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1.0 INTRODUCTION

This document focuses on providing guidance for healthcare workers (HCW's) on the assessment of risk and management of persons potentially exposed to hepatitis B virus (HBV), hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV) transmission, through contact with blood and body fluids (BBF) in a healthcare or community setting.

Practitioner Alert!

These guidelines are applicable to situations of sexual assault and potential BBF exposures involving healthcare workers.

For guidance on the handling of exposures outside the parameters of this document (e.g., community acquired needlestick injuries) refer to the [BCCDC Communicable Disease Control Manual](#), [BC Centre for Excellence in HIV/AIDS \(BC-CfE\) guidelines](#) and [BC Women's Hospital Sexual Assault Service resources](#).

For additional information on managing BBF exposure in survivors of sexual assault and other considerations including STI screening, pregnancy prevention and medico-legal options, refer to:

- BC Women's Hospital Sexual Assault Service resources (www.bcwomens.ca/health-professionals/professional-resources/sexual-assault-service-resources)
- The BCCDC Non Certified Practice Decision Support Tool for Prophylaxis Post Sexual Assault (<http://www.bccdc.ca/health-professionals/clinical-resources/communicable-disease-control-manual/sexually-transmitted-infections>)

1.1 Goals

To support HCW's with information to reduce the transmission of bloodborne viruses by providing appropriate risk assessment and clinical management recommendations in persons exposed to BBF in a healthcare or community setting. Using principles of health equity (e.g., trauma informed practice and culturally informed care), to:

1. Assess the risk of exposure
2. Test the exposed and source person
3. Administer PEP treatment when appropriate to prevent the development of HIV and/or HBV infection
4. Counsel to address anxiety, encourage follow-up testing and prevent further transmission

Post-exposure management must be undertaken when the following conditions are present:

- Exposure is through a needlestick/scratch, permucosal contact or contact with compromised (damaged) skin
- Exposure is to blood or high-risk body fluids from a source that is either known to be infectious or might be potentially infectious (high-risk source or in settings where individuals engage in high-risk activities)
- The exposed person is known or considered to be at risk for HBV, HCV or HIV



2.0 DEFINITIONS

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

Blood or body fluid (BBF) exposure - An event where a person is exposed to potentially infectious blood or 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

Hepatitis B Immune Globulin (HBIG) – Passive immunoprophylaxis used in combination with hepatitis B vaccine to prevent mother-to-infant transmission and in certain other post-exposure scenarios. Prepared as a solution of hepatitis B Ig for intra-muscular administration. Waning anti-HBs levels can be detected up to 6 months later. Most effective if given within 48 hours, up to 7 days following percutaneous exposure and 14 days following permucosal exposure.

High-risk settings – Settings or communities with an established high prevalence of HBV, HCV and HIV. This includes needle distribution program sites, and acute care drug and alcohol treatment clinics.

Post-exposure prophylaxis (PEP) –

- **HBV** - hepatitis B vaccine and [HBIG](#) can provide susceptible individuals with protection from HBV infection after exposure to HBV in certain scenarios, when given within a certain timeframe. An assessment of the type of transmission event, and if available, the immunization histories and post-vaccination serologic testing of the source and exposed persons, will help guide the decision as to whether or not PEP is indicated.
- **HCV** – there is currently no PEP available
- **HIV** – the use of antiretroviral drugs after a single high-risk event to prevent HIV seroconversion. They are most effective if started within 72 hours of exposure, ideally within 2 hours.

Susceptibility – a person is considered susceptible to:

- HBV if they have **no** history of a protective antibody level following administration of a complete hepatitis B vaccine series (i.e., anti-HBs levels less than 10 IU/L upon completion of vaccine series) OR no history of a test result indicating immunity from prior HBV infection (i.e., HBsAg nonreactive, anti-HBc Total reactive and anti-HBs > 10 IU/L)
- HCV if they have no history of prior anti-HCV infection (i.e., anti-HCV reactive or HCV RNA detectable)
- HIV if they have no history of a prior anti-HIV infection (i.e., anti-Ag/Ab reactive or HIV RNA detectable)

Window period – duration of time between infection and laboratory detection of infection



3.0 MANAGEMENT OF A PERSON WITH A BBF EXPOSURE

3.1 Initial follow-up care

Needlestick/wound: Allow the wound to bleed freely

- Do not promote bleeding by squeezing the wound. This may damage the tissues and increase uptake of any pathogen(s).
- Wash well with soap and water

Mucous membrane or eye: Irrigate with water or normal saline

Skin: Wash well with soap and water

- Do not apply bleach to wound or mucosa

3.2 Risk Assessment

A risk assessment should be performed on the exposed person as soon as possible. If indicated, certain types of [PEP](#) may need to be given within 48 hours, some preferably within 2 hours. This can be done at hospital emergency departments, occupational health departments or public health units.

3.2.1 Risk Factors

Assessment of the exposed person includes hepatitis B vaccine history and immune status, and personal risks for HCV and HIV. For complete lists of potential risk factors, refer to the [BCCDC CDC Manual](#).

Common Risk Factors for HBV, HCV and HIV

- Riskier sexual activity (e.g., multiple sex partners, unprotected sex)
- History of injection drug use
- History of dialysis
- Immigration from an endemic country
- Tattooing, body piercing, electrolysis or acupuncture due to unsterile practices

HBV

The risk of developing HBV infection following exposure is extremely low. The majority of BC's population under the age of 35 has been vaccinated since the introduction of a grade 6 hepatitis B immunization program in 1992 and a universal hepatitis B infant program in 2001. Most HCW's have undergone HBV testing and vaccination related to workplace screening. For those who are not fully immunized, effective post-exposure treatment can be achieved by administering hepatitis B vaccine and if indicated, [HBIg](#).

