
Section VII - Employee Health

Employee Health should provide a systematic, coordinated and continuous process to reduce the risks nosocomial infections in healthcare workers and to optimize use of resources through a strong preventative program.

Handling and Disposal of Needles and Sharps

All LTCHs and RHs should have a policy and procedure on the safe disposal of sharps as well as ongoing evaluation of newly engineered products that will reduce staff exposure to sharps. Parenteral or percutaneous exposure to needles or other sharp instruments contaminated with blood or body fluids can lead to serious or fatal infections such as Hepatitis B, Hepatitis C or Human Immunodeficiency Virus (HIV).

Protecting staff and others:

1. Use devices with safety features.
2. Staff must immediately discard all used needles/sharps directly into a puncture resistant container.
3. **Do not recap needles.**
4. Place entire sharp in puncture resistant container immediately after use. Do not move from room to room, leave on tray, shelf, linen, or in resident garbage.
5. Do not bend or break needles from syringes.
6. Keep disposal containers close to the source of contaminated sharps.
7. Seal, lock and replace containers when indicated by full line. **Do not overfill containers.**
8. Place locked and used containers in a designated area for proper disposal.
9. Staff must have the ability to report any needle stick injuries.
10. The employer must have a protocol in place describing the step by step process that an injured staff member must follow to ensure that proper treatment, testing, education and follow up is provided.



Preventing the Transmission of Bloodborne Pathogens in Health Care

The potential for transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), and other bloodborne pathogens in health care facilities is of concern to residents and health care workers.

Prevention of bloodborne pathogen transmission in health care requires a comprehensive infection prevention and control program as well as an occupational health and education program to limit exposures and reduce transmission if exposures occur.

The elements of the program include:

1. Education of workers

Education programs should be based on practical situations that workers encounter in their day to day assignment of specific duties. Content should include general information about infection prevention and control (stressing the importance of hand washing); information about bloodborne pathogen transmission; assessing risk of exposure; preventing exposures; immunization (hepatitis B vaccine); specific policies and procedures for individual work areas, including protocols following an exposure; and resources for further assistance.⁴⁴

2. Vaccination of people at risk for hepatitis B

Immunization with hepatitis B vaccine is recommended for those people who are at increased risk of occupational infection, namely those exposed frequently to blood, blood products and bodily fluids that may contain the virus. This group includes all health care workers and others who will be or may be exposed to blood or are at risk of injury by instruments contaminated with blood.⁴⁵

3. Identification and restriction of risky practices

Workers and employers need to analyze the components of their job in order to determine what procedures and activities put them at greatest risk of exposure. Review of reports and workers' compensation claims may assist in this assessment. Exposures and injuries need to be broken down into levels of risk such as low, moderate and high. When risk levels have been identified, then introduction of products and implementation of policies and procedures can be prioritized. For example, an accidental needle stick injury from a hollow bore, blood-filled needle would constitute a high risk exposure as compared with an accidental stick injury from needles used on an intravenous (IV) line for an injection.

Recommendations

- A surveillance system should be established to identify the causes of exposure.
- A risk reduction program should critically evaluate all procedures that may involve risk of exposures to blood or other fluids capable of causing bloodborne pathogen transmission, in order to identify ways to reduce or eliminate the risk of exposure.

4. Design and use of safer medical devices

If it is impossible to eliminate the risk, engineering controls (safer medical devices) should be used to modify work practices and procedures in order to reduce the risk. Whenever possible, alternative processes should be instituted that will eliminate the risk of a significant exposure.

5. Targeted interventions based on occupation-specific hazards.

Personal protective equipment must be used to reduce the risk of exposure.

6. Comprehensive infection prevention and control and occupational health program

These programs include ongoing surveillance and analysis of exposures, with a focus on preventing parenteral exposures, and applying risk assessment methods to identify and modify risky procedures.⁴⁴

The management of potential percutaneous or mucosal exposure to HBV should be based on the immunization and antibody status of the injured person and the infectious status, if known, of the source. Any effective approach to the prevention of the transmission of bloodborne pathogens is based on the assumption that all blood

and certain body fluids are potentially infectious. Precautions, applied to all residents at all times, may reduce the incidence and the quantity of blood exposure for health care workers in occupational settings.

Recommendation for HBV antibody status

- It is critical to ascertain whether the exposed individual has received a full and properly administered course of hepatitis B vaccine and to assess the post-vaccination anti-HBs antibody level. Therefore all health care workers and health care students should have their antibody status assessed and documented after immunization.⁴⁵

Epidemiology of the Transmission of Bloodborne Pathogens

The risk of acquiring a bloodborne infection, i.e., HIV, HBV, or HCV in a health care or public service setting depends on three factors:

1. Significant exposure to bloodborne pathogens

The evaluation of a significant exposure to a bloodborne pathogen requires investigation of two criteria, type of body fluid and type of exposure.

