

**PROTOCOL TO MANAGE FEDERAL PUBLIC SERVANTS
ACCIDENTALLY EXPOSED TO BLOOD BORNE PATHOGENS
(e.g. HBV, HCV, HIV)
In The Course of Their Work**

This protocol is to provide guidance to departments on the appropriate management of workers occupationally exposed to potentially contaminated blood or body fluids. It has been identified that the likely chance of transmission in a health care facility from a needle stick where the needle is contaminated by blood from a known positive source is low, i.e., approximately 6-30% (60 to 300 in 1000) for Hepatitis B (HBV) virus and approximately 0.3% (3 in 1000) for HIV (Human Immunodeficiency Virus or AIDS virus). The risk is unknown for other occupational settings but is likely lower. The risk of transmission is 1.8% (Range 0-7%) for Hepatitis C (HCV) virus.

Universal precautions are protective when used properly and consistently. There are steps that can be taken to further decrease the risk of transmission upon exposure and this document outlines the current advice. Standard Operating Procedures (SOPs) for work involving exposure to or handling of blood, body fluids or body tissues must include blood precautions or universal precautions.

The protocol must be adapted to local conditions in consultation with Regional Public Service Health Program (PSHP), Health Canada (HC) Professional staff. Departments and different locations within departments will require their own policy and procedures based on this protocol. Departments must liaise with local emergency services providers (e.g. Health Region or hospital or EMS) to arrange services in advance and establish mutually agreeable procedures.

Treasury Board requires departments to have a system in place to respond to emergencies and provide first aid. This includes injuries as discussed in this protocol.

This protocol applies to federal public servants accidentally exposed to blood borne pathogens (e.g., via needle stick injury; attending an accident site; via trauma or cut i.e. razor, while delivering health care or during searches of persons, luggage, cells, personal effects, etc., or in the course of their duties. Examples of such employees are Health Canada, Correctional Services of Canada, First Nations and Inuit Health, Canadian Border Services Agency, Citizenship and Immigration Canada, DFAIT.

1. **Immediate first aid** should include making the injury bleed, washing the injured area well with soap and water and removing contaminated clothing. If this is a splash injury to eyes, nose or mouth, flush area well with water (large amounts).
2. **Reporting:** The injury should be reported to the Supervisor or designate who will arrange for the affected person to be immediately assessed at the local medical care facility (medical clinic, hospital) emergency. The exposure will be well documented as with any occupational injury (labour code requirements) including accident report and WCB report. An Infections Disease Specialist Physician will be consulted for assessment of the need for prophylaxis and follow-up. [Where not available another appropriate Specialist Physician or the Medical Officer of Health (MOH) should be consulted.
3. **The injury will be evaluated by the clinic or hospital physician according to the established provincial or territorial protocol or if a provincial or territorial protocol is not available then according to the following protocol:**

3a. TYPE OF BODY FLUIDS OF VEHICLES OF TRANSMITTING HBV, HCV, OR HIV FROM AN INFECTED INDIVIDUAL INCLUDES:

- Blood, serum, plasma and all biologic fluids visibly contaminated with blood
- Needles, sharps, razors, etc. that have been in contact with the above fluids
- Laboratory specimens containing HBV, HCV, or HIV
- Infected organ donations
- Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids (none of these are known to transmit HCV)
- Uterine/vaginal secretions or semen (these are unlikely to be able to transmit HCV)
- Saliva (not known to transmit HCV or HIV, unless contaminated with blood) but could transmit HBV if bite wound is contaminated with blood from a source.

Note: *Faeces, nasal secretions, sputum, sweat, tears, urine and vomitus are not implicated in the transmission of HBV, HCV, or HIV unless visibly contaminated with blood.*

The risk of transmission from screened donated blood and manufactured blood products for transfusion is low.

3b. To be considered a **SIGNIFICANT EXPOSURE** the injury must come in contact with body fluids capable of transmitting HBV, HCV, or HIV by way of:

- penetration of the injured person's skin, i.e., needle stick or a human-bite, cut with razor or other
- sharp device (e.g., during search of personal effects)
- non-intact skin, i.e., chapped skin or other open dermatological conditions
- mucous membrane, i.e., splash into eyes, nose, mouth

Blood or other fluid capable of transmitting HBV, HCV, or HIV on INTACT SKIN is considered a **NON-SIGNIFICANT EXPOSURE**.

4. If the Treating Physician or Health Care Professional feels this is a **SIGNIFICANT EXPOSURE** then she/he starts prophylaxis. If uncertain whether exposure is significant, he/she will contact the *nearest Infectious Disease Specialist or Medical Officer of Health* for further advice and up to date information regarding *prophylaxis*. Prophylaxis should be *started* within *two hours* to offer the *best chance of preventing HIV transmission*, but can be started later with lesser chance of success.

5. TESTING OF SOURCE

Every reasonable effort should be made to obtain permission to test the source of HBV, HCV, or HIV. Obtaining informed consent is a mandatory component of pre and post- testing for the Public Servant and for the suspected source person. Testing without consent is not ethical. Maintenance of strict confidentiality of all information is absolutely essential.

After obtaining informed consent the source person should be tested at the time of the injury and again at 6 weeks, 3 months, and 6 months to allow for the "window-period" for HBV, HCV, and HIV. When consent is given to draw blood for testing for all three viruses, the appropriate pre- and post-test counselling for all three blood borne pathogens must be given.