HBV can be spread through percutaneous or permucosal contact with infected blood and body fluids. Risk factors for HBV include:

- History of multiple transfusions of blood or blood products prior to January 1970
- A sexual partner of a person who injects drugs (PWID) or who has an acute or chronic HBV infection
- Immigration from an HBV endemic country
- Potential exposure to a person known to be infected with HBV

If the exposed person has documentation of immunity after completion of a full hepatitis B vaccine series, the risk of HBV from a bloodborne exposure is virtually zero. In unvaccinated individuals, the risk of sexual or needlestick transmission is increased if the source has HBV DNA > 1000-2000 IU/mL.



HCV

Immunization against HCV is not available; however, if an exposure leads to HCV infection, approximately 25% of infections clear spontaneously and > 95% of people can be cured on treatment.

HCV is mainly spread by percutaneous contact with infected blood. Risk factors for HCV include:

- A history of receiving multiple transfusions of blood or blood products prior to May 1992
- Potential exposure to a person known to be infected with HCV
- Sexual transmission is rare. The risk increases with activities where blood is present (e.g., anal and/or rough sex causing mucosal tearing) with a partner who engages in illicit drug use (IDU) and/or is HCV positive.

Table 3-1. Fluids capable of transmitting bloodborne pathogens

Fluid	HIV	HBV	HCV
Blood and body fluids visibly contaminated with blood	Yes	Yes	Yes
Semen	Yes	Yes	Yes, if blood is present
Vaginal/rectal secretions	Yes	Yes	Yes, if blood is present
Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids and inflammatory exudates (e.g., wound)	Yes	Yes	Yes
Saliva	No, unless contaminated with blood	Extremely low risk unless blood is present*	No, unless contaminated with blood
Transplanted tissue or organs	Yes	Yes	Yes
Breast milk	Yes, breastfeeding is not recommended	Plausible, if nipples are cracked or bleeding. Neonates given HBIG and hepatitis B vaccine are not at risk.	Plausible, if nipples are cracked or bleeding but the risk of transmission is very low. Breastfeeding is still recommended by HCV infected mothers.
Faeces, nasal secretions, sputum, sweat, tears, urine vomitus	No, unless they contain visible blood		

* HBV transmission via **casual** mucosal contact to saliva that is not visibly contaminated with blood is uncommon. Although HBV has been detected in saliva, reports involving HBV transmission when a HBV-infected person bites (i.e., percutaneous) another person have involved bloody saliva. Blood was more likely the means of transmission, not the saliva.



HIV

Approximately 78% of people living with HIV in BC who are receiving anti-retroviral therapy (ART) have an undetectable viral load and likely have a negligible risk of transmission to others from bloodborne or sexual exposures. Viral loads are highest early in HIV infection (acute stage) or in later stages of advanced HIV disease or AIDS. Prompt administration of [PEP](#) in the exposed person can significantly reduce the risk of infection if the source person has a detectable viral load.

HIV can be spread through specific contact with certain infected blood and body fluids. Risk factors for HIV include:

- History of multiple blood transfusions or blood products prior to November 1985
- A sexual partner of an individual that engages in IDU, is HIV-infected, or has a history of multiple transfusions of blood or blood products prior to November 1985
- A diagnosis of sexually transmitted infection(s)
- Potential exposure to a person known to be infected with HIV

For estimated risk of HIV transmission by exposure type, see the [BC-CfE HIV PEP Guidelines \(www.cfenet.ubc.ca/therapeutic-guidelines\)](http://www.cfenet.ubc.ca/therapeutic-guidelines).

3.2.2 Needlestick injuries in a healthcare setting

The risk will vary depending on the site, the type and the source of exposure (refer to [Table 3-2](#)). Transmission risk is increased with:

- Deep punctures
- Large, hollow bore needles containing blood
- High viral load of the source patient

For further information on occupational needlestick injuries and risk for HIV transmission, see the [Risk Assessment Stratification Protocol \(www.mdcalc.com/hiv-needle-stick-risk-assessment-stratification-protocol-rasp\)](http://www.mdcalc.com/hiv-needle-stick-risk-assessment-stratification-protocol-rasp).

Table 3-2: Risk of transmission from needlestick injuries

Type of exposure	Risk for transmission from needlestick injuries in a health care setting		
Percutaneous exposure	HBV	HBeAg positive	<ul style="list-style-type: none"> • 30% if the exposed person has not been previously vaccinated • Virtually zero if previously vaccinated
		HBeAg negative	<ul style="list-style-type: none"> • 5-10% if the exposed person has not been previously vaccinated • Virtually zero if previously vaccinated
	HCV		<ul style="list-style-type: none"> • 2% (20 in 1000)
	HIV		<ul style="list-style-type: none"> • 0.3% (3 in 1000) • Assumes person has a detectable HIV viral load
Permucosal exposure	HIV		<ul style="list-style-type: none"> • 0.1% (1 in 1000) • Assumes person has a detectable HIV viral load



3.2.3 Consent

Test results for HBV and HCV, if positive, will be reported to both the person's testing physician and public health for follow-up.

Informed consent for HIV testing refers to the process of obtaining voluntary agreement for proposed care, treatment, or research. Conditions for consent include the client being adequately informed and capable of giving or refusing consent, and that consent is given voluntarily without coercion, fraud, or misrepresentation. In British Columbia, informed consent for HIV testing is the same as for any other diagnostic test. There is no requirement for written consent for HIV testing in BC.

If a client is unable to provide consent and HIV testing is clinically indicated, usual clinical practices for ordering all necessary testing, including the use of Substitute Decision Makers, should be applied.

Individuals testing for HIV have the legal right to choose non-nominal **reporting** on the laboratory requisition form. Non-nominal HIV reporting is covered under the Communicable Disease regulations of the Public Health Act and means that the individual's name and address are removed as identifiers when positive HIV results are reported to the Medical Health Officer.

Non-nominal **testing** is conducted using the individual's initials as per agency standards and is not covered by regulation. Refer to www.smartsexresource.com for an updated list of BC sites that offer this testing option. Refer to the [BCCDC HIV Guidelines](#) for further information on testing.