Types of body fluids capable of transmitting HIV, HBV, and HCV from an infected individual include:

- Blood, serum, plasma and all biologic fluids visibly contaminated with blood
- Laboratory specimens, samples or cultures that contain concentrated HIV, HBV, HCV
- Organ and tissue transplants
- Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids
- Uterine/vaginal secretions or semen (unlikely to be able to transmit HCV)
- Saliva (for HCV, HBV, and HIV if a bite is contaminated with blood and for HBV if a bite is not contaminated with blood)

Faeces, nasal secretions, sputa, tears, urine and vomitus are not implicated in the transmission of HIV, HBV and HCV unless visibly contaminated with blood. The risk of transmission from screened donated blood and manufactured blood products is negligible in Canada.

To be considered significant, the type of exposure is one in which one of the infected fluids listed above comes into contact with the HCWs tissues as follows:

- Tissue under the skin (e.g., percutaneous or broken skin following a bite)
- Non-intact skin (e.g., cut, chapped or abraded skin)
- Mucous membrane (e.g., eyes, nose or mouth)

In summary, if the type of body fluid and the type of exposure is indicative of a significant exposure, further investigation is warranted.

2. Prevalence of infection in the population

Prevalence of infection refers to the number of infected persons in a population at a particular point in time. The prevalence of bloodborne infections varies by disease from one region of Canada to another, from rural to urban areas, and from one city to another.

3. Risk of infection due to exposure to bloodborne pathogens

The risk of infection after exposure to infected blood varies by bloodborne pathogen. The risk of transmission after parenteral exposure to HIV-infected blood is about 0.3%, whereas it is estimated to be up to 100 times greater for HBV (30%) and may be between 3 and 10% for HCV.

Bloodborne Infection Prevention and Control Program

- All health care workers in LTCHs and RHs must receive infection prevention and control education regarding bloodborne pathogens and safe practice in the workplace before beginning work and on an ongoing basis thereafter (i.e. annually).
- Health care workers need to know how to apply preventive techniques in routine practice and in unusual situations. Time must be given for workers to question, absorb and apply the information. It is critical that educational programs enable workers to express and work through their concerns about caring for individuals with a bloodborne infection.
- Records of participation should be maintained as needed to satisfy legal requirements.
- Facilities should assess procedures to determine risk of exposure to blood and fluids capable of transmitting bloodborne pathogens.
- Facilities should participate in and regularly review accidental blood exposure information from their own pertinent injury reporting programs, and from others (i.e. Workers' Compensation Board).
- Comprehensive objective approaches to data collection and analysis should be used. Statistical and epidemiologic techniques that examine exposure incidences with respect to variables of time, place and person should be applied in a continuous surveillance program to contribute data that should form the basis of occupational safety programs.
- Formal mechanisms should be established to ensure that action is taken as required as a result of the analysis of injury reporting programs. Involve employees at each stage of the development of safety programs.⁴⁴

Management of Incidents of Possible Blood and Body Fluid Exposure

The concern involved with exposure to blood or body fluids is possible exposure to Hepatitis B, Hepatitis C or HIV. The risk associated with an exposure to bloodborne diseases is determined by the nature of the exposure, the immunization status of the exposed person and the risk factors associated with the source.

The health unit serves as a source of information to members of the community related to possible exposures to bloodborne diseases through contact with the blood or body fluids of another person.

Health Unit staff will assess the circumstances of the exposure, provide recommendations for actions to the person or their health care provider, and facilitate voluntary testing of the source where appropriate.

First Aid Management

The following actions are recommended:

1. Remove the contaminated clothes as appropriate.
2. Immediately allow the wound to bleed freely.
3. Wash the wound and injured area well with soap and water. Apply an antiseptic if available; however there is no evidence that antiseptic use reduces risk of pathogen transmission. Application of caustic agents such as bleach, injection of antiseptics, or disinfectants into the wound is not recommended.
4. If the eyes, nose or mouth are involved, flush well with large amounts of water or saline (at least 1000cc's).
5. Occupational exposures should be reported to your supervisor who should immediately implement facility/agency policy.
6. Seek immediate medical assistance, preferably at a hospital emergency department.

