

**Control of Exposure to**

**Biological Agents**

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Control of Exposure to Biological Agents

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# REFERENCE

WorkSafeBC Regulation:

* Part 5, Sections 5.1.1, 5.54 and 5.55
* Part 6, Sections 6.33 – 6.40

# PURPOSE

This program is designed to control the risks to workers from occupational exposure to biological agents.

# POLICY

It is the policy of [Organization] to prevent occupational exposure to biological agents through the development and implementation of proper controls and work procedures and the education and training of its workers.

# SCOPE

This program applies to all [Organization] workers who have been identified as being at risk of occupational exposure to bloodborne pathogens or other biological agents.

# DEFINITIONS

|  |  |
| --- | --- |
| **Adverse Health Effect** | An acute or chronic injury, acute or chronic disease, or death. |
| **Biological Agent** | For the purposes of sections [5.2](http://www2.worksafebc.com/publications/OHSRegulation/Part5.asp#SectionNumber:5.2) and [6.33 to 6.40](http://www2.worksafebc.com/publications/OHSRegulation/Part6.asp#SectionNumber:6.33) and [Part 30](http://www2.worksafebc.com/publications/OHSRegulation/Part30.asp) of the WorkSafeBC OHS Regulation the following biological agents are designated as hazardous substances:   1. a liquid or solid material that is contaminated with a prion, virus, bacterium, fungus or other biological agent that has a classification given by the Public Health Agency of Canada as a Risk Group 2, 3 or 4 human pathogen that causes an adverse health effect; 2. a biological toxin that causes an adverse health effect.   The Public Health Agency of Canada risk groups are derived from the *Human Pathogens and Toxins Act*. Following are some examples from the risk groups referred to in the WorkSafeBC Regulation. These are examples only and not an exhaustive list. The complete list can be found by viewing the *Human Pathogens and Toxins Act* [*http://www.parl.ca/DocumentViewer/en/40-2/bill/C-11/royal-assent/page-95*](http://www.parl.ca/DocumentViewer/en/40-2/bill/C-11/royal-assent/page-95)     * **“Risk Group 2”** means a category of human pathogens that pose a moderate risk to the health of individuals and a low risk to public health and includes the human pathogens listed in Schedule 2. They are able to cause serious disease in a human but are unlikely to do so. Effective treatment and preventive measures are available and the risk of spread of disease caused by those pathogens is low.   Examples include:  **Bactria**: Clostridium botulinum; Helicobacter pylori; Salmonella; Streptococcus salivarius.  **Viruses**: Hepatitis A, B, C, D, E; Human herpesvirus 5, 6, 8; Influenza virus, types A-C (excluding Type A 1918 Spanish Flu and H2N2 strains); Measles virus; Mumps virus; Rhinovirus.  **Fungi**: Aspergillus fumigatus; Cryptococcus neoformans.  **Protozoa**: Acanthamoeba castellanii.  **Prions**: Chronic wasting disease.   * **“Risk Group 3”** means a category of human pathogens that pose a high risk to the health of individuals and a low risk to public health and includes the human pathogens listed in Schedule 3. They are likely to cause serious disease in a human. Effective treatment and preventive measures are usually available and the risk of spread of disease caused by those pathogens is low. Examples include:   **Bacteria:** Bacillus anthracis; Rickettsia (several types); Chlamydia psittaci.  **Viruses:** Highly pathogenic avian influenza virus; HIV; Rabies virus; SARS coronavirus; West Nile fever virus.  **Fungi:** Seven listed.  **Protozoa:** None listed.  **Prions:** Bovine spongiform encephalopathy agent and other related animal transmissible spongiform encephalopathies agents; Creutzfeldt-Jakob disease agent.   * **“Risk Group 4”** means a category of human pathogens that pose a high risk to the health of individuals and a high risk to public health and includes the human pathogens listed in Schedule 4. They are likely to cause serious disease in a human. Effective treatment and preventive measures are not usually available and the risk of spread of disease caused by those pathogens is high. Examples include:   **Bacteria:** None listed.  **Viruses:** Ebola virus; Herpes B virus.  **Fungi:** None listed.  **Protozoa:** None listed.  **Prions:** None listed.  **Note: there is no “Risk Group 1” in the *Human Pathogens and Toxins Act*** |
| **Airborne Transmission** | Transmission of pathogens by inhaling infectious aerosols (solid or liquid particles in the air). This can occur when an infected person coughs, sneezes, or talks; or during some medical procedures that generate aerosols. |
| **Alcohol-Based Hand Rub** | An alcohol-based antiseptic with a minimum of 70% alcohol that is applied all over the hands to reduce the number of pathogens on the hands. |
| **Carrier** | A person who is infected and capable of transmitting an infection to others, but who does not have symptoms of the disease; often carried asymptomatic or healthy carriers. |
| **Contact Transmission (Direct and Indirect)** | Direct contact occurs when pathogens are transferred directly from an infected person (body surface to body surface).  Indirect contact involves the transfer of pathogens from a contaminated intermediate source (for example, a door handle, table surface, or tray), contaminated instruments, or hands. Some bacteria and viruses can survive on surfaces for several hours or days. |
| **Contamination** | The presence of an infectious agent on a person’s body, clothes, or inanimate objects. |
| **Control Measure** | A method that eliminates or minimizes the risk to workers. |
| **Epidemic** | The rapid spread of a disease through a community, infecting more people than usual. |
| **Exposure** | The condition of being subject to an infectious disease through contact with an infected person or a contaminated environment. |
| **Hand Hygiene** | Washing hands thoroughly with soap and water for 20–30 seconds, using an alcohol-based hand rub, or using hand wipes that contain effective disinfectant. |
| **Immunization** | A process in which a vaccine is given (for example, by injection) to provide protection against a specific disease. |
| **Mucous Membrane** | A moist layer of tissue that lines body cavities or passages that have an opening to the outside world, e.g. the eyes, nose, and mouth. |
| **Non-Intact Skin** | Skin that has been compromised by a cut or abrasion, including a healing wound less than three days old or a skin lesion causing disruption of the outer layer of skin (for example, acute dermatitis, a hangnail, or chapped or abraded skin). |
| **Occupational Exposure** | Reasonably anticipated contact with a biological agent that is designated as a hazardous substance in Section [5.1.1](http://www2.worksafebc.com/publications/OHSRegulation/Part5.asp#SectionNumber:5.1.1), resulting from the performance of a worker's duties.  For example, harmful contact with bloodborne pathogens includes needle-stick injuries or splashes of blood to the eyes, nose, or mouth; it does not include blood splashing on intact skin. |
| **Parenteral Contact** | Piercing of mucous membranes or the skin. |
| **Standard or Routine Infection Control Precautions (Formerly Universal Precautions)** | Safe work practices as defined by the Practical Guidelines for Infection Control in Health Care Facilities issued by the World Health Organization, as amended from time to time, and the Infectious Diseases, Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care guidelines issued by Health Canada, as amended from time to time.  Routine practices are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. Routine practices include hand hygiene and, depending on the anticipated exposure, the use of gloves, gowns, respirators, and eye/face protection. |
| **Transmission-Based Precautions** | Safe work practices based on the route of transmission as defined by the Practical Guidelines for Infection Control in Health Care Facilities issued by the World Health Organization, as amended from time to time, and the Infectious Diseases, Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care guidelines issued by Health Canada, as amended from time to time. |