Refusal to provide consent

If the source person refuses to provide consent for testing, the following options are available:

- The source person's physician may be able to provide information, if the source person is at high-risk for infection
- The *Emergency Intervention Disclosure Act of BC* (<http://www.labour.gov.bc.ca/eida.htm>) allows for the application for a court order for testing if a person has come into contact with a person's bodily substance in any of the following circumstances:
 - While providing emergency health services
 - While performing their duties as a fire fighter, emergency medical assistant or police or other peace officer
 - When they have reason to believe that they have been the victim of an alleged offence under the Criminal Code of Canada, and have reported the matter to a law enforcement agency

Do not delay the management of an exposed person if waiting to obtain a court order.

3.2.2 Assessment of exposed person

Obtain verbal informed consent for HBsAg, anti-HBs, anti-HBc Total, anti-HCV and HIV Ag/Ab. Also obtain consent for disclosure of their results to their follow-up physician, and if applicable, worksite occupational health department and WorkSafeBC. For recommended follow-up blood tests for the exposed person, refer to [Appendices 1, 2 and 3](#) and [table 3-3](#).

Complete form [HLTH 2339, Management of Percutaneous or Permucosal Exposure to Blood and Body Fluid/Laboratory Requisition](#) (<http://www2.gov.bc.ca/assets/gov/health/forms/2339fil.pdf>), that includes information related to exposure, post-exposure treatment and laboratory testing. Confidentiality of information on the source and/or exposed person(s) must conform to current laws.



The HLTH 2339 form may also be ordered through Distribution Services in Victoria:

- telephone: (250) 952-4008
- fax: (250) 952-4559

Arrange follow-up with the exposed person's physician or the physician designated by the healthcare facility, using the [HLTH 2340, Management of Percutaneous or Permucosal Exposure to Blood or Body Fluid Letter for Follow-Up Physician Form](http://www2.gov.bc.ca/assets/gov/health/forms/2340fil.pdf) (www2.gov.bc.ca/assets/gov/health/forms/2340fil.pdf).

3.2.4 Assessment of source person

Obtain verbal informed consent for HBsAg, anti-HBs, anti-HBc Total, anti-HCV and HIV Ag/Ab. Also obtain consent for disclosure of test results to their physician, the exposed person's physician, and the exposed person's worksite occupational health department and WorkSafeBC.

Assessment of the source person includes hepatitis B vaccine history and immune status, and personal risks for HCV and/or HIV. If risk factors are present and/or they are infected with one or more of these viruses, post-exposure management for the exposed person should be considered.

Establish how the source individual will be contacted if any of their test results are positive. Encourage follow-up with their physician for results of baseline tests and if indicated, to obtain HBV vaccine.

Refer to [Section 3.2.1](#) for further information on transmission risk.

3.2.5 Source person is unknown

Assess the nature of the exposure to determine the risk of transmission. Refer to [table 3-1](#).

3.3 Laboratory testing

Baseline blood should be collected from the exposed and source persons as soon as possible: HIV Ag/Ab, anti-HCV, HBsAg, anti-HBs and anti-HBc Total.

If the results are negative for the exposed person, arrange for:

- **3 weeks post exposure:** HIV Ag/Ab, HCV RNA (if source HCV positive or high risk group)
- **6 weeks post exposure:** HIV Ag/Ab
- **3 months post exposure:** HIV Ag/Ab, anti-HCV, HBsAg, anti-HBs, anti-HBc Total

Recommend pregnancy testing for women childbearing age where appropriate.

The [window periods](#) for BBF exposure testing:

- HCV RNA: 1-3 weeks
- Anti-HCV: 5-10 weeks
- HBsAg: 4-12 weeks
- HIV Ag/Ab: 2-3 weeks
- HIV POC: 3-4 weeks

The [HLTH 2339, "Management of Percutaneous or Permucosal Exposure to Blood and Body Fluid/Laboratory Requisition" form](#) should be used as the lab requisition.

Practitioner Alert!

The use of HIV [PEP](#), [HBIg](#), hepatitis B vaccine, or a positive (reactive or detectable) result will alter timelines for testing.



Table 3-3: Summary of recommended lab testing if testing negative at baseline

Time since exposure	Exposed person at risk for			Rationale for testing
	HIV	HCV	HBV	
Baseline, ASAP (usually in Emergency Rooms)	HIV Ag/Ab	Anti-HCV	HBsAg, anti-HBS and anti-HBc Total	To check baseline status. Non-reactive test results suggest no prior infection.
3 weeks after exposure	HIV Ag/Ab	HCV RNA*		Early identification can prevent further transmission and encourage engagement into care
6 weeks after exposure	HIV Ag/Ab			
3 months after exposure	HIV Ag/Ab	Anti-HCV	Refer to Appendix 2 for follow-up testing recommendations	Non-reactive test results 3 months after exposure suggest no current infection

* If HCV RNA is detectable (positive), repeat HCV RNA 6 months after exposure to establish chronic infection

Refer to [Table 3-3](#) for a summary of baseline lab testing and recommended lab tests **if testing negative** (non-reactive) at baseline. If testing positive (reactive), refer to appropriate sections of the [BCCDC CDC Manual](#) for further guidance. Refer to [Appendices 1, 2 and 3](#) for recommended sequence of laboratory testing and PEP administration, and [Table 3-4](#) for lab contact information.

Table 3-4: Laboratory contact information

Lab contact	Telephone number
BCCDC Public Health Laboratory	1-877-747-2522
UBC Virology Laboratory	604-806-8420
Victoria General Hospital Laboratory	250-727-4212
On-call BCCDC Medical Microbiologist, available after-hours to facilitate shipment, testing and reporting of results	604-661-7033

Point-of-care Anti-HIV Testing

A point-of-care anti-HIV (rapid test) test, can be used to obtain preliminary results and may be more appropriate in some situations. This can include testing persons who are at high risk for HIV infection and have not been tested within the prior 3 months .