Cleaning up Blood Spills, Vomit or Fecal Accidents

Individuals, who clean up blood, vomitus or faeces, should minimize the risk of infection to themselves and others by considering the following procedure:

Procedure for Blood Spills/Vomit/Faeces

Steps:

1. Appropriate personal protective equipment should be worn when cleaning up a spill such as disposable gloves. If the possibility of splashing exists, the worker should wear protective eyewear and a fluid resistant gown.
2. If any broken glass or sharps are involved, they should be disposed with care into a sharps container.
3. The spill area must be cleaned of obvious organic material before applying a disinfectant, as disinfectants are substantially inactivated by blood and other materials.
4. Excess blood, vomit, faeces and fluid should be absorbed and removed with disposable towels. Discard the towels in a plastic-lined waste receptacle and per facility policy.
5. After cleaning, the affected area should be disinfected with a chemical disinfectant such as sodium hypochlorite (household bleach) or 3% hydrogen peroxide. A concentration of household bleach at 5000 ppm (1:10 dilution) is effective. For carpet or upholstered surfaces, 3% peroxide may be used.
6. Leave the disinfectant (diluted bleach or peroxide) on the surface for 10 minutes. When using bleach solutions, be sure the area is well ventilated and that it is not mixed with other cleaning compounds.
7. The treated area should then be wiped with paper towels soaked in tap water. Allow the area to dry.
8. Disposable towels, gloves and other disposable equipment should be discarded in a plastic lined waste receptacle and per facility policy. Immediately tie and place with regular waste where daily trash removal occurs. Take care not to contaminate other surfaces during this process. Change gloves if needed.
9. Care must be taken to avoid splashing or generating aerosols during the clean up.
10. Hands must be thoroughly washed for 10 seconds with soap and warm running water after gloves are removed.

Procedure for Assessing the Source for Risk of Blood or Body fluid Exposures

Exposures

It is important for anyone who has experienced an exposure to another person's blood or body fluids to be assessed by a health care provider to determine risk of infection and to get appropriate and timely treatment to prevent transmission of disease.

When a significant exposure to the blood or body fluids occurs, it is always important to consider an assessment of the source in considering degree of risk. When the source person is known, he or she may be approached to provide information about health status and /or to provide a blood sample for hepatitis B, C and HIV. Any person who is exposed to the blood or body fluid of another person and who is eligible to apply; may seek mandatory blood testing for hepatitis B, C and HIV. The Simcoe Muskoka District Health Unit may assist in assessment of the source and assistance with mandatory blood testing. Public Health Nurses may be contacted during business hours at (705) 721-7520, extension 8376 or after hours at 1-888-225-7851.

All persons should be advised to follow medical recommendations with regard to post-exposure prophylaxis (PEP). Waiting for the diagnosis or serostatus of a potential source may take days, which will impact the efficacy of the PEP medication or vaccine. HIV anti-retrovirals for example, should be taken within 1-2 hours after exposure to ensure optimum efficacy.

What is the Mandatory Blood Testing Act?

In August of 2007, section 22.1 of the Health Protection and Promotion Act was repealed. The new Mandatory Blood Testing Act and its regulation then came into effect. The intent of this new legislation is to shorten the time needed to obtain a mandatory blood test and to broaden eligibility for applications.

The law enables police officers, firefighters, correctional services staff, paramedics, members of the College of Nurses of Ontario, members of the College of Physicians and Surgeons of Ontario, medical students engaged in training and others who in the course of their work may be exposed to the blood or body fluid of others, to apply to request information about the source person's blood with respect to hepatitis B, C and HIV.

Under this legislation, good Samaritans are also eligible to apply, when an exposure to blood or body fluids has occurred while providing emergency first aid or health care.

The legislation is implemented by the Ministry of Community Safety and Correctional Services.

Legislation Documents

- 1) [The Mandatory Blood Testing Act](#) – directs the process for blood testing
- 2) [Ontario Regulation 449/07](#) – sets the requirements and procedures which must be followed with respect to an order for compulsory blood testing
- 3) [Ontario Regulation 244/08](#) – an amendment to Regulation 449/07 which describes the inclusion of members of the College of Physicians and Surgeons and medical students in training as those eligible to apply under the Act.

Definition of the Applicant

The person wishing to apply to have another person's blood tested is called the **applicant**.

To be eligible to apply, the applicant must have come into contact with the other person's body fluids:

- While providing emergency health care
- Giving emergency first aid
- As a victim of a crime
- In the course of his or her duty when the applicant belongs to a specified class or group of people

These groups are:

- Persons who are employed in a correctional institution, place of open custody or place of secure custody
- Police officers, civilian employees of a police service, First Nations constables and auxiliary members of a police service
- Firefighters (including volunteer firefighters)
- Paramedics and emergency medical attendants and paramedic students on field placement
- Members of the College of Nurses of Ontario
- Members of the College of Physicians and Surgeons of Ontario
- Medical students engaged in training

To be eligible as a victim of a crime, a police report must have been filed and the applicant must consent to disclose this information if asked.

There are requirements that must be met in completing and submitting an application which are more fully described in the next section.

Note: Your completed application must be received by the health unit within 7 days of the exposure.

Definition of the Respondent

The **respondent** is the person who has been identified by the applicant as the person whose body substances the applicant may have come into contact with. The respondent is the person who may be ordered to submit to a blood test.

There are many requirements and legal criteria which must be met to result in an order for mandatory testing of the respondent's blood. An application does not always mean that mandatory testing will be ordered. There is also an opportunity within the process for the respondent to voluntarily provide this information.

Submitting an Application

How do I apply?

An application includes two forms:

- the Applicant Record
- the Physician Report

You can apply using the Physicians and Applicant Report/Record. [Download these forms](#) from the Ministry of Community Safety and Corrections. Do not print off copies to keep on file for future use. These forms can change at any time without notification.

Instructions are provided on the form. It is important to follow all of the steps on the form and to answer all the questions and complete all fields. If the application is not complete, it may not be accepted by the medical officer of health.

How long do I have to submit an application?

Your application, which includes both the applicant report and the physician report, must be received at the health unit within 7 days from the time you have been exposed. If the application is not received within seven days, it will not be processed.

How do I count the days to make sure I meet the deadline?

The day the exposure occurred is day zero. Begin counting at 1 on the next day and include Saturdays, Sundays and holidays. The legislation states that if the deadline, or your 7th day, falls on a Saturday, Sunday or holiday, you may extend the deadline by one day.

Where do I send the application?

An application is processed by the health unit responsible for the area where the respondent lives. For help in identifying which health unit is the correct one, you may call the Simcoe Muskoka District Health Unit or The Ministry of Health's INFOline at 1-866-532-3161.

However, you may drop off or fax your application to any Ontario health unit and it will be forwarded to the correct one. To meet the deadline, please drop off or fax both completed forms to any health unit no later than 4 pm on the 7th day. The Fax number for the SMDHU is 705-721-1495.

What kind of information is asked for on the forms?

As the applicant you must:

- Provide a description of the circumstances of the occurrence and the details of the exposure and your injury
- Provide your immunization history
- Include the name and address of the person whose blood you are applying to have tested
- Agree to counseling about the exposure and treatment options
- Agree to have your blood tested for the three diseases, HIV, hepatitis B and hepatitis C
- Provide consent for the release of information about your blood test results, if asked, to the Consent and Capacity Board
- Give consent for the release of information on the police report if you were the victim of a crime

Will my personal information on the application be shared?

Your application will be read by the medical officer of health and by members of the Consent and Capacity Board if your application is forwarded for an order.

Your blood test results will be shared with the doctor who completed the physician report, your family physician if named, and with the Consent and Capacity Board members if requested.

None of your personal information will be shared with the respondent.

Processing an Application

How long does the whole process take?

The regulations to the act require specific time lines be followed. Despite the shortened time frames intended by the legislation, the process itself has many steps and time will vary depending on many factors.

What are the steps in the process?

a) Voluntary Process

- When an application is received by the correct health unit and all requirements are met, it proceeds to the voluntary stage. This means that the medical officer of health assigns a public health nurse to contact the respondent and ask that he or she voluntarily provide either a blood sample to test for the three diseases, or evidence of testing that was done within the past four weeks for hepatitis B and C, and HIV
- Two days is allowed for this stage of the process.
- If after two days the respondent cannot be reached, the application is forwarded to the Consent and Capacity Board who will hold a hearing within seven days.
- The public health nurse continues to try to reach the respondent and if successful, will notify the Consent and Capacity Board and ask to have the application withdrawn (as long as the hearing hasn't yet started).
- When the respondent is contacted, the public health nurse will explain the request and keep information about the applicant confidential.