# 

# RESPONSIBILITIES

## [Organization]

* Develops and implements the biological agents control program
* Maintains the biological agents control program
* Lists all the jobs where there might be exposure to biological agents
* Performs risk identification and assessment
* Develops and implements control procedures
* Maintains a health protection and vaccination program
* Ensures that necessary equipment/resources and training are provided to employees
* Maintains records as required by the Regulation

## Supervisors

Supervisors ensure that workers:

1. Have access to the proper procedures and equipment
2. Are trained how and when to use them
3. Know and follow safe practices
4. Know when to report an incident

## Workers

* Attend training sessions for at risk workers, when required
* Use proper procedures and report any unsafe work conditions and practices to the supervisor
* Wear personal protective equipment
* Report any incidents of exposure to biohazardous materials

## JHS Committee or Worker Health and Safety Representative

* Review the exposure control plan at least annually in consultation with the [Organization]
* Assist in the workplace evaluation of the use of personal protective equipment as a control measure to reduce the risk from biological agents.

# PROGRAM DETAILS

## Risk Identification

[Organization] maintains a list of all job classifications, tasks and procedures in which there is a potential for occupational exposure to biological agents. Risk identification will determine the nature of the hazard and the nature of the exposure. This list is reviewed and each item is categorized according to those jobs in which:

 All workers have occupational exposure

 Some of the workers have occupational exposure

Where only some workers have exposure, the specific tasks and procedures causing exposure are listed. Through discussion with affected workers and the safety committee, risk identifications are completed for the jobs listed below. The risk identification worksheet in Appendix A1 is used to document risk identification.

When identifying the potential for exposure to biological agents, [Organization]will identify the risk to unprotected workers. When identifying the risk associated with exposure, [Organization] will consider the following sources of information:

* Exposure history of the [Organization] including first aid records and incident investigation reports,
* WorkSafeBC claims records and statistics,
* History of similar local governments and industries/services dealing with the same client group.

The following table contains job positions and tasks that have been identified as having a risk of occupational exposure, both within the [Organization]and in other municipalities in British Columbia. It is not an exhaustive list but provides a starting point for identifying potential occupational exposures.

|  |  |
| --- | --- |
| **JOB CLASSIFICATION:** | **Task having potential for exposure:** |
| **Law Enforcement** | Attending homicides, searching suspects, searching property, riot control, processing apprehensions, etc. |
| **Firefighters** | Attending accident scenes or fires, conducting investigations, medical responses, rescue, etc. |
| **Parks Workers** | Contact with syringes. Contact with used condoms. |
| **Solid Waste Disposal** | Handling garbage that contains blood soaked items or used syringes, during pickup, at landfill, and for recycling. |
| **Cleaning Staff** | Handling blood soaked materials, condoms, or syringes or cleaning out police vehicles. |
| **Sewage Workers** | Exposure to body wastes, condoms, sanitary napkins, used syringes, etc. |
| **Recreation Staff and Lifeguards** | Handling used syringes.  Exposure to body wastes, blood. |
| **Trades and Maintenance Personnel** | Exposure to body waste or sharps when performing regular maintenance duties. |
| **Road Crews** | Handling used syringes. |
| **First Aid Attendants** | All first aid attendants are considered to have occupational exposure to biological agents. |

## Risk Assessment

Once each department of [Organization]has identified risks and implemented control procedures they will perform risk assessments to determine the level of risk to workers doing specific tasks with the control procedures in place. Three factors are used in the risk assessment. They are:

1. Exposure: How often will the individual be exposed to the potential of bloodborne pathogens through exposure to sharps? How often will the individual be exposed through contact with non-intact skin or mucous membranes?
2. Likelihood: How likely is it that the exposure will result in injury or disease?
3. Consequence: What are the most probable consequences of exposure?

Appendix A3 contains a scoring sheet that can be used to measure risk. The risk score is based on multiplying exposure x likelihood x consequence. By using the risk score it is possible to establish whether the risk posed by certain tasks is low, moderate, or high. This allows departments to re-focus their attention on exposure control plans that have not eliminated or minimized the risk to workers.

A form that can be used to document the risk assessments is available in Appendices A1 to A3. The Risk Identification Form for Exposure to Biological Agents is used to document the risk assessments. This Form contains a scoring sheet that can be used to measure risk based on multiplying the **E**xposure by the **L**ikelihood by the **C**onsequence (E x L x C). Using the risk score makes it possible to establish the level of risk posed by certain tasks, i.e. low, moderate, or high. This allows departments to focus their attention on exposure control plans for high and moderate risks where controls may eliminate or minimize the risk to workers.

## Controls

### Elimination

When risk identification shows that there is exposure to biological agents, the first method of control that will be attempted is elimination of the task.

### Substitution

If elimination of a task is not feasible, the [Organization]will attempt to substitute a less hazardous procedure.

### Engineering Controls

If elimination or substitution cannot be used to reduce the risk to workers, [Organization]will use engineering controls to reduce worker exposure in the workplace by either removing or isolating the hazard, or isolating workers from exposure to the hazard. Examples of engineering controls for biological agents include:

* The use of tools that prevent close worker exposure to contaminated substances
* Use of puncture resistant containers for sharps
* Providing tongs or other tools for picking up discarded syringes and other material
* Providing splatter guards
* Use of biological safety cabinets in laboratories
* Enforcing the use of proper laboratory techniques and safety in laboratories

### Work Practice Controls

Work practice controls are used whenever engineering controls cannot be used or are not effective. Work practice controls reduce the likelihood of occupational exposure to biological agents by altering the way a task is performed.

The following work practice controls are required at [Organization]:

* Eating, drinking, using tobacco products, and using cosmetics or lip balm, or handling contact lenses is not allowed in areas were there may be exposure to biological agents;
* Hands must be washed with soap and running water immediately after removal of gloves and as soon as possible after skin contact with blood or other potential biological agents;
* Tongs or other suitable means that prevents contact with biological agents must be used when picking up syringes or broken glass contaminated with blood;
* A readily available sharps container must be used to dispose of contaminated needles or other sharps that are potentially contaminated by blood;
* Food or drink shall not be stored in refrigerators or other locations where blood and other biological agents are present.

### Standard Infection Control Precautions for Bloodborne Pathogens

Standard Precautionsrefers to a concept of infection control designed to reduce the risk of transmission of biological agents. Standard precautions require all human blood and other potentially infectious material to be treated as if it was infectious, e.g. for HIV, HBV or other bloodborne pathogens, regardless of the perceived "low risk" of a client population. Where it is difficult or impossible to differentiate between body fluids, all body fluids are to be considered as potentially infectious.

Standard infection control precautions must include:

* The assumption that all contacts may be infectious, since there is no way of knowing who may be infectious.
* Providing and wearing appropriate PPE for the exposure such as gloves, aprons, protective eyeglasses, and face shields.
* Washing hands after any contamination and before eating, drinking or smoking and after removing gloves:

- Medicated soap adds no advantage.

* Use of a moisturizing cream is recommended, as it will help to keep intact skin healthy.
* Protecting damaged skin by covering with a waterproof dressing or by using gloves.
* Disposing of sharps according to written procedures.
* Using resuscitation devices such as pocket masks with one-way valves to eliminate the need for direct mouth-to-mouth resuscitation.
* Containing spills, splashes and contamination from blood and body fluids.

### Housekeeping Practices

To keep the workplace clean and sanitary, [Organization]has developed and implemented a writtencleaning schedule outlining appropriate methods of decontamination as well as the tasks or procedures to be performed. The schedule specifies:

1. The location within the facility (indoor vs. outdoor).
2. The type of surfaces to be cleaned.
3. The size of the spill (e.g. gross, splatter, smear) or type of organism present, if known.
4. The tasks or procedures to be performed, including what kind of disinfectant to use, how much should be used, and how often it should be applied.

The cleaning schedule is maintained by [insert job position or name here].

### Personal Protective Equipment (PPE)

The [Organization] will provide personal protective equipment (PPE) that helps to reduce the risk of exposure to biological agents. There is a variety of PPE that is available to protect workers from exposure to potentially infectious hazards.

Personal protective equipment must be used if neither engineering controls nor work practices can be used to provide adequate protection for workers. PPE may also be used in conjunction with engineering or administrative (procedural) controls. PPE must also be used if the exposure results from temporary or emergency conditions only.

A workplace evaluation must be completed, in consultation with the Joint Health and Safety Committee and with the workers who will use the equipment, to determine the PPE to be used. Appropriate PPE may include the following:

Gloves

All personnel, prior to initiating victim assistance or other potential forms of communicable disease contact, shall wear disposable or reusable gloves. Extra gloves should be available. When selecting gloves, consideration should be given to dexterity, durability, fit and the task being performed. When there is a greater risk of glove breakage due to additional hazards from broken glass, sharp edges, etc. as in vehicle extrication, additional precautions shall be taken, such as wearing protective gloves over top of disposable gloves. While wearing gloves, avoid touching personal items that could become contaminated.

Disposable gloves should be removed:

* as soon as possible if they become damaged or contaminated, and
* promptly after completing the task.

Use new gloves for each task. It is not acceptable to wash gloves instead of removing gloves, washing hands and putting on clean gloves.

Place used gloves in a waterproof garbage bag. Reusable gloves must be cleaned and disinfected properly.

When removing disposable gloves, follow the safe work procedure titled “Safe Removal of Disposable Gloves”.

Masks, Eye Protection and Gowns

Masks, eye protection and gowns should be available to emergency responders and first aid attendants. These protective barriers must be impervious (resistant to liquids) and should be used in accordance with the level of exposure encountered. A face shield should be worn where there is a risk of splashes of blood or other body fluids.

Resuscitation Equipment

Disposable airway equipment or resuscitation bags should be used once and disposed of. If reusable equipment is used, thoroughly clean and disinfect after each use in accordance with the manufacturer’s recommendations. Pocket masks shall be designed to isolate the emergency personnel from the victim and have a one-way valve installed.

Use of PPE is required in the following circumstances:

1. First aid attendants are required to use a pocket mask and disposable liquid-proof gloves to prevent accidental contact with blood or body fluids.
2. Fire fighters are required to use disposable liquid-proof protective gloves and full turnout gear when performing vehicle extractions and first responder activities.
3. Garbage collection crews must wear puncture resistant and liquid resistant gloves and dust masks if they are exposed to hazardous wind-blown particulate.
4. Sewage workers must wear waterproof outer garments, rubber boots, disposable liquid-proof gloves and face shields where there is danger of biological agent splashes.

If PPE is not worn in a specific circumstance, the worker must still follow all other standard precautions and take all necessary steps to minimize exposure.

### Labels and Identification

Labels that contain the following information must be affixed to any container that contains biological agents:

1. The name of the organism known or suspected to be present;
2. Information on the safe handling of the material or a biohazard symbol; and
3. A reference to the Safety Data Sheet, if available.

## Health Protection

### Vaccination

The [Organization] will provide hepatitis B vaccination to workers who are or may have an occupational exposure to the hepatitis B virus.

Vaccines that become available that protect against infection by a biological agent that is designated as a hazardous substance by WorkSafeBC will be offered to workers who are or may have an occupational exposure. The [Organization] will pay the cost of the vaccine(s) and ensure affected workers are aware of the vaccination program.

### Post Exposure Health Management

Workers exposed to hepatitis B virus or other biological agent in a potentially harmful incident will be advised to seek medical evaluation. The following exposure incidents are potentially harmful:

1. The skin is punctured with a contaminated sharp
2. Mucous membrane (eyes, nose or mouth) exposure to blood or body fluid
3. Non-intact skin is exposed to blood or certain body fluids
4. Human bites

The emergency decontamination procedures for these and similar incidents are contained in the safe work procedure, titled What to Do If an Exposure Incident Occurs, in Appendix C.

### 

### Reporting

Workers exposed to hepatitis B or other bloodborne pathogens or biological agents must immediately go to first aid for treatment and report the exposure to a supervisor, provided this does not delay medical attention. It is very important that the worker attends at an Emergency Unit at the hospital within two hours of the incident. If possible, workers should collect a sample of the blood or contaminant so that it can be tested for the presence of HIV and hepatitis B virus infection. If the exposure was from a needle or other sharp object, workers should safely gather the sharp and take it to the hospital emergency department for analysis.

### Medical Evaluation and Monitoring

Workers will receive a medical evaluation from the Emergency Room physician based on an assessment of the risks associated with the incident. The risk of exposure to biohazardous materials is not limited to contact with blood or other body fluids. Similarly, the risk of transmission of disease from one person to another varies with the virus and the type of exposure or contact.

Factors that will be considered by the physician include:

* The type of fluid or material the worker was exposed to;
* The type of exposure, e.g. needle stick, other sharp, contact with mucous membranes;
* The status of the source person, e.g. known or unknown; and
* The health status of the worker.

## Records of Exposure

[Organization] keeps records of all workers who are or may be exposed to biological agents through the course of their work. These records are confidential and are kept in the [insert location] by [insert name or job position here].

Worker exposure to biological agents will be documented in the following ways:

* Accident/incident reports
* First aid treatment records
* Medical records, if available
* Inspection reports of documented exposures
* Claim forms
* Worker complaints
* Joint Health and Safety Committee meeting minutes
* Results of the risk assessment performed in compliance with WorkSafeBC OHS Regulation Section 6.35
* Records required as part of the exposure control plan, e.g. risk identification, assessment and control
* Records of worker vaccinations

A worker should immediately report a harmful contact. An example of a form that can be used for reporting harmful contacts is included in Appendix C.

# TRAINING REQUIREMENTS

## Goal

The goal of this training is to provide workers with information about the risk of exposure to biological agents and about the controls that can be used to eliminate or minimize the risk.

## Objectives

As a result of education and training about biological agents**,** workers will:

* Understand the definition of biological agents
* Have an understanding of the exposures to biological agents that may occur at work
* Be knowledgeable about what to do in the event of exposure
* Understand the controls that are in place at [Organization] in order to protect workers
* Know the work practices required to prevent exposure to biological agents
* Understand the type and use of personal protective equipment
* Recognize labels and identification for biological agents
* Know where to access the exposure control plan

## Summary of Training

* Overview of the WorkSafeBC OHS Regulation that applies to biological agents
* Explanation of biological agents and bloodborne diseases
* Method of transmission of biological agents and bloodborne diseases
* Exposure control plan
* Risk identification and assessment
* Engineering controls
* Personal protective equipment
* Hepatitis B vaccine program
* Emergency procedures
* Labelling and identification

## Program Maintenance

The following will be done in order to ensure that the program for the control of exposure to biological agents continues to provide adequate safety for all workers:

* Risk assessments will be reviewed annually by each department and will include the review of changes to work procedures to determine whether or not new risk identification must be performed.
* New jobs, tasks or responsibilities within the [Organization]will be reviewed by the department or section manager / supervisor to determine if the new job or task pose a biohazardous exposure risk.
* When workers change positions or duties, those duties will be reviewed to determine whether additional training in biohazardous controls is required.
* When new technology becomes available which will minimize or eliminate the risk to workers from biological agents, that technology will be reviewed by the [Organization]in consultation with the Joint Health and Safety Committee(s) to determine whether or not implementation is feasible.

# DOCUMENTATION

The following documentation is required as part of the biological agents program:

* Completed risk identification worksheets
* Completed risk assessment worksheets
* Written work procedures
* Records of vaccinations
* Completed harmful contact reports
* Records of exposure
* Training records, including:
* Names, job titles and departments of workers attending the sessions
* Date(s) of training
* Content of the training session
* Type of education and training (e.g., classroom, video, interactive, on-the-job)
* Names and qualifications of those conducting the training

Education and training records must be kept for at least 3 years after the training session.

# 

# APPENDICES

## 

## Appendix A1 - Risk Identification Worksheet

Use the Risk Identification Worksheet to identify those jobs, tasks and procedures for which there is a potential occupational exposure to biological agents or bloodborne pathogens.

Step 1: At the top of the table, list the job classification in which workers perform their duties, or whose contacts with clients could result in exposure to bloodborne pathogens.

Step 2: In column 1, list the tasks that may expose workers to biological agents, including bloodborne pathogens.

Step 3: In column 2, list the hazards. These may be blood, body fluids, human waste, laboratory specimens and materials, or infected animals.

Step 4: In column 3, list the method of contact with the hazard. This may be exposure to sharps, attack by an infected person, contamination of food, contact with non-intact skin, or contact with eyes or mucous membranes.

|  |  |  |
| --- | --- | --- |
| **Job Classification: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | |
| **Tasks with Risk** | **Hazards** | **Method of Contact** |
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When you have completed listing all of the tasks and exposures for a particular job position, turn to Appendix A2 and A3, Risk Assessment Worksheet.

## Appendix A2 - Risk Assessment Worksheet Instructions

Use the Risk Assessment Worksheet to determine whether control procedures that are in place have eliminated or minimized the risk from exposure to biohazardous materials or bloodborne pathogens.

Step 1: In column 1, list the task from the risk identification worksheet.

Step 2: In column 2, list the engineering or work practice control that has been implemented.

Step 3: In column 3, use the risk scores in Appendix A3 to list the likelihood score for the likelihood of exposure with and without the control procedures in place.

Step 4: In column 4, use the risk scores in Appendix A3 to list the frequency score for the frequency of exposure with and without the control procedures in place.

Step 5: In column 5, use the risk scores in Appendix A3 to list the consequence score for the most probable consequence of contact with and without the control procedures in place.

Step 6: In column 6, multiply Likelihood x Frequency x Consequence to determine an overall score for the risk of performing that task with and without the control procedures in place.

Step 7: Determine whether or not the control procedures that are in place have eliminated or minimized the risk as much as possible. Repeat the procedure using a different control procedure to determine whether using a different procedure could minimize or eliminate the risk more effectively.

## Appendix A2 - Risk Assessment Worksheet

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **2** | **3** | | **4** | | **5** | | **6** | |
| **Task** | **Control Procedure** | **Likelihood** | | **Frequency** | | **Consequence** | | **Risk Score** | |
| With | Without | With | Without | With | Without | With | Without |
|  |  |  |  |  |  |  |  |  |  |
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Does the implemented control procedure eliminate or minimize the risk?

YES ⬜ NO ⬜

Are other control procedures more effective?

YES ⬜ NO ⬜

## Appendix A3 - Risk Score

|  |  |
| --- | --- |
| LIKELIHOOD | |
| The accident sequence, including the consequences: | Rating |
|  |  |
| Is the most likely and expected result if the hazard event takes place | 10 |
| Is quite possible, would not be unusual, has an even 50/50 chance | 6 |
| Would be an unusual sequence or coincidence | 3 |
| Would be remotely possible coincidence. Has never happened after many years of exposure | 0.5 |
| Practically impossible sequence or coincidence, a "one in a million" chance, has never happened in spite of exposure over many years | 0.1 |

|  |  |
| --- | --- |
| FREQUENCY | |
| **The hazard event occurs:** | Rating |
|  |  |
| Continuously (or many times daily) | 10 |
| Frequently (approximately once daily) | 6 |
| Usually (from once per week to once per month) | 3 |
| Occasionally (from once per month to once per year) | 2 |
| Rarely (it has been known to happen) | 1 |
| Very rarely (not known to have occurred but considered remotely possible) | 0.5 |

|  |  |
| --- | --- |
| CONSEQUENCE | |
| Degree of Severity of Consequence | Rating |
|  |  |
| Catastrophic: numerous fatalities, extensive damage | 100 |
| Several fatalities | 75 |
| Fatality | 50 |
| Extremely serious injury or occupational disease (permanent disability) | 30 |
| Disabling injuries, reversible tissue damage | 10 |
| Minor cuts, bruises, irritations, minor damage | 2 |

#### RISK CHART

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Low | | | Medium | | | | | High | | | |
| 20 | 50 | 90 | 125 | 150 | 175 | 200 | 225 | 250 | 350 | 450 | 750 |

## Appendix B – Written Safe Work Procedures

### Safe Work Procedures for Outside Parks Workers

1. **Hazards**

|  |  |
| --- | --- |
| * Biological agent contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Hand washing facilities | * Gloves |

1. **Procedure**
   1. When work involves picking up refuse, weeding and flowerbed preparation, or using a grass trimmer there is always a hazard from discarded needles and syringes. In order to avoid injury do the following:
      1. Check your work area carefully for discarded needles prior to beginning work and during the work process.
      2. If using a grass trimmer or weed-eater, ensure co-workers are a safe distance away. If you see someone approaching, stop work.
      3. Use proper equipment such as gloves and tongs to pick up discarded needles and other potentially infectious material.
      4. Do not pick up litter using your bare hands. Use heavy leather gloves and/or a tool.
      5. Do not reach into areas that you cannot see.
      6. When collecting litter bags **do not**:
         1. push more litter into the bag
         2. remove litter from the bag, or
         3. try to compress bags of litter
2. **Emergency Procedures**
   1. In the event of an injury or exposure involving biohazardous material or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Hand Washing

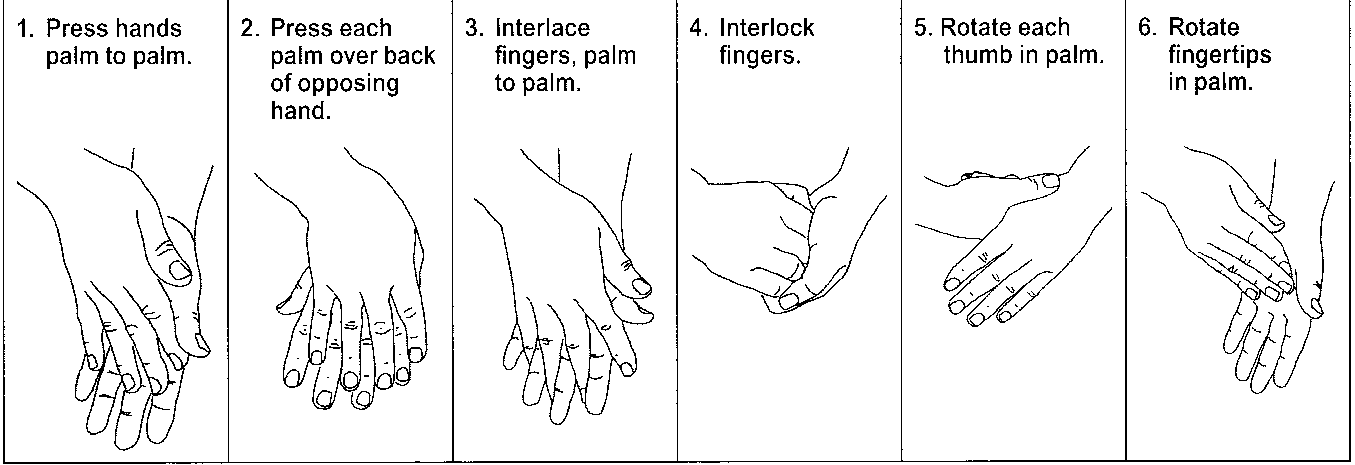
1. **Hazards**

|  |  |
| --- | --- |
| * Biological agent contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Hand washing facilities |  |

1. **Procedure**
   1. Hands and other skin surfaces should be thoroughly washed with warm water and non-abrasive soap immediately when any of the following occurs:
      1. whenever you tear a glove, think that the glove may have leaked, or your intact skin is contaminated with blood, other body fluids or other contaminated articles;
      2. whenever you change gloves;
      3. after removing gloves at the end of the task, even if the gloves appear to be intact;
      4. before eating, drinking, smoking, handling contact lenses, or applying personal care products (such as lip balm or makeup).
   2. If there is no water available, use a waterless antiseptic hand cleaner initially, then thoroughly wash your hands with soap and water as soon as it is available.
   3. If an area of non-intact skin contacts blood or other body fluids, follow the procedure, “What to Do If an Exposure Incident Occurs”.
   4. To wash hands:
      1. Use regular mild hand soap and running water,
      2. Rub your hands vigorously as you wash them for at least 15 seconds,
      3. Wash all surfaces, including:
         1. backs of hands
         2. wrists
         3. between fingers
         4. under fingernails
      4. Rinse your hands well,
      5. Leave the water running,
      6. Dry your hands with a single-use towel or paper towels,
      7. Turn off the water using a paper towel instead of bare hands.

****

1. **Emergency Procedures**
   1. In the event of an injury or exposure involving biological agents or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Handling and Disposal of Contaminated Laundry and Clothing

1. **Hazards**

|  |  |
| --- | --- |
| * Biological contamination | * Contracting occupational disease, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Hand washing facilities | * Gloves |
| * Plastic bags and labels |  |

1. **Procedure**
   1. Although soiled laundry may be contaminated with pathogenic (disease carrying) micro-organisms, the risk of actual disease transmission is negligible. It is important to remember that laundry has never been implicated in the transmission of HIV.
   2. In order to minimize the possibility of exposure, whenever possible contaminated laundry should be:
      1. Effectively bagged or containerized at the location of use.
      2. Not sorted or rinsed at the location of use.
      3. Handled as little as possible.
      4. Bags should be labelled with a biohazardous symbol and/or colour coded, e.g. red, and be kept isolated from other laundry and removed from the site or cleaned as soon as possible.
   3. When contaminated laundry is wet and there is a reasonable likelihood of soak-through or leakage, the laundry must be placed and transported in leak-resistant bags or containers.
   4. Handling and washing contaminated clothing:
      1. Reduce worker exposure by isolating the laundry and minimizing manual handling.
      2. Clothing contaminated with blood and/or other body fluids must be handled using Standard Precautions (gloves and disposable gown or coveralls). If a splash is a concern, face protection should also be used, e.g. full face shield.
      3. Launder with soap and water, keeping the contaminated laundry separate from other items. Pre-soaking may be required for heavily soiled clothing. Otherwise, wash and dry as usual in accordance with the washing machine and detergent manufacturers’ recommendations.
      4. The addition of bleach will further reduce the number of potentially infectious agents. If the material can be bleached, add ½ cup of household bleach to the wash cycle. If the material is not colorfast, add ½ cup of non-chlorine bleach to the wash cycle.
      5. Boots and leather goods may be scrubbed with disinfectant soap solution and hot water to remove contamination.
   5. Sending Out for Laundering / Dry Cleaning:
      1. When laundry which is contaminated with a known or suspected bloodborne pathogen or other potentially infectious material is sent for processing to a laundry or dry cleaning facility, the person sending the laundry must provide the following information to the cleaning facility in writing:

* The identity and nature of the materials which could pose a hazard, and
* General precautionary measures to be followed.
  + 1. Work clothing contaminated with blood or body fluids must be placed in leak proof bags for transport to laundering facilities. Bags and other containers of laundry contaminated with a known or suspected bloodborne pathogen or other potentially infectious material must be labelled unless universal precautions are taken and distinctive-coloured bagging is used.

1. **Emergency Procedures**
   1. In the event of an injury or exposure involving biohazardous material or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Handling Garbage

1. **Hazards**

|  |  |
| --- | --- |
| * Biological contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Hand washing facilities |  |

1. **Procedure**
   1. Follow these steps to prevent contact with sharps and other items improperly discarded in garbage:
      1. Handle garbage as little as possible.
      2. Use waterproof garbage bags.
      3. Be alert. Look for sharps sticking out of the bags. Listen for broken glass when the bag is moved.
      4. Do not compress garbage or reach into garbage containers with your bare hands.
      5. Do not use bare hands to pick up garbage that has spilled out of an overflowing container. Wear puncture-resistant and liquid-resistant gloves, or use other tools designed for picking up garbage.
      6. Don't let garbage bags get too full. Leave enough free space at the top of the bag so that when the bag is picked up only the top of the bag is held rather than grabbing any of the contents. Bags may have to be changed more often to prevent them from getting too full; however, this will also make them lighter and thus easier to hold away from your body.
      7. Hold garbage bags by the top of the bag, away from your body. Do not hold garbage bags against your body.
      8. Do not place one hand under the bag to support it.
      9. Dispose of wastes according to federal, provincial, and local regulations.
2. **Emergency Procedures**
   1. In the event of an injury or exposure involving biohazardous material or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Pick-up and Disposal of Sharps

1. **Hazards**

|  |  |
| --- | --- |
| * Biological contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Disposable gloves | * Tongs, pliers or similar |
| * Sharps container | * Hand washing facilities |

1. **Procedure**
   1. Needles and other potentially infectious material are often found on roadways, in public washrooms, in regular garbage, parks, alleys, vacant lots, and on beaches. When you find such objects:
      1. **Do not** pick up sharps and other items unless you have the proper equipment and PPE, and you have been instructed how to do so safely.
      2. **Do not** pick up anything with the intention of discarding it later. For example, immediately put used needles into a proper container, not in your pocket.
      3. **Do not** place needles in regular garbage. By doing so you create another hazard for others.
   2. Follow these steps to pick up improperly discarded sharps and other potentially infectious items:
      1. Wear disposable waterproof gloves (such as natural rubber latex, neoprene, nitrile, or vinyl) and use a proper sharps container.
      2. Put the gloves on.
      3. Place the sharps container next to the needle or other item. Do not hold the container in your hand.
      4. The preferred method is to use tongs or pliers to pick up the needle or other item and place it into the sharps container.
      5. Secondary method - If tongs or pliers are not available, pick up the needle by its shaft while wearing gloves.
      6. In either case, with the container lying on the ground or other surface (not held in your hand) place the needle into the sharps container, pointed end first. Do not insert your fingers into the opening of the container. Keep your free hand out of the way.
      7. Remove and discard the gloves using proper procedures. Wash your hands with soap and water.
      8. Do not fill the sharps container to the top. When it is about three-quarters full replace it with a new one and properly dispose of the old one.
   3. Do not reach for objects you cannot see:
      1. Look before reaching. Don't use your hands to feel or reach into any area or container if you can't see the contents or if you don't know what's there. Use a long-handled stick or other object - not your hands - to explore hidden spots.
      2. Empty the contents of purses, packs, and other containers by turning them upside down over a table or other flat surface.
   4. Pick-Up and Disposal of Used Condoms:
      1. The disposal of used condoms found on the worksite follows the disposal precautions for needles and sharps. Wear waterproof gloves and use tongs or other equipment to pick up used condoms. Discard the condom in a plastic bag.
2. **Emergency Procedures**
   1. In the event of an injury or exposure involving biohazardous material or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Post Exposure Management – What to Do If an Exposure Occurs