- In a high-risk exposure, even if the point-of-care anti-HIV test is negative, [PEP](#) should be given to the exposed person until confirmatory testing is completed
- If the point-of-care anti-HIV result for the source person is **negative** and not within the [window period](#), PEP is not required
- If the point-of-care anti-HIV result for the source person is **positive**, PEP should be provided until confirmatory testing is done
- Positive point-of-care anti-HIV test results are considered preliminary positive results. A blood sample by venipuncture on the source person is required for confirmation by the BCCDC PHL

For further information, refer to the [BCCDC CDC Manual – Chapter 5 Sexually Transmitted Infections, Section 2 HIV/AIDS: Point of Care HIV Test Guidelines for Health Care Settings](#).



3.4 Records Processing

There are multiple copies of the [HLTH 2339](#) and [2340](#) forms (refer to [tables 3-5](#) and [3-6](#)). Risk assessment and management documentation should be recorded in the exposed person's chart, the emergency record, or the electronic charting system used by Public Health.

1. Management of Percutaneous or Permucosal Exposure to Blood and Body Fluid/Laboratory Requisition Form ([HLTH 2339](#))

Table 3-5. Record processing for HLTH 2339

HLTH 2339 copy	Destination
White (page 1)	The laboratory performing the testing on the source and/or exposed person(s)
Yellow (page 2)	Exposed person's worksite Occupational Health
Pink (page 3)	WorkSafe BC for occupational exposures WorkSafeBC guidelines for injury reporting must be followed (www.worksafebc.com/en/claims/report-workplace-injury-illness) Fax numbers: (604) 276-3195 [lower mainland] 1-888-922-3299 [toll-free]
Golden (page 4)	Attach to the exposed person's record

2. Management of Percutaneous or Permucosal Exposure to Blood or Body Fluid Letter for Follow-Up Physician Form ([HLTH 2340](#))

Table 3-6. Record processing for HLTH 2340

HLTH 2340 copy	Destination
White (page 1)	Client
Yellow (page 2)	Exposed person's worksite Occupational Health
Pink (page 3)	Attach to the exposed person's record

4.0 POST EXPOSURE TREATMENT

4.1 HBV

There are many variables to consider when determining whether HBV PEP is indicated, including prior hepatitis B immunization history and related serology results, the immune status of the exposed person, and the infection status of the source person. Refer to [Appendix 1](#).

[HBIG](#) is indicated in the case of sexual assault, or if the source person is HBsAg positive or tests positive within 48 hours of exposure. HBIG is preferably administered **within 48 hours**, but may be given up to **7 days** after [percutaneous exposure](#) and **14 days** after [permucosal exposure](#).

Refer to the [BC Immunization Manual, Part 4-Biological Products](#) for information on HBIG and hepatitis B vaccine.



4.2 HCV

[PEP](#) for HCV does not currently exist. Determine the HCV baseline status of the exposed person immediately after exposure:

- If anti-HCV is reactive at baseline, test the exposed person for HCV RNA
 - If HCV RNA is detectable, repeat HCV RNA at **6 months** post-exposure to establish chronic infection
 - If HCV RNA is **not** detectable, repeat HCV RNA at **3 weeks post-exposure** to establish infection (person cleared, may have gotten re-infected)
- If anti-HCV is non-reactive at baseline, test the exposed person for HCV RNA **3 weeks** post-exposure.
 - If HCV RNA is detectable, repeat HCV RNA in 6 months to establish chronic infection, as 25% of infections spontaneously clear and repeat anti-HCV **3 months** post-exposure to distinguish between false positive HCV RNA results.
 - If HCV RNA is **not** detectable, repeat anti-HCV **3 months** post-exposure

If chronically infected, the exposed person should be engaged into follow-up care for treatment consideration. Refer to [Appendix 2](#).

4.3 HIV

For [high-risk exposures](#) to HIV, [PEP](#) should be initiated **within 72 hours** of exposure, preferably within **2 hours**, to be most effective.

- Consult with [BC-CfE](#) as soon as possible: **1-888-511-6222**
- PEP may reduce the impact of the disease if administered up to **72 hours** post-exposure by decreasing the viral load, reducing the risk of transmission to others and potentially decreasing the risk of developing advanced disease in the long-term
- PEP will vary for children, pregnant women and for those exposed to a source known to have been on anti-retroviral therapy or a source whose HIV infection is known to be drug resistant.
- 5-day starter kits are provided by the BC-CfE and are generally available in hospital emergency departments and occupational health departments
- Do not delay treatment until laboratory test results are obtained, unless the test result (point-of-care anti-HIV or routine laboratory HIV Ag/Ab test) is available **within 2 hours**
- Arrange follow-up assessment of the exposed person **within 3 days** with their family physician or the designated physician to review results and assess the need to continue PEP for 28 days.

For children and pregnant women, also consult with [Oak Tree Clinic at BC Women's Hospital](#):

- Tel: **(604) 875-2212** or **1-888-711-3030**

Refer to [Appendix 1](#) and to the [BC Centre for Excellence in HIV/AIDS Therapeutic Guidelines Accidental Exposure Guidelines](#) (www.cfenet.ubc.ca/) for further information.

4.4 Other interventions

Tetanus vaccine should be considered with a percutaneous injury.

Refer to the [BC Immunization Manual, Part 4-Biological Products, Tetanus Prophylaxis in Wound Management](#).



5.0 COUNSELING GUIDELINES

Initial post-exposure counselling can be provided in the health facility. More information will be provided by the family physician, designated physician or public health nurse at a follow-up visit.

For estimated risk assessments when [PEP](#) is implemented, refer to the [BC Centre for Excellence in HIV/AIDS Therapeutic Guidelines Accidental Exposure Guidelines](#) (www.cfenet.ubc.ca/).

5.1 Reduce potential transmission to contacts

Exposed persons may be anxious when initially assessed and may not remember all the information provided in initial counselling. It is important to emphasize key points and provide educational resources where appropriate.

