancy test** on any woman of child-bearing age.
- A full review of current medications is required for potential interactions with HIV PEP medications. HIV PEP medication recommendations are found in *Post-Exposure Prophylaxis (PEP) Recommendations for Significant Exposure to Blood and Body Fluids* (Appendix E). Four day starter packs are available in QEH and PCH ERs.
- If HIV PEP is given, advise exposed person to follow up with their health care provider within **72 hours** of initiating HIV PEP. Those receiving HIV PEP **should** be seen by a health care provider within 72 hours of starting HIV PEP to provide a further medication prescription (24 days) and assessment for tolerance to medication.
- Notify the CPHO if PEP is required and the exposed person does not have a family physician/NP
- Prescriptions for the remaining 24 days of treatment should be faxed to the Provincial Pharmacy using the appropriate fax form. If the exposure is work related, Workers Compensation paperwork must be filed for coverage of the cost of medication. If the situation is not work related and cost of PEP is a barrier, notify the CPHO.

6.4 If Hepatitis B PEP is required:

- 6.4.1 Refer to *Post-Exposure Prophylaxis (PEP) Recommendations for Significant Exposure to Blood and Body Fluids* (Appendix E). The initial dose of HBIG and Hep B vaccine is given in the ER.
- 6.4.2 Instruct client to contact Public Health Nursing for completion of the vaccine series.

7. SEXUAL EXPOSURE

For a sexual assault please see the Sexual Assault orderset for testing instructions.

Treatment would be as noted in Post-Exposure Prophylaxis (PEP) Recommendations for Significant Exposure to Blood and Body Fluids.

8. APPENDICES

- A. Blood and Body Fluid Exposure Worksheet
- B. Source Risk Assessment
- C. Blood and Body Fluid Exposure Fact Sheet
- D. Risk Assessment Stratification Protocol (RASP) for use by health care professionals when discussing postexposure prophylaxis for HIV exposure
- E. Post-Exposure Prophylaxis (PEP) Recommendations for Significant Exposure to Blood and Body Fluids
- F. Provincial Pharmacy Fax Form

Blood and Body Fluid Exposure Guideline

REFERENCES

- British Columbia Centre for Excellence in HIV/AIDS (BC-CfE). (2017) HIV post-exposure prophylaxis (pep) guidelines. May 2017. Accessed Aug13, 2017 at:
http://cfenet.ubc.ca/sites/default/files/uploads/publications/centredocs/pep_guidelines_final_may_2017.pdf
- British Columbia Centre for Excellence in HIV/AIDS (2009). Therapeutic Guidelines: Accidental Exposure Guidelines. Accessed April 22, 2013 at:
http://www.cfenet.ubc.ca/sites/default/files/uploads/docs/Accidental_Exposure_Therapeutic_Guidelines_Nov82010.pdf
- Tan, D.H.S., et al. (2017). Canadian guideline on HIV pre-exposure prophylaxis and nonoccupational postexposure prophylaxis. *CMAJ* November 27;189:E1448-58. doi: 10.1503/cmaj.170494
- Capital Health (2014). Accidental Exposure to Blood and/or Potentially Infectious Body Substances-Employee/Physician (CH 15-070). Halifax, NS.
- Centers for Disease Control and Prevention (2013). CDC guidance for evaluating health-care personnel for hepatitis B virus protection and for administering post-exposure management. *Morbidity and Mortality Weekly Report*, 62, No 10, 1-16.
- Centers for Disease Control and Prevention (2013). Updated U.S. public health service guidelines for the management of occupational exposures to HIV and recommendations for post exposure prophylaxis. *Infection Control and Hospital Epidemiology*, 34, No. 9, 875-892.
- Centers for Disease Control and Prevention (2005). Updated U.S. public health service guidelines for the management of occupational exposures to HIV and recommendations for post exposure prophylaxis. *Morbidity and Mortality Weekly report*, 54, No. RR-9, 1-17.
- Centers for Disease Control and Prevention. (2001). Updated U.S. public health service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommendations for post exposure prophylaxis. *Morbidity and Mortality Weekly Report*, 50, No. RR-11, 1-52.
- Manitoba Communicable Disease Control (2009). Integrated Post-exposure Protocol for HIV, HBV, & HCV: Guidelines for Managing Exposures to Blood and Body Fluids (2009) Accessed May 10, 2013 at: http://www.gov.mb.ca/health/publichealth/cdc/protocol/hiv_postexp.pdf
- Mountain Plains AIDS Education and Training Center. (2014). PEP steps: A quick guide to post-exposure prophylaxis in the health care setting. Accessed February 12, 2015 at:
http://www.mpaetc.org/MPAETC/media/MPAETC/Product%20Downloads/pep_steps.pdf
- Ontario Hospital Association and the Ontario Medical Association. (2012). Blood-Borne Diseases Surveillance Protocol for Ontario Hospitals.
- Public Health Agency of Canada. (2002). Infection control guidelines: Prevention and control of occupational infections in health care. *Canada Communicable Disease Report*, Volume 28S1, 1-264.

Exposed Person/Source Demographic Data

Name of Exposed _____ MRN _____
 Date/Time of Exposure _____
 Geographic location where exposure occurred _____
 Accident/Injury workers comp report filled out? Yes ___ No ___ N/A ___
 Source Name (if known) _____ MRN _____

Section 1: Significance of Exposure. Select type of exposure(s) that apply.

___ Percutaneous (any puncture)
 ___ Non-intact Skin (cut, chapped, abraded, dermatitis)
 ___ Mucous membranes (eyes, mouth, nose, vagina, anus)
 • Any of the above, proceed to section 2.

___ None of the options listed in the left column.

- No PEP is required. No further action required.

Section 2: Fluid Type Exposure Select the fluid risk that applies.

___ Low risk fluid:

Saliva, sputum, nasal secretions, sweat, tears, urine, feces, vomit or screen blood product are low risk if not contaminated by visible blood.

- No further action required.

___ High risk fluid:

Blood, tissue, genital, amniotic, cerebrospinal fluid (CSF), pleural, synovial or any fluids with visible blood.

- Proceed to section 3.

Section 3: Exposure Severity Select the severity of exposure that applies

Blood Exposure

___ **3** More severe (hollow bore needle, deep puncture, blood visible on device, needle used in artery or vein)
 ___ **2** Less severe (solid needle, superficial scratch)

- Check the corresponding number in Table 1 (end of document).
- Continue to section 4.

Non intact skin/mucous membrane exposure

___ **2** Large volume (greater than 5 mls, duration greater than 5 minutes, large area exposed)
 ___ **1** Small volume (less than 5 mls, duration 5 minutes or less, small area exposed)

Section 4: Exposed Hepatitis B status.

___ **0** Immune or HepB Positive

HBsAb greater than 12 IU/L at any time or has had 3 dose series Skip section 5
 Go to section 6

___ **4** Susceptible

HBsAb (antibodies) less than 12 IU/L, did not receive 3 dose series
 Transfer # to Table 2 and continue to section 5

___ **5** Pending

Results for HBsAb and HBsAg pending if past results unavailable
 Transfer # to Table 2 and continue to section 5

Section 5: Source Hepatitis B Status – refer to Source Risk Assessment.

___ **Negative**

Source is HBsAg negative within the last 3 months and has no risk factors according to the Source Risk Assessment form.
 No Hep B PEP needed.
 Continue to Section 6.

___ **I** Infected

+ HBsAg or risk factors identified in the Source Risk Assessment form or source unknown but a high risk situation or area.
 Transfer letter to Table 2 and continue to Section 6.

___ **P** Pending

Blood work to be drawn on the Source for HBsAg if past results not available.
 Transfer letter to Table 2 and continue to Section 6.

| Section 6: Source HIV status- refer to Source Risk Assessment. | | |
|---|---|---|
| <p>___ Negative HIV screen negative and no risk factors according to the Source risk assessment form. Proceed to Table 2.</p> | <p>___ F Risk factors Risk factors identified and HIV screening results unknown or source unknown Transfer letter to Table 1.</p> | <p>___ H Positive HIV status Transfer letter to Table 1.</p> |

Table 1. HIV PEP Medication Recommendations

Select the number from Section 3 and the letter from Section 6 wherever they appear in the table below. **When 2 boxes in the recommendation row are checked, follow the treatment provided in the row to the right.**

| Select the number from Section 3. | Select the letter from Section 6. | HIV PEP Recommendations |
|-----------------------------------|-----------------------------------|---|
| Exposure Severity | Source HIV Status | |
| ___ 1 | ___ F | HIV PEP NOT recommended – Exposure does not pose a known risk for HIV transmission |
| ___ 1 | ___ H | Extremely low risk for HIV transmission |
| ___ 2 | ___ F | PEP is optional and should be based on an individual basis and a discussion between the person exposed and the Health Care Provider. Appendix D for recommendations |
| ___ 3 | ___ F | |
| ___ 2 | ___ H | Increased risk for HIV transmission, PEP should ideally be given within 2 hours after exposure but may be given up to 72 hours from the time of exposure. HIV PEP should be determined on a case by case basis between the exposed person and Health Care Provider. Appendix D for recommendations |
| ___ 3 | ___ H | |

Table 2. Hepatitis B PEP Recommendations

Select the number from Section 3 and the letter from Section 6 wherever they appear in the table below. **When 2 boxes in the recommendation row are checked, follow the treatment provided in the row to the right.**

| Select the number from Section 4. If no number applies No Hepatitis B PEP required. | Select the letter from Section 5. | Hepatitis B PEP or Vaccine Recommendations |
|--|-----------------------------------|---|
| Exposed HBV status | Source HBV status | |
| ___ 0 | ___ | Exposed person is already Hepatitis B immune or disease positive. No Hepatitis B PEP or immunization is required. |
| ___ 4 | ___ P | Results pending on Exposed and/or Source HBV testing. If results will not be available within 24 hours consider Hepatitis B PEP. Appendix D for recommendations. |
| ___ 5 | | |
| ___ 4 | ___ I | Exposed is susceptible or results pending and Source is infected. Recommend Hepatitis B PEP (HBIG and HBV vaccine if Exposed is non-immune). Appendix D for recommendations |
| ___ 5 | | |

| | |
|----------------------------|-------------------------------|
| Completed by: _____ | Date & Time: _____ |
|----------------------------|-------------------------------|

Appendix B

Source Risk Assessment

Exposed name: _____ Exposed MRN: _____

Source name: _____ Source MRN: _____

Source Information Collected by: _____

Location of exposure _____ Date: _____

How was the Information from the Source Risk assessment completed:

- From Source Source unable/unavailable From substitute decision maker (SDM) Source Unwilling

PREVIOUS SOURCE TESTING

Known Source Testing History for (testing done within the last 3 months can be used)

Hepatitis B Positive HBAG Negative HBAG HBAG not tested in last 3 months

Hepatitis C Positive HCV screen Negative HCV screen HCV screen not tested in last 3 months

HIV Positive HIV Negative HIV HIV not tested in last 3 months

| Section #1 Risk Factors | | | |
|---|----|-----|-----------|
| Check the source patient response to these questions | No | Yes | Uncertain |
| 1. Have you ever been told you are HIV positive? | | | |
| 2. Have you ever been told you have Hepatitis B? | | | |
| 3. Have you ever been told you have Hepatitis C? | | | |
| 4. Have you had sexual or blood contact with a person who had a positive blood test for HIV? | | | |
| 5. Have you had sexual or blood contact with a person who had a positive blood test for Hepatitis B or C? | | | |
| 6. Have you ever injected non-prescription drugs? | | | |
| 7. Have you ever had sex with someone who injects non-prescription drugs? | | | |
| 8. Have you ever lived on the streets or shared drugs or had sex with someone living on the street? | | | |
| 9. Have you ever traded money for sex or drugs? | | | |
| 10. Are you a male who has sex with other males? | | | |
| 11. Have you had unhygienic tattoo or body piercing (meaning tattoos or piercings done with needles used on two or more individuals without sterilization or from amateur or mobile operators)? | | | |
| 12. Have you or a member of your household ever lived in Sub-Saharan Africa, South Asia or Southeast Asia? | | | |
| Section #2: Based on the above formation provided, the source has been designated the following risk level: | | | |
| <input type="checkbox"/> No Risk Source (no risk factors identified) answered NO to all above questions <input type="checkbox"/> Low Risk Source (only answered yes to question 11) <input type="checkbox"/> High Risk Source (identified risk factors and/or known HIV, Hep B, Hep C positive, answered YES to one or more questions) | | | |

Obtain verbal consent from source. Order testing if Source is low risk or high risk.

Information from this form to be used for section 5 and 6 of the Blood and Body Fluid Exposure Worksheet.

What is an exposure?

An exposure to infected blood, tissue or other potentially infectious body fluids can occur by a puncture from a used needle or by a cut with a sharp object that has had contact with blood and body fluids. It can also occur after a large splash that involves contact with mucous membranes (eyes, nose, mouth) or significant areas of skin that is chapped or broken. An exposure potentially increases the risk of acquiring Hepatitis B, Hepatitis C and HIV.

Body fluids capable of transmitting Hepatitis B, C, and/or HIV:

- Blood
- Breast Milk
- Semen
- Vaginal Secretions
- Other fluids that surround joints/organs in the body

The following body fluids do not pose a risk of transmitting Hepatitis B, Hepatitis C, and HIV unless they contain visible blood:

Urine
Saliva

Nasal secretions
Vomit

Feces
Tears

Sputum
Sweat

The risk of infection with Hepatitis B, Hepatitis C, or HIV is dependent on:

- the amount of fluid you've been exposed to → more fluid = higher risk
- the amount of time you were in contact with the fluid → more time = higher risk
- the person you've been exposed to → the more ill with the disease (Hepatitis or HIV) = higher risk
- the depth of the wound → deeper wound = higher risk
- the type of device → injury with a hollow bore, blood-filled needle = higher risk
- the type of fluid you've been exposed to → blood = higher risk

What should you do when you've had an exposure?