1. **Hazards**

|  |  |
| --- | --- |
| * Biological contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Disposable gloves | * Emergency wash station |
| * Soap and water |  |

1. **Procedure**
   1. Post exposure treatment is required when one or more of the following conditions are present:
      1. Skin is punctured with a contaminated, or potentially contaminated sharp, e.g. glass, needle, etc., or;
      2. Mucous membranes (eyes, nose, mouth) are exposed to blood or fluid visibly contaminated with blood or potentially infectious body fluids or tissues, or;
      3. Non-intact skin is exposed to blood or certain body fluids, or;
      4. Human bites (that break the skin), **and**
      5. The source person is considered potentially infectious (positive test, in a high risk group, unreliable, or unknown), **and**
      6. The exposed worker is considered susceptible (no history of positive test to HIV, Hep B or Hep C).
   2. Get First Aid Immediately
      1. For Blood or Body Fluid Contact from Sharps, Injury or Bite:
         1. Let the wound bleed freely,
         2. Promote bleeding by putting the affected area low to the ground,
         3. Wash the affected area thoroughly with mild soap and water,
         4. Seek medical attention immediately.
      2. For Blood or Body Fluid Contact with Non-Intact Skin or Mucous Membranes (eyes, mouth, nose):
         1. Flush the affected area with large amounts of water at a sink or eyewash station,
         2. Seek medical attention immediately.
      3. For Blood or Body Fluid Contact with Intact Skin:
         1. When exposed to potentially infectious blood or body fluids as a result of a splash or other mishap, immediately wash the fluid from the skin with soap and water.
         2. Avoid the use of harsh abrasive cleaners, as these can lead to dermatitis.
         3. Do not use bleach or any other caustic disinfectant on the skin.
         4. If at a remote worksite use a waterless hand cleaner that contains a disinfectant, then, as soon as it is available, thoroughly wash with soap and water.

**NOTE:** Intact skin is considered to be a good barrier against the transmission of bloodborne pathogens therefore exposure of intact skin to bloodborne pathogens is not normally considered to pose a risk. However, skin should be carefully inspected to ensure that it is intact. If there is any doubt seek medical attention.

* 1. Report the Incident
     1. Report the incident immediately to your supervisor and first aid attendant. **This must not cause any delay in getting medical attention.**
  2. Get Medical Attention Immediately
     1. Medical attention at the nearest hospital Emergency Room should be obtained within 2 hours. Immunizations or medications may be necessary. These may prevent infection or favourably alter the course of the disease if you do become infected.
     2. Seek family physician follow-up as soon as possible after the medical evaluation, if this has been recommended by the Emergency Physician on call.
  3. Complete the Injury/Incident Report
     1. Use the [Organization] Employee Injury/Incident Report to document and report the incident. Submit the form to your supervisor as soon as possible.
  4. It is also recommended that workers who have had a high risk exposure:
     1. Seek medical evaluation of any illness that occurs within 12 weeks after the exposure.
     2. Seek post exposure risk assessment and counseling.
     3. Refrain from blood, plasma, organ, tissue and sperm donations until counseling as to the safety of doing so.
     4. Refrain from sexual intercourse until counseled regarding any potential risk and preventive measures.
     5. Refrain from sharing toothbrushes, razors, needles or other implements that may be contaminated with blood and/or other body fluids.
     6. Avoid becoming pregnant.
     7. Discontinue breast feeding.

**A high risk exposure source is anyone who:**

1. Is a known AIDS or Hepatitis victim

2. Is found to be positive for HIV or Hepatitis infection

3. Refuses to be tested

**An unknown source is considered to be high risk.**

1. **Emergency Procedures**
   1. In the event of an injury or exposure involving a biological agent or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

### Spill Cleanup and Decontamination

**Not a confined space**

**Not a confined space**

**Not a confined space**

1. **Hazards**

|  |  |
| --- | --- |
| * Biological contamination | * Contracting occupational and other diseases, e.g. Hepatitis B, HIV, Influenza |

1. **Tools, Equipment and Personal Protective Equipment Required**

|  |  |
| --- | --- |
| * Disposable gloves | * Water proof garbage bags |
| * Hand washing facilities | * Bleach solution or germicide |
| * Eye/face protection (face shield) | * Disposable shoe covers as required |

1. **Procedure**
   1. The clean-up of biological agents such as blood and other body fluids must be done only by those workers who have been trained to do so and have the proper equipment and personal protective equipment available.
   2. All spills of blood and body fluids should be promptly cleaned up using a solution of an approved germicide or a freshly mixed 1:10 bleach solution.
   3. Restrict access to the area.
   4. Ensure plastic bags are available for removal of contaminated items from the spill site. Have diluted bleach or a germicide ready.
   5. Wear disposable, waterproof gloves, e.g. natural rubber latex, neoprene, or nitrile. Other personal protective equipment such as eye and face protection (face shield) and an impervious (water-proof) apron or gown may be worn to protect against splashes of blood and body fluids and bleach or germicide.
   6. Cover your shoes or boots with disposable, waterproof covers if the shoes could become contaminated during clean up, or wear washable rubber boots.
   7. Carefully pick up and dispose of any sharps according to the safe work procedure for sharps disposal.
   8. Carefully wipe up visible fluid with disposable towels and place in a waterproof garbage bag.
   9. After you have carefully removed all the obvious material, it may be necessary to change gloves.
   10. Decontaminate the area by carefully pouring over the spill site a germicide approved for use as a hospital disinfectant, or a solution of household bleach and water.
       1. A solution of 1 part common household bleach to 10 parts of water (1:10 ratio) will kill HIV and the hepatitis B and C viruses even for large spills. Leave the solution on for about 10 minutes, and then wipe it up with disposable towels, (while wearing proper PPE). Discard the towels in the waterproof garbage bag.

**Caution: Do not mix chemicals such as bleach and ammonia.**

* 1. Clean and decontaminate reusable equipment and supplies using the germicide or bleach solution. Discard any disposable items in the waterproof garbage bag.
  2. Wear gloves to remove other PPE such as face shields and footwear covers. Discard any disposable PPE, e.g. aprons, boot covers, into the garbage bag. Clean and decontaminate reusable PPE, e.g. face shields, according to the manufacturer's directions.
  3. Properly remove and dispose of your gloves in the garbage bag. Then place the garbage bag inside a second bag, tie off and immediately dispose of it in an external garbage container for removal.
  4. Thoroughly wash your hands as per the safe work procedure.

1. **Emergency Procedures**
   1. In the event of an injury or exposure involving biohazardous material or potentially infectious material contact the First Aid Attendant and seek medical attention immediately.

## Appendix C - Harmful Contact Report

A harmful contact includes situations where an injury penetrates through intact skin, e.g. via a needle stick injury, or comes in contact with a mucous membrane (eyes, nose or mouth), or non-intact skin contact exposes a worker to blood or other potentially infectious material. Non-intact skin includes a healing wound less than 3 days old or acute dermatitis, or chapped or scraped skin.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site: |  | | | Date: |  | | Time: |  |
| Name of Potentially Exposed Worker: | | | | |  | | | |
| Department: | |  | | | Telephone: |  | | |
| Job Description: | | |  | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
| Please describe the exposure as fully as possible (time, people involved, equipment involved, and type of exposure). Use both sides of form if more space is required. | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
| Was the incident reported to supervisor? | | | | |  | | | |
| Did the worker attend first aid? | | | | |  | | | |
| Did the worker attend medical aid? | | | | |  | | | |
|  | | | | |  | | | |
| Do you know of any reason why anyone involved in this incident would object to being involved in an investigation into this exposure? | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |

## Appendix D - Fluids Capable of Transmitting Bloodborne Pathogens

|  |  |  |  |
| --- | --- | --- | --- |
| **Fluid** | **HIV** | **HBV** | **HCV** |
| Blood and body fluids visibly contaminated with blood | Yes | Yes | Yes |
| Semen | Yes | Yes | Unlikely |
| Vaginal secretions | Yes | Yes | Unlikely |
| Other internal body fluids, e.g. pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids | Yes | Yes | Yes |
| Saliva | \*Yes  (if contaminated with blood) | Yes | \*Yes  (if contaminated with blood) |
| Tears, sweat, urine or feces | No  (unless visibly contaminated with blood) | No  (unless visibly contaminated with blood) | No  (unless visibly contaminated with blood) |
| Transplanted organs | Yes | Yes | Yes |
| Breast milk | Yes | Unlikely | No \*\* |

\*There is no evidence that saliva alone can cause transmission.

\*\*There is no evidence that breastfeeding transmits Hep C from mother to baby.

Feces, nasal secretions, sputa, tears, urine and vomitus are not implicated in the transmission of HIV, HBV and HCV unless visibly contaminated with blood.

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

* tissue under the skin, e.g. broken skin following a bite
* non-intact skin, e.g. cut, chapped or abraded skin
* mucous membrane, e.g. eyes, nose or mouth

**Exposure on intact skin does not represent significant exposure.**

**Reference:**

* Public Health Agency of Canada, 2010

## Appendix E - Hepatitis B Fact Sheet

### Information from the BC Ministry of Health

**What Is Hepatitis B?**

* It is a disease caused by a virus.
* The virus attacks the liver.
* While some infections are mild or not even noticed, it can also make you very sick and sometimes you can die.
* It can cause permanent liver damage and scarring.
* It can go on to long-lasting liver disease.
* It is the number one cause of liver cancer.

**How Can You Tell If You Have Hepatitis B?**

* After the virus enters your body, it can take six weeks to six months (but usually 2 – 3 months) to develop signs of illness.
* Half of all people who get hepatitis B can’t tell they have the disease.
* Whether you have signs of illness or not, if you have the virus in your body you can pass it on to others.
* Signs of illness may include tiredness, fever, loss of appetite, nausea, tenderness in the upper right side of the stomach area, dark colored urine, clay colored stools and a yellowing of the skin and eyeballs (jaundice).
* People may feel sick from 1 – 4 weeks but it may be as long as six months before you feel well again.
* Some people are not able to get rid of the virus and carry the virus in their bodies all their lives. These people are called chronic hepatitis B carriers.
* Your doctor can arrange a blood test to diagnose hepatitis B from other types of hepatitis, which have similar symptoms to hepatitis B.

**How Is the Hepatitis B Virus Spread?**

Hepatitis B virus (HBV) is spread from an infected person to another by:

* Blood-to-blood contact, e.g. accidentally poking yourself with a used needle and syringe or sharing needles or “rigs”.
* Intimate sexual contact.
* Sharing a toothbrush or razor (much less common).
* Infected mother to newborn during delivery. HBV infection can be prevented in almost all newborns by giving the baby Hepatitis B Immune Globulin and hepatitis B vaccine at birth.
* In many undeveloped countries, testing for hepatitis B virus is not done for pregnant women, nor are children routinely offered hepatitis B vaccine. Parents/caregivers or guardians of infants and children from these countries, including internationally adopted children, should have HBV testing for these children.

Hepatitis B Is NOT spread by sneezing, coughing, hugging or using the same dishes or cutlery.

**Is There a Treatment for Chronic Hepatitis B Infection?**

There is treatment available that can help some people with chronic hepatitis. For additional information on treatment, see your family doctor.

**How Can You Protect Yourself From Infection With the Hepatitis B Virus?**

* Vaccines are available for the prevention of Hep B. This is the best way to protect yourself.
* Try to eliminate risky behaviours, such as unprotected sex and injecting drugs.
* Avoid sharing personal items likely to become infected with blood. These include toothbrushes and razors.
* Tattooing and body piercing are also possible transmission pathways, so careful thought of the person performing these procedures is recommended. Unless the equipment is cleaned and sterilized effectively, the blood of an infected person may still be present.
* Wear proper personal protective equipment if there is risk of exposure at work. Workers likely to be exposed to blood, blood products, or other bodily fluids are advised to be vaccinated against HBV.

If you have recently been exposed to the hepatitis B virus, contact your public health unit or doctor as soon as possible. You may be eligible for hepatitis B vaccine and they may be able to offer you a product which offers additional protection against hepatitis B virus.

The BC Ministry of Health has implemented a long-term strategy to control this disease in the population by immunizing the following infants and children:

* Infants starting at 2 months of age born on or after January 1, 2001
* Children under 7 years of age currently living in Canada whose families have immigrated from areas of high hepatitis B infection, e.g. Asia and Africa
* Children under 12 years of age whose families are newly arrived immigrants (within the last year) to Canada from areas of high hepatitis B infection
* Children who live with persons having acute or chronic hepatitis B infection
* All grade 6 students
* Children under 7 years of age who live with people who are at high risk of getting hepatitis B infection, e.g. intravenous drug users, men who have sex with men, sex trade workers, etc.