While awaiting test results from the source if appropriate, the exposed person should be advised:

- To use latex condoms during intercourse
- Not to donate blood
- Not to share toothbrushes, razors, needles or items potentially contaminated with body fluids
- Keep cuts and abrasions covered until fully healed
- Package any blood containing items separately before disposal
- Clean any blood contamination with a 9 parts water to 1 part bleach
- Avoid sharing recreational drug paraphernalia (used to smoke, snort or inject)
- Defer pregnancy

5.2 Breastfeeding

HBV:

If the exposure is to a high-risk HBV source, breastfeeding can continue in circumstances where:

- the mother is immune to HBV
- the mother and infant are vaccinated and treated with HBIG immediately post-exposure

Mothers that suspend breastfeeding can preserve breast milk by pumping and freezing the milk until they are cleared of infection risk.

HCV:

If the exposure is to an anti-HCV positive source, breastfeeding is recommended. If the nipples become cracked or bleed, mothers are to abstain from breastfeeding until they are healed. To prevent cessation of milk supply if breastfeeding is temporarily stopped, consider expressing and discarding breast milk until the nipples are healed

HIV:

If the source is infected with HIV, breastfeeding is **not** recommended irrespective of HIV viral load and use of ART. If the HIV status of the source is unknown, 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 behavior, then breastfeeding can be resumed and the frozen milk used.

Breastfeeding is contraindicated if the mother is receiving PEP due to a high-risk exposure. Breastfeeding can be resumed when PEP has been stopped.



5.3 Healthcare workers

Exposed healthcare workers can continue to practice, if:

- Follow-up testing is completed
- Counseling from occupational health, infection control or the Public Health Unit is provided with regard to the use of routine precautions
- Based on their risk exposure there is virtually no risk to the public
- They seek immediate assessment if symptoms or signs of infection develop

Refer to [Section 3.2.2](#) and [Section 3.4](#) for information on needlestick injuries and WCB claims. Follow agency occupational health and safety guidelines.

5.4 Counselling

A [BBF exposure](#) can cause a significant amount of anxiety, fear, embarrassment or anger. Providing reassurance around confidentiality and the follow-up process, and accurate information and resources in a nonjudgmental way.

If appropriate, when providing counselling around risk reduction and prevention of transmission, an approach should be taken that does not stigmatize or negatively judge individuals' lifestyle choices. Gender identity, sexual orientation, and sexual and drug-use behaviours should be respected following principles of equity, cultural safety and trauma informed practice. Professional counselling may be appropriate.

Resources

BC Society for Male Survivors of Sexual Abuse (<http://bc-malesurvivors.com/>)

BC Women's Hospital Sexual Assault Service resources (www.bcwomens.ca/health-professionals/professional-resources/sexual-assault-service-resources)

Ending Violence Association of BC (<http://endingviolence.org/need-help/>)

Family Services of Greater Vancouver (<http://www.fsgv.ca/find-the-support-you-need/supporting-victims-of-violence/>)

Ministry of Children and Family Development, Healing Families, Helping Systems: A Trauma-Informed Practice Guide for Working with Children, Youth and Families (http://www2.gov.bc.ca/assets/gov/health/child-teen-mental-health/trauma-informed_practice_guide.pdf)

Qmunity – BC's Queer Resource Centre (<https://qmunity.ca/>)

Refugee Health Vancouver (<http://www.refugeehealth.ca/>)

Transgender Health Information Program (<http://transhealth.phsa.ca/for-service-providers-2/health-professionals/primary-care-toolkit>)

VictimlinkBC (<http://www2.gov.bc.ca/gov/content/justice/criminal-justice/victims-of-crime/victimlinkbc>)

WAVAW rape crisis centre, includes an Aboriginal Women's Program (<http://www.wavaw.ca/>)



APPENDIX 1: Exposed person at risk of HBV infection

HBIG is indicated in the case of sexual assault or if one of the individuals is known to have acute or chronic hepatitis B infection. Consensual adult sex with a known sex trade worker or person who injects drugs (PWID), or community acquired needlestick injuries are **not** indications for HBIG. HBIG is preferably given **within 48hrs**, but may be given up to **7 days** after **percutaneous exposures** and up to **14 days** after **permucosal exposures**. If HBIG is indicated, contact your local Public Health or Hospital Emergency Department to arrange for administration.

If the individual tests HBsAg or anti-HBc Total reactive (positive) at any point, refer to the [BCCDC HBV Guidelines](#). If the individual is immunocompromised, consult with an infectious disease specialist.

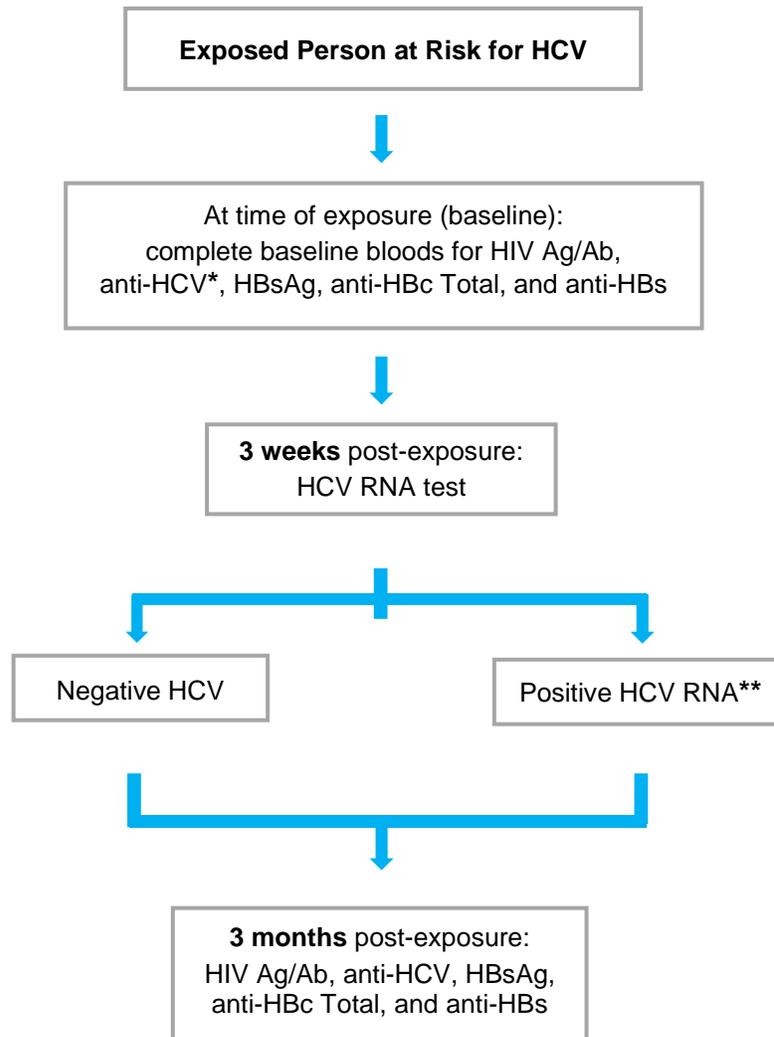
Vaccination history of exposed person	Test for HBsAg, anti-HBc Total and anti-HBs	Case of sexual assault, or source is HBsAg positive or tests positive within 48 hrs of exposure	Source is unknown, not tested, or tests HBsAg negative within 48 hrs of exposure	Re-test anti-HBc Total HBsAg, & anti-HBs*. Offer second hepatitis B vaccine series to non-responders**.
Documented prior anti-HBs ≥ 10 IU/L	No follow-up			
Unvaccinated	Yes	Give HBIG and one complete hepatitis B vaccine series	Complete hepatitis B vaccine series	Yes
Non-responder** to one hepatitis B vaccine series			Complete second hepatitis B vaccine series	Re-test only
1 dose of hepatitis B vaccine, anti-HBs status unknown	Yes	Give HBIG and complete hepatitis B series	Complete hepatitis B vaccine series	Yes
2 doses of a 3 dose hepatitis B series and anti-HBs status unknown	Yes If anti-HBs < 10 IU/L,	Give HBIG and third dose of hepatitis B vaccine. Repeat third dose if given too early in the series.	Give 1 dose of hepatitis B vaccine. In 4 wks, retest for anti-HBs; if anti-HBs < 10 IU/L complete second hepatitis B series.	Yes
	Yes If anti-HBs ≥ 10 IU/L,	Complete hepatitis B vaccine series	Complete hepatitis B vaccine series	No
1 complete hepatitis B series (2 or 3 dose) and anti-HBs status unknown	Yes If anti-HBs < 10 IU/L,	Give HBIG and 1 dose of vaccine	Give 1 dose of hepatitis B vaccine. Retest anti-HBs in 4 wks; if < 10 IU/L complete second hepatitis B vaccine series	Yes
	Yes If anti-HBs ≥ 10 IU/L,	No follow-up		
2-series non-responder [▲] to hepatitis B vaccine	HBsAg and anti-HBc Total only	Give HBIG. In 4 weeks, give a second dose of HBIG.	No follow-up	Re-test HBsAg and anti-HBc Total only

* Repeat serology done at least **1 month** after last hepatitis B vaccine dose or **6 months** after HBIG, whichever is longer

** After one complete primary hepatitis B series, when anti-HBs < 10 IU/L measured at 1 to 6 months post-vaccination

▲ After 2 complete hepatitis B series, when anti-HBs < 10 IU/L, measured at 1 to 6 months post-vaccination. Individual considered susceptible to HBV and will require prophylaxis in post-exposure scenarios.

APPENDIX 2: Exposed person at risk for HCV infection



* Anti-HCV does not distinguish between past or present HCV infection. If anti-HCV positive at baseline, test for HCV RNA right away to clarify. Refer to [Section 4.2](#).

** To assess for spontaneous clearance or chronic infection, repeat HCV RNA in **6 months**. Consider referral to a liver specialist for curative treatment.

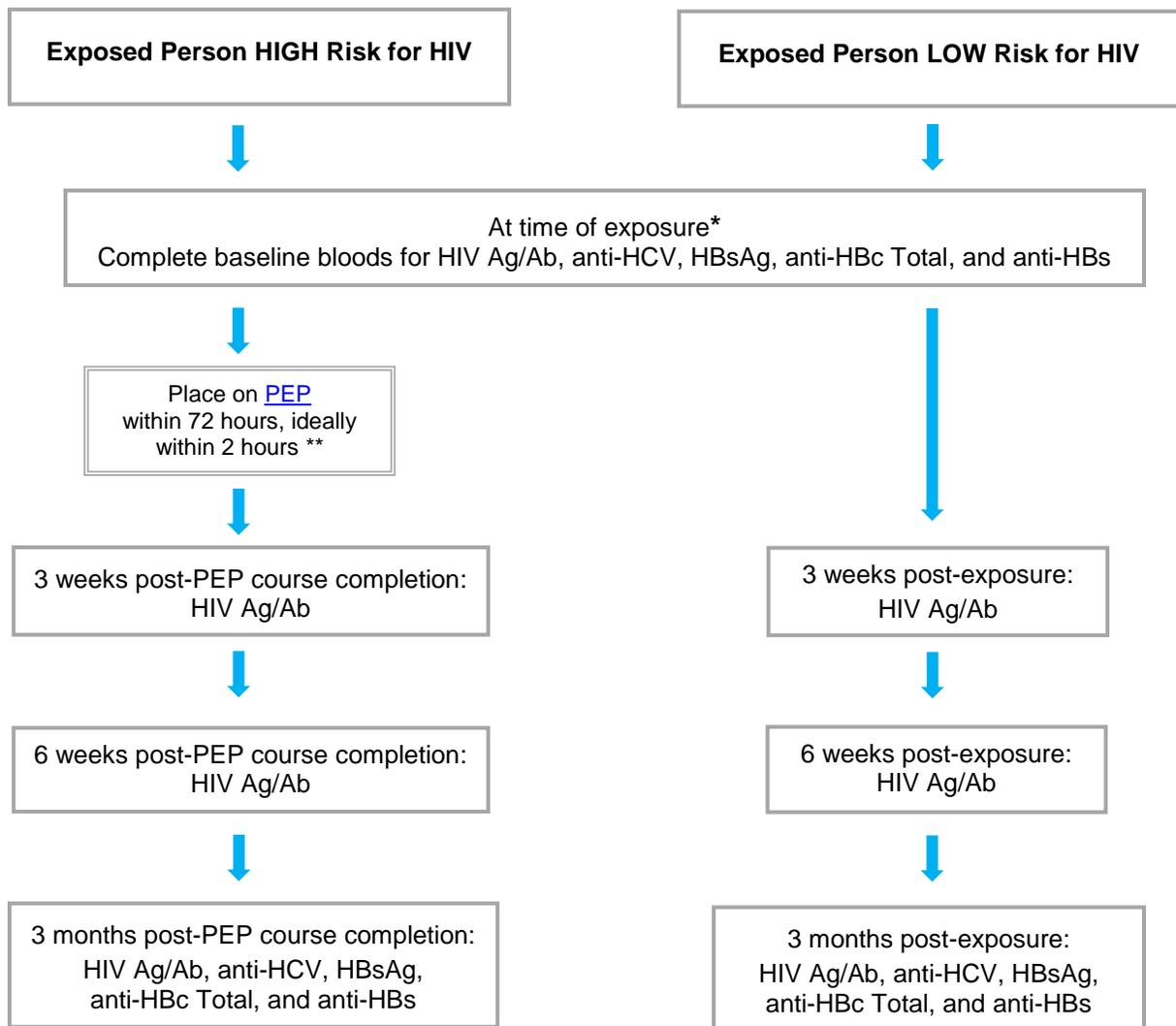
Note: After exposure, anti-HCV usually remains present for life even if an individual has cleared the HCV infection. Refer to the [BCCDC HCV Guidelines](#) for further information if testing anti-HCV reactive or HCV RNA detectable.



APPENDIX 3: Exposed person at risk for HIV infection

For reactive HIV Ag/Ab test results the BCCDC Public Health Laboratory will automatically do an immunoblot test to provide confirmation of HIV diagnosis. HIV RNA may also be done to rule out acute infection or to resolve indeterminate results.

If the individual tests positive at any point, refer to the [BCCDC HIV Guidelines](#) and the [BC-CfE guidelines](#).



* Refer to [Section 3.2.4](#) if point-of-care testing (POC) is used for baseline testing. HIV infection can be detected by POC around 3-4 weeks after infection. HIV infection can be detected after a HIV Ag/Ab blood test around 2-3 weeks after infection.

** Post-Exposure Prophylaxis (PEP) 5 day starter kit or 28 day full course. Consult with the BC Centre for Excellence in HIV/AIDS (BC-CfE) as soon as possible. Call **1-888-511-6222**.



APPENDIX 4: A Fact Sheet for Exposed Individuals

Blood & Body Fluid Contact

I think I have been exposed to blood and body fluids. What should I do?

This fact sheet provides answers to common questions that people have regarding three viruses that can be spread by exposure to blood and/or body fluids:

- [Human immunodeficiency virus \(HIV\)](#)
- [Hepatitis B virus \(HBV\)](#), and
- [Hepatitis C virus \(HCV\)](#)

If you are a health care worker and have had contact with blood or body fluids in a healthcare setting, review and follow the protocol at your own agency for follow-up care. Go to your local emergency department, health unit or occupational health clinic as soon as possible (preferably **within 48-72 hours**).

Hepatitis B Virus (HBV)

I have been exposed to blood and body fluids infected with hepatitis B virus. What should I do?

If you have been previously vaccinated for hepatitis B and have blood work to confirm protection, you are likely protected against hepatitis B, however, it is recommended that you get assessed to determine your risk of other infections.

Go immediately to your local emergency department, health unit or occupational health clinic. If available, it is helpful to bring any prior hepatitis B immunization records or blood test results. They will assess your risk and may give you immunizations to protect against infection. This needs to be given as soon as possible after the exposure, sometimes within 48 hours.

What is hepatitis B virus and how can it affect me?

Hepatitis B is a virus that attacks the liver and can cause progressive liver damage and liver cancer. Many people who get hepatitis B show no symptoms and may not know they have the disease. Hepatitis B is spread from one infected person to another by contact with blood or body fluids. Whether there are signs of illness or not, you can still pass the virus on to others. Symptoms may include fever, fatigue, jaundice (yellow skin or eyes), abdominal pain, dark urine, loss of appetite and nausea.

I think I have been exposed to blood and body fluids infected with hepatitis B virus. What are the chances that I have been infected?

If you have been vaccinated against hepatitis B, your risk of infection is very low. For those who are unvaccinated, treatment with hepatitis B immune globulin (HBIG) and/or vaccine is highly effective at preventing infection.

Is there a vaccination for hepatitis B?

Yes. BC has a universal childhood hepatitis B immunization program. Most people born in 1980 or later in BC have been immunized against hepatitis B. In addition, most healthcare workers and first responders have been vaccinated.

How can hepatitis B be treated?

The treatments for hepatitis B can suppress the infection but cannot cure it. The goal of treatment is to reduce the risk of serious complications such as cirrhosis and liver cancer.



Can I receive treatment for hepatitis B after an exposure?

Depending on your prior hepatitis B vaccine history and testing results, you may be given a hepatitis B vaccine booster and HBIg (immediate, short-term protection) to help protect you from being infected.

Where do I get tested?

Immediately following exposure (within **2 hours**), it is recommended to go to your local emergency department, health unit or occupational health clinic to receive a risk assessment and have a baseline blood test. This timeframe for having a risk assessment is especially relevant for a high-risk HIV exposure.

If you are a healthcare worker who has acquired a needlestick injury in a healthcare setting, review and follow the protocol at your own agency for follow-up care.

What are the tests and when will I need to have them completed?

If you have contact with blood or body fluids, there are certain blood tests that will need to be done over the next three months. Your health care provider will let you know when to return for testing. The testing schedule allows for the time between when a person has become infected and when the blood test can reliably detect that infection is in the person's blood, referred to as the "window period". The window period is important because during this time, an infected person cannot be detected as infected but may still be able to infect others.

More Information:

HealthLinkBC Files (<https://www.healthlinkbc.ca/healthlinkbc-files/hepatitis-c-virus>)

Hepatitis C Virus (HCV)

I think I have been exposed to blood and body fluids infected with hepatitis C. What should I do?

There is no recommended post-exposure treatment for HCV, however, it is recommended that you go immediately (within **2 hours** of exposure), to the nearest emergency department, local health unit or occupational health clinic to have a baseline blood test.

What is hepatitis C virus and how can it affect me?

Hepatitis C is a disease that attacks the liver and can cause progressive liver damage and liver cancer. Many people who get hepatitis C show no symptoms and may not know they have the disease. People can live for 20-30 years without symptoms; however, the hepatitis virus can damage their liver and result in cirrhosis, liver cancer or end stage liver disease.

Hepatitis C is spread when the blood of an individual with hepatitis C infection enters the body of someone who is not infected. Sexual transmission is very rare. People can be completely symptom-free or display fever, fatigue, jaundice (yellow skin or eyes), abdominal pain, dark urine, loss of appetite and nausea (sick to your stomach).

I think I have been exposed to blood and body fluids infected with hepatitis C virus. What are the chances that I have been infected?

The risk of getting hepatitis C after an exposure depends on the amount of blood or body fluid at the time and the type of exposure. During your assessment, your health professional will be able to tell you whether exposure has put you at risk of infection. The risk of hepatitis C transmission is around 1.8% (range is 0 to 7%) after a needlestick injury acquired in a healthcare setting.



Is there a vaccination for hepatitis C?

No.

Can I receive treatment for hepatitis C after an exposure? Can hepatitis C be treated?

There is no vaccine or medications to prevent infection with hepatitis C after an exposure. If your blood test done 3 weeks after exposure is positive, the test is repeated in another 6 months to determine if you have become infected.

Approximately 25% of infections will clear on their own. Current treatments can cure more than 95% of infections.

Where do I get tested?

Immediately following exposure (within **2 hours**), it is recommended to go to your local emergency department, health unit or occupational health clinic to receive a risk assessment and have a baseline blood test. This timeframe for having a risk assessment is especially relevant for a high-risk HIV exposure.

If you are a healthcare worker who has acquired a needstick injury in a healthcare setting, review and follow the protocol at your own agency for follow-up care.

What are the tests and when will I need to have them completed?

If you have contact with blood or body fluids, there are certain blood tests that will need to be done over the next three months. The testing schedule allows for the time between when a person has become infected and when the blood test can reliably detect that infection is in the person's blood, referred to as the "window period". The window period is important during this time, because an infected person cannot be detected as infected, but may still be able to infect others.

More Information:

HealthLinkBC Files (<https://www.healthlinkbc.ca/healthlinkbc-files/hepatitis-c-virus>)

Human Immunodeficiency Virus (HIV)

I think I have been exposed to blood and body fluids infected with HIV. What should I do?

Go immediately, preferably **within 2 hours**, to the nearest emergency department or local health unit. They will assess your risk and may give you medications to protect against infection. This needs to be given as soon as possible after the exposure, **within 72 hours** to be most effective.

What is HIV and how can it affect me?

Human Immunodeficiency Virus (HIV) is a virus that attacks cells and results in damage to the immune system. It can be spread from an individual with HIV infection by contact with blood and/or body fluids. The most common types of contact are sexual exposure, needle sharing injection drug use, blood transfusion, perinatal (mother-to-child) and needstick injuries in a healthcare setting.



I think I have been exposed to blood and body fluids infected with HIV. What are the chances that I have been infected?

The risk of becoming infected with HIV after an exposure depends on the amount of virus in the blood or body fluid of the source individual at the time and the type of exposure. During your assessment, your health professional will be able to tell you whether your exposure has put you at risk of infection.

Is there a vaccination for HIV?

No.

How can HIV be treated?

There is no cure for HIV, but medications can help people live to their normal expected lifespan. In BC, HIV treatment is provided at no cost to patients. The BC Center for Excellence in HIV/AIDS has shown that people who are living with HIV and are taking regular treatment can lower the amount of virus in their blood to an undetectable level.

Can I receive treatment for HIV after an exposure?

You may be given medication to protect you against HIV if you have come into contact with blood or body fluids. These medications are publically funded if the exposure is considered high-risk. These medications are most effective at preventing HIV infection if taken as soon as possible after exposure (**up to 72 hours**, preferably **within 2 hours**).

Where do I get tested?

Immediately following exposure (**within 2 hours**), it is recommended to go to your local emergency department, health unit or occupational health clinic to receive a risk assessment and have a blood test.

If you are a healthcare worker who has acquired a needlestick injury in a healthcare setting, review and follow the protocol at your own agency for follow-up care.

What are the tests and when will I need to have them completed?

If you have had an exposure, certain blood tests will need to be done over the next three months. The testing schedule allows for the time between when a person has become infected and when the blood test can reliably detect that infection is in the person's blood, referred to as the "window period". The window period is important because during this time, an infected person cannot be detected as infected but may still be able to infect others.

More Information:

HealthLinkBC Files (<https://www.healthlinkbc.ca/healthlinkbc-files/hiv>)



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