
Guide to Prevention and Control of Infectious Diseases in the Workplace



2007

A Joint Initiative



BC Government and
Service Employees' Union



BC Public Service Agency

Acknowledgements

This booklet has been developed from the combined efforts of:

The BC Public Service Agency

Corporate Health and Safety, represented by:

Dianne Casper, OHS Advisor (Pre April 2003)
Richard Golob, OHS Advisor

Occupational Health Programs, represented by:

Maraleen Buchanan, OHN (Pre April 2003)
Joyce Tobo, OHN

BC Government and Services Employees Union

Represented by:

Mona Sykes, OHS Officer
Thanks to Lori Strom for her time in reviewing content

Consultant:

Ross Occupational Hygiene Consulting

Information contained within this guide was current at the time of publication. This document will be reviewed annually and updated as required.

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1.1 Introduction

This guide was developed as a joint venture of the BC Public Service Agency, Government of British Columbia and the BC Government and Service Employees' Union. The objective of this booklet is to provide the workplace with prevention and control measures that will assist in protecting employees from anticipated occupational exposure to infectious diseases in the workplace.

Most people generally have a low risk of contracting a serious infectious disease in the course of their everyday life. It is recognized that Public Service employees in some occupations may have an increased risk of contracting an infectious disease as a result of various risk factors while at work or because of the nature of the job duties or work environment.

Infection prevention and control is not a stand alone program. It is just one segment of a ministry's Occupational Health and Safety Program. Policies and procedures relating to infection control should be consistent with the rest of the ministry's Occupational Health and Safety Program.

General awareness and education is essential for assisting employees to understand potential exposure to infectious diseases, how they are transmitted, and know what to do if an accidental exposure does occur in the workplace.

That's where this Guide comes in . . .



1.2 Who should read this guide?

This booklet is for all managers, supervisors, employees and Joint Health and Safety committees of the BC Public Service where potential occupational exposure to blood or body fluids and other infectious diseases may occur through normal job activities or from an unexpected accidental exposure.

Are you aware of co-workers involved with these job activities and possibly exposed to some of these infectious diseases?

- > First aid
- > Health care
- > Law enforcement or corrections

HIV virus
Hepatitis B and C
virus

- > Wilderness work areas
- > Animal contact

Rabies
Hantavirus
“Beaver Fever”

This Guide is intended to serve several functions:

- > How to develop an Infection Prevention and Control Program specific to your needs
- > Inform employees about potential exposure to infectious diseases and how to prevent infection
- > What to do if an exposure occurs

What does this guide cover?

- > When an infection prevention and control program is required
- > Identifies potential infectious hazards associated with occupations and tasks in our workplaces
- > How to get vaccinations, post-exposure health management and medical monitoring
- > Education of the health effects associated with infection
- > What to do if an exposure occurs
- > How to conduct a risk identification investigation and risk assessment using the provided tools
- > Recommends effective procedures to prevent exposure to infectious diseases
- > Educates employees on occupational risk
- > What types of records should be kept and how to use them
- > Where to go for more information

This Guide will help the ministry’s managers, supervisors, employees and Joint Health and Safety committees to:

- > Understand basic terms and concepts relating to infectious diseases
- > Understand health effects and how infectious diseases are spread at the workplace
- > Develop and implement a plan to eliminate or minimize the risk of exposure

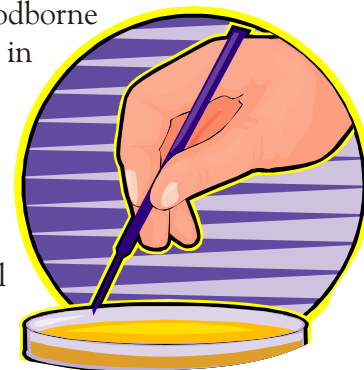
This material will provide compliance with Article 22.12 of the Master Agreement ([Appendix 1](#)) and the Workers' Compensation Board of BC Occupational Health and Safety Regulation ([Appendix 2](#)).

1.3 Definitions and Common Terms

The Guide uses common terms and definitions that may not be familiar to everyone. However, these terms are commonly used in describing infectious diseases by public health and other medical authorities. Additional terms are listed in the Glossary ([Appendix 15](#)).

Biohazardous materials: means a pathogenic organism, including a bloodborne pathogen, which due to its known or reasonable ability to cause disease in humans would be classified as a Risk Group 2, 3 or 4 as defined by the Medical Research Council of Canada or any material contaminated by such an organism.

Communicable disease (infectious disease): an illness due to an infectious agent or its toxic products being transmitted directly into a healthy individual from an infected individual or animal, or indirectly transmitted through an intermediate animal host (vector) or inanimate environment.



Harmful contact – bloodborne pathogens: situations where an injury penetrates through intact skin (needle stick injury), or a mucous membrane (eyes, nose or mouth); or non-intact skin (cut, rash or sore) contact exposes a worker to blood or other potentially infectious material.

Infection: the entry and development or multiplication of a pathogen in the body of a living organism and multiplies at a rate sufficient to maintain its numbers with or without disease in the host.

Infectious Disease Control: is a process to eliminate or minimize the exposure and transmission of pathogens to prevent infection.

Infection Prevention and Control Program: is a set of policies and exposure control plans that form a comprehensive strategy to prevent and control infectious diseases in the workplace. It is part of the broader ministry Occupational Health and Safety Program.

Occupational Exposure: is the reasonably anticipated harmful contact with blood or other potentially infectious/biohazardous material that may result from the performance of a worker's duties.

Pathogen: an organism that causes disease in humans.

Universal Precautions (Standard Precautions): require that all human blood and other potentially infectious body fluids be treated as if it were known to be infectious. Standard precautions is the current term used in public health.

Exposure Control Plan: comprehensive safe work procedure that addresses the risk of exposure and integrates multiple measures to control and prevent exposure. Some measures include engineering controls, administrative controls, personal protective equipment, training and written work procedures.

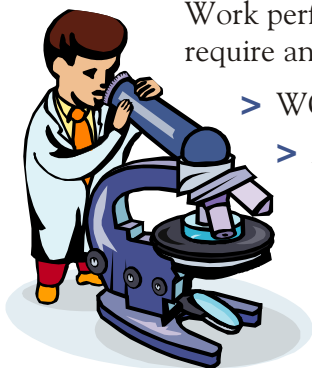
Work Practice Controls (Exposure Control Procedures, Administrative Controls): methods of controlling exposure that do not require specialized equipment. Examples: wash hands for 10 minutes with warm water and soap if blood contacted skin; barricade around area with blood spill to prevent others from walking in and spreading blood around.

2 How to Develop an Infection Prevention and Control Program

This chapter of the Guide is to help you develop your own Infection Prevention and Control Program so that there is a clear understanding of the contents and layout of the Program and to achieve a common standard among ministries.

2.1 Who Needs an Infection Prevention and Control Program (IPCP)?

Every ministry large enough to require a designated first aid attendant will require a basic Infection Prevention and Control Program (IPCP) because it is required whenever exposure to bloodborne pathogens is anticipated. Other ministries or facilities will require extensive Infection Prevention and Control Programs if there are many anticipated routes of contact to blood or body fluids, contact with respiratory diseases, human or animal feces or animal bites. Work performed by a particular area determines what is required in the IPCP. You will require an IPCP if one or more of the following points apply to your ministry or workplace:



- > WCB OH&S Regulation requires a First Aid Attendant
- > Anticipated exposure to blood and body fluids
- > Provincial Joint Occupational Safety and Health Committee agreed to a particular facility or job task that is at risk ([Appendix 3](#))
- > Anticipated exposure to human feces
- > Anticipated prolonged work in the wilderness
- > Working in a laboratory

2.2 Who is responsible in my Ministry to Develop an IPCP?

Each ministry is free to decide which organizational sub-level has responsibility for developing the IPCP. However, facilities listed in [Appendix 3](#) are responsible for creating a facility specific IPCP. Supervisors who have staff with job classifications or who participate in job tasks that match any in [Appendix 3](#) must instigate the development of their own IPCP or determine who is responsible in their ministry to develop the document.

2.3 Infection Prevention and Control Program Requirements

Infection Prevention and Control Programs require the following sections so that they comply with the WCB OH&S Regulation:

- > Responsibilities
- > Risk Identification and Assessment
- > Exposure Control Plan(s)
- > Education and Training

- > Health Protection
- > Records
- > Program Evaluation

To ensure there is common content among ministries and compliance with the WCB there is a template IPCP, located in **Appendix 4 – Infection Prevention and Control Plan** to simplify the development of the Program. Customization of each section is required to make the IPCP relevant to the workplace it is intended for.



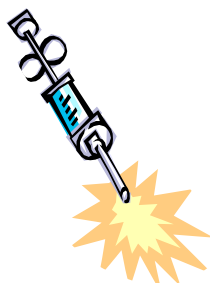
Since many ministries have only First Aid attendants to consider, the template IPCP only covers First Aid attendants, but can be expanded for the more extensive requirements of other ministries or facilities.

2.4 Requirements of the Responsibilities Section

The Responsibilities section should document the division of responsibilities within the IPCP. This section should be modified to reflect job titles recognized by employees in the branch or facility. Provided below are general responsibilities that are duplicated in the IPCP template. Responsibilities in the IPCP should remain fairly general and very specific responsibilities should be documented within an Exposure Control Plan that is part of the Program. For example, who is responsible for restocking the first aid supplies in the first aid room? This level of detail specific to first aid is best documented in the Designated First Aid Attendant Exposure Control Plan.

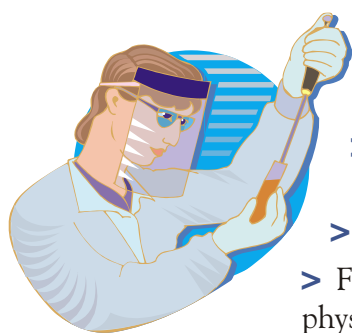
Managers and supervisors have the responsibility to:

- > Ensure the development, implementation and maintenance of the Infection Prevention and Control Program;
- > List all job classifications (occupations or job titles) and job tasks where there are risks of exposure to infectious diseases;
- > Ensure the risk identification process and risk assessments are completed and documented;
- > Ensure the development and implementation of control methods and written procedures are completed;
- > Ensure all necessary equipment/personal protective equipment (PPE) and training is provided to employees at risk of exposure;
- > Encourage eligible employees to be vaccinated for Hepatitis B;
- > Maintain records as required by the program;
Record of Offer of Vaccination form documenting compliance or noncompliance to the program on all newly hired and currently employed employees;
- > Monitor the workplace to ensure that safe work procedures are followed;
- > Investigate and report accidental exposures to infectious diseases;
- > Consult with the local Joint OH&S committee regarding Exposure Control Plans (ECP) and personal protective equipment (PPE) at least annually;



- > Ensure education and training on workplace specific infectious diseases and the exposure control plans are conducted periodically;
- > Consult with the Joint Safety and Health Committee and Occupational Health Programs on challenging issues; and,
- > Report all infectious disease exposure to OH programs especially those related to TB and blood and body fluids.

Employees:



- > Follow safe work procedures to prevent or minimize the potential for exposure to infectious disease;
- > Wear personal protective equipment as required and using it as instructed;
- > Utilize standard precautions in all situations where the risk of exposure to blood and body fluids may be present;
- > Participate in education and training sessions relating to the prevention of transmission of infectious disease;
- > Report incidents of exposure to infectious disease to the employer and OHP;
- > Follow specified pre-and post exposure procedures in consultation with the family physician and OHP;
- > Follow proper response procedures, including clean up;
- > Dispose of all sharps (e.g. used needles, broken glass, and razor blades) in sharps containers, and;
- > Obtain immediate first aid and medical treatment when required.

Joint Occupational Health and Safety Committee:

- > Participate in developing hazard awareness at the workplace;
- > Promote participation of education and training on workplace specific infectious diseases and the exposure control plans;
- > Monitor the workplace to ensure that effective safe work procedures are developed and implemented;
- > Participate in accident/incident investigations of exposures to infectious diseases;
- > Review safe work practices and make recommendations for improvements;
- > Provide recommendations regarding tools, equipment and personal protective equipment; and,
- > Participate in infection control program review.



2.5 Requirements of the Risk Identification and Risk Assessment Section

The WCB requires job classifications and job tasks to be listed where a potential for workers to be exposed to infectious diseases exists. The WCB required list will be documented in this section of the IPCP. A summary of infectious hazards employees are potentially exposed to will be included in the list. By adding the infectious hazard, it is easier to determine which job classifications are at risk to one or multiple infectious hazards present in the workplace.

The following table is an example of what is expected in the Risk Identification and Risk Assessment section for a basic IPCP. See a complete example of an IPCP in [Appendix 4](#).

“Ministry X”

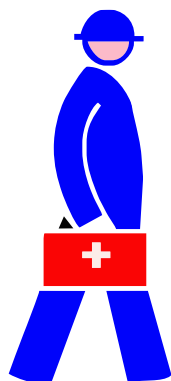
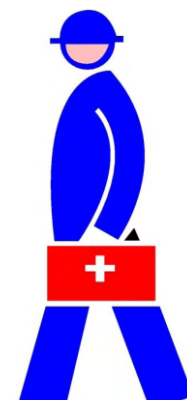
Job Classifications	Task	Hazard Group
Designated First Aid Attendant	First aid	Blood and body fluid

Under the Job Classification heading, the listed classification may be customized to identify the actual position that performs first aid attendant duties, for example security personnel may be responsible for first aid.

A more extensive example of a Risk Identification and Risk Assessment section is shown below. Several job classifications have been listed with multiple tasks. Some tasks are at risk of exposure to more than one infectious hazard, like riot control. This Risk Identification and Risk Assessment section should not be considered to be factual but it is used to demonstrate multiple job classifications, tasks and infectious hazards.

Ministry of Public Safety and Solicitor General, BC Corrections Branch

Job Classifications	Task	Hazard Group
Designated First Aid Attendant	First aid	Blood and body fluid
Correctional Officer series Deputy Sheriffs Probation Officers	Restraining clients Searching suspects Searching property	Blood and body fluid
Correctional Officer series Deputy Sheriffs Probation Officers	Riot control	Blood and body fluid, Feces
Correction Officer series	Direct patient care	Blood and body fluid
Correction Officer series	Known contact with a person who has active TB	Respiratory



2.5.1 How to Complete the Risk Identification process.

The next several sections walk users through the risk identification and risk assessment process so that it meets the requirements of the WCB and agreements of the Provincial Joint Health and Safety Committee. At the end of the process the IPCP Risk Identification and Risk Assessment section table should be completed with the necessary Job Classifications, Job Tasks and Hazard Group.

Risk identification requires 3 steps:

1. Identifying the hazard group(s) of concern
2. Identifying the job task(s) with exposure
3. Identifying the job classification(s) exposed



2.5.2 Identifying Infectious Disease hazard group

Table 1 lists the infectious disease hazard group that can pose an occupational health risk. Four hazard groups were created to simplify and categorize infectious diseases and to make the guide easier to read and to document in the IPCP. Users of the Guide should become familiar with diseases in each Hazard Group. To learn more about the infectious diseases listed below, see chapter 5 in this Guide.

Table 1. Infectious diseases assigned to different Hazard Groups

Hazard Groups	Infectious Diseases (source)
Blood and body fluid	<ul style="list-style-type: none"> > HIV > Hepatitis B > Hepatitis C <p>(human blood)</p>
Respiratory	<ul style="list-style-type: none"> > Tuberculosis-TB <p>(human lung fluid)</p>
Animal Vector (Animal carrier required by the pathogen)	<ul style="list-style-type: none"> > Hantavirus > Rabies > Lyme Disease > Cryptosporidiosis > Giardiasis “Beaver Fever” <p>(Deer mouse feces) (Bat saliva) (Tick bites) (Animal feces) (Animal feces)</p>
Laboratory	MRC* Risk Groups 2, 3 and 4 not listed above. See Appendix I 6 use a link
	New entries to be added by Occupational Health Programs in accordance with changes to Public Health regulations.

*Canadian Medical Research Council (MRC)

Is there a hazard group, in the table above that workers are potentially exposed to in your workplace?

If yes, then continue to the next section.

If no, then consult with Occupational Health Programs (OHP) to discuss your exposure concerns with them and your local joint OH&S committee.

Risk identification for hazard groups is an ongoing process as new diseases are constantly emerging and being identified. Infectious diseases that are not on the list will be added by Occupational Health Programs in accordance with changes to Public Health regulations.

2.5.3 Identifying Job Tasks and Job Classifications

The Provincial Joint OH&S Committee agreed on a number of job tasks and job classifications that will help speed up the development of the IPCP in many cases. The approved job tasks and job classifications are in Tables 2 and 3 below, if a job task is not found and it is significantly different from any job task listed below, the full Risk Identification and Risk Assessment process will have to be completed.



Job tasks and job classifications found in the tables below do not require Risk Identification and Risk Assessment process documentation since these items have been studied by the Provincial Joint OH&S Committee and Occupational Health Programs. Their assessment of the risk was significant enough to make a Province wide determination for BC Public Service employees. However, completing the Risk Identification and Risk Assessment documentation may help you to set priorities for developing exposure control plans and determining resources required for the implementation of the exposure control plans.

Table 2. Job classification and job task list agreed on by the Provincial Joint OH&S Committee.

Job Classifications	Job Tasks	Hazard Group
Designated first aid attendant	> Any facility that requires a Designated First Aid Attendant (per WCB OH&S Regulation)	Blood and body fluid
Correctional Officer series Deputy Sheriffs	> Restraining clients who may react in a violent manner > Searching suspects > Searching property > Riot control	Blood and body fluid
Health Care workers Nurses Activity workers	> Providing direct patient care > Handling blood, body fluids or contaminated materials > Restraining patients who may react in a violent manner	Blood and body fluid
Laboratory workers	> Taking blood samples	Blood and body fluid
Central Supply workers	> Handling blood, body fluids or contaminated materials	Blood and body fluid
Security workers	> Restraining patients who may react in a violent manner	Blood and body fluid
	New entries to be approved by the Provincial Joint OH& S committee in consultation with Occupational Health Programs	

If a Job Classification and Job Task match all the requirements of your workplace, just copy the text from the table into your IPCP Risk Identification and Risk Assessment section and

then it is complete. You can then skip ahead to section 2.6 “How to Develop an Exposure Control Plan.” If it does not match, continue reading all sections.

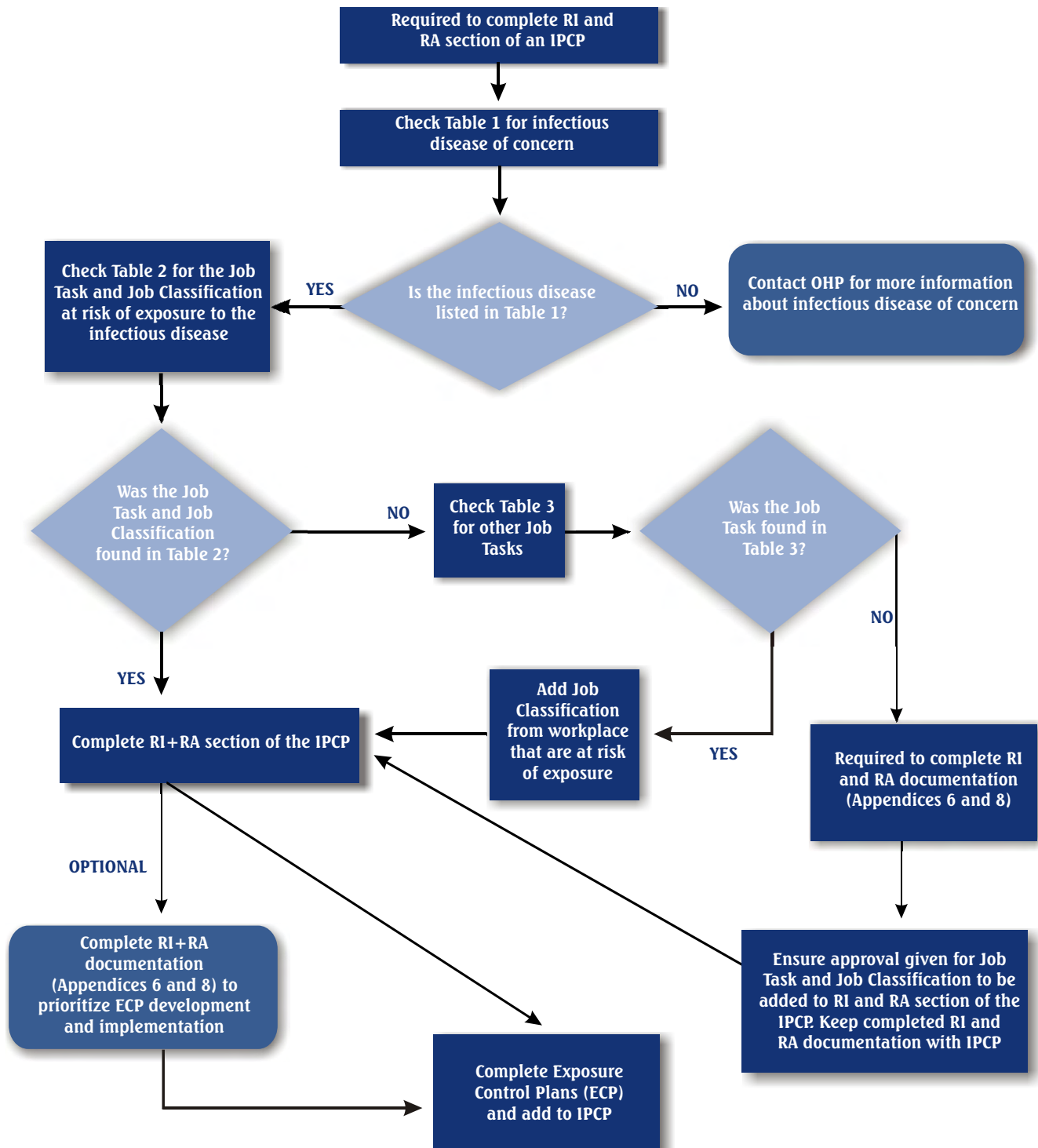
If there are Job Tasks in Table 3 that match the duties of one or more positions at the workplace, add them all to the IPCP Risk Identification and Risk Assessment section. This should include union and excluded job classifications. If there is a job task that is anticipated to be at risk of exposure and is not in Table 3 then the Risk Identification and Risk Assessment process documentation will have to be completed for that job task and classification.

The following sections discuss how to complete the Risk Identification and Risk Assessment documentation.