First aid:

- Wash the injured/exposed area well with soap and water.
 - For a splash to your eyes, flush with water or saline solution.
 - For a mucous membrane exposure (mouth or nose) or skin exposure, flush with water.
- Report the injury to your supervisor if it was an occupational injury and begin the workers compensation paper work.

Appendix C **Blood and Body Fluid Exposures Fact Sheet**

Do I need to go to the ER?

It is advisable you visit the ER if:

- the source is known to be HIV (+), or has risk factors for HIV
- the source is known to be Hep B (+) and you have never been immunized for Hepatitis B or have been told you are a “non-responder”
- the source of the blood/body fluid is unknown
- you have had a “high-risk” exposure:
 - a deep, percutaneous injury
 - injury with a device that was inserted directly into the patient’s artery or vein
 - injury with a large bore, hollow needle

In the ER your exposure will be evaluated to determine if there is a need for post-exposure prophylaxis (PEP), which is a medication that is given to reduce the risk of infection with HIV and or Hepatitis B. The evaluation considers the type of exposure/injury you have had and the patient you have been exposed to. PEP should be given as soon as possible after a high risk exposure.

In order to protect yourself and others, please refrain from the following until serology results of the person you’ve been exposed to are known:

- Unprotected sex
- Donating blood, semen, organs or tissues
- Sharing personal hygiene items such as toothbrush/razor/nail files

What follow-up will be done?

A Health Care Provider will investigate the injury and circumstance and arrange to have blood work completed on you and the source, if available. Depending on the sources blood work results, you may be advised to have follow-up blood work done 1 and 3 months after the exposure; this will also be the case if you have been exposed to an unknown source. A Health Care Provider will contact you to advise of all blood work results.

HIV Post-Exposure Prophylaxis (PEP) – Please notify the CPHO of PEP initiated in the ER

A 4 Day starter pack is available at QEH and PCH Emergency Departments free of charge to exposed persons. The medications are Raltegravir 400mg BID and Truvada 1 tab daily. If there is no family physician please prescribe the remaining 24 days of PEP using the Provincial Pharmacy Fax Form (Appendix F) and fax to the Provincial Pharmacy at 902-368-5001.

If PEP is started & source later determined to be HIV negative, PEP should be discontinued.

Hepatitis B Post-Exposure Prophylaxis (PEP)

Hepatitis B Immune Globulin (HBIG) IM dose 0.06 mL/kg Ventrogluteal/Vastus Lateralis^a
Hepatitis B vaccine IM dose 1ml Deltoid^a

HBIG should be administered in the ER as well as the first dose of HB vaccine. Refer to the local Public Health Nursing office for the remaining doses.

^aHepatitis B vaccine should always be given in the deltoid. HBIG should be given in larger muscles to accommodate larger volumes.

Additional laboratory testing

- Baseline evaluation of individuals beginning HIV PEP should include laboratory assessment of hepatic and renal function, evaluation for sexually transmitted infection (STI) and hepatitis infection, and subsequent appropriate management.
- Ongoing laboratory monitoring of biochemistry and hematology during HIV PEP is advised only for those with baseline laboratory abnormalities, or in those who develop signs or symptoms of organ dysfunction or medication-related adverse effects during therapy.

If the exposed person must continue PEP for the full 28 days and tolerability to the initial PEP therapy is problematic an alternative regimen may be considered. For further information contact the Provincial Infectious Disease consultant.

Suggested evaluation at baseline, during and after HIV post-exposure prophylaxis

| Test | Baseline | Week 2 | 1 month | 3 months |
|--|----------|--------|----------------------|----------|
| HIV testing | X | | X | X |
| Test Hepatitis A immunity (hepatitis A total antibody) | X | | | |
| Hepatitis B screen (surface antigen, surface antibody, core antibody) | X | | | X^^ |
| Hepatitis C screen (hepatitis C antibody) | X | | HCV RNA [^] | X |
| Complete blood count | X | | | |
| Alanine aminotransferase | X | X** | | |
| Serum creatinine | X | X** | | |
| Pregnancy testing (if appropriate) | X | | | |
| Screening for gonorrhea and chlamydia (urine NAAT; throat and rectal swabs culture or NAAT; test anatomic sites depending on type of sexual activity reported) | X* | | | X* |
| Syphilis serology | X* | | | X* |

*If exposure due to sexual assault

**Suggested if abnormal at baseline or symptomatic.

[^] If **source** has a positive untreated HCV viral load, consult medical microbiologist before ordering.

^{^^} If not immune