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- The nurse will help the respondent to arrange for blood testing for hepatitis B and C, and HIV. The respondent will be asked to sign a consent form giving permission for the test results to be shared with the medical officer of health, the respondent's physician and the applicant's physician.
 - The respondent must show identification when he or she has the testing done. The person taking the blood is required to carefully handle the specimens, send them to the Central Public Health Lab in Toronto and ask for immediate analysis.
 - When the test results are received by the medical officer of health, the results will be immediately forwarded to the applicant's physician. The applicant is notified and asked to make an appointment with his or her doctor so that testing results can be interpreted to the applicant.

b) Order Process

- When the respondent cannot be reached within two days or when the respondent refuses to voluntarily provide the information requested, the application is forwarded to the Consent and Capacity Board.
- The Consent and Capacity Board now has seven days to start and conclude a hearing and one more day to make a decision about whether to issue an order compelling the respondent to provide a sample.
- The hearing is public and any person involved with the application may be called as a witness.
- The applicant, respondent and medical officer of health will be notified of the decision made by the board.
- When a respondent is ordered to provide a blood sample he or she must do so within seven days of the order.
- If the respondent does not comply with an order made by the board, the applicant may apply to a judge of the Superior Court of Justice for an order requiring the respondent to comply with the order of the board.
- A person who does not comply with the order could be fined up to \$5,000 per day.
- When an order is written and the respondent complies, the respondent is provided with a laboratory requisition and must go to a designated person to have the blood drawn. The respondent must bring identification.
- The results of the blood tests will be sent to the applicant's physician and the applicant is notified to make an appointment with his or her physician to have the results interpreted.

Where can I get more information?

Here are some resources about this new legislation that may be helpful:

[Ministry of Community Safety and Correctional Services](#) – provides additional information.

Health Unit staff are available to answer questions and provide support. Please call 721-7520 (1 877-721-7520) and *ask for Sexual Health* at extension 8376.

Immunization in Health Care Workers

Immunization is the most effective means of preventing hepatitis A and B; influenza; MMR; polio; pertussis; tetanus-diphtheria (Td); varicella; and other vaccine-preventable diseases. HCWs who acquire vaccine-preventable disease not only suffer morbidity and mortality as result of infection but also serve as vectors for transmitting disease to other staff and residents.⁴⁶

Recommendations for Health Care Workers Immunization are contained in the Public Health Agency of Canada (PHAC) document: Prevention and Control of Occupational Infections in Health Care – Appendix C

Web link:

<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02vol28/28s1/>

National Advisory Committee on Immunization (NACI)

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An Advisory Committee Statement (ACS)

Immunization of HCWs

NACI considers the provision of influenza vaccination for HCWs who have direct patient contact to be an essential component of the standard of care for the protection of their patients. HCWs who have direct patient contact should consider it their responsibility to provide the highest standard of care, which includes annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

In order to protect vulnerable patients during an outbreak, it is reasonable to exclude from direct patient contact HCWs with confirmed or presumed influenza and unvaccinated HCWs who are not receiving antiviral prophylaxis. Health care organizations should have policies in place to deal with this issue.

Example of LTCH policy regarding health care worker influenza immunization:

Sample Form

Employee Health Annual Influenza Vaccine Policy

Vaccination is recognized as the single most effective way of preventing or attenuating influenza for those at high risk of serious illness or death from influenza infection and related complications. The Canadian National Advisory Committee on Immunization (NACI) states that influenza vaccine programs should aim to vaccinate at least 90% of eligible recipients.

People who are potentially capable of transmitting influenza to those at high risk should receive annual vaccination, regardless of whether the high-risk persons have been immunized. Health care and other care providers in LTCHs, through their activities, are potentially capable of transmitting influenza to those at high risk of influenza complications. This group also includes students, regular external care providers (i.e. physiotherapists, agency nurses) and volunteers.

Immunization of care providers decreases death, morbidity and health service use among residents, staff illness and absenteeism. Immunization of care providers and residents is associated with decreased risk of Influenza-like Illness (ILI) outbreaks.

Healthcare workers (HCWs), who have direct patient contact, are an essential component of the standard of care for the protection of their clients. HCWs who have direct patient contact should consider it their responsibility to provide the highest standard of care, which includes undergoing annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

_____ will strive to achieve 100% employee compliance with the annual influenza program although it is noted that the influenza vaccine may be medically contraindicated in some staff members.

Employees will be given every reasonable opportunity to be informed of the risks, benefits, and side effects of the influenza vaccine. This includes, but is not limited to:

- € An education program at the beginning of the “flu season” promoting awareness of influenza and the importance of vaccination as well as a resource list which highlights the risk and side effects,
- € Posting of a notice in accessible locations of the facility (e.g. conference room, staff lounge) at least a month in advance of the vaccination clinic dates. The notice will include the clinic dates, hours and location,
- € Obtaining employees’ individual written consent,
- € Sending reminders to those employees who have not yet received the immunization prior to the last day of the immunization clinic

*Thank you to Leacock Care Centre (a Jarlette Home) for the adaptation of their influenza policy