6. POST-EXPOSURE TESTING HCV AND HIV

The exposed employee (after his/her informed consent is obtained) should be tested for HCV and HIV at the time of the injury, at 6 weeks, 3 months, and 6 months following injury. It is recommended that the test be repeated at one year post-injury in the case of HIV if antiretrovirals are used. Other references or sources recommend testing again one year post injury for all cases of possible accidental exposure to HCV or HIV.

When consent is given to draw blood for testing, the appropriate pre- and post-test counselling for all three pathogens must be given.

7. POST-EXPOSURE TESTING AND PROPHYLAXIS FOR HEPATITIS B

If the exposed employee has been immunized against Hepatitis B and has sufficient immunity, (i.e., Anti-HBs results greater than or equal to 10mIU/ml), there is not need to screen the source for HBs and anti-HBs.

If the individual has never been immunized against Hepatitis B, test both the source (after obtaining permission) and the exposed person for HBsAg and anti-HBsAg at the time of injury. Hepatitis B immune globulin (HBIG) should be given within 48 hours of exposure to the unimmunized injured person (employee) and the Hepatitis B vaccine series should begin immediately. Efficacy of HBIG decreases with time and is unknown after 7 days. If the individual has been immunized against HBV and his/her serologic response is unknown, test for anti-HBsAg and restart HBV vaccine series.

HIV POST-EXPOSURE CHEMOPROPHYLAXIS PROTOCOL FOR POSSIBLE EXPOSURE

1. The exposed employee is assessed at the local medical facility (i.e., hospital or medical clinic). If exposure is **SIGNIFICANT**, (see definition above) or if necessary, the local Infection Disease Consultant will be contacted for consultation.

Note: Remote Customs and INHS sites need a more specific document to address their particular situation, i.e., where the HCW (CHN) is also the injured party or no one else is available.

2. If antiretroviral treatment is recommended, advice and counselling is provided to the exposed employee as to the relative risks involved and if she/he agrees, the patient is given as prescribed by the physician a 5-day starter kit of appropriate antiviral medication according to degree of risk and current medical practice (maybe 2 or 3 drugs according to exposure). In certain cases, the physician may prescribe the full 28 days of medication rather than the starter kit but follow up assessment(s) by the physician is essential during this period and must be arranged. The patient should also be given information sheets on the medications prescribed. *The starter kits must be available within a reasonable time, i.e., 1 to 2 hours or may be obtained from the local hospital pharmacy or emergency department.* The employee involved, is instructed to start the antiretroviral drugs immediately if he/she consents.
3. The exposed employee should be instructed to see their local community family physician within the first five (5) days of treatment for consultation, counselling and advice. If, at that time, he/she wishes to continue the recommended antiretroviral treatment, the family physician can provide the client with a prescription for the remaining 23-day supply of drugs.
4. Further questions and concerns can be discussed with the treating physician, the Infectious Disease Consultant, or the MOH. The Occupational Health Nurse or the Occupational Health Medical Officer may be consulted later for advice and information.

POST EXPOSURE COUNSELLING GUIDELINES FOR ALL EMPLOYEES EXPOSED TO BLOOD BORNE PATHOGENS

For a six month period:

- Abstain from sexual intercourse or use a latex condom with a water-based lubricant at all times during intercourse.
 - Pregnancy should be deferred. Medical advice should be sought on whether to continue breastfeeding.
 - Do not donate blood, plasma, organs, tissue or sperm
 - Do not share toothbrushes or razors or sex toys or needles or other implements which may become contained with bodily fluids.
5. Follow up assessments should occur for one year after the exposure as positive tests may occur after 6 months in 5% of positive cases.

Prevention of recurrence:

Manager may consult with PSHP, HC Health Professionals for information and advice on prevention. An assessment of the circumstances of injury should be conducted to identify mechanisms of prevention such as:

- use of universal precautions or blood precautions; use safety needles
- education of children not pick-up/play with discarded needles
- no recapping of needles and dispose of needles/sharps in appropriate containers
- teaching diabetics and IVDU's where to safely dispose of used needles
- Use at least double gloves during cell searches, luggage searches, personal searches, etc.

Where possible use a probe(s) to initially search the area of mattresses, bedding, suitcases, boxes, luggage, etc. (safer search techniques should be developed).

6. AVAILABILITY OF MEDICAL ADVICE

PSHP, HC will upon request provide Infectious Disease Information Sessions to managers, supervisors, and employees to assist them in becoming more knowledgeable in infectious disease prevention and in blood or universal precautions.

National Emergency Preparedness and Occupational Health Directorate (EPOHD) and/or Regional PSHP, HC Professional staffs will, upon request, facilitate access to appropriate health/medical services in the area. PSHP, HC will provide advice on the development of appropriate responses, procedures and protocols.

The PSHP, HC professional where necessary, will assist client departments in developing and delivering:

- Education packages to deliver to workers pre-exposure
- Post-exposure counselling guidelines
- Protocol for protective procedures and equipment

**REQUEST FOR REVIEW OF ITEM/ISSUE/SECTION IN THE
OCCUPATIONAL HEALTH ASSESSMENT GUIDE AND REQUIRED FORMS**

TOPIC/ISSUE/SECTION/FORM:

BACKGROUND:

CURRENT STATUS:

RECOMMENDATION (be specific):

You may wish to attach supporting documents.

Submit to:

National Medical Advisor
Health Canada, PSHP 1505
Barrington Street
Suite 1817, Maritime Centre
Halifax, NS
B3J 3Y6

The OHAG Committee will review and respond to the issue after its quarterly meeting.