Table 3. Job Task list agreed on by the Provincial Joint OH&S Committee. Job Tasks must be matched with Job Classifications at risk to meet the requirements of the WCB.

Job Classifications	Job Tasks	Hazard Group
Determined by user	Direct personal care to others	Blood and body fluid
Determined by user	Taking blood samples	Blood and body fluid
Determined by user	Providing injections or working with intravenous supplies	Blood and body fluid
Determined by user	Handling blood and other body fluids or contaminated materials	Blood and body fluid
Determined by user	Handling materials contaminated with blood or body fluids	Blood and body fluid
Determined by user	Restraining violent patients/clients where blood or body fluid exposure occurs	Blood and body fluid
Determined by user	Direct patient care or working in a medical unit that has patients with active pulmonary tuberculosis	Respiratory
Determined by user	Known contact with a person who has active infectious pulmonary tuberculosis	Respiratory
Determined by user	Working in the wilderness or frequent contact with wild animals or rodents	Animal vector
Determined by user	Working in a building known to be infested with mice	Animal vector
Determined by user	Trapping and/or studying animals	Animal vector
Determined by user	Drinking unboiled water from lakes or streams that have been contaminated by infected animals	Animal vector
Determined by user	Working outdoors in areas potentially infested with ticks	Animal vector
	New entries to be approved by the Provincial Joint OH&S Committee in consultation with Occupational Health Programs. ***	

Development flow chart for the Infection Prevention and Control Program's (IPCP) Risk Identification (RI) and Risk Assessment (RA) section.



How to Complete the Risk Identification Documentation

To complete the Risk Identification documentation, follow the steps below:

Photocopy or print:

- > Appendix 5 – Risk Identification Worksheet
- > Appendix 6 – Example Risk Identification Worksheet

Review the Example Worksheet to see what is expected in the documentation.

Complete the section of the worksheet that identifies who the risk of exposure applies to and then from left to right complete the rest of the worksheet. The major sections are introduced below with bold headings.

Job Task

State one job task at a time and name the job task as it is popularly known in the work place.

Describe the job task accurately so unfamiliar readers understand what is going on.

Describe details that may contribute to potential contact with the infectious disease.

Describe personal protective equipment that is worn that may reduce the chance of contact.

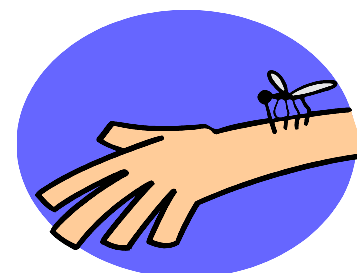
Route of Contact

Review Table 1, Table 4 and Chapter 5 to be familiar with the potential routes of contact for the infectious diseases.

Table 4. Route of Contact explanations for the Risk Identification Worksheet

Needle stick or sharp	Puncture or cutting of the skin by object
Non-intact skin	Open cut, sore or rash contact with blood or body fluid
Human bite	Human bite to skin
Mucous membrane	Blood or body fluid contacting eyes, nose or mouth
Feces	Hepatitis A contaminated feces contacting mouth
Air	Contact with lung aerosol and spit generated from coughing while TB is active and infectious
Urine, saliva, feces	Contact by skin, ingestion and/or inhaling dusts of animal urine, saliva or feces
Contaminated water	Ingesting water contaminated by animal feces
Bite/Scratch	Contact with animal biting or scratching skin

Mark an “X” in the appropriate routes of entry choices within the Hazard Group. More than one X may be made within a Hazard Group.



Risk Identified through

The risk of exposure may be identified through three possible sources:

- > a job task analysis
- > previous exposure at the workplace or in the public service
- > Occupational Health Programs consultation



Mark an “X” in the appropriate column to identify the risk source

This section is significant because it impacts the risk assessment:

- > A Job Task Analysis dissects a job to see where problems could happen, it is based on “what if” scenarios (some people find them frustrating) but they are useful for considering a range of possible situations that occur in the workplace.

In the Example Worksheet of the “gardening” job task an employee contacted the contents of a condom that was considered an exposure. The Job Task Analysis could also consider the possibility of a needle in the garden, the potential consequence for this situation could be much worse for the employee.

There may be reasons to reduce the significance of Job Tasks Analyses in the risk assessment but they can be useful.

- > If a previous exposure was reported, it is important to consider this information for the risk assessment since it probably was not a “one in a million chance” that the exposure occurred.
- > Consultation with Occupational Health Programs can also provide additional information regarding the job task or details associated with the job task.

2.5.4 What is the Purpose of the Risk Assessment?



There are several purposes for the risk assessment:

- > To meet WCB requirements for conducting risk assessments.
- > Draw attention to job tasks and occupations at risk for training purposes.
- > Prioritize the development of exposure control plans when there are multiple job tasks that are at risk of exposure.

There is no right or wrong way to complete a risk assessment! The risk assessment is a useful tool to help guide future decisions and to set priorities. Try not to worry about the outcome of the assessment but consider the reality of the workplace and what seems to make sense when comparing workplace risks.

Generally, try not to repeatedly refine the outcomes of the risk assessment. This time is better spent devising solutions for the exposure control plan since these efforts will make the workplace safer.

2.5.5 How to Complete the Risk Assessment Documentation

To complete the Risk Assessment documentation, follow the steps below:

Photocopy or print:

- > **Appendix 7 – Risk Assessment Worksheet**
- > **Appendix 8 – Example Risk Assessment Worksheet**
- > **Appendix 9 – Risk Assessment Score Table for Infectious Diseases**

Review the Example Worksheet and the Score Table to help you see how it is completed. You will notice that scores from the Score Table are used to approximate risk factors of the job task.

Complete the section of the worksheet that identifies who the risk assessment applies to and then from left to right complete the rest of the worksheet.

Copy the Job Task name used on the Identification Worksheet and add concise information regarding exposure circumstances, severity and frequency. This information documents and supports the risk score that is chosen in the following columns.

There are three columns labeled **Likelihood**, **Frequency**, and **Consequence** where scores will be entered according to the criteria found in **Appendix 9 – Risk Assessment Score Table for Infectious Diseases**.

Read your documentation entered in the first column of the Assessment Worksheet and choose risk scores that seem reasonable based on the score's criteria (Score Table).

Consider the Example (**Appendix 8**), for the “gardening” job task the likelihood score is higher for the possible needle stick injury than for contact with non-intact skin. Why? A needle stick injury is known to be a more effective route of transmission than through non-intact skin, the risks are greater for needle stick injuries for contracting a bloodborne infectious disease.

Choose a score from the Frequency section that seems most appropriate for the situation. This can be difficult for events that have never happened. However, if there have been near misses then there is evidence to conclude the event is not unique.

2.5.6 Choose a Rating for the Consequence Section

Multiply the three scores together to obtain a Risk Score.

Compare the **Risk Score** with the **Risk Assessment Rating Table** at the very bottom of **Appendix 9** to subjectively rate the risk of exposure as low, moderate or high.

In the score criteria boxes, in the **Risk Assessment Score Table for Infectious Diseases**, there is additional information in brackets to provide some guidance on how to score. This is for basic guidance in situations where there is local knowledge of conditions, rates of disease

in the population served, disease outbreaks, or local experts available, risk scores should be used to account for the local situation and expertise.

It is acceptable to extrapolate scores if you feel that the provided options do not satisfy your concern. For example, extrapolating between 6 and 3 in the Frequency section may be done by using 5 if a task is done 3 times a day once per week.



2.5.7 What does the Risk Assessment Rating mean?

The Risk Assessment Rating is a way to approximately compare the risks of different job tasks and to try to prioritize which exposure control plans will be developed first.

The low, moderate and high ratings could be added to the exposure control plans to draw attention to them and they could be used to help train new employees to alert them to more hazardous job tasks.

If many job tasks all have the same Risk Assessment Rating the Risk Score could be used to prioritize the next step. Job tasks with higher Risk Scores may be addressed before other tasks.

The following text boxes provide additional things to consider when deciding on risk scores.

<p>What is the likelihood of exposure?</p>	<p>How likely is an incident to occur? Is an exposure expected, 50/50 chance or remotely possible?</p> <p>Is the exposure reasonably anticipated? If the risk for exposure at work is remote, then harmful contact to the infectious disease is not reasonably anticipated.</p> <p>This means that if the work duties do not place the employee at risk of exposure to infectious materials then it is very unlikely that there is risk to those employees.</p> <p>The historical review of first aid incidents, WCB records and incident investigations will assist in this area of risk assessment. Records of assaults that result in bleeding are significant whereas verbal assaults would be less hazardous.</p> <p>Reviewing studies may provide insight for potential risks. For health care settings see: http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03vol29/dr2924ea.html</p> <p>Is the job task being performed in an emergency situation? Emergency situations are often more at risk for blood borne pathogen exposures</p> <p>What is the prevalence of infection in the client population? Inmates in Correctional facilities have a high incidence of blood borne pathogen infections.</p>
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<p>What are the consequences of the hazard?</p>	<p>Is the consequence minor in nature and most likely to have short-term health effects?</p> <p>What health effects can be anticipated from bloodborne or biohazardous materials? (e.g. Hepatitis, tuberculosis, AIDS or parasite infections from contaminated water)</p> <p>Are there serious health hazards, fatalities or permanent disability from exposure?</p>
<p>Has a harmful contact occurred?</p>	<p>Harmful contact is defined as an exposure incident with blood or other potentially infectious material through:</p> <ul style="list-style-type: none"> > Percutaneous injury (injury through the skin from a contaminated sharp item such as a needle) or bites when the skin is broken or > Contact with the mucous membranes of the eyes, nose, or mouth or > Contact with non-intact skin (wounds less than three days old) such as cuts nicks, abrasions, chapped skin, eczema, or dermatitis. <p>This means that for an occupational exposure to occur, the employee must come in direct contact with another person's blood or body fluids during the performance of the employee's duties</p>
<p>Does the exposure result from specific work duties?</p>	<p>What are the specific bloodborne substances to which employees may be exposed? (e.g. Blood, any body fluids with visible blood, vaginal secretions and semen)</p> <p>How can that exposure occur? (e.g. spills or accidental needle sticks from garbage handling, Providing direct patient care (Nurses, Health Care Workers))</p> <p>What are the specific work methods or procedures, which may result in exposure to the employee? (e.g. giving injections, taking blood samples, laundry workers handling clothing that may be contaminated with blood)</p> <p>Who are the people at risk for the exposure? (e.g. housekeepers, corrections, health care workers or parks employees)</p> <p>Did the exposure result from an incident of violence which causes bleeding (e.g. bloody saliva and a bite that breaks the skin or during restraint activities where the client's blood comes into contact with the employee's non-intact skin)</p>



2.6 How to develop an Exposure Control Plan

An Exposure Control Plan (ECP) is required to have or consider certain elements listed in the WCB OH&S Regulation. It is anticipated that some ministries or facilities will have multiple ECPs but there will be considerable duplication of information in the ECPs. To avoid the unnecessary duplication common elements will be kept in the Infection Prevention and Control Program (IPCP) and specific information related to exposure control will be in the ECP.

WCB Element in ECP	Terminology and Documentation used in the IPCP and ECP.
Statement of purpose	Reason for the ECP, written in ECP only
Statement of responsibilities	General responsibilities listed in IPCP Specific responsibilities listed in ECP
Risk Identification Risk Assessment	All Risk information listed in IPCP ECP will list specific Risk Identification details
Control / Written Procedures	ECP will detail all controls and written procedures. May keep common written procedures in IPCP if there are many ECPs
Hygiene and Decontamination Facilities	ECP will detail all hygiene and decontamination facility issues May detail in IPCP if common to many ECPs
Education and Training	ECP refers to IPCP Education and Training details
Health Monitoring	ECP refers to IPCP for Health Protection details
Documentation	ECP refers to IPCP for Records details
Review	ECP refers to IPCP for Evaluation

A complete Exposure Control Plan is in **Appendix 10 – Bloodborne Pathogens for Designated First Aid Attendants (DFAAs)**. The ECP is provided for two reasons:

- > To assist ministries who only require an IPCP because of their first aid responsibilities.
- > To help other ministries or facilities model their exposure control plans on the example.

Detailed descriptions about how to develop an ECP cannot be provided since every job task may require substantially different requirements or resources in the ECP. Consider the advice below to help and refer to **Appendix 10** for developing your own ECP from **Appendix 11 – Exposure Control Plan Template**.



Focus the ECP on how to control exposure from the employee's perspective and make it as easy to understand as possible. Make it short! Reader's interest, comprehension and patience are important if ECP to be of any use by workers.

Work through control hierarchy and think outside the box about the way the job is done:

Substitution or elimination: can the job be avoided?

Engineering: is there a tool or new technology that can replace the old way of doing things that have a potential for exposure.

Administrative: can work scheduling change the risk of exposure? For example, should two employees restrain a difficult client instead of one. Policies or practices must be documented to retain the knowledge of doing a job task in a new way that reduces exposure risks.

Personal Protective Equipment (PPE): is there new or better equipment available. PPE is often the main defenses against biohazards.

Exposure Control Plan Hierarchy	Examples of controls for infectious diseases
Elimination or Substitution	Hire experts to control/clean up biohazards Avoid areas where animal vector present
Engineering	Tongs or other tools Sharps containers Good ventilation (TB) Leak/puncture proof container-wheeled (contaminated laundry, public/suspect garbage collection) Available cleaning facilities Autoclave
Administrative (work practice controls)	Washing hands policy Always use PPE policy Partner-up/contact security for difficult clients Restraints for difficult clients Boil water policy for wilderness travel Bleach concentration for decontamination Redesign of the work process
Personal Protective Equipment	Gloves: rubber for liquids, leather for bites/scratches Face shields or goggles Respirators: dust masks, ½ face respirators Protective suits, shields, knee-pads

Personal Protective Equipment

Personal protective equipment (PPE) is an important method of controlling the spread of infectious diseases in the workplace. PPE acts as a barrier against skin, eye and other body contact with blood and body fluids or airborne diseases (e.g. TB and Hantavirus). PPE is normally used in conjunction with engineering and work procedure control methods.

WCB Regulation Section 5.55 (3)

The use of protective equipment as the primary means of control is permitted only when

- (a) Substitution or engineering or administrative controls are not practicable, or*
- (b) Additional protection is required because engineering or administrative controls are insufficient to reduce exposure below the applicable exposure limits. (Editorial notation: There are no exposure limits for biohazardous materials)*

The exposure results from temporary or emergency conditions only.

Use of personal protective equipment includes the following measures:



- > First aid attendants are required to use bag valve masks or one-way valve pocket masks, biohazard barrier clothing, protective eye glasses. Medical disposable gloves, (note latex gloves should be avoided due to allergic reactions in some people); and face shields where required.
- > Garbage handling should be done with puncture proof resistant and liquid resistant gloves; and
- > Health care workers should wear medical disposable gloves when performing personal care activities involving blood or body fluids.

It is important to ensure adequate supplies, size selection, and adequate training for employees who are required to use the PPE. Personal protective equipment must also be used even if the exposure is temporary (e.g. spill cleanup). Joint OSH Committee must be consulted regarding selection of personal protective equipment.

Chapter 4 and some parts of Chapter 5 have procedures that can be incorporated into ECPs.

2.6.1 What information is helpful to develop exposure control plans?

There are several things you need to know in order to develop effective exposure control procedures. In most cases, the control methods to reduce exposure to an infectious disease have already been established by others. If more information is required, the following sources will be helpful.

Information Source	Can Help by . . .
Job Description	Identifying job tasks that may pose a risk of exposure
Risk Identification and Risk Assessment Information	Describing the nature and degree of the risk associated with a task
Employee and supervisor input	Ensuring up to date knowledge of how job tasks are carried out, what incidents (including 'near misses') have occurred that indicate a risk is present
Work environment knowledge	Indicating the technical feasibility of implementing control options (e.g.: physical layout, ventilation, etc.)
Information on control options	Identifying how a control option could be applied to the workplace and/or to a job task
Information from other workplaces and sources, such as equipment operating instructions	Showing what has worked elsewhere that could be used or modified at your workplace for the same or a similar hazard Describing the safe use and maintenance of equipment
Health Advisories/OHP	Providing up to date information on infectious diseases, prevention and medical protocols
WCB Regulation requirements	Ensuring you know and understand legal obligations
Internet	Many work procedures are on the internet from reliable sources, use a search engine (www.google.ca) and scan for agencies such as: WCB of BC, other provincial WCBs, Canadian and U.S. Universities Health Canada Safety agencies, CCOHS, NIOSH, OSHA New products and technologies can be found from safety supply companies or hospital supply companies

2.7 What should be in the Education and Training, Health Protection, Records and Program Evaluation Sections of the IPCP.

Follow the layout of **Appendix 4 – Infection Prevention and Control Plan** for these sections.

Education and Training

Education and training requirements should all be listed in the IPCP to centralize educational needs for the Program and ECPs.

Health Protection

Health Protection documentation in the IPCP should address local access to the Hepatitis B vaccine, how to obtain first aid and how to initiate post exposure management of an exposure. Section 3 of this guide covers all aspects of health protection.



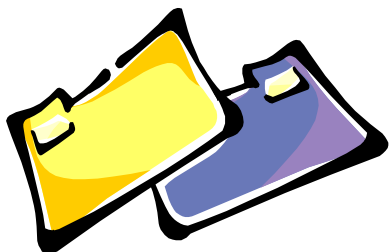
Records and Reporting

Up to date record keeping is important for any effective OHS program. Records and documentation that should be kept with the IPCP includes:

- > Program policy and responsibilities;
- > Exposure control plans; and
- > Risk Identification and Risk Assessment documentation.

Documents required to be kept under the IPCP are the same as other OHS Programs. The location of these documents should be well known in the workplace and may exist in electronic databases as well. The location of all necessary documents should be recorded in the IPCP (**Appendix 4**) to ensure the inventory of documents may be easily found for IPCP evaluation. Documents to be recorded:

- > Education and training records (CHIPS);
- > JOSH Committee Minutes and worker complaints;
- > Incident/accident reports;
- > First Aid records (Kept for 3 years);
- > Referral and follow-up records post exposure (Kept by OHP for the term of employment and 30 years after termination of employment);
- > WCB Claim forms (Form 7, 7A, 6A, and 9) and claims management records;
 - > Confirmation of Vaccination Offer forms (Kept by the Ministry for the term of employment. If employee transfers to another ministry her/his record should be transferred and maintained by the new ministry);
 - > Vaccination records; (Kept by the Ministry and OHP for the term of employment and by OHP for 10 years after termination of employment); and
 - > Post Vaccination Blood Test (Kept by OHP the term of employment and for 30 years after termination of employment).



Evaluation

To ensure that the IPCP continues to protect employees it is required by the WCB OHS Regulation for the Exposure Control Plan(s) to be reviewed at least annually and in consultation with the joint occupational health and safety committee. Ministries or workplaces may want to customize this section to add specific items that they may want to consider during a review.

The following elements might be considered:

- > Changes to work procedures to determine whether or not new risks have developed requiring new identification and risk assessment documentation;
- > If new responsibilities have been acquired then those responsibilities may need to be reviewed to determine if they pose any new risks;
- > If job classifications change or job tasks change, those new duties will be reviewed to determine whether additional training in biohazardous controls are required;
- > If new technology becomes available, which minimizes or eliminates infectious disease risks, that technology should be reviewed by the employer in consultation with the Joint OHS committee to determine if implementation is feasible;
- > Statistics and trends should be reviewed to determine effectiveness of the program (e.g., in the frequency of incidents, accidents, violations, and claims relating to biohazardous material exposures);
- > Identifying and addressing issues that impact exposures (e.g., Incident investigations regarding unsafe work practices, lack of PPE or insufficient training);
- > Evaluating exposure control plans, education and training programs, and records; and
- > Compliance to Hepatitis B immunization program.



2.8 Infection Prevention and Control Program Checklist

Regulatory Requirements for the IPCP where needed. A ☒ mark indicates YES.

- ☒ Has the Ministry determined whether or not employees may be exposed to bloodborne pathogens or other biohazardous materials?
- ☒ Has the Ministry reviewed a list of typical job classifications and job tasks to determine potential exposure?
- ☒ Having reviewed a list of job classifications and job tasks, has the Ministry developed a specific list of job positions and tasks with potential exposure to bloodborne pathogens?

Has the Ministry customized the Infection Prevention and Control Program, and Exposure Control Plan(s) for:

- ☒ A statement of purpose and responsibilities?
- ☒ Risk identification, risk assessment and control?
- ☒ Written work procedures?
- ☒ Education and training of workers?

- ☒ Hygiene facilities and decontamination?
- ☒ Health monitoring where required?
- ☒ Requirements for documentation?
- ☒ Program evaluation?

2.9 WCB Regulation Checklist

Has the Ministry reviewed the list of job positions and tasks with risk of exposure to bloodborne pathogens to determine whether or not:

- ☒ Elimination of the task is practicable?
- ☒ Substitution with a safer procedure is possible?
- ☒ Engineering controls can be implemented?
- ☒ Are engineering controls, administrative controls, or personal protective equipment in place to eliminate or minimize the risk to employees when elimination and substitution cannot be used?
- ☒ Are housekeeping procedures in place to minimize the risk of exposure to bloodborne pathogens or other biohazardous materials?
- ☒ Is training provided to employees about the exposure control plans and how to work safely?
- ☒ Are records kept of training and information sessions for employees?
- ☒ Are standard precautions in place to reduce the risk of exposure to bloodborne pathogens?
- ☒ If the Ministry deals with laundry are procedures in place to identify, isolate and tag contaminated laundry?
- ☒ Are all containers of biohazardous materials properly labeled?
- ☒ Is a vaccination program in place for employees with potential exposure to Hepatitis B?
- ☒ Are employees advised to seek medical help if exposed to bloodborne pathogens?



3 Health Protection

3.1 Introduction

In spite of the best control procedures, accidental exposures can and do occur. Post exposure management of these incidents are critical factors in preventing the development of an infectious disease such as Hepatitis or AIDS. This section covers health protection information of the infection prevention and control program.



Health protection includes vaccination, post exposure health management, reporting procedures and records. Post exposure health management and health monitoring that follow an exposure is a very important part of the infection prevention and control program.

3.2 Vaccinations

Vaccines are used to stimulate the body's defense systems against the infectious disease without the risk of illness. There are many vaccines available. Most people have received vaccinations against diphtheria, tetanus and pertussis as children. Other people received vaccination recommended by public health authorities prior to traveling where they may be exposed to infectious diseases such as cholera or yellow fever. There are also many infectious diseases such as AIDS and Hepatitis C where no vaccines have yet been developed.

One of the factors for health protection against infectious diseases in the workplaces is vaccination against Hepatitis B.

The WCB requirement regarding vaccinations is as follows:

Section 6.38 Vaccinations for Biohazardous Materials states:

Vaccinations against Hepatitis B virus must be made available at no cost to the worker, upon request, for all workers who have, or may have, occupational exposure to Hepatitis B virus.

Under the Master Agreement Article 22.12 the following occupations have been recommended to receive the offer of Hepatitis B vaccinations.

Occupations Recommended for Hepatitis B Vaccination

Correction Officer Series and Deputy Sheriffs
 Laboratory Workers – Riverview
 Security and Central Supply Staff – Riverview
 Registered Nurses and Registered Psychiatric Nurses in Correctional Centres and Health Care Facilities
 Health Care Workers and Activity Workers in these facilities:

- > Provincial Correctional Institutions
- > Forensic Psychiatry Institution
- > Riverview Hospital Facility
- > Lodge at Broadmead
- > Oak Bay Lodge

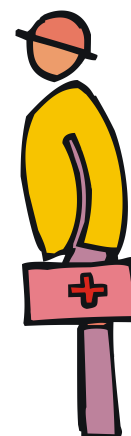
Child and Youth Mental Health and Youth Justice Facilities
 Youth Security Custody Centre
 Youth Open Custody Centre
 Youth Forensic Psychiatric Clinics
 Inpatient Assessment Unit
 Maples Adolescent Centre
 Migrant Youth Services
 Willow Clinic
 Designated First Aid Attendants
Others as determined by the Article 22.2 Committee in consultation with Occupational Health Programs.

3.3 Hepatitis B Pre-Exposure

Although there is no cure for Hepatitis B infection, there is effective protection through vaccinations either before or following exposure to this virus. Vaccination is the process of becoming immune to an infectious disease by establishing resistance to the infectious disease contained in the vaccine.

Anyone can obtain Hepatitis B vaccinations through their family physician as a personal choice. Public health services have introduced a Hepatitis B program in schools and with newborn babies. In the workplace, the vaccine is offered only to those employees where reasonable expectations of occupational exposure occur through their job duties. This is a voluntary program by the employee.

Hepatitis B vaccinations are recommended for specific groups of employees as a precautionary method of health protection.



3.4 Hepatitis B Post-Exposure

Hepatitis B vaccination is also available for health protection when accidental exposure occurs through harmful contact for non-vaccinated employees.

Once the exposure incident has been medically assessed, the physician will determine an appropriate course of treatment. Vaccination should always be initiated at the time of accidental exposure. At the same time a second injection of Hepatitis B Immune globulin (HBIG) may be given. HBIG contains Hepatitis B antibodies which provide immediate protection for 1-3 months during the period of time that protection is being produced with initiation and completion of the vaccination series.

Common questions asked about the Hepatitis B vaccination:

Does it hurt?



The vaccine is administered with a small needle in your upper arm, so the discomfort is minimal, but you may have a slightly sore arm afterward. If you are anxious about receiving needles, please inform the nurse ahead of time so she may address all your concerns.

How often do I have to have this vaccine?

The vaccine is administered in 3 doses over a six-month period per the recommended schedule: dose 1, then dose 2 one month later and dose 3 five months after the second.

Can I catch anything from the vaccine?

No. Hepatitis B vaccine is a synthetic vaccine. It is not derived from blood products so other viruses cannot be transmitted through the vaccine.

What are my chances of being sick or having an adverse reaction?

Redness, soreness, warmth and minor swelling in the arm where you are vaccinated may occur. Although it is rare to have any serious side effects, about 15% report some 'flu-like' symptoms 24-48 hours after the injection. Nausea, vomiting, headaches, and aching joints have been reported. There is no link established between diseases such as multiple sclerosis (MS) and Hepatitis B vaccination.



I have heard that some people are allergic to the vaccine, what if I am too?

As with all vaccines, anaphylaxis (a life threatening allergic reaction characterized by difficulty breathing) is very rare but can occur. Hepatitis B vaccine contains trace amounts of yeast and a preservative aluminum hydroxide. Thimerosal is no longer used as a preservative in Hepatitis B vaccine. The Centre for Disease Control advises that the only reason for not receiving Hepatitis vaccine is if one has a history of a previous anaphylactic reaction to any component of the vaccine. If you have had a severe reaction to a vaccine in the past, you should consult your physician prior to vaccination.

What if I am pregnant?

You can receive the vaccine if you are pregnant. However, you may feel more comfortable waiting until after you deliver to get vaccinated. Discuss this with your physician.

I have a cold – can I still have the vaccination?

The only time you need to postpone the shot is if you are running a fever. For other medical conditions, consult your physician.

I think I may have had one vaccination years ago – is it dangerous to have another?

No, if you have lost your vaccination record and do not know if you completed your three doses there is no harm to you in starting the process over again. Occupational Health Programs can advise you on whether you are required to repeat the entire series or not.



Will I need a booster?

Not if your post vaccination blood test shows you have developed immunity.

When should I have my blood checked in order to know if I am protected?

You are advised to have the post-vaccination blood test done 6-8 weeks after your third shot. If the test results show that you have not attained immunity you will be notified by Occupational Health Programs regarding the need for further vaccination. You can request the lab to send a copy of the results to your physician.

Will I be protected after the first vaccination?

No. It is important to have all 3 vaccinations to become immunized. You should not consider yourself protected until the vaccine schedule is completed. Vaccination never replaces the following of safe work procedures when dealing with blood, body fluids or sharps.

Can I safely receive other vaccinations (i.e. flu vaccination) in the same day?

Yes, provided they are administered in separate arms.



3.5 Procedures for Hepatitis B Vaccinations

Employees who have potential occupational exposure to Hepatitis B should be provided with information on Hepatitis B and the reasons why vaccination is recommended. Information on how to obtain the vaccinations should also be made available.

This is a simple procedure where the employee reviews the information on Hepatitis B vaccinations and makes a decision whether to participate or not.

Employees are required to complete and sign the “Confirmation of Vaccination Offer” documenting compliance or noncompliance and returning it **promptly** to a supervisor or Local Coordinator specified by the employee’s ministry. ([Appendix 13](#))

Employees are responsible for arranging their vaccination either through a family physician, local health unit, or travel clinic. In some cases employees will need to purchase the vaccines from a pharmacy and take it with them to be vaccinated. The vaccine can be purchased without a prescription and costs approximately \$26-\$31 per shot (at time of publication). It is not covered by your Extended Health Plan. **Be sure to keep receipts as these are used for reimbursement of costs (see 3.6 Payment for Vaccination Costs).**

Take the “Hepatitis B Vaccination Record Form” (obtain official form, photocopies not accepted, see example in [Appendix 14](#)) with you for each vaccination. The person administering the vaccine is to complete and sign the appropriate sections of the form. This confirms the vaccination and date received for your health records.

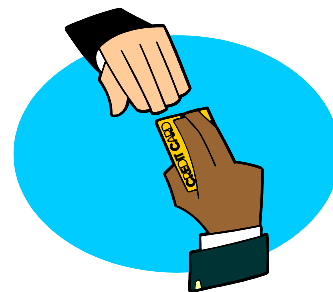
If at some point in the process the decision is made not to continue and complete the full vaccination series, inform your supervisor or ministry local coordinator.

Complete the bottom portion of the Hepatitis B Vaccination form indicating that a decision has been made not to continue the full vaccination series.

On completion of your vaccination series return the “Hepatitis B Vaccination Record Form” to your supervisor or local coordinator. A copy of the completed vaccination series needs to be sent to Occupational Health Programs. You should keep a personal copy for your own records.

3.6 Payment for Vaccination Costs

It is required to pay “up front” for the costs associated with vaccine administration but the ministry upon submission of receipts and completion of the “Hepatitis B Vaccination Record Form” will reimburse these expenses.



3.7 Post-Vaccination Testing

Post-vaccination testing is recommended six to eight weeks after completion of the final (3rd) Hepatitis B vaccination. Occupational Health Programs will send out the “Post Vaccination Test Requisition Form” to employees who have completed the full vaccination series. This form is provided by the employee to the laboratory to obtain the blood test.

The laboratory will send the test results in confidence to Occupational Health Programs. Occupational Health Programs will contact the employee if the blood test indicates that there is insufficient immunity. At this time Occupational Health Programs may recommend those employees to have additional vaccinations. A small percentage of the population may not achieve proper immunity after two series of shots. These individuals are considered non responders. Post exposure management to Hepatitis B in these individuals have a very specific protocol which requires implementation with each exposure.

Occupational Health Programs will only contact employees who did **not** achieve immunity from the series of vaccinations.

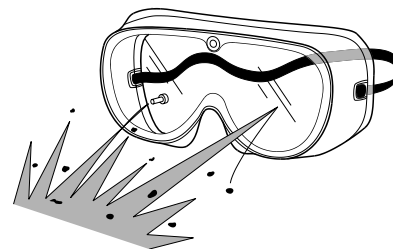
3.8 Bloodborne Pathogen Exposure – Post Exposure Management

The following post exposure management strategy specifically refers to exposure to blood or body fluids. However, the first aid procedures provided here applies to any skin puncture wound and any infectious disease. Contact Occupational Health Programs (604-660-2587) for post exposure management strategies for other infectious diseases that you identify from your risk identification process.

Even though a person has been vaccinated, post exposure follow-up and testing are essential for overall health protection. If an employee has experienced harmful contact with blood or other body fluids with visible blood then follow-up must be sought from a local hospital emergency department.

A harmful contact might include:

- > skin penetration with a sharp,
- > a human bite resulting in a punctured skin wound, or
- > blood, body fluid or potentially infectious material contact with non-intact skin or mucous membranes (eyes, nose or mouth).



3.9 Reporting

Prompt reporting of exposure to blood or body fluids in the workplace is an important part of the overall Infection Prevention and Control Program. The employee must be immediately referred to the Emergency Department of the nearest hospital for medical assessment and appropriate treatment. The exposure incident must be reported to WCB and OHP

Follow-up of medical treatment is provided by the family physician. The Occupational Health Nurse from Occupational Health Programs provides counseling to the employee. If The employee experiences the exposure as a traumatic event, The employee and their family also has access to the Employee Family Assistance Program (EFAP).

Occupational Health Programs Contact phone number is 604-660-2587.

In the event of an accidental harmful exposure to blood or body fluids, employees need to take steps immediately after an exposure to reduce the risk of infection.

3.10 First Aid Treatment

In the event of an accidental harmful exposure to blood or body fluids, employees need to take steps immediately after an exposure to reduce the risk of infection.

Harmful exposure only occurs when someone else's blood, body fluids or other potentially infectious materials are:

- > in direct contact with an employee's wound (if wound less than 3 days old);
- > in contact with membranes of the mouth or eyes;
- > in contact by needle stick injection or a bite through the skin; or
- > as a result of a puncture wound from a contaminated sharp.

All employees need to know how to contact first aid attendants in their workplace and the importance of reporting all harmful exposure to blood or body fluids.

The supervisor is to ensure that first aid treatment records and other WCB forms are completed and forwarded to WCB and a copy faxed to Occupational Health Programs.

Occupational Health Programs Fax Number is 604-775-0697.

The following information describes the standard health protection emergency first aid procedures for harmful exposures.

First Aid Procedures

First aid procedures following accidental blood and body fluid exposure. If an accidental exposure to blood and body fluids occurs at work, the following steps are to be followed by employees.

1. STOP what you are doing.
2. CLEANSE Eyes and mucous membranes:
 - > Flush eyes for 15 minutes with water or normal saline
 - Skin: Wash well with soap and water
 - Needle stick: Wash puncture site with soap and water
 - > Promote bleeding of wound by lowering extremity below level of the heart if possible.
 - > DO NOT promote bleeding by cutting, crosshatch scratching or puncturing skin.
3. DISPOSE of the sharp or needle in a puncture proof sharps container.
4. REPORT to your First Aid attendant and supervisor immediately.
 - > After first aid go to the Hospital Emergency Department immediately for medical assessment. Inform the physician that the incident is an occupational exposure (WCB Case) and where you are employed.
5. OBTAIN MEDICAL assessment, treatment and advice.
6. FOLLOW-UP: Provide information to your supervisor to assist in accident investigation and WCB reporting.

Call Occupational Health Programs at 604-660-2587; and Fax copy of WCB forms to Occupational Health Programs at 604-775-0697.

3.11 Medical Assessment

The employee should immediately be referred to an emergency department for medical assessment as antiviral treatment, if recommended, is most effective when administered within 2 hours of the exposure to HIV.

Factors that will be considered in the medical assessment of the employee include:

- > The type of fluid or material they were exposed to;
- > The type of exposure (e.g. needle stick vs. contact with intact skin);
- > The status of the source (e.g. known person or unknown source of exposure who is always considered infectious); and,
- > The health status of the employee.

At the hospital the exposed person may have their blood tested for Hepatitis B and C, and HIV. baseline testing at the time of exposure provides documentation of status at the time of exposure. This information may be required in establishing a WCB claim.

3.12 Medical Treatment and Referral

Hospital emergency or health care facility staff will assess the degree of health risk related to the employee's exposure to blood or body fluids and develop a treatment program based on this risk assessment.

WCB Regulation Section 6.40, "Health Protection" states:

- (1) A worker potentially exposed to Hepatitis B or another bloodborne pathogen in an exposure incident must be advised to seek a medical evaluation at the time of an incident.*
- (2) The medical evaluation must be based on an assessment of the risks associated with the incident, and subsequent post-exposure health management must be provided as necessary.*

The ministry must make sure that the injured employee is transported to a hospital as soon as possible; the ministry is responsible for the costs of transportation.

In remote areas where hospital facilities are not readily accessible, medical assessment and treatment by the local Health Unit or Medical Clinic will provide the initial treatment following accidental exposure.

The employee will also be referred by emergency medical services to his or her own family physician for follow up. If the family physician feels that the employee has had a high-risk HIV exposure, the common procedure is for the doctor to immediately contact the Centre of Excellence Pharmacy or the Hot Line (1-800-665-7677) so that the appropriate therapy can be determined.

Employees and their families have access to the Employee and Family Assistance Program as needed. This is a confidential counseling service.

Ministries are to advise Occupational Health Programs of any occupational exposure incident in order for the occupational health nurse or physician to contact the employee.

**Standard Precautions + Pre-Exposure Vaccinations +
Post Exposure Treatment = Health Protection**

3.13 Post Exposure HIV

Treatment guidelines have been developed by the British Columbia Centre for Excellence in HIV/AIDS from St. Paul's Hospital. Medical specialists make the treatment recommendations regarding antiretroviral therapy drugs when an occupational exposure has occurred. Treatment is only initiated for high risk exposures. Exposed employees involved in a high risk exposure are provided with a starter treatment kit in emergency following the medical assessment of the risk. Antiretroviral therapy is rarely recommended for low risk exposures such as contact with an abandoned needle. Receiving the therapy should not be considered a standard practice.

Upon notification of the exposure, Occupational Health Programs' occupational health nurse will provide follow-up services with the employee.

The exposed employee should also be counseled with respect to the relative risks of the exposure and the prevention of transmission of HIV to others. This counseling is available from the family doctor and Occupational Health Programs.

Information about the Blood test for HIV:

The blood test is to detect antibodies, which the body forms if infected by the HIV virus. It does not test for the virus itself.



A “reactive” test result means that you have been infected with the HIV virus.

A “non-reactive” result means either you have not been infected with the virus or you are in the window period.

The “window period” is the time from being infected until antibodies develop. It is generally 2 to 6 months. During this time you are still infectious.

The results will be sent to your personal physician.

3.14 Post Exposure Hepatitis B & C

The post exposure medical assessment will include blood tests for Hepatitis B and C. These test results will establish the employee's baseline antibody status and are important to determine appropriate post-exposure treatment.

Post exposure treatment for Hepatitis B is dependent on the doctor's assessment of the exposure incident and the employee's immunity status. If the source of the exposure is known to have Hepatitis B, then the employee is usually treated with Hepatitis B immune globulin to prevent infection.

Those employees who have documented evidence of immunity to Hepatitis B will require no further treatment for Hepatitis B. Those employees who are unvaccinated, or have not completed the vaccination series, or are known as non-responders to vaccination, will be provided with Hepatitis B immune globulin (HBIG) and further vaccinations.

3.15 Records and Documenting Exposures

Records of Exposure

Reporting ensures that incidents that may pose a hazard are investigated and preventative measures taken. Personal medical records regarding an exposure incident are confidential.

Occupational Health Programs maintains records of all employees who are exposed to biohazardous or potentially biohazardous materials while at work.

Documentation of an exposure to biohazardous materials includes:

- > Accident/Incident Reports;
- > First Aid treatment records;
- > Medical reports (if available); and
- > Hepatitis B Vaccinations records.

How Long Must Records be kept?

Most of the WCB claims reporting forms must be kept for a minimum of three years (e.g., First aid Report, Form 7).

The WCB recommends that education and training records be kept for a minimum **period of 3 years** after the training session.

- > Any medical records related to employees' exposure to infectious diseases is kept confidential by Occupational Health Programs for the term of employment and for 30 years after termination of employment.



Investigating an Exposure Incident

When a blood or body fluid exposure incident occurs at work an investigation must be conducted in accordance with Article 22.05 of the BCGEU/BC Provincial Government Master Agreement, the WCB OHS Regulation and *Workers Compensation Act*.

The intent of the investigation is to identify what caused the exposure and make recommendations to prevent similar incidents from occurring.

As soon as practicable, the incident needs to be jointly investigated and information recorded on the ministry's accident investigation forms (Refer to your ministry's internal investigation process).

Incident reports must be respectful of the confidentiality requirements and protect the privacy of the employee(s) involved. Employee names need not be discussed at the JOSH Committee meeting. Discussions should relate to the incident, recommendations and follow-up actions taken to prevent recurrence.



Are Infection Control Medical Records Confidential?

Personal medical information regarding an employee's infectious diseases is **strictly confidential** in accordance with provisions of the *Freedom of Information and Protection of Privacy Act*, *Human Rights Code* and *Workers' Compensation Act*.

If the employer is aware that the employee has an infectious disease, this information must not be shared with anyone (including other ministry staff or government agencies) without the written permission of the employee. Privacy and confidentiality includes pre-hire information, information during employment as well as medical information related to rehabilitation return to work plans.

3.16 Standard Precaution Controls for Bloodborne Pathogens

Standard (Universal) precautions are the most effective method of control for bloodborne infections. This method of infection control requires all blood and other potentially infectious materials be treated as though infected with HIV, Hepatitis or other bloodborne pathogens, regardless of the perceived risk status of the client. Research has demonstrated it is not possible to accurately determine whether someone is infectious or not.

Standard precautions must include:

- > The assumption that all contacts may be infectious, since there is no way of knowing who is infectious;
- > Providing and wearing appropriate equipment for the exposure such as gloves, apron, protective eyeglasses and face shields;
- > Washing hands after any contamination and before eating, drinking or smoking;
- > Washing hands after removing gloves;
- > Protecting damaged skin by covering with a medical disposable dressing and/or using medical disposable gloves;

- > Disposing of sharps following safe disposal procedures;
- > Using resuscitation devices such as pocket masks with one-way valves to eliminate the need for direct mouth to mouth contact during CPR; and
- > Containing spills, splashes and contamination by blood and body fluids.

Standard Precautions
<p>Standard precautions treat the blood and body fluids of every person as if they were potentially infected.</p> <p>Standard precautions are steps taken to prevent contact with blood and body fluids of other people. Examples include:</p> <ul style="list-style-type: none"> > Wearing medical disposable gloves; > Frequent hand washing; and > Safe handling and disposing of sharp objects, such as needles and contaminated broken glass. <p>Why are standard precautions necessary?</p> <p>People can carry HIV and the Hepatitis B and C viruses without knowing they have the disease and without any signs or symptoms of illness.</p>

3.17 Personal Hygiene – General Considerations for all Workplaces

Personal hygiene is a simple and basic control factor.

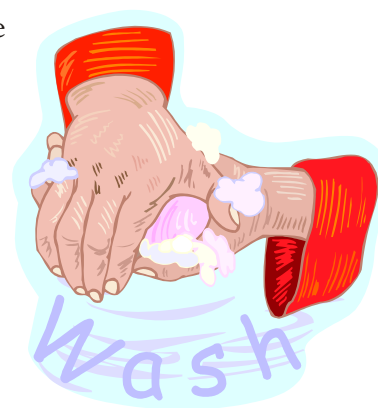
A key aspect of personal hygiene is basic hand washing. Hand washing helps to avoid transferring any potentially infectious material from one person to other persons or to items or surfaces people may touch.

Using gloves does not eliminate the need for hand washing. Once gloves are removed, the employee should wash their hands to prevent the potential spread of germs.

3.18 Personal Hygiene – Specific Facilities Considerations

Facilities such as health care facilities and laboratories need additional control measures. Examples of additional measures include:

- > Locating washing facilities as close as possible to the work areas at risk;
- > Automatically operated sinks (e.g., taps with an electric eye) or sinks with handles operated by the elbow, knee, or foot. This minimizes contact with sink handles, especially by hands that may be infected;
- > Manually operated soap dispensers, rather than bar soap;
- > Mild soap (e.g. soap with a neutral pH factor, non-irritating, and non-abrasive). Harsh soaps may contribute to dermatitis and non-intact skin, which then offer a route for infection;
- > Hand lotions or creams to help prevent dryness and dermatitis that may be associated with frequent hand washing. These must, however, be compatible with other products or equipment that may be used, such as gloves;



- > Notification of laundry or dry cleaning facility of any biohazards on clothing, linen or other items contaminated with blood or body fluids.

3.19 Housekeeping Practices – General Considerations for all Workplaces

A clean work environment can help reduce the risk of exposure to infectious diseases and biohazardous materials.

The primary responsibility for health and safety in the workplace rests with the employer. This includes ensuring that housekeeping procedures and standards are maintained and clean-up procedures are followed.

While workplace housekeeping is often undertaken by contracted services (janitorial companies, etc.), it is still the employer that must ensure the services meet the needs and standards of the workplace.

The employer must ensure that contracted cleaning services have proper procedures in place and properly trained staff to address housekeeping needs which includes blood and body fluid clean up procedures.

Most office environments have a contractor for cleaning services. Others, such as facilities, may provide their own cleaning.



Some workplaces that have been identified as having a risk of exposure to biohazardous materials, particularly those at risk of exposure to bloodborne pathogens should pay particular attention to issues of cleanliness. These workplaces would be primarily correctional, long-term care, and psychiatric institutions.

Housekeeping procedures generally need to identify a routine cleaning schedule for each facility and office workplace. Consideration should be given to the following factors:

- > Where the cleaning needs to be done;
- > What items, equipment and surfaces need to be cleaned and how often;
- > What type of cleaning materials should be used for routine cleaning, and
- > Who is responsible for carrying out the cleaning?

Extraordinary cleaning for most work surfaces is not required. When blood or body fluid spill occur the procedures already described in the guide should be followed.

Reusable equipment exposed to blood or body fluids must be decontaminated, cleaned and sterilized prior to any reuse, maintenance service or repair.

4 Safe work procedures

4.1 Developing your own safe work procedures

The sample safe work procedures in this section can be used to insert into exposure control plans or to have as separate safe work practices. Ministries will have to customize these procedures for their specific workplaces.

If there are procedures that you require and they are not present in the Guide, check with other ministries or facilities to share procedures. Check the internet for procedures, often there are procedures from reliable resources such as government agencies, universities, hospitals and sometimes military sites for health and safety procedures (Canadian, US, British, or Australian sites). Or you may have to write procedures from scratch.

You may want to check internet sourced or self written procedures with Occupational Health Programs and/or your regions BC Public Service Agency OHS Specialist if there are certain technical issues that you require help with. Make sure others read your procedures to make sure they are understood properly or consider having them translated if English is a problem for some employees.

Information unique to the workplace should be added to the procedures and instructions for orientation of new employees as well as a guide to review procedures during inspections or during post incident investigations.

Examples of the type of information that should be added includes:

- > Specific instructions on how to summon first aid and seek medical attention;
- > Specific instructions to notify the supervisor;
- > What personal protective equipment (such as medical disposable gloves) s required, when to use and how to obtain this equipment; and
- > The location of equipment and tools such as sharp's containers, tongs and spill kits for cleanup procedures.

4.2 Sample safe work procedures

4.2.1 Sharps Disposal Procedures

Sharps are defined as clinical and laboratory materials consisting of needles, syringes, blades or laboratory glass, capable of causing punctures, cuts or grazes. Sharps also include any other sharp edged material contaminated with blood such as broken glass.

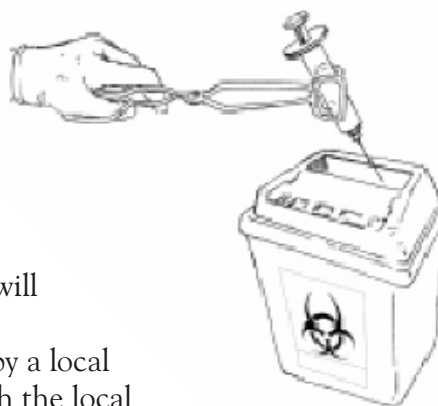


Needles and other items that may carry the HIV and Hepatitis B and C viruses are often thrown away in streets, public washrooms, regular garbage, parks, and alleys. They can also be found behind toilets. The following procedure protects the employee from any harmful contact. Use the following procedure for picking up sharps and other contaminated items (e.g. condoms).

Safety sharp disposal procedures include:

1. Have fluid resistant or medical disposable gloves and sharps container ready. For broken contaminated glass, use a brush or broom and dustpan;
2. Put on (fluid resistant or medical disposable) gloves;
3. Place the sharps container next to the needle or other item. Do not hold the container in your hand, or you might accidentally jab yourself when placing the sharp inside the container;
4. Use tongs or pliers to pick up the needle or other sharps and place it in the container;
5. Collect contaminated broken glass with a brush / broom into a dust pan;
6. Although not recommended if you have to pick the needle up directly with your gloved hand be sure to pick the needle up by the shaft and place in the sharps container with the needles pointed end away from you. Never insert your fingers into the sharps container opening and keep your other free hand out of the way;
7. Remove and discard the gloves following proper disposal procedures and then wash your hands with soap and water; and
8. Securely tape the lid on any sharps container closed when it is about three-quarters full and send for disposal.

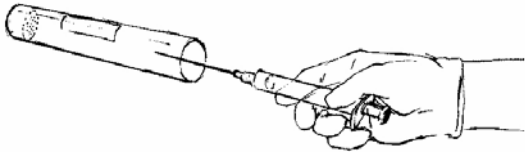
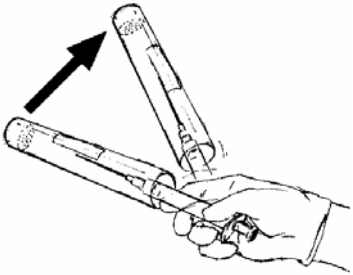

Use tongs or pliers to pick up and place the sharp – pointed end first – into the container.



Disposal instructions for full sharps containers will need to be made on a site by site basis but this biohazardous material needs to be incinerated by a local company that provides this service. (Check with the local hospital or medical treatment center regarding who provides this service locally.)

4.2.2 How to pick up a needle using a One-Needle container

One-needle containers that fit easily into pockets have been designed for outdoor workers who may not be close to sharps disposal equipment. The following method is for a one-needle container. You must use only one hand with this technique to avoid jabbing yourself:

<ul style="list-style-type: none"> > Wear fluid resistant or medical disposable gloves. > Use a proper puncture-resistant and leak proof, one-needle container. > Hold the blunt end of the syringe in one hand. Then ease the sharp end of the needle into the opening of the container. Do not use your other hand to guide it. 	
<ul style="list-style-type: none"> > Lift and tip the needle and container up so that the container falls down over the needle and covers the sharp end of the needle. 	
<ul style="list-style-type: none"> > Once the sharp end of the needle is enclosed in the container, you can safely grasp the container and syringe with your other hand to place the cap on the container. Make sure the cap is on securely. When you turn the container over (cap up), the needle will embed itself in the Styrofoam plug. Place the container in your pocket and discard in a suitable disposal container at your first opportunity. > Remove and discard the gloves. Wash your hands with soap and water at your first opportunity. 	

General Housekeeping Procedures

In some workplaces, especially health care and correctional facilities, housekeeping, cleaning, and spill clean-up are generally done by employees as part of their regular duties.

Facilities should ensure written procedures are in place regarding cleaning and decontamination in the event of a spill of blood or other biohazardous material.

Cleaning and Decontamination Procedures

Decontamination procedures are based on where the cleaning occurs (e.g. room, vehicle), type of surfaces to be cleaned and type and size of contamination. Is this a small or a large amount of blood or body fluids?

Cleaning procedures must specify the type of disinfectant to be used in the dilution mixture, how to apply and how much time the disinfectant should remain on the contaminated surfaces. A good resource is the BCCDC Laboratory Services “A Guide to Selection & Use of Disinfectants” (<http://www.bccdc.org/content.php?item=76>) Infection Control Guidelines/Outbreak Interventions.

Personal protective equipment must be specified in the written procedures.

What is decontamination?

Decontamination is defined as the process that removes pathogens from a contaminated object to make it safe for use. This can involve sanitization, disinfecting or sterilization processes.

Sanitization is a cleaning procedure that removes some but not all of the germs. An example would be thoroughly washing a surface with soap and water.

Disinfecting is a process that destroys specific germs by applying a chemical solution to the area contaminated for a specified length of time.

Sterilization is a process that destroys all forms of pathogens on an object and is more commonly found in health care facilities. Disposable sterilized supplies are an effective method of infection control.

Cleaning and Decontamination Procedures

Disinfectants are varied and constantly changing. Examples of disinfectants that kill Hepatitis and HIV viruses include household bleach (sodium hypochlorite) 1:10 parts mixture with water, 70% ethanol or isopropyl alcohol, formaldehyde and 2% glutaraldehyde.

Note: Formaldehyde and 2% glutaraldehyde have traditionally been used in medical settings. These disinfectants are particularly hazardous (carcinogens and sensitizers) and should be substituted with bleach or other less hazardous disinfectants.



The selection of disinfectants is constantly changing. Research continues to develop more effective disinfectants and reviewing current disinfectants in use should be part of the annual program review process and changed as required.

Important: Do Not Mix Cleaning Chemicals such as ammonia and bleach, they react to form a very irritating gas called chloramine.

Accidental Exposure Spill Procedures

When an incident occurs and normal janitorial services are not immediately available, then accidental exposure spill procedures may need to be implemented by onsite staff to protect employees and clients who may be present.

All workplaces need to ensure written procedures are in place regarding what to do in the event of an accidental exposure to blood or other infected materials in the workplace.

Also it is not just simply a matter of 'mopping up' when it comes to blood and body fluids. Employees cleaning up accidental blood or body fluid spills need to follow some simple yet important safe work procedures using universal precautions. Sample spill clean-up procedures are covered in section four of this guide.

When control procedures are followed consistently, the risk for infection is greatly reduced. Incidents of infection from bloodborne work exposures are quite low. The consequence of unreported and untreated exposure can be very serious and may result in chronic disease.

4.2.3 Clean-up and disinfecting minor blood spills and other body fluids procedure

The following procedure is suitable for almost all blood and body spills that occur.

Materials Required for a Spill Kit:

- > Bucket and wringer/damp mop and handle
- > Disposable medical gloves of different sizes
- > Goggles
- > Disposable towels
- > Disinfectant cleaner such as household bleach
- > Wet floor signs and disposable plastic bags



Clean-up and Disinfecting Procedures:

1. Restrict access to the spill area and place the wet floor sign near the spill.
2. Prepare the disinfectant solution in the bucket using 1 part bleach to 100 parts water (1:100 ratio) This solution will kill HIV and the Hepatitis B and C viruses except with spills involving a large amount of blood. Wear your goggles when pouring the bleach or disinfectant into the water.
3. Wearing gloves, pick up as much of the spill as you can with disposable towels, dipped into the disinfectant mixture. Deposit the used rags or disposable towels in regular plastic garbage bags. Double bag this garbage.
4. After removal of all visible blood/material change gloves. Pour bleach or germicide solution over the spill area to decontaminate. Leave the solution on the spill site for 10 minutes, and then wipe up with disposable towels. Discard the towels in (double bagged) disposable garbage bags.
5. If using a wet mop that has been dipped in the disinfectant, work from the outside of the spill from clean to dirty until the whole spill area has been covered. When finished rinse your mop well, then disinfect and rinse your bucket, wiping it clean before storing. Soiled mop heads should be laundered following use.

6. Remove the soiled gloves, discard and wash your hands in soap and water.

4.2.4 Clean-up and disinfecting major blood spills procedure

This procedure involving a second mopping and extra PPE is recommended in spill clean up for a large amount of blood.

Materials Required for a Spill Kit:

- > Bucket and wringer and (2) damp mops and handle
- > Disposable medical gloves of different sizes and goggles
- > Clean rags/disposable towels
- > Disinfectant cleaner such as household bleach
- > Wet floor signs and disposable plastic bags
- > Disposable waterproof boots or rubber boots
- > Isolation gown

Clean-up and Disinfecting Procedure:

1. Restrict access to the spill area and place the wet floor sign near the spill.
2. Prepare the disinfectant solution in the bucket using 1 part bleach to 10 parts water (**A more concentrated 1:10 ratio of bleach is recommended for large amounts of blood**). Wear your goggles when pouring the bleach/ disinfectant into the water and during the first mopping of the spill.
3. Wear gloves, face shield, isolation gown and waterproof boot covers or rubber boots.
4. Dip mop into the disinfecting solution and start mopping from the outside of the spill in towards the centre of the spill area.
5. When completed change the mop head, remove isolation gown, and face shield and rubber boots or disposable shoe covers. Place the used mop head into a plastic bag and place in the laundry bags marked for biohazards.
6. Using a new mop head and fresh disinfecting solution of bleach or germicide proceed to re-mop the spill area again. Leave the disinfectant bleach solution on for about 10 minutes. When finished with the second mopping, rinse the mop well, clean bucket and wipe it clean.
7. Remove your medical disposable gloves, discard, and wash your hands with soap and water.



Sample Spill Kits Items

The following are a basic list of suggested supplies for clean up of blood, other biohazardous materials and sharps.


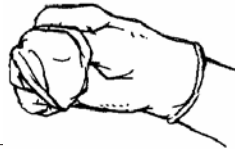



- > Broom and dust pan for picking up dry infected materials
- > Tong for picking up used needles or broken glass
- > Puncture-resistant gloves of different sizes
- > Medical disposable gloves of different sizes
- > Disinfecting chemicals such as household bleach or a commercial equivalent
- > Leak-proof dispos plastic bags
- > Puncture proof container for sharps
- > Other cleaning supplies such as cleans rags, mop bucket, clean mops heads and handles
- > Wet floor signs

4.2.5 Removing Medical disposable gloves Procedure

Remove medical disposable gloves as soon as possible if they become damaged or contaminated and remove them after you have completed the task that required gloves. Gloves should also be removed before leaving the work area.

Do not wash and reuse your gloves. Use new gloves for each new task or if you puncture or tear a glove.

Follow these steps to make sure your hands do not contact any blood or body fluids left on used gloves:

With both hands gloved, grasp the outside of one glove at the top of the wrist.	
Peel off this glove from wrist to fingertips while turning it inside out, as you pull the glove off your hand and away from you.	
Hold the glove you just removed in your gloved hand.	
With the ungloved hand peel off the second glove by inserting your fingers on the inside of the glove at the top of your wrist.	
Turn the glove inside out while tilting it away from you, leaving the first glove inside the second.	

Dispose of the entire bundle promptly in a medical disposable garbage bag.

Wash your hands thoroughly with soap and water as soon as possible after removing gloves and before touching non-contaminated objects and surfaces.

4.2.6 Hand Washing Procedures

Hand washing is one of the best defenses against spreading infections. It helps you to avoid transferring infectious materials from your hands to others. There is a specific technique that will improve the effectiveness of hand washing in reducing the spread of infectious diseases. The use of gloves does not eliminate the need for hand washing. Effective hand washing procedures include the following tips (refer to diagram on the following page):

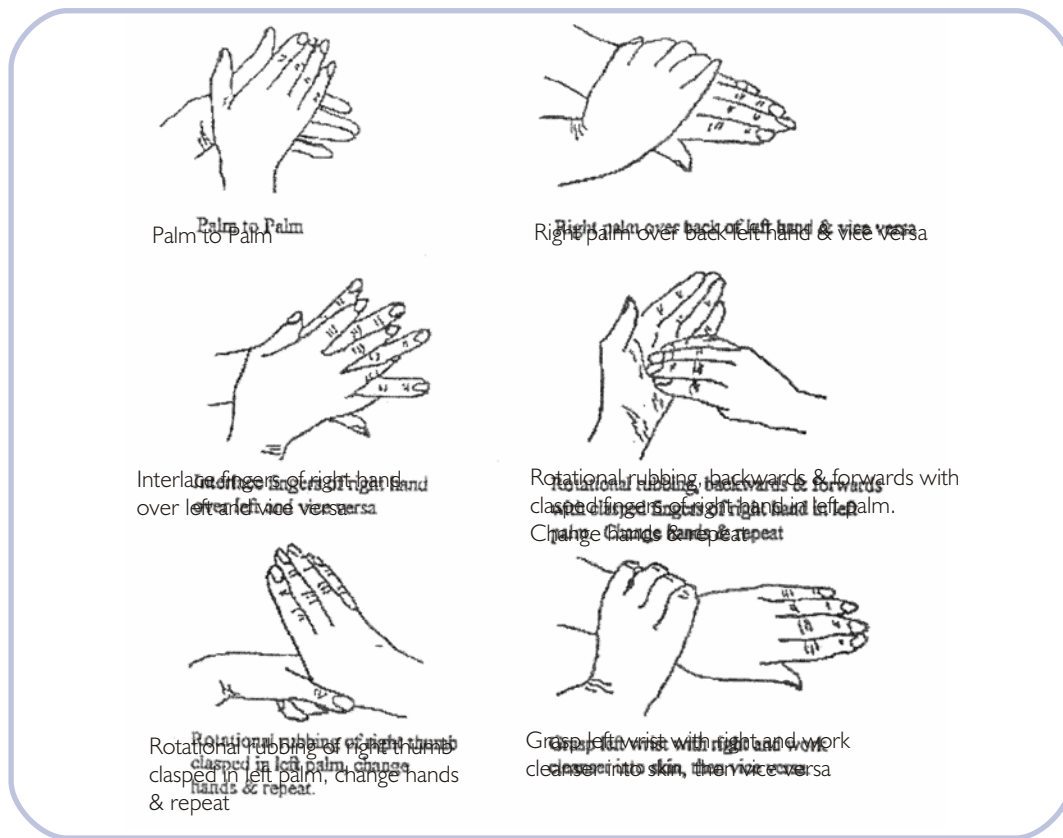
- > Remove excessive jewellery to allow for effective hand washing;
- > Always wet the hands before applying cleanser;
- > Apply sufficient cleanser to produce a good lather and rub your hands together to create friction over all the surfaces for about 20 to 30 seconds;
- > Rinse your hands thoroughly under warm running water;
- > Dry your hands with disposable towels; and,
- > Use the towels to turn off the taps to prevent re-contaminating your hands and discard the towels in appropriate waste container.

Remember to always wash your hands after performing the following job duties:

- > After using the toilet;
- > After blowing/wiping the nose or covering a sneeze or cough;
- > Before eating, handling, preparing or serving foods;
- > When your hands are visibly soiled;
- > After handling or touching potentially contaminated items;
- > Before and after direct contact with patients and animals;
- > After removing personal protective equipment;
- > Immediately after removing medical disposable gloves, even if the gloves appear to be intact;
- > Immediately, when you tear a glove or think a glove is leaking;
- > Immediately after accidental contact, or potential contact with a biohazardous material; and
- > Before leaving work at the end of the day.



At remote worksites, as a first procedure, use a waterless hand cleaner that contains a disinfectant.



4.2.7 Garbage Handling Procedures

These safety procedures should be followed to prevent contact with contaminated sharps improperly disposed of in the garbage:

1. Handle garbage as little as possible;
2. Be alert. If possible, look for needles or other sharps objects sticking out of bags. Listen for broken glass when you move the bag;
3. Do Not compress garbage or reach into garbage with your bare hands;
4. Do not use your bare hands to pick up garbage that has spilled out of an overflowing container. Wear puncture resistant and liquid resistant gloves (type worn by fire fighters), or other tools designed for picking up garbage;
5. Do hold garbage bags by the top and away from your body;
6. Do not hold garbage bags against your body; and
7. Do not place one hand under the bag to support it.

Do not let garbage bags get too full. Leave enough space at the top of the bag so that when you grab it, you grab only the top of the bag and not any of the garbage in the bag.

4.2.8 Laundry Procedures

The risk for disease transmission from soiled linen is extremely low, even when it may be contaminated with pathogens found in blood or other body fluids. Isolating the laundry and minimizing manual handling prevents exposure to contaminated laundry. The following guidelines should be followed to reduce employee exposure to contaminated laundry:

1. Contaminated laundry should be isolated from the rest of the linen and bagged separately.
2. Contaminated laundry should be sent directly to the commercial laundry room and not be handled or rinsed at its original location.
3. Contaminated laundry should be handled as little as possible and only by those employees wearing appropriate gloves (PPE).
4. If the laundry is wet, then leak-proof bags or containers are needed to prevent external leakage.
5. Contaminated laundry must be labeled or colour coded laundry bags can be used as long as the laundry staff are using standard precautions.
6. Soiled linen including used linen bags should be washed with detergent in hot water at least 71 C for 25 minutes. If lower temperatures are used, then washing should be done with appropriate concentration of cold water and low temperature detergents, which may include bleach.
7. The employer is required to notify dry cleaner's operators in writing to the identify any items that could pose a hazard to the workers handling contaminated laundry, the nature of the hazard and general precautions to follow when handling the contaminated laundry.
8. Employees working in public service laundry facilities are to be trained in:
 - > standard precautions,
 - > awareness of biohazards from contaminated laundry,
 - > the need to watch for sharps, and
 - > how to safely dispose of these items if found.



4.2.9 Labels and Disposal of Material Procedures

There are very few BC Public Service workplaces where labeling materials are required beyond having a biohazard label on sharps disposal containers as required by WHMIS. Sharp edged wastes such as broken glass should be disposed of in sharps containers or placed in other separate, puncture-proof waste containers with the contents clearly label (e.g. broken glassware).

OHS Regulation 6.37 (4) Labels

Laundry or waste material that is contaminated with a known or suspected bloodborne pathogen is exempt from labels if

- a) *All such material is handled using universal precautions, and*
- b) *An alternate and equally effective system of hazard identification, such as distinctive-coloured bagging is used.*

All materials contaminated with a known or suspected bloodborne pathogen are exempt from labels if handled by employees following universal precautions. Medical disposable gloves should be worn when handling soiled bandages from first aid treatments and soiled or bloody clothing.

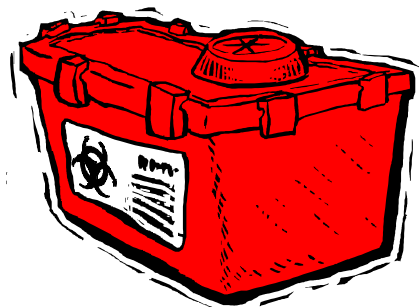
Wet contaminated laundry may require double bagging and/or plastic liners to prevent leakage during transportation and to prevent spills of blood or body fluids. There are disposable liners available that dissolve when washed. This process reduces the need to handle soiled laundry and reduces the risk of exposure.

Clothing that is soiled with blood or other body fluids needs to be handled with gloves and placed in double bags before washing in hot soapy water. Facilities need to identify this soiled laundry separately from normal laundry by specific methods such as coloured leak proof bags or other labels indicating biohazard materials. This alerts employees to the potential hazard and indicates the need for special handling (e.g. wearing appropriate gloves).

General Disposal Containers

Disposal of used first aid supplies simply involves double plastic bagging and placing in routine garbage for disposal. All sharps need to be safely disposed in puncture proof waste containers.

Sharps disposal containers have specific criteria for prevention of injury. These containers should be impact resistant, leak and puncture-resistant, have overfill warnings, intake and closure characteristics, be free standing and easy to handle with identification through colour and labeling for biohazardous materials.



Biomedical Wastes

Disposal of biomedical waste is best handled by a biohazardous waste company or incineration.

Labels and Waste Disposal – Facilities and Laboratories

Special procedures may be needed for known or suspected biohazardous material from animal or environmental sources such as water, soil or plants and animal tissue specimens. Blood bank supplies and laboratory specimens also need specific labeling.

Laboratories that handle diagnostic specimens are required to meet three conditions in identifying the specimen as a biohazardous organism. These conditions are:

1. The label contains a sample identifier such as a number or code and the risk group number (2, 3, or 4);
2. The specimen is identified as being biohazardous by means of a biohazard symbol or equivalent; and
3. The label contains enough information to allow for immediate contact with a medical professional providing the sample in cases of emergency.

Labels need to alert employees to the biohazardous materials hazard and also protects the client's privacy, identity and ensure confidentiality. This is maintained by using a code or sample identifier instead of the person's name. The label illustrated below shows the simple requirement needed before transport and how the WHMIS biohazardous requirements are to be met by facilities.

Biohazardous Product Specimen Label

Blood Sample (product identifier)
JD54028 (sample identifier)

Risk Group 2 (Risk group)

Ordering Physician: Dr. A. B. Jones
(Emergency Contact Person)

Biohazard WHMIS Symbol
or label **Biohazard**

Labels for Diagnostic Specimens

The supplier is considered to be the person, usually a physician who orders the sample of blood or body fluids to be collected. Labeling must ensure confidentiality and provide a system such as a code number in order that the specimen container is separated from the source information.

Depending on the workplace, sources of biohazardous materials in containers may be from humans, animals or environmental specimens such as water, soil or plants.

Biomedical Wastes

The disposal of biohazardous waste materials are to be carried out in accordance with federal, provincial and local regulations as specified under WCB OHS Regulation section 6.36(5).

Federal regulations refer to the Transportation of Dangerous Goods (TDG).

Provincial regulations include the WCB HS Regulation, *BC Waste Management Act*, WHMIS (Workplace Hazardous Material Information System) and other special waste regulations.

Local biohazardous waste relates to Regional Districts, City and Municipality by-laws.

Biomedical wastes include human anatomical wastes such as body parts, animal wastes, microbiology wastes, human blood and body fluid wastes, and waste sharps.

Untreated biomedical wastes can be incinerated as a method of disposal. Specific disposal procedures for biomedical wastes should be site specific and reflect local options for disposal. The easiest method is to disinfect contaminated surfaces and dispose of disinfected biomedical materials as regular garbage.

Local workplaces with biomedical wastes that need special disposal procedures should arrange for incineration or disposal from waste disposal companies with service contracts.

4.2.10 Gardening and outside work procedures

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.

- > Check your work area carefully for discarded needles.
- > Use the written procedures and appropriate equipment to pick up discarded needles.
- > Avoid picking up litter using hands: use tongs, shovel, rake or (if necessary) heavy leather gloves.
- > Use tools like rakes or shovels when clearing debris from shrubs and flower beds.
- > Do not reach into areas that you cannot see.
- > Keep litterbags light and ½ full and carry them away from the body and avoid contacting legs with the bag.
- > Do not push more litter into the bag and do not remove litter from the bag.
- > Do not try to compress bags of litter.



5 Infectious Diseases and Health Effects

5.1 Putting Occupational Exposure Risk into Perspective

Risk of exposure to infectious diseases is a genuine concern for many employees. Proper education and training is essential to assist employees in prevention and post exposure management.

About 80% of all accidental exposures to blood come from needle stick injuries. Recapping practises are the cause of 70% of these accidental exposures. However, even following an accidental exposure to a needle stick injury, the actual risk for developing HIV or Hepatitis infection remains very small.

Work exposure accounts for less than 1% of all reported cases of AIDS

The risk for infection after an exposure incident to infected blood and body fluids due to a **needle puncture** is¹:

- > Up to 30% for Hepatitis B (3 in 10)
- > Up to 10% for Hepatitis C (1 in 10)
- > Up to 0.3% for AIDS (3 in 1000)

Serious infectious diseases from animal vectors like rabies or hanta virus have an exceptionally small risk for public service employees considering the numbers of citizens in wilderness areas and the number of cases seen. At the date of publication, there have only been six cases of Hantavirus² ever recorded in BC and two deaths from rabies in BC since 1985 with only 6 deaths in all of Canada since the 1960s.³

5.2 Blood Borne Pathogens

- > Hepatitis B
- > Hepatitis C
- > HIV/AIDS Virus

5.2.1 Health Effects of Hepatitis B

Hepatitis B Infection

Hepatitis B infection is a disease caused by the Hepatitis B virus (HBV) which attacks the liver and can lead to serious illness, and sometimes death. It can cause permanent liver damage and scarring resulting in chronic liver disease or liver cancer.

¹ http://www.hc-sc.gc.ca/hppb/Hepatitis_c/pdf/careGuideWomen/occupation.html

² <http://www.bccdc.org/topic.php?item=79>

³ <http://www.bccdc.org/news.php?item=60>

Transmission of Hepatitis B

HBV can be transmitted (contracted) by an infected person's blood or body fluids entering another person's body. It is recognized that some job tasks may place an employee at risk of being accidentally exposed to blood and or body fluids in the performance of his/her duties. The virus can also be transmitted through unprotected sexual contact and through sharing needles/injection drug use.⁴

Blood or any blood tinged bodily fluids are known to transmit the virus when they contact another person's open wound, broken skin (open sores, eczema), mucous membranes, puncture wound or cut. Other fluids such as uterine/vaginal fluids or semen are also capable of transmitting the virus.

Symptoms of Hepatitis B Infection

Hepatitis B symptoms usually manifest themselves in 2-3 months, although it can take as little as 6 weeks and as long as 6 months for the infected person to develop signs of illness, which may be mild or none at all. Initial symptoms usually are gradual with decreased appetite, tenderness in the upper right side of the stomach area, nausea and vomiting. Sometimes people experience arthritic like symptoms and a rash.



Patients with advanced Hepatitis disease have dark colored urine, clay colored stools, and a yellowing of the skin and eyeballs (jaundice). Fever may be absent or mild. Regardless of severity, all people are infectious.

Most people who become infected with HBV recover within 1-6 months but about 5-10% never fight off the virus. Infected individuals who are unable to get rid of the virus and remain infectious despite having no symptoms of the disease. They are called chronic Hepatitis B carriers and have an increased risk of dying prematurely of either cirrhosis or liver cancer.⁵

Risk of Infection

The greatest risk of infection from blood or body fluids infected by HBV is from puncture wounds or deep cuts. The risk of HBV transmission is lower for splashes on open sores or broken skin (rash), and lowest for mucous membrane exposures.⁶ Non-bloody saliva on intact skin or on mucous membranes (eyes, mouth) is not considered to be a significant exposure.

The risk of being infected with HBV from a needle stick exposure is about 30%. The risk of developing chronic HBV after a needle stick injury is almost zero in those who have been immunized.

⁴ <http://www.bccdc.org/topic.php?item=59>, <http://www.bchealthguide.org/healthfiles/hfile25a.stm>

⁵ <http://www.cdc.gov/ncidod/diseases/hepatitis/b/fact.htm>

⁶ <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/03vol29/dr2924ea.html>

Personal Protection

The best protection is safe work practices, and being immunized against Hepatitis B. Hepatitis B vaccination is provided to all employees whose job tasks place them at risk of occupational exposure to Hepatitis B.

Employees are encouraged to have their blood tested 6-8 weeks after their third Hepatitis B vaccination in order to confirm protection has been achieved, the results of this test are sent in confidence to Occupational Health Programs. Only those employees who did not achieve adequate protection are notified by Occupational Health Programs and advised to repeat the series of vaccinations.

5.2.2 Health Effects of Hepatitis C

Hepatitis C infection is a disease caused by the Hepatitis C virus (HCV) which, like HBV, causes inflammation of the liver and can progress to serious illness. Although rare, HCV can cause sudden serious illness resulting in death. A small number of people have mild illness and recover in 6 months. The majority of people with HCV acquire chronic HCV infection and 20-30 years later develop serious liver disease (cirrhosis or liver cancer).

Transmission of Hepatitis C

Hepatitis C is transmitted (contracted) by an infected person's blood or body fluids entering another person's body contracted by one's blood being in direct contact with HCV infected blood or body fluids. HCV is primarily spread through non-occupational activities, mainly injection drug users sharing needles (even one-time users), and/or related equipment including straws for snorting cocaine.

Other activities that create a higher risk of contracting HCV include:

- > unsafe sex with multiple partners;
- > ear/body piercing, tattooing with unsterile needles;
- > sharing personal hygiene materials such as razors, toothbrushes, or dental floss with a person who has HCV and;
- > mothers can pass HCV to their child at birth, and possibly by breastfeeding if the mother's nipples are cracked and bleeding.



Although sexual transmission of HCV between married couples is uncommon, using a condom is advisable at menstruation. Since June 1990 all donated blood in Canada is tested for HCV. As a result, there is now almost no risk of contracting HCV from a blood transfusion in this country.

Symptoms of Hepatitis C Infection

Symptoms of HCV infection usually appear between 2 weeks to 6 months following the initial HCV infection. The symptoms are often “flu-like” and can include:

- > feeling tired;

- > suffering joint pain;
- > stomach discomfort;
- > no appetite;
- > nausea and vomiting and;
- > some people may develop jaundice (a yellow colour to their eyes and skin).

About 90% of initial infections are asymptomatic, and 50% to 80% will develop into chronic Hepatitis C. Fifteen to 25% of people with Hepatitis C may recover. Ten percent to 20% of those with chronic infection will develop severe liver diseases. Reference: Prevention and Control of Occupational Infections in Health Care. Canada Communicable Disease Report. Volume: 2851 March 2002. page 162

Risk of Infection

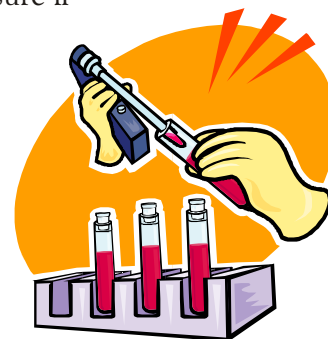
It is recognized that in the performance of their duties some employees are at risk of accidental exposure to blood and body fluids per a puncture wound (needle stick), cuts, splash onto an open wound, broken skin, or mucous membranes. The risk of contracting Hepatitis C from an occupational exposure to HCV infected blood or body fluids is dependant upon the type of exposure, the amount of blood involved in the exposure and the amount of virus in the infected person's blood. Research indicates there is a less than 5% risk of getting Hepatitis C from an occupational needle stick or cut exposure to HCV infected blood or body fluids.⁷

Personal Protection

**There is no vaccination to protect against Hepatitis C.
The best protection is safe work practices.**

Post-Exposure Treatment Guidelines

In the event of an occupational exposure to blood and body fluids, the employee's baseline blood tests include anti-HCV (antibodies to HCV). In order to ensure if one has/not contracted Hepatitis C, follow-up blood tests are done three months and twelve months. HCV infected people are advised to get immunized for Hepatitis A and Hepatitis B. Although limited, there is recent evidence that indicates early treatment of newly HCV infected persons may be helpful in preventing chronic HCV infection.



⁷ http://www.hc-sc.gc.ca/hppb/hepatitis_c/pdf/careGuideWomen/occupation.html

Summary Health Effects Hepatitis B and C

Infectious Disease	Transmission Route	Health Effects/Outcomes
Hepatitis B (HBV)	<p>Even tiny quantities of infected blood can result in infection.</p> <p>Direct contact through a puncture wound from contaminated sharps or needle stick injury.</p> <p>Contact through unprotected sex.</p> <p>Direct contact with broken skin (abrasions, burns, rashes).</p> <p>Contamination of mucosal surfaces, (eye splash or by mouth) with infected blood or body fluids visibly contaminated with blood.</p>	<p>Short term-acute swelling of liver occurs in most people infected.</p> <p>Long lasting chronic Hepatitis occurs in about 10% of people infected.</p> <p>Permanent liver damage and cirrhosis can result.</p> <p>About 1 % of infected people die from this disease.</p> <p>More than half of Hepatitis B infections occur and pass without any noticeable symptoms.</p> <p>Symptoms often include discomfort, fatigue, lack of appetite, skin rash or possible nausea, vomiting or other flu-like symptoms.</p>
Hepatitis C(HCV)	<p>Mostly through IV drug use and needle stick exposure.</p> <p>Transfusion prior to the mid 90's.</p>	<p>Similar to Hepatitis B but the majority develop chronic infection and most have no symptoms until they have serious liver disease.</p> <p>(At time of this publication) 2% of the provincial population is a chronic HCV carrier.</p>

5.2.3 Health Effects of HIV/AIDS

What is it?

The letters in “AIDS” stand for Acquired Immuno-Deficiency Syndrome. It is a very serious disease. People get AIDS from a virus called HIV (Human Immuno-Deficiency Virus). This virus harms the immune system, which protects people against infections. Because people with AIDS do not have this protection, they can get many different infections and cancers, and may die of these.

How can you get AIDS?

AIDS can be contracted by direct contact with HIV infected blood or bloody body fluids. The most common way of contracting HIV is through injection drug use or high-risk sexual behavior, the latter because the virus can be carried into the body in semen, vaginal fluids, or blood. **At work the most common cause of contracting the virus is by needle stick injuries, cuts with sharp instruments, exposure to mucous membranes (e.g. splashes in eyes and mouth) or through open skin lesions.** The risk of being infected with HIV from a needle stick exposure is 0.3% (1/300). Employees can get AIDS only if the virus gets into their body.

How can you NOT get AIDS?

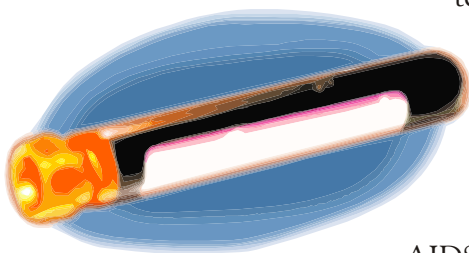
There are many misconceptions about the transmissibility of AIDS. Employees cannot get HIV from other people except by direct contact with their blood or infectious body fluids. Employees cannot get HIV from touching, shaking hands, or hugging a person who has AIDS.

How is an HIV infection Determined?

There is a blood test for HIV. It is called the HIV antibody test. If a person has been infected with HIV, their body makes antibodies against it. In the event of an occupational blood and body fluid exposure, the employee will have this blood test done (as a base line) in the Hospital Emergency Department and advised to have follow-up HIV testing at 6 weeks, 3 months, 6 months and 12 months. Any person with HIV antibodies is infected.

If the HIV test result is POSITIVE, it means the person is infected with HIV.

If the test result is NEGATIVE, it probably means the person does not have the HIV antibodies. Unfortunately, HIV antibodies can take 12 weeks or longer to show up. So the test can be negative, and a person can still have the virus if recently infected. If there is a chance an employee has only recently been infected, the only way to be sure that there is no HIV infection is to have the follow-up HIV testing as advised: at 6 weeks, 3 months, 6 months and 12 months.



AIDS is the last stage of the HIV infection. People who have AIDS become increasingly ill and may often die.

In the event of an occupational exposure to blood or body fluids it is very important that the employee gets to the local Hospital Emergency Department as soon as possible after exposure, preferably within 2 hours. Studies indicate that early treatment with antiretroviral medication reduces the risk of HIV transmission. Antiretroviral medications are not routinely administered if a worker is pricked by an abandoned needle since the medication is quite toxic. Antiviral medications have some serious side effects that include liver failure and death.

There is no vaccine for HIV. There are drugs that may be administered after a person has been exposed to blood and body fluids to lower the risk of HIV infection. AIDS experts believe that taking these drugs for a month after an exposure reduces the risk of becoming infected by about 80%.⁸ There is no cure for these bloodborne diseases. Prevention procedures in the workplace are the most effective method for protecting employees against these infections.

⁸ http://collection.nlc-bnc.ca/100/201/300/cdn_medical_association/cmaj/vol-156/issue-2/0233.htm
<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/96vol22/dr2207ec.html>

Summary of Health Effects HIV/AIDS

Infectious Disease	Transmission Route	Health Effects/Outcomes
AIDS (Acquired Immune Deficiency Syndrome)	<p>Found in blood, semen and vaginal secretions.</p> <p>Unprotected high risk sexual behaviour.</p> <p>Contaminated needles (sharing contaminated needles or syringes with an infected person).</p> <p>Through infected blood or blood products (since 1985 all blood or blood products are screened for HIV).</p> <p>Direct exposure by needle stick injuries, cuts with sharp instruments, exposure through mucous membrane (e.g. splashes in eyes and mouth) or through open skin lesions.</p>	<p>People with HIV develop associated infections:</p> <ul style="list-style-type: none"> > Pneumonia > Cancer > Tuberculosis > Herpes viruses > Yeast infection <p>Symptoms include:</p> <ul style="list-style-type: none"> > Fever > Night sweats > Inflammation of lymph node > Weight loss > Chronic diarrhea > Fatigue <p>Many people infected with HIV remain healthy for months or even years.</p>

5.3 Respiratory Diseases

> Tuberculosis

5.3.1 Health Effects of Tuberculosis

Tuberculosis (TB) is a communicable disease that is transmitted when a person with active TB growing in their lungs expels the TB germs into the air by coughing or sneezing. This type of TB is called pulmonary (lung) TB. TB can also occur as non pulmonary (outside the lung) TB. This type of TB is not transmitted by coughing or sneezing. Risk of infection is contingent on several variables: duration of contact, proximity of contact, infectiousness of the infected person, and the amount of ventilation in the room.

A the time of publication, the number of cases of active tuberculosis in BC was quite low. A person can have a TB infection, not feel sick and not be infectious to others. This is because the person's immune system prevents the TB germs from growing. A person with TB disease is infectious to others when the germs are actively growing in the lungs.

Although TB infections can occur in other parts of the body, (bones, glands, kidneys, joints etc.) transmission of TB to others from these areas is unlikely in the workplace.

If a person has a TB infection there is a 5 to 10 percent chance of them developing the disease and becoming infectious to others. However, if one's immune system is weakened the risk for developing active disease increases. A person who is HIV positive and becomes infected with TB has a 50% chance of developing active TB disease.

TB is a reportable disease by law and each case is investigated and managed under public health policies established by TB Control of the BC Centre of Disease Control (BCCDC). In order to control further spread of the disease contacts are notified of their risks of infection and provided post-exposure screening and treatment as necessary.

An occupational exposure to TB is where there is a possibility of TB transmission occurring when an employee is sharing the same room air with a person who has infectious TB of the lungs. Persons who have prolonged close exposure to an individual with infectious TB of the lungs are at greater risks to becoming infected. Good room air ventilation with 6 air exchanges per hour reduces the risk of such inadvertent exposure.

Employee Populations at Risk for TB

The TB screening programs are based on populations at risk. TB Control recommends that all health care employees, sheriffs and correctional officers be screened on hiring to establish baseline data in order to facilitate contact screening when necessary. Employees who work in the following occupations may be part of a TB screening program:

- > Employees in licensed Community Care Facilities (Adult and Child);
- > Employees in Health Care Facilities (hospitals);
- > Public Service Employees (Correctional Officers, Sheriffs, Community /Public Health Nurses/Home Care Nurses and Social Service Workers); and
- > Employees who come into contact with an active case of tuberculosis.



Screening for TB

Correctional Officers and sheriffs are the only group of BC Public Service employees required to submit documentation of baseline TB screening as part of their pre-placement assessment. This is a one-time procedure on hiring for these employees whose duties involve close contact with patients or clients belonging to sub-populations having an increased incidence of TB. Further testing of employees is only done as advised by TB Control or Public Health.

Provincial correctional facilities are considered different from federal correctional facilities, due in part to the relatively short stay category in provincial facilities. In BC between 1989 and 1997, 10 cases of active TB were reported in inmates and no cases in correctional officers. Currently in provincial correctional facilities, each inmate on entry has a history and physical examination. Tuberculosis screening is only done with cause.

TB Control is responsible for recommendations for post exposure TB screening and management of those persons identified as being infected.

Exposure to TB

When TB Control/Public Health advises a workplace of a known exposure to active pulmonary TB all employees must be notified of this occupational exposure and post-exposure TB screening must be made available for those employees. Supervisors should report this event to the WCB.

Although participation in post-exposure screening is not compulsory, employees are strongly encouraged to participate in order to prevent the risk of developing TB disease if infected. TB skin testing can be done by the Public Health Unit or through the TB Chest Clinic in your region.

Post exposure screening consists of each contact being interviewed by a medical health professional that will administer the Tuberculin skin test and read it 48 to 72 hours later. Documentation of the health professional's interpretation of the reaction to the skin test is recorded on an official TB screening form and a copy provided to the employee. Exclusion of an individual from TB skin testing will be determined by the medical health professional during the initial interview with the employee.

Why is a tuberculin skin test used?

A person can have TB germs in their lungs and not feel ill. The skin test is one way to find out if you have had a TB infection. Other methods of medical assessment include a chest x-ray or a laboratory test completed on sputum (spit) coughed up from the lungs.

How is the skin test done?

This is a two-part test. The first part of the TB test is an intradermal (under the skin) injection where a small amount of a harmless test substance is placed on your forearm. The reaction you may get from this is a raised area around the site of the injection. If the area gets itchy do not scratch it. Applying a cold cloth or ice cube will help reduce the itchiness.

The second part of the skin test is to measure the response in 2 to 3 days time to determine if a positive or negative reaction to the skin test occurred. The measurement must be done by a qualified medical health professional. If the second part is not completed, the skin test is of no value.

What do the test results mean?

A negative skin reaction to the test means that you probably do not have TB germs in your body. You may be asked to have a repeat skin test again in six to eight weeks from when you have had contact with someone with TB disease. This is because it takes 2 to 10 weeks for your body to show sensitivity to TB, which indicates an infection.

If a skin test is positive it means that you have TB germs in your body. If you have a positive skin test you will have to have more tests done in order to determine which category you fall into. A chest x-ray will be done to see if the lungs are affected. If the x-rays are abnormal, or you are feeling sick, you will be asked to give sputum (spit) sample to test for TB germs.

Vaccination for TB

You may have had a vaccination, known as a BCG vaccination against TB, when you were a child. If you have a positive skin test there may be a chance that it is a result of the vaccination but it is unlikely that your reaction to the skin test would be large, as the effect of this vaccination decreases over time.⁹

⁹ <http://www.bchealthguide.org/healthfiles/hfile51b.stm>

A BCG vaccination which is more than fifteen years old has lost its ability to stimulate a positive skin test.

What is the treatment of TB Disease?

The good news is TB can be treated and cured. Following assessment and diagnosis of active TB the doctor will order medication to kill the TB germs.

If you do develop active TB you must be treated in order to cure the disease and also to prevent you from spreading the TB disease to family and friends.

Treatment consists of taking several types of medication for 6 to 9 months. All the testing and medication are provided to you free of charge.

Management of an Active TB Case

In the event of an employee being exposed to active TB in the public service, co-ordination of tuberculin screening of the staff would be handled by the public health services, Occupational Health Programs and the management of the facility of work location. Occupational Health Programs must be notified of the occupational exposure.

TB is a reportable disease and TB Control/Public Health investigates each case. Contacts are notified of the exposure and risk of infection. Employees are provided with post exposure screening and follow-up.

How can transmission of TB be reduced?

A person with active tuberculosis remains infectious for the 2 to 3 weeks after they start medication treatment. To reduce spreading TB germs to others it is important that the person does the following:

- > Cover the nose and mouth when coughing and sneezing or laughing;
- > Use disposable tissue when coughing and discard these in the waste basket;
- > Maintain good room ventilation which is helpful in reducing transmission of these air borne TB germs;
- > Avoid close contact with other people; and
- > Start treatment medications and take as prescribed for as long as required. Treatment can be as long as 6 to 9 months.

TB Records



Records on TB screening results are kept by Occupational Health Programs for as long as the employee is working in the public service. Local health units will keep records and family doctors will keep any positive test results on file. It is recommended that employees keep their own personal copy of health screening results from TB testing.

Summary Health Effects of Tuberculosis

Infectious Disease	Transmission Route	Health Effects/Outcomes
Tuberculosis (Pulmonary)	<p>Inhalation of airborne droplets from sputum of persons infected with active lung or larynx tuberculosis.</p> <p>The droplets are spread when infected person coughs, sneezes or talks.</p> <p>Employees who have prolonged close exposure to individuals with pulmonary tuberculosis are at greater risk of being infected with the TB germ.</p> <p>Direct invasion of TB bacteria through mucous membranes or breaks in the skin may occur but is extremely rare.</p>	<p>Symptoms include fever, night sweats, dramatic weight loss, cough and chest pain.</p> <p>Left untreated, TB can infect practically all organs and tissues of the body but is most often found in the lungs where it can cause destruction and scarring of lung tissue and even death.</p> <p>Often the initial infection goes unnoticed and individuals can be infected for many years without becoming sick.</p>

5.4 Animal Vectors

- > Hantavirus
- > Rabies
- > Lyme Disease
- > Cryptosporidiosis
- > Giardiasis



5.4.1 Health Effects of Hantavirus Pulmonary Syndrome

Hantavirus Pulmonary Syndrome is a severe illness caused by a virus found in some rodents, especially deer mice. The risk of catching Hantavirus is very low. Exposure most commonly occurs from breathing in infected dust that contains the virus or by indirect contact with infected materials or direct contact by bite or exposure to open wounds.

Risk

At the time of publication, less than 10 cases of Hantavirus Pulmonary Syndrome have been reported in BC since 1994¹⁰ including two work-related cases, one near Williams Lake and the other near Kamloops. Both of these work related cases appear to involve **direct contact** with mice and their droppings. Other (non-BC) cases have been associated with these work activities:

- > Sweeping out a barn and other ranch buildings, trapping or studying mice, and disturbing rodent infested areas;

¹⁰<http://www.bccdc.org/topic.php?item=79>

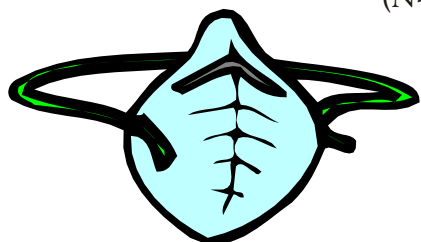
- > Using compressed air and dry sweeping to clean wood waste in a saw mill;
- > Handling grain contaminated with mouse droppings and urine; and,
- > Planting or harvesting field crops.

Pre Exposure Procedures

Clean up procedures must be performed in such a way that minimizes the amount of airborne dust created. Wearing a dust mask will prevent inhalation of airborne particles that may be raised. Prior to cleaning up, spray liquid disinfectant solutions to both wet down the area visibly contaminated with mouse droppings (and thereby reduce airborne dust), as well as kill surviving microorganisms.

Prevention

PPE (personal protective equipment) is required to protect employees who clean barns and other outbuildings or who may come into contact with rodents. These employees should wear a disposable dust mask that has been approved by NIOSH for dusts and mists (N-95, N-99 or N-100 masks). These disposable masks must have an approval number indicated. They are inexpensive and readily available from safety suppliers.



Transmission can also occur when contaminated material gets into broken skin or ingested from contaminated food or water. Gloves must be worn during work in any area at risk of contaminated dust. Employees are advised to always wash their hands following work activities.

To avoid risk of inhaling infected dust particles use the following procedure:

- (1) Wear PPE (put on a dust mask and disposable medical gloves) before proceeding with work task.
- (2) Spray disinfectant (100 mls of household bleach per litre of water) to wet down and disinfect visibly contaminated areas.
- (3) Scoop up wet disinfected materials, double bag in plastic bags and dispose as infected biohazardous wastes. It is preferable to burn or bury contaminated material but normal biohazardous waste material disposal is acceptable.
- (4) Clean the contaminated area. Place dead rodents in a bucket of household disinfectant (1 part bleach to 10 parts water) for 30 minutes before burning or burying the bodies. If unable to burn or bury them following 30 minutes disinfecting, place bodies in triple wrapped plastic bags before discarding in domestic garbage or treat as a biohazardous waste.
- (5) Disinfect traps after dead animals have been removed.

Hantavirus Risk Control Program

Employees performing these types of work activities require a specific Hantavirus risk control program which can be found in the publication “A *Hantavirus Risk Control Program for Employers and Workers*”¹¹ available from the WCB website. Ministries may need to implement a respiratory protection program under specific exposure conditions.

Summary Health Effects of Hantavirus

Infectious Disease	Transmission Route	Health Effects/Outcomes
Hantavirus Pulmonary Syndrome (virus)	<p>Inhalation of airborne virus in excreted urine, residue faces, and saliva from infected deer mice and other wild rodents.</p> <p>Direct contact (bite) or indirect contact from touching something that is contaminated with infected rodent urine, droppings, or saliva and then touching your nose and/or mouth.</p> <p>Eating food or water that is contaminated with infected rodent saliva, urine or droppings.</p>	<p>Acute illness.</p> <p>Flu-like symptoms.</p> <p>Chills, fever, muscle aches.</p> <p>Illness rapidly progresses to pulmonary edema with lungs filling with fluids.</p> <p>Requires immediate treatment in intensive care.</p> <p>52% mortality rates.</p> <p>No cure/symptomatic treatment only.</p>

5.4.2 Health Effects of Rabies

What is rabies?

Rabies is a disease caused by a virus. It is transmitted through saliva (spit), usually by an animal bite. This disease affects a person’s nervous system, including the brain.

Symptoms include headache, fever, increasing difficulty in swallowing, excessive drooling, muscle spasm or weakness, and strange behavior. If not treated in time, rabies kills almost all of its victims.



How is it spread?

Most humans get infected after being bitten by an infected animal. Dog bites cause most human rabies in developing countries. Wild animals, domestic pets and farm animals have all been known to carry the disease. In British Columbia, the most common species that carries rabies is bats. In fact, up to 10 percent of bats from BC submitted for testing following human contact, have been infected with rabies.

This does not mean that 10 percent of all bats in BC are infected – most bats submitted for testing are tested because they are dead, or sick, or acting strangely (and therefore more likely to have rabies). The percentage of all bats in BC that are infected is much lower.

¹¹http://www.worksafebc.com/publications/Health_and_Safety_Information/by_topic/assets/pdf/hantavirus.pdf

Where in BC is rabies a problem? Bats with rabies have been found throughout BC. You should suspect any bat of being a potential source of rabies.

How common is rabies?

Rabies cases are rare, at the time of publication, BC has had two deaths since 1985 and there have been 6 deaths in Canada since 1960.

Approximately 200 people a year in BC are treated for suspected exposure to the rabies virus.¹² All bat-associated bites, scratches and physical exposures are considered dangerous. It is rare in British Columbia to catch the rabies virus through bites from other animals, but keep in mind that strange behaviour in pets and other animals may mean they have rabies.

Animals with rabies often act very strangely. They may attack humans without reason. Symptoms of rabies in animals include paralysis, especially of the hind limbs and throat muscles. Some mammals may become aggressive. Rabid bats may appear normal except for a gradual weakness and loss of flying ability.

What is the treatment?

If bitten or scratched by an animal that may have rabies, follow these procedures:

- (1) Wash the wound well with soap and warm water for at least 5 minutes. This lessens the chance of any infection.
- (2) Seek medical attention right away. If treated in time, rabies infections in humans can be cured or eliminated.

Two products are used to prevent a rabies infection:

- > one dose of rabies immune globulin that helps to neutralize the virus before it becomes established, plus one dose of Rabies vaccine as soon as possible after exposure and then;
- > 4 doses of rabies vaccine administered over the next 28 days that helps your immune system to make antibodies against the virus.



I think I might have been exposed?

It is crucial to begin treatment for possible rabies as soon as possible. Rabies typically takes from 3-8 weeks before symptoms start.

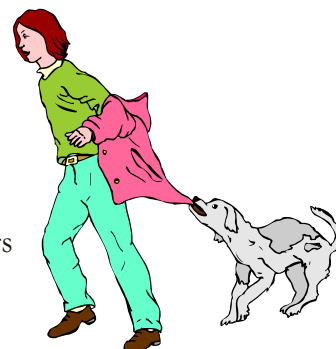
If there is any chance that you may have been exposed to the rabies virus, contact your doctor or your local public health office. They will be able to decide if you need rabies treatment.

¹²<http://www.bccdc.org/topic.php?item=89>

Cautionary Note: If an animal bites an employee, the head of that animal may be needed for testing. If rabies is suspected, a post-mortem examination of the animal's brain can quickly show whether or not it was rabid.

How can you prevent rabies?

Although human rabies is not a common disease, animal rabies occurs in BC – and in other provinces and countries – and it can be fatal when passed on to humans. The following suggestions will help protect employees from rabies:



- > If you **do** find a bat, dead or alive **don't touch it!** The animal's saliva (spit) or blood through a cut on your hand or open sore can transmit the rabies virus, even if you're not actually bitten.
- > If you find a dead bat out in the woods or away from populated areas, just leave it where it is.
- > If you are going to handle the bat pick it up with a stick, (wear appropriate medical disposable gloves) and put it in a plastic bag. Put this bag in a second plastic bag and seal it tight. Then put it in the garbage (unless prohibited by local by-law). After disposing of the stick and medical disposable gloves wash your hands well with soap and warm water for at least 5 minutes.

Summary Health Effects of Rabies

Infectious Disease	Transmission Route	Health Effects/Outcomes
Rabies (virus)	Animal bites (saliva of infected animals). Contact with body fluids and tissues of infected animals.	Tingling around the wound Fatigue Headaches Fever Cough Abdominal pain Vomiting Diarrhea Irritability, "furious rabies" Coma Paralysis If not treated rabies kills almost all of its victims

5.4.3 Health Effects of Lyme Disease

Diseases spread by ticks

Several human diseases are caused from tick bites. The best known is Lyme disease. Others include relapsing fever, Tularemia, Rocky Mountain Spotted Fever (RMSF), Q fever and Ehrlichiosis. All of these diseases are rare in British Columbia. While most tick bites do not result in disease, some do. Certain ticks may cause temporary paralysis. In all cases it is very important to remove the whole tick. The ticks themselves do not cause the disease. They are a vector for the microorganisms that live in the tick or infected animal they previously bit. They are passing the micro-organism on to you as part of the life cycle of a parasite.

What Are ticks?

Ticks are like tiny spiders, about the size of a sesame seed, which feed on blood. Different ticks prefer different types of animals. Sometimes a tick bites a person instead of their favorite animal.

Ticks live in tall grass and wooded areas. They are easiest to spot when they are actually sucking blood. Ticks burrow part way into the skin, bite, draw blood, then drop off. The feeding tick's mouth will be under the skin, but the back parts will be sticking out. They will be full of blood and blue-grey in colour (this is called an "engorged" tick).

Lyme Disease

The organism, which causes Lyme Disease (*Borrelia burgdorferi*), has been found in ticks collected from many areas of BC, and health authorities now believe that Lyme Disease carrying ticks may be present throughout the province. At the time of publication, in British Columbia there have been over 60 confirmed cases of Lyme Disease. Of these, 20 cases had no record of travel outside of the province, and are considered to have contracted the disease in BC.

What are the health effects of Lyme disease?

If you experience the following symptoms within days or weeks after being bitten by a tick report them immediately to your family doctor.

- > General symptoms of fever, headache, muscle and joint pains, fatigue or weakness of the muscles of the face.
- > Skin rash, especially one that looks like a "Bull's Eye." It may or may not be where the bite was.
- > In some cases paralysis may occur. The paralysis usually starts in the feet and legs and gradually works its way up to the upper body, arms and head. This paralysis can develop from within a few hours to several days after the bite.
- > Tell your doctor when and where the tick bite occurred.

Not all ticks carry the *Borrelia burgdorferi* bacteria, and there is only a very small chance of them giving it to employees. However, because the resulting disease can be serious, it is worth taking steps to avoid being bitten.

Treatment

Antibiotics are needed to prevent the complications from Lyme disease or another tick-related disease.

Is there a vaccine?

At the time of publication, a vaccine to prevent Lyme disease has just been licensed in Canada. This vaccine is most useful for people who spend a lot of time outdoors in high-risk areas like the north-eastern United States. The vaccine is not 100% effective and will not prevent other tick-borne diseases. Therefore, follow other protective measures to prevent illness.

Control Measures

Avoidance of ticks is the best prevention from contacting this disease. Ticks live in tall grass and wooded areas. Employees who work out doors need to prevent exposure to ticks by practicing the following procedures:

- > Walk on cleared trails whenever possible and avoid tall grass and woods;
- > Wear a hat;
- > Wear light colour clothing, tuck your top into your pants and pants into your boots or socks; then
- > Put insect repellent containing DEET onto clothing and all uncovered skin. Reapply as frequently as directed; and,
- > Check clothing and scalp in a good light to check for ticks after leaving the area.

Removing Ticks

In removing ticks, the most important thing is to make sure that you remove all the tick, including the mouthparts that are buried in your skin. Do Not Squeeze the body of the tick when you are removing it. This can force its stomach contents into the wound and increase the chance of infection.

If you have found a tick, you have three choices:

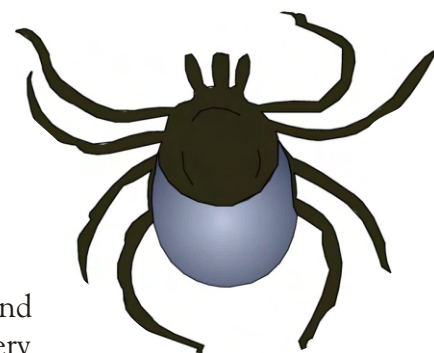
- (1) Remove the tick yourself;
- (2) Get someone else to remove the tick for you. (This is when you can't reach it or see it clearly, for example if it's on your scalp, or some other hard-to-reach place); or
- (3) Get your family doctor to remove it.



How NOT to remove a tick!

Some people think you can remove a tick by covering it with grease, or gasoline, or some other substance. This does NOT work! It only increases the chance of you getting an infection.

Holding something hot (for example, a match or cigarette) against the tick also does NOT work! Again, this will only increase the chance of an infection from accidentally burning yourself. If you decide to remove the tick yourself, follow the instructions below.



When should you remove the tick?

You should remove the tick yourself as soon as possible, or get a friend or family member to remove it right away, if the tick is not buried very deep into your skin. If the tick has been on your skin for less than two hours, it has probably not had a chance to burrow into your skin. If the tick is just on the surface of your skin, or only biting on to the outside skin layer, you can remove it following the instructions below.

When should you get a doctor to remove the tick?

You should go to your doctor to get the tick removed if it has buried itself deep into your skin. This usually happens if the tick has been on you for several hours, or even a day or two. When a tick has burrowed deep into your skin, it is very hard to remove the tick without leaving some mouth parts behind, which can cause infection.

How to remove a tick

Remove the tick right away (if possible, wear medical disposable gloves when handling an engorged tick):

- > Use tweezers or forceps to gently get a hold of the tick as close to the skin as possible. Don't touch the tick with your hands.
- > Without squeezing the tick, steadily lift it straight off the skin. Avoid jerking it out. Try to make sure that all of the tick is removed.
- > Once the tick has been removed, clean the bite area with soap and water then disinfect the wound with antiseptic cream. Wash hands with soap and water.
- > If possible, save the tick in a container with a tight fitting top. If the tick is alive, dampen a small cotton ball and put it into the tick container to keep the tick alive. (A live tick is necessary for culturing the bacterium, which causes Lyme disease.)
- > Label the container with date, name and address of person bitten, what part of the body was bitten, and what part of the province the tick came from. Also, include the name and address of family physician.
- > If person bitten experiences signs and symptoms you can provide this container to her/his physician. Her/his doctor will then send it away for testing.
- > If uncertain, ask her/his doctor for advice.

For laboratory testing, this container should be mailed as soon as possible to:

BC Centre for Disease Control
Vector-Borne Diseases Laboratory
655 West 12th Ave
Vancouver, BC V5Z 4R4

Summary Health Effects Lyme Disease

Infectious Disease	Transmission Route	Health Effects/Outcomes
Lyme disease caused by <i>Borrelia burgdorferi</i>	Tick bites	<p>General symptoms of fever headache, muscle and joint pain or weakness of the muscles of the face.</p> <p>Skin rashes, especially one that looks like a “Bulls-Eye.”</p> <p>In some cases paralysis may occur, with symptoms starting in the feet and working its way up the body to the head.</p>

5.4.4 Health Effects of Cryptosporidiosis

What is Cryptosporidiosis?

Cryptosporidiosis is an infection of the intestines caused by a very small micro-organism.

The disease is usually contracted by drinking contaminated water. In BC, drinking water systems supplied from surface water sources (rain, creeks, rivers, lakes, etc.) are vulnerable to contamination by the feces of infected animals.

What are the symptoms of Cryptosporidiosis?

Symptoms usually start anywhere from 2 to 14 days after exposure to the parasite, although not everyone who is infected with it will feel sick. If symptoms do occur, they may include frequent watery diarrhea, stomach cramps, nausea, vomiting, and mild fever.

Symptoms may come and go, and usually last fewer than 30 days in people who are otherwise healthy. The infection may also last longer and be more serious in people whose immune system is not working properly.

Get medical attention if the illness is severe or prolonged. Otherwise, your body’s defense mechanisms will eventually rid you of the parasite.

How is it spread?

The parasite that causes Cryptosporidiosis is often found in the bowel movements (feces) of infected humans and animals, including pets, livestock, poultry, or wild animals.



The infection can also be spread through tap water if the source for the tap water has been contaminated. Current methods used to treat drinking water do not always remove this very hardy parasite.

The infection can also be spread from hand to mouth (for example, by touching an infected animal with your hands and not washing your hands prior to eating).

The parasite may also be spread by hand to mouth contact with items such as diapers or bedding, which an infected person has used. This is possible because the parasite can live outside of the body for several months under moist conditions.

How can I prevent getting Cryptosporidiosis?

Wash your hands well after touching farm animals, pets, or wild animals. This is especially important before eating or preparing food.

Avoid drinking water directly from rivers, creeks or lakes, or when there is uncertainty about whether or not the water has been properly treated.

Water treatment to safeguard against Cryptosporidiosis – Boiling

The following water treatment procedures should be used by employee's using water from surface sources.

At elevations over 2,500 meters (6,500 feet) boil water for at least two minutes to disinfect. (**Cautionary Note:** this is not effective in purifying water that is obviously heavily polluted or chemically contaminated). Boiling water for one minute at lower elevations may be sufficient to disinfect.

This boiled water should be used for drinking, brushing teeth, rinsing dentures or contact lenses, making ice cubes, washing uncooked fruit and vegetables, and in recipes which require water. Dishes, glasses and cutlery should be rinsed with water, which has been boiled.¹³



Cautionary Note: Iodine, chlorine and portable water filters are not effective against this parasite, and should not be used to prevent Cryptosporidiosis. See the footnote below for more information on treating contaminated water.

¹³<http://www.bchealthguide.org/healthfiles/hfile49b.stm>

Summary Health Effects Cryptosporidiosis

Infectious Disease	Transmission Route	Health Effects/Outcomes
Cryptosporidiosis is a parasite that infects the intestines	<p>Contracted by drinking contaminated water from rivers, creeks, lakes, swimming pools and hot tubs.</p> <p>Infection can occur from tap water if the water source has been contaminated.</p> <p>Parasite is found in feces of infected humans and animals including pets, livestock, poultry and wild animals.</p> <p>Indirect contact with the parasite has occurred from soiled diapers or linen.</p> <p>Unpasteurized dairy products may also carry this parasite.</p> <p>The parasite can live outside the body for several months under moist conditions.</p>	<p>Some infected people do not feel sick.</p> <p>Symptoms usually include frequent watery diarrhea, stomach cramps, nausea and vomiting and mild fever.</p> <p>Symptoms may come and go and often last less than 30 days.</p> <p>If you have a weakened immune system, discuss your risk of contracting Cryptosporidiosis with your doctor.</p>

5.4.5 Health Effects of Giardiasis

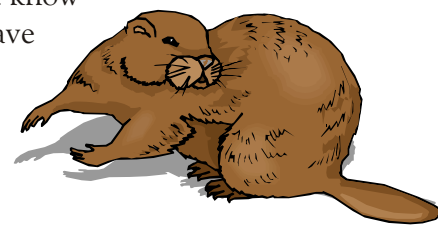
What is Giardiasis?

Giardiasis, often called “beaver fever,” is a stomach infection that employees can get from drinking contaminated water or from close personal contacts with someone else who has it. Symptoms can include diarrhea, stomach cramps, nausea (feeling sick) and/or vomiting, weight loss, and feeling tired. These symptoms can last from one to three weeks. The infection is caused by a microorganism giardia (*Giardia lamblia*).

How is it spread?

This disease is found all over the world. It is most common in the rural and wilderness areas of Western Canada, where there is a lot of local wildlife. It is spread mostly through water that has been contaminated by droppings from infected animals, including beavers and muskrats.

Hand-to-mouth transfer of the parasite commonly spreads it. As a result, a person can spread it to others while preparing food. A person who is infected may not know they are passing the infection on to others because they may not have any symptoms.



How can you avoid catching these diseases?

Untreated water may carry disease-causing parasites, bacteria, and viruses. Even backpackers in the “pristine” wilderness areas of BC are at risk. It is always best to assume that surface water contains some animal droppings and treat it accordingly.

Wash your hands well after touching farm animals, pets, or wild animals. This is especially important before eating or preparing food.

The following water treatment procedures should be used by employee's using water from surface sources:

- > The simplest treatment method is boiling: just bring the water to a boil for one minute and then allow it to cool. At elevations over 2,500 meters (6,500 feet) you should boil water for at least two minutes to disinfect. (**Note:** this is not effective in purifying water that is obviously heavily polluted or chemically contaminated).
- > This boiled water should be used for drinking, brushing teeth, rinsing dentures, or contact lenses, making ice cubes, washing uncooked fruit and vegetables, and in recipes which require water. Dishes, glasses and cutlery should be rinsed with water that has been boiled.

Cautionary note: Beaver fever (*Giardiasis*) and *Cryptosporidium* parasites are both resistant to bleach. Water that was badly contaminated with these parasites to begin with may still make you sick after bleach is added. If you think beaver fever or *Cryptosporidium* are in your water, boiling is the best way to ensure safe drinking water.

What if you think you have a water-borne disease?

An employee with symptoms or concerns about water is recommended to have a medical assessment for advice and treatment.

How can you prevent *Giardiasis*?

Prevention from contacting this parasite is by following these simple general hygiene and safe water rules.

- > Washing hands well after touching animals, pets or wild animals. Always wash hands before preparing food;
- > Avoid drinking water directly from rivers, creeks or lakes;
 - > Avoid uncooked food and drinks which have been prepared with untreated water;
 - > Avoid unpasteurized milk or other unpasteurized products; and
 - > Always boil potentially contaminated water for at least 2 minutes before using.



Summary Health Effects Beaver Fever (Giardiasis)

Infectious Disease	Transmission Route	Health Effects/Outcomes
Giardiasis, also known as beaver fever, is an intestinal parasite infection common in rural and wilderness areas in western Canada.	Contracted from drinking water contaminated with infected animal feces including beavers and muskrats. Contracted from close personal contact with infected persons through hand to mouth transfer. Also found in domestic animals.	Symptoms include diarrhea, abdominal cramps, nausea and vomiting, weight loss and fatigue which can last from one to three weeks. Infected people may have no symptoms and be unaware of this infection.

*Disinfecting Untreated Water
Boil for at least 2 minutes before using*



6 Appendices

Appendix 1 – The BCGEU Master Agreement Article 22.12 contains provisions regarding “Communicable Diseases”

Articles include 22.12(b):

“In respect of communicable diseases, the Provincial Joint Occupational Health and Safety Committee consider, review and make recommendations to the Principals on issues including:

- 1. preventive protocol measures, including education, hygiene, protective equipment/apparel and vaccinations;*
- 2. post-exposure protocols;*
- 3. measures necessary for the establishment of a work environment with minimal risk to exposure or to infection by communicable disease.”*

Article 22.12(d) states that:

“Where a communicable disease policy is established the local health and safety committee or union designated safety representative shall be consulted regarding the worksite specific application of this policy.”

Appendix 2 – Relevant sections of Section 5 and 6 of the Workers’ Compensation Board of British Columbia Occupational Health and Safety Regulation

5.54 Exposure control plan

- (1) An exposure control plan must be implemented when:
 - (a) exposure monitoring under section 5.53(3) indicates that a worker is or may be exposed to an air contaminant in excess of 50% of its exposure limit,
 - (b) measurement is not possible at 50% of the applicable exposure limit, or
 - (c) otherwise required by this WCB OHS Regulation.
- (2) The exposure control plan must incorporate the following elements:
 - (a) a statement of purpose and responsibilities,
 - (b) risk identification, assessment and control,
 - (c) education and training,
 - (d) written work procedures, when required,
 - (e) hygiene facilities and decontamination procedures, when required,
 - (f) health monitoring, when required,
 - (g) documentation, when required.
- (3) The plan must be reviewed at least annually and updated as necessary by the employer, in consultation with the Joint OHS Committee, if any, or the worker health and safety representative, if any.

— In sections 6.33 to 6.41

Definitions

“Biohazardous material” means a pathogenic organism, including a bloodborne pathogen, which due to its known or reasonably believed ability to cause disease in humans, would be classified as Risk Group II, III or IV as defined by the Medical Research Council of Canada, or any material contaminated with such an organism;

“Occupational exposure” means reasonably anticipated harmful contact with blood or other potentially biohazardous material that may result from the performance of a worker’s duties.

“Safety-engineered needle” includes a self-sheathing needle device and a retractable needle system.

6.34 Exposure control plan

The employer must develop and implement an exposure control plan meeting the requirements of section 5.54, if a worker has or may have occupational exposure to a bloodborne pathogen, or to other biohazardous material as specified by the board.

6.35 Risk identification

The employer must maintain a list of all job classifications and must identify all tasks and procedures in which there is a potential for occupational exposure to a bloodborne pathogen, or to other biohazardous material specified by the board.

6.36 Control procedures

- (1) Engineering controls and work practice controls must be established to eliminate or minimize the potential for occupational exposure to a bloodborne pathogen or other biohazardous material.
 - (1.1) On and after January 1, 2008, when a hollow-bore needle is used in a workplace to access a vein or artery for the purpose of collecting blood or caring for or treating a person, the employer must ensure that
 - (a) if it is clinically appropriate, a safety-engineered needle that provides the highest level of protection from a needlestick injury is used, or a needleless device is used in place of a hollow-bore needle, and
 - (b) safe work procedures and practices relating to the use of those safety-engineered needles or needleless devices are implemented.
- (2) Personal protective equipment must be worn to shield workers from biohazardous material.
- (3) Housekeeping practices must be designed to keep the workplace clean and free from spills of biohazardous material.
- (4) Work procedures must ensure that laundry contaminated with biohazardous material is isolated and bagged, and handled as little as possible.
- (5) Repealed. [B.C. Reg. 312/2003, effective October 29, 2003.]

* Statutes or regulations covered by other jurisdictions apply to biohazardous materials.

6.37 Labels and identification

- (1) Except as provided in subsections (2) to (4), a container of known or suspected biohazardous material must have a label affixed which discloses the product identifier, the name of the organism known or suspected to be present, information on the safe handling of the material, or a biohazard symbol, and a reference to an MSDS for the material if one has been prepared.
- (2) A label on a diagnostic specimen of human body fluid or tissue that is known or suspected to contain a biohazardous organism is exempt from subsection (1) if
 - (a) the label discloses a sample identifier, and the risk group number of any risk group II, III, or IV organism, as defined by the Medical Research Council of Canada, known or suspected to be present,
 - (b) the specimen is identified as biohazardous by use of a biohazard symbol or equivalent means, and
 - (c) sufficient information is provided to enable immediate contact with the medical professional providing the sample in the event of an emergency.
- (3) If a container of known or suspected biohazardous material is too small to be labeled, the employer is exempt from the requirements of subsections (1) and (2) if an equivalent system of hazard communication is developed and implemented.
- (4) Laundry or waste material that is contaminated with a known or suspected bloodborne pathogen is exempt from subsections (1) and (2) if
 - (a) all such material is handled using universal precautions, and
 - (b) an alternate and equally effective system of hazard identification, such as distinctive-coloured bagging, is used.
- (5) Known or suspected biohazardous material that is not in a container must be identified by:
 - (a) posting a conspicuous and clearly legible placard that discloses the information required in subsection (1), or
 - (b) an equivalent means of hazard communication.

6.38 Education and training

The employer must inform workers about the contents of the exposure control plan and provide them with adequate education and training to work safely with and in proximity to potentially biohazardous material.

6.39 Vaccination

Vaccination against Hepatitis B virus must be made available at no cost to the worker, upon request, for all workers who have, or who may have, occupational exposure to Hepatitis B virus.

6.40 Health protection

- (1) A worker potentially exposed to Hepatitis B virus or another bloodborne pathogen in an exposure incident must be advised to seek a medical evaluation at the time of the incident.
- (2) The medical evaluation must be based on an assessment of the risks associated with the incident, and subsequent post-exposure health management must be provided as necessary.

6.41 Records

A record must be kept of all workers who are exposed to biohazardous or potentially biohazardous material while on the job, and of worker education and training sessions on biohazardous materials.

Appendix 3 – Provincial Joint Occupational Safety and Health Committee approved Facilities, Job Classifications and Job tasks related to infectious diseases

The Provincial Joint Occupational Safety and Health Committee agreed on the following facilities, job classifications or tasks at risk of infectious disease exposure. These tables are not complete and will change as the committee adds other facilities, job classifications or tasks in the future.

General Facility Category	Facilities
Requirement of WCB OH&S Regulation	Any facility that requires a Designated First Aid Attendant
Adult Facilities	Provincial Correctional Institutions Forensic Psychiatry Institute Riverview Hospital Lodge at Broadmead Oak Bay Lodge
Child and Youth Mental Health and Youth Justice Facilities	Facility Youth Security Custody Centre Youth Open Custody Centre Youth Forensic Psychiatry Clinics In Patient Assessment Unit Maples Adolescent Centre Migrant Youth Program Willow Clinic
	New entries to be approved by the Provincial Joint OH&S Committee in consultation with Occupational Health Programs

Job Classifications	Job Tasks	Hazard Group
Designated First Aid Attendant	> Any facility that requires a Designated First Aid Attendant (per WCB OH&S Regulation)	Blood and Body Fluid
Correctional Officer series Deputy Sheriffs	> Restraining clients who may react in a violent manner > Searching suspects > Searching property > Riot control	Blood and Body Fluid
Health Care workers Nurses Activity workers	> Providing direct patient care > Handling blood, body fluids or contaminated materials > Restraining patients who may react in a violent manner	Blood and Body Fluid
Laboratory workers	> Taking blood samples	Blood and Body Fluid
Central Supply workers	> Handling blood, body fluids or contaminated materials	Blood and Body Fluid
Security workers	> Restraining patients who may react in a violent manner	Blood and Body Fluid
New entries to be approved by the Provincial Joint OH&S Committee in consultation with Occupational Health Programs		

Job Classifications	Job Tasks	Hazard Group
To be determined by user	Direct personal care to others	Blood and Body Fluid
To be determined by user	Taking blood samples	Blood and Body Fluid
To be determined by user	Providing injections or working with intravenous supplies	Blood and Body Fluid
To be determined by user	Handling blood and other body fluids or contaminated materials	Blood and Body Fluid
To be determined by user	Handling materials contaminated with blood or body fluids	Blood and Body Fluid
To be determined by user	Restraining violent patients/clients where blood or body fluid exposure occurs	Blood and Body Fluid
To be determined by user	Direct patient care or working in a medical unit that has patients with active pulmonary tuberculosis	Respiratory
To be determined by user	Known contact with a person who has active infectious pulmonary tuberculosis	Respiratory
To be determined by user	Working in the wilderness or frequent contact with wild animals or rodents	Animal Vector
To be determined by user	Working in a building known to be infested with mice	Animal Vector

Job Classifications	Job Tasks	Hazard Group
To be determined by user	Trapping and/or studying animals	Animal Vector
To be determined by user	Drinking unboiled water from lakes or streams that have been contaminated by infected animals	Animal Vector
To be determined by user	Working outdoors in areas potentially infested with ticks	Animal Vector
To be determined by user	New entries to be approved by the Provincial Joint OH&S Committee in consultation with Occupational Health Programs	

Appendix 4 – Infection Prevention and Control Program for Ministry-Branch-Workplace

1.0 Responsibilities

1.1 Deputy Minister, BC Public Service Agency

- Refer to Policy 12.6

1.2 Deputy Ministers

- Refer to Policy 12.4

1.3 Managers and Supervisors

- Ensure the development, implementation and maintenance of the Infection Prevention and Control Program;
- List all job classifications (occupation or title) and job tasks where there are risks of exposure to infectious diseases;
- Ensure the risk identification process and risk assessments are completed and documented;
- Ensure the development and implementation of control methods and procedures is done;
- Ensure all necessary equipment/personal protective equipment (PPE) and training is provided to employees at risk of exposure;
- Encourage eligible employees to be vaccinated for Hepatitis B;
- Maintain records as required by the program;
- Monitor the workplace to ensure that safe work procedures are followed;
- Investigate and report accidental exposures to infectious diseases;
- Consult with the local Joint OH&S committee regarding exposure control plans and personal protective equipment (PPE) at least annually;
- Ensure education and training on workplace specific infectious diseases and the exposure control plans are conducted periodically; and,
- Consult with the Joint Health and Safety Committee and Occupational Health Programs on challenging issues.

1.4 Employees



- > Using safe work procedures to prevent or minimize the potential for exposure to infectious disease;
- > Wearing personal protective equipment as required and using it as instructed;
- > Utilizing standard precautions in all situations where the risk of exposure to blood and body fluids may be present;
- > Participating in education and training sessions relating to the prevention of transmission of infectious disease;
- > Reporting incidents of exposure to infectious disease to the employer and OHP;
- > Following specified pre and post exposure procedures;
- > Following proper response procedures, including clean up;
- > Disposing of all sharps (e.g. used needles, broken glass, and razor blades) in sharps containers; and
- > Obtaining immediate first aid and medical treatment when required.

Joint Occupational Health and Safety Committee:

- > Participate in developing hazard awareness at the workplace;
- > Promote participation of education and training on workplace specific infectious diseases and the exposure control plans;
- > Monitor the workplace to ensure that effective safe work procedures are developed and implemented;
- > Participate in accident/incident investigations of exposures to infectious diseases;
- > Review safe work practices and make recommendations for improvements;
- > Provide recommendations regarding tools, equipment and personal protective equipment; and
- > Participate in infection control program review.

Additional responsibilities for Supervisors, Employees and JOHSC may be listed in Exposure Control Plans.

2.0 Risk identification and assessment

The table below lists job classifications and job tasks that have potential for occupational exposure to infectious diseases.

Job Classifications	Job Tasks	Hazard Group
Designated First Aid Attendant	First aid	Blood and body fluid

Consult the Infection Prevention and Control Guide before adding other job classes.

3.0 Exposure control plans

The table below lists the Exposure Control Plans used by this ministry/branch/ workplace.

Exposure Control Plan Titles	Location of Plan
Bloodborne pathogens for Designated First Aid Attendants(DFAAs)	See Appendix 10

4.0 Written procedures

No general written procedures available. Refer to Exposure Control Plan.

5.0 Education and training

5.1 Infection Prevention and Control Program

Employees will be made aware of the Joint document “*Guide to Prevention and Control of Infectious Diseases in the Workplace.*”

Employees exposed or anticipated to be exposed to infectious diseases at work will be educated with the following goals:

- > Knowledgeable of infectious diseases expected in the workplace.
- > Knowledgeable with the content and layout of the IPCP.
- > Have an understanding of the exposures to biohazardous materials that may occur at the workplace.
- > Knowledgeable about what to do in the event of exposure.
- > Understand the engineering controls that are in place.
- > Know the work practices to prevent exposure to biohazardous materials.
- > Understand and follow instructions and control methods detailed in the Exposure Control Plan(s).
- > Understand the type and use of personal protective equipment.
- > Recognize labels and identification for biohazardous materials.
- > Know where to access the Exposure Control Plan(s).



- > Understand the advantages of the Hepatitis B vaccine or other vaccines that may come available in the future.

5.2 Designated First Aid Attendants (DFAA)

All DFAAs will be educated and trained about bloodborne pathogens prior to initial assignment to work as a DFAA.

Additional worksite-specific orientation, education and training will be provided by _____ (specify individual within the workplace) and will include:

- > an explanation of the ECP – Bloodborne Pathogens for Designated First Aid Attendants and where to access it,
- > control procedures specific to the worksite (e.g. location of sharps disposal containers, pocket masks and wash facilities; types and location of personal protective equipment),
- > information on where to obtain Hepatitis B vaccine locally if required.

6.0 Health protection

See the Guide to Infection Prevention and Control in the Workplace for more information on health protection.

6.1 Prevention of Hepatitis B

- > DFAAs are officially recommended to receive the Hepatitis B vaccination.
- > Complete and hand in “Confirmation of Vaccination Offer,” available from the Ministry.
- > Arrange with family physician or local Health Unit (name and address of unit) for vaccination and be prepared to pay first and be reimbursed later.
- > Obtain “Hepatitis B Vaccination Record Form,” available from Occupational Health Programs, photocopies not accepted) and have vaccination series documented in the form. Retain receipts after immunization shots.
- > Submit completed “Hepatitis B Vaccination Record Form” to Occupational Health Programs (604-660-2587).
- > Submit receipts to the Ministry for reimbursement.

6.2 Post Exposure to Blood Borne Pathogens

- > Exposure to blood or body fluid occurred.
- > STOP activity.
- > CLEAN affected site thoroughly with soap and water (or water only if eyes or mouth), allow cuts or punctures to bleed for 15 minutes.
- > REPORT to exposures to First Aid and/or supervisor.
- > ATTEND Hospital Emergency Department (name and address of Emergency) for medical assessment and treatment.
- > FOLLOW-UP with supervisor and Occupational Health Programs (604-660-2587).

7.0 Records

Document management is a responsibility of the ministry/branch/workplace; existing practices should be maintained but be documented here.

It is suggested that the following documents are appended to this Infection Prevention and Control Program:

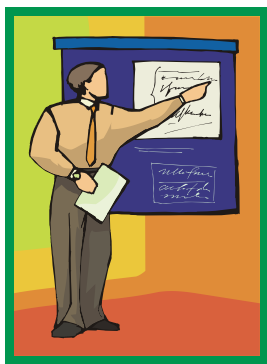
- > Program policy and responsibilities;
- > Exposure control plan(s);
- > Risk Identification and Risk Assessment documentation.

The following documents are required for the overall administration of the IPCP but are located separately from this document in the positions entered below:

Documentation	Location
Education and training records	CHIPS
JOSH Committee Minutes and Worker Complaints	
Incident/accident reports	
First Aid records	– kept for 3 years
Referral and follow-up records post exposure	Kept by OHP for 30 years after termination
WCB Claim forms (Form 7, 7A, 6A, and 9) and Claims Management records	
Confirmation of Vaccination Offer forms	Kept by the Ministry for the term of employment
Vaccination records	Kept by the Ministry for the term of employment/ Kept by OHP for 10 years after termination
Post Vaccination Blood Test	Kept by OHP for 30 years after termination

8.0 Program evaluation

All Exposure Control Plans listed in section 3.0 will be reviewed annually and updated as necessary in consultation with the joint health and safety committee or worker health and safety representative and elements of this IPCP will be evaluated regularly or as required.



Appendix 5 – Risk Identification Worksheet

Ministry: Division: Branch: Location:		Job Title: Classification: # Employees affected:		Route of Contact – See Hazard Group, Table I										Risk Identified Through Job Task Analysis Previous Exposure Occupational Consultation with						
				Blood and body fluid				Fecal	Resp.	Animal Vector			Lab							
				Needle stick or sharp	Non-intact skin	Human Bite	Mucous membrane	Feces	Air	Urine, saliva	Feces	Contaminated water	Bite / Scratch	Describe in comments						
Job Task: Describe job task, contact situations and other relevant information																				

Appendix 6 – Example Risk Identification Worksheet

Ministry: Division: Branch: Location:		Job Title: Classification: # Employees affected:		Route of Contact – See Hazard Group, Table I										Risk Identified Through				
				Blood and body fluid				Fecal	Resp.	Animal Vector			Lab					
				Needle stick or sharp	Non-intact skin	Human Bite	Mucous membrane			Feces	Air	Urine, saliva		Feces	Contaminated water	Bite / Scratch	Describe in comments	Job Task Analysis
Job Task: Describe job task, contact situations and other relevant information																		
First aid attendant. Contact with blood or body fluids while administering first aid to co-workers or public.		X	X		X													X
Gardening. Removing weeds and leaves, hand contacted a used condom in flower bed, hands were scratched since gloves not worn.		X														X		
Gardening. Removing weeds and leaves. Potential contact with used needle.		X															X	
Pit toilet maintenance/use. Entering pit toilets for inspection and repairs in backcountry, rodent droppings observed or contacted.												X					X	
Maintenance and patrol. Walking or maintenance of trails in back country where grasses and low bushes are present.																	X	
Maintenance and patrol. One employee obtained water from stream in alpine area and became ill.																X		

Appendix 7 – Risk Identification Worksheet

Ministry: Division: Branch: Location:	Job Title: Classification: # Employees affected:	Likelihood	Frequency	Consequence	Risk Score (LxFxC)	Risk Assessment Rating (Low / Moderate / High)
Job task, exposure and additional comments about severity or frequency of exposure.						

Appendix 8 – Example Risk Assessment Worksheet

Ministry: Division: Branch: Location:	Job Title: Classification: # Employees affected:	Likelihood	Frequency	Consequence	Risk Score (LxFxC)	Risk Assessment Rating (Low / Moderate / High)
Job task, exposure and additional comments about severity or frequency of exposure.						
First aid attendant. Rare to provide first aid to co-workers, care given to public at least 4 times a month. Injuries with blood every 3 to 4 months.		0.5	3	30	45	Low
Gardening. Removing weeds and leaves, hand touched used condom in flower bed, gloves were not used for job. Never been seen or reported before.		0.5	0.5	30	7.5	Low
Gardening. Removing weeds and leaves. Potential contact with used needle. Needles seen at campground 4 to 5 times a summer.		3	1	30	90	Low
Pit toilet maintenance/use. Entering pit toilets in back country at least 2 times a day over 4 month period.		0.5	6	50	150	Mod
Maintenance and patrol. Walking/maintenance in back country with grass and bushes.		0.5	10	30	150	Mod
Maintenance and patrol. Obtained water from stream in alpine area. Employee frequently fetches water without treating or boiling.		6	10	2	120	Mod

Appendix 9 – Risk Assessment Score Table for Infectious Diseases (Likelihood X Frequency X Consequence)

LIKELIHOOD: Expectation the pathogen is present in clients or involve job duties working with potentially hazardous infectious substances:											
											Score
Is the most likely and expected result if the exposure event takes place This would be related to the prevalence of infection in the client population. Inmates in Correctional facilities have a high incidence of blood borne pathogen infections. Workers working with bats are at high risk for rabies infections.											10
Examine the likelihood of exposure in relation to the type of job task and the circumstances that occur while the job is being performed. Does the job function involve working with potentially hazardous material e.g. blood, animal feces? Is the job task being performed in an emergency situation? Emergency situations are more at risk for blood borne pathogen exposures as they can involve violence, and lack of preparation with PPE.											6
Would be an unusual sequence or coincidence.											3
Combined circumstances of type of client and geographical location creates a possible coincidence.											1
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: Potential exposure event occurs:											
											Score
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 consequence if left untreated:											
											Score
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
Short term illness and discomfort											2

Risk Assessment Rating Table

Low			Moderate					High			
	50	90	125	150	175	200	225	250	350	450	750+

Appendix 10 – Exposure Control Plan

Bloodborne Pathogens For Designated First Aid Attendants (DFAAs) (Ministry/Branch/Worksite)

_____ (date)

1. Purpose

The purpose of this exposure control plan is to eliminate or minimize the DFAAs' risk of occupational exposure to bloodborne pathogens in blood and body fluids, as well as to reduce the risk of infection should exposure occur.

2. Responsibilities

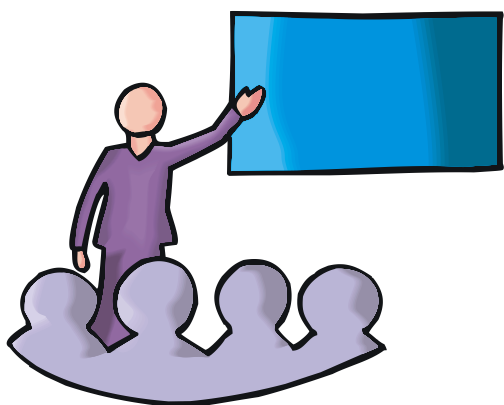
General responsibilities are listed in the Infection Prevention and Control Program.

The DFAAs' supervisor _____ (name or Position) will:

- > supervise DFAAs with respect to bloodborne pathogen hazards
- > ensure that DFAAs use engineering controls, and follow safe work practices and written work procedures
- > ensure that DFAAs wear appropriate personal protective equipment
- > ensure that DFAAs receive education and training on bloodborne pathogens and the exposure control plan initially at the time of occupational first aid certification and renewal or when required
- > ensure that the post-exposure health protection procedures are followed for DFAAs' exposure incidents to blood and body fluids
- > initiate accident investigations of exposure incidents to blood or Body fluid.

The DFAAs will:

- > use the provided engineering controls
- > follow safe work practices and written work procedures
- > wear the appropriate personal protective equipment provided
- > attend education and training (occupational first aid training courses and additional company training sessions)



- > follow the post-exposure health management procedure in the event of an exposure incident to blood or body fluids
- > participate in accident investigations of exposure incidents to blood or body fluids.

3. Risk Identification and Assessment

All DFAAs are at risk for occupational exposure to bloodborne pathogens and blood or body fluids. DFAAs may have harmful contact from:

- > percutaneous injury (needle stick or sharp)
- > mucous membrane contact or
- > non-intact skin contact

Job Classification	Job Task	Job Task Details (optional)
Designated First Aid Attendant	First Aid	<ul style="list-style-type: none"> > Providing first aid to coworkers > Post treatment care > Accident clean up

4. Control Procedures

Engineering and safe work practice controls are the preferred means to eliminate or minimize our DFAAs' exposure to bloodborne pathogens at this worksite. If such controls are unavailable or impracticable, or do not completely eliminate exposure, DFAAs will wear the appropriate personal protective equipment provided.

Engineering controls

Tongs and sharps disposal containers for clearing the accident scene of sharp objects that put DFAAs at risk of injury (e.g. contaminated broken glass at an accident site).

Sharps disposal containers are located in the _____ (state location, e.g. first aid room and first aid kit).

Tongs are located in the _____ (state location).

Bag and masks or pocket masks with one-way valves are available in the _____ (state location, e.g. first aid kits) for use when ventilating patients. Masks should not be shared before being washed and disinfected. One-way valves may be changed if there is insufficient time to disinfect between use by different DFAAs.

Administrative Controls (Work practice controls) and written work procedures

As specified in the WCB Occupational First Aid Reference & Training Manual (manual) and WCB Occupational First Aid Training Guides (training guides), DFAAs will:

- > follow standard precautions
- > use pocket masks or bag valve mask with one-way valves when ventilating patients
- > follow safe sharps handling procedures, such as discarding any disposable, contaminated sharp items in sharps disposal containers as soon as possible
- > wear disposable medical examination gloves when assessing and treating patients (if there is potential contact with patients' blood, body fluids, secretions, excretions, mucous membranes or non-intact skin), and when touching contaminated items or surfaces; also wear such gloves if they have non-intact skin on their hands, after first covering the affected skin with a medical disposable dressing

- replace gloves as soon as practical if they are torn, cut, punctured or leaking, and when they become contaminated or damaged such that their ability to function as a barrier is in question
- do not wash or decontaminate medical disposable gloves for re-use
- follow the procedures for glove removal and hand washing (see IPCP Guide)
- follow the cleanup procedures for spills of blood and body fluid that minimize splashing
- do not store or consume food or drink in first aid facilities
- follow the post-exposure health protection procedure, if they have an exposure incident to blood or body fluid

Personal protective equipment

All personal protective equipment for bloodborne pathogens used at this worksite will be provided by the employer at no cost to DFAAs.

Disposable medical examination gloves are available in the _____ (state location, e.g. first aid room and first aid kits). They will be worn and used as specified in the manual and training guides, and the safe work practices and written work procedures outlined above.

Eye/face protection in the form of _____ (specify type, e.g. safety goggles and face shield) is available in the _____ (specify location, e.g. first aid room). They will be worn by DFAAs when it can be reasonably anticipated that the mucous membranes of their eyes, nose or mouth may be splashed or sprayed with blood or body fluid (e.g. relieving blood under finger or toe nails (subungual hematomas)).

Gowns and protective footwear in the form of _____ (specify type, e.g. washable cloth or disposable paper gowns, rubber boots) are available in the _____ (specify location, e.g. first aid room). They will be worn by DFAAs when it can be reasonably anticipated that their skin or clothing may come in contact with blood or body fluid (e.g. during blood spill clean-up).

Standard precautions

DFAAs will treat all blood and body fluids as though they are known to be infected with bloodborne pathogens.

5. Hygiene Facilities and Decontamination Procedures

Hand washing facilities are located in the _____ (specify, e.g. restrooms and first aid room), and are available to DFAAs for hand washing. Hands will be washed as specified in the manual and training guides.

Waterless hand cleansers/towelettes _____ (specify which) are also provided for use if hand washing facilities are not immediately available. They are located in the _____ (specify, e.g. first aid room and first aid kits). DFAAs will wash their hands with mild soap and running water as soon as possible after the use of the cleanser/towelette.

If an DFAA has an exposure incident to blood or body fluid, the post-exposure health protection procedures will be followed for decontamination.

Housekeeping, laundry and waste

All reusable first aid equipment _____ (specify, e.g. metal instruments, pocket masks) and environmental working surfaces _____ (specify, e.g. counters in the first aid room) will be decontaminated as soon as possible after contamination with blood or body fluid, as well as on a routine basis, as specified in the manual and training guides.

Laundry soiled with blood or body fluid will be treated as specified in the manual and training guides.

Sharps disposal containers will be securely closed and replaced when they are two-thirds full. They will then be sent to _____ (specify) for disposal.

First aid waste items (e.g. medical disposable gloves, pads and dressings) that are NOT dripping, saturated or grossly contaminated with blood or body fluid are considered general waste. They will be discarded in medical disposable waste bags for disposal at a landfill.

Items that are dripping, saturated or grossly contaminated with blood or body fluid are considered biomedical waste. They must be appropriately bagged and disposed of in accordance with provincial and local environmental regulatory agencies _____ (specify provincial and local disposal requirements).

6. Education and Training

See Infection Prevention and Control Program

7. Health Protection

See Health Protection section of the Infection Prevention and Control Program

8. Records

See Records section of the Infection Prevention and Control Program



Appendix 11 – Exposure Control Plan Template

Title
(Ministry/Branch/Worksite)

_____ (date)

1. Purpose

The purpose of this exposure control plan is to eliminate or minimize . . .

2. Responsibilities

General responsibilities are listed in the Infection Prevention and Control Program.

The supervisor _____ (name or Position) will:

The (job classifications) will:

- > use the provided engineering controls
- > follow safe work practices and written work procedures
- > wear the appropriate personal protective equipment provided
- > attend education and training
- > participate in accident investigations of exposure to (infectious disease).

3. Risk Identification and Assessment

All (job classifications) are at risk for occupational exposure to (infectious disease) and may have harmful contact from:

- > (route of entry e.g. bite, inhalation)

Job Classification	Job Task	Job Task Details (optional)
		>

4. Control Procedures

Substitution, elimination or engineering controls are the preferred means to eliminate or minimize exposure to (infectious disease) at this worksite. If such controls are unavailable or impracticable, or do not completely eliminate exposure, (job classifications) will wear follow safe work practice controls and wear the appropriate personal protective equipment provided.

Substitution or Elimination

Describe situations when substitution or elimination of exposure is possible.

Engineering controls

Describe:

Engineering controls to be used if possible.

Where engineering control(s) (e.g. equipment) are located.
Describe how to operate equipment if necessary.

Administrative Controls (Work practice controls) and written work procedures

List administrative controls to be used to lower or eliminate the risk of infection.
Write out written work procedures if a particular sequence of steps must be conducted to ensure worker safety.

Personal protective equipment

List personal protective equipment required
Consider if necessary:
Eyes: goggles or face shield
Lungs: dust mask or ½ face respirator
Skin: gloves, protective suit, footwear

5. Hygiene Facilities and Decontamination Procedures

List hygiene facilities or decontamination procedures available if required
List location of facilities
Write out decontamination procedures if they require certain steps to be followed

Housekeeping, laundry and waste

List and or describe any specific housekeeping or waste disposal issues

6. Education and Training

See Infection Prevention and Control Program

7. Health Protection

See Health Protection section of the Infection Prevention and Control Program

8. Records

See Records section of the Infection Prevention and Control Program



Appendix 12 – Accidental Exposure First Aid Plan

1. STOP what you are doing.
2. CLEANSE Eyes and mucous membranes:
 - > Flush eyes for 15 minutes with water or normal saline.
 - > Skin: Wash well with soap and water for 15 minutes.
 - > Needle stick: Wash puncture site with soap and water for 15 minutes.
 - > Promote bleeding of wound by lowering extremity below level of the heart if possible.
 - > DO NOT promote bleeding by cutting, crosshatch scratching or puncturing skin.
3. DISPOSE of the sharp or needle in a puncture proof sharps container.
4. REPORT to your First Aid attendant and supervisor immediately.
 - > After first aid go to the Hospital Emergency Department immediately for medical assessment. Inform the physician that the incident occurred at work (WCB Case) and where you are employed.
5. OBTAIN MEDICAL assessment, treatment and advice.
6. FOLLOW-UP: Provide information to your supervisor to assist in accident investigation and WCB reporting.

Call Occupational Health Programs at 604-660-2587; and Fax copy of WCB forms to Occupational Health Programs at 604-775-0697.

Note: Blood and body fluid contact with intact skin is not considered to be a risk for the spread of blood borne pathogens. You should wash your hands and other affected skin areas immediately.



Appendix 13 – Confirmation of Vaccination Offer

Hepatitis B Vaccination Program

(You MUST complete, sign and return this form to your
Local Coordinator within 3 days, even if you choose not to accept vaccination.)

EMPLOYEE INFORMATION: PRINT CLEARLY

Last Name First Name Initial
Employee Number: _____ Ministry: _____
Occ First Aid Attendant (OFAA): Level 1 ☐ Level 2 ☐ Level 3 ☐ Other ☐
Job Classification: _____ Work Location: _____

DECLARATION

YOU MUST COMPLETE THIS SECTION

This confirms that I have been advised my duties are identified as having a potential risk of exposure to blood borne diseases including Hepatitis B and a vaccine is being offered as a preventative measure.

I understand Hepatitis B is a serious illness that can be transmitted by blood or body fluids.

I further understand Hepatitis B vaccination can prevent the development of this disease.

I have reviewed and understand the educational material attached:

- ☐ I CHOOSE NOT to receive Hepatitis B vaccination
- ☐ I DO want to receive Hepatitis B Vaccination
- ☐ I have previously completed the series of 3 injections for Hepatitis B.
Year series completed _____
- ☐ I have been previously vaccinated for Hepatitis B, but did not complete the series. # Vaccinations and
dates _____

EMPLOYEE'S SIGNATURE (REQUIRED)

DATE (YYYY/MM/DD)

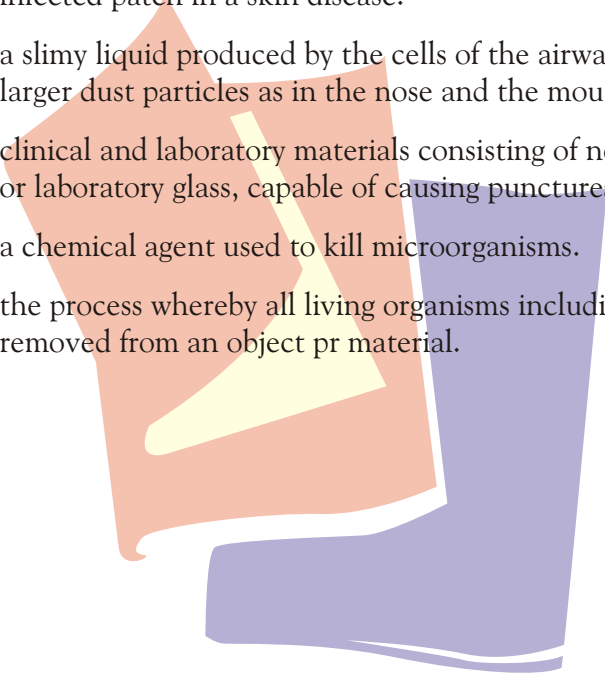
THIS RECORD WILL BE RETAINED BY YOUR MINISTRY

Appendix 14 – Hepatitis B Vaccination Record

This is an example, obtain original form for use.

BRITISH COLUMBIA		Public Service Employee Relations Commission Government Employee Health Services		HEPATITIS B VACCINATION RECORD Public Service Employee Hepatitis B Vaccination Program	
Instructions: <ul style="list-style-type: none"> Complete and return to your supervisor/coordinator if you are vaccinated by any care provider other than the Victorian Order of Nurses (VON). Where reimbursement is necessary, doctor's and/or nurse's signatures are required confirming administration of the vaccination. When the third vaccination is complete, forward the white and canary copies of this record to your supervisor/coordinator. 				<ul style="list-style-type: none"> Supervisor/coordinator: Forward the white copy to Government Employee Health Services, Nelson Square, Box 12183, 707 – 808 Nelson St, Vancouver, BC V6Z 2H2. Please type or print clearly. 	
<small>Freedom of Information and Protection of Privacy Act This form is required to record your Hepatitis B Vaccination and the collection of personal information complies with the Freedom of Information and Protection of Privacy Act. If you have any questions about the collection of this information, please contact the Administrative Coordinator, GEHS, Vancouver at 604-680-2587.</small>					
EMPLOYEE INFORMATION					
LAST NAME		FIRST NAME		INITIAL	BIRTHDATE YYYY MM DD
MINISTRY NAME			JOB CLASSIFICATION		EMPLOYEE ID
WORK LOCATION				WORK PHONE NUMBER ()	
FAMILY PHYSICIAN'S NAME			PHYSICIAN'S LOCATION (CITY)		
CONSENT AUTHORIZATION					
<p>I understand that my duties are identified as having a potential risk of exposure to blood borne diseases including Hepatitis B, and I consent to the administration of 3 doses of Hepatitis B Vaccine. I have read the information supplied about Hepatitis B, and have had an opportunity to ask questions and understand that the full regime of 3 injections are needed (Initial, 1 month, 6 months) in order to obtain the maximum protection offered by the vaccine. I authorize Government Employee Health Services (GEHS) to confirm completion of my vaccination with my ministry.</p>					
CONSENT SIGNATURE					DATE SIGNED YYYY MM DD
X					
VACCINATIONS	DATE OF VACCINATION YYYY MM DD	VACCINE / LOT NUMBER	SIGNATURE OF DOCTOR OR NURSE		
1st Vaccination			<p><i>Photocopies will not be accepted. Vaccination Record forms available from GEHS</i></p>		
2nd Vaccination One month later					
3rd Vaccination Six months after the first vaccination					
<p>Please tick (✓) <input type="checkbox"/> if you choose not to complete the series at this time, sign and date below and return the white and canary copies of this record to your supervisor/coordinator</p>					
EMPLOYEE'S SIGNATURE (REQUIRED)		DATE SIGNED YYYY MM DD	MANAGER/SUPERVISOR SIGNATURE (REQUIRED)		DATE SIGNED YYYY MM DD
X			X		
Please note:					
<p>To confirm the results of the vaccination, we recommend you have a blood test done. This test will <u>only</u> be offered 6 – 8 weeks <u>after</u> the 3rd injection. A requisition form for this test is available through your ministry. Further questions regarding this test should be directed to GEHS at (604) 680-2587.</p>					

Appendix 15 – Glossary

- Communicable Disease:** a disease, which may be transmitted directly or indirectly from one person to another.
- Microorganisms:** small living organisms for example bacteria, viruses, fungi, algae and protozoa.
- Virus:** a group of infectious microorganisms composed of a very simple structure.
- Infection:** the invasion of the body by a pathogenic organism, and also the condition brought about following the invasion of a pathogen.
- Inhalation:** breathing into the lungs.
- Immune:** protected or exempt from a disease (exempt from a certain disease by vaccination or inoculation).
- Immunization:** becoming immune or the process of rendering a person immune.
- Vaccinations:** the injection of substances in order to give immunity to a disease.
- Lesion:** an injury or wound (blisters, crusts, pimples, rash, scales or scars) single infected patch in a skin disease.
- Mucus:** a slimy liquid produced by the cells of the airways that trap bacteria and larger dust particles as in the nose and the mouth.
- Sharps:** clinical and laboratory materials consisting of needles, syringes, blades or laboratory glass, capable of causing punctures, cuts or grazes.
- Disinfectant:** a chemical agent used to kill microorganisms.
- Sterilization:** the process whereby all living organisms including microorganisms are removed from an object or material.
- 

Appendix 16

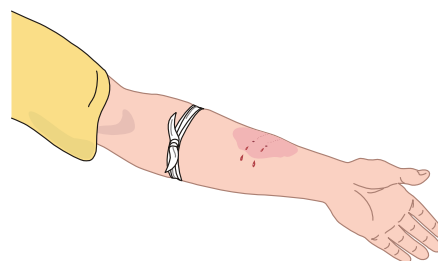
Aspergillus flavus
 Aspergillus fumigatus
 Epidermophyton floccosum
 Microsporum spp.
 Sporothrix schenckii
 Trichophyton spp.

Risk Group 2 Viruses

*Arthropod-borne viruses are identified with an asterisk. Only those viruses which may be associated with human or animal disease have been included in this list. Agents listed in this group may be present in blood, CSF, central nervous system and other tissues, and infected arthropods, depending on the agent and the stage of infection.

Adenoviridae
 Adenoviruses, all serotypes
 Arenaviridae
 Lymphocytic choriomeningitis virus (laboratory-adapted strains)
 Tacaribe virus complex: Tamiami, Tacaribe, Pichinde
 Bunyaviridae*
 Genus Bunyavirus
 Bunyamwera and related viruses
 California encephalitis group, including LaCrosse, Lumbo and snowshoe hare
 Genus Phlebovirus
 All species except Rift Valley fever virus (see Table 1)
 Caliciviridae – all isolates (including Hepatitis E & Norwalk)
 Coronaviridae
 Human coronavirus, all strains
 Transmissible gastroenteritis virus of swine
 Hemagglutinating encephalomyelitis virus of swine
 Mouse Hepatitis virus
 Bovine coronavirus
 Feline infectious peritonitis virus
 Avian infectious bronchitis virus
 Canine, Rat and Rabbit coronaviruses
 Flaviviridae*
 Yellow fever virus (17D vaccine strain)
 Dengue virus (serotypes 1,2,3,4)
 Kunjin virus
 Hepadnaviridae
 Hepatitis B virus, includes Delta agent
 Herpesviridae
 Alphaherpesvirinae
 Genus Simplexvirus: all isolates, including HHV 1 and HHV 2, except Herpes B virus which is in Risk Group 4
 Genus Varicellovirus: all isolates, including varicella/zoster virus (HHV 3) and pseudorabies virus (see Table 1)

Betaherpesvirinae
 Genus Cytomegalovirus: all isolates including CMV (HHV 5)
 Genus Muromegalovirus: all isolates
 Gammaherpesvirinae
 Genus Lymphocryptovirus: Epstein Barr Virus (HHV 4) and EB-like isolates
 Genus Rhadinovirus: all isolates (except *H. ateles* and *H. saimiri*, see Risk Group 3)
 Genus Thetalymplocryptovirus: all isolates
 Unassigned Herpesviruses: includes HHV 6 (human α -lymphotrophic virus), HHV 7, HHV 8, etc.
 Orthomyxoviridae
 Genus Influenzavirus: Influenza virus type A, all isolates
 Influenza virus type B, all isolates
 Influenza virus type C, all isolates
 Papovaviridae
 Genus Papillomavirus: all isolates
 Genus Polyomavirus: all isolates
 Paramyxoviridae
 Genus Paramyxovirus: all isolates
 Genus Pneumovirus: all isolates Genus Morbillivirus: all isolates (except Rinderpest-see Table 1)
 Parvoviridae
 Genus Parvovirus: all isolates
 Picornaviridae
 Genus Aphthovirus – See Table 1
 Genus Cardiovirus – all isolates
 Genus Enterovirus – all isolates (see Table 1 for restrictions)
 Genus Hepatovirus – all isolates (Hepatitis A)
 Genus Rhinovirus – all isolates
 Poxviridae (see Table 1 for restrictions)
 Chordopoxvirinae (poxviruses of vertebrates)
 Genus Capripoxvirus
 Genus Molluscipoxvirus
 Genus Yatapoxvirus
 Genus Avipoxvirus – all isolates
 Genus Leporipoxvirus – all isolates
 Genus Orthopoxvirinae – all isolates (except Variola and Monkeypox in Level 4)
 Genus Parapoxvirus: all isolates
 vGenus Suipoxvirus: Swinepox (see Table 1 for restrictions)
 All other ungrouped poxviruses of vertebrates
 Reoviridae
 Genus Orbivirus – all isolates (see Table 1 for restrictions)
 Genus Orthoreovirus, types 1, 2 and 3
 Genus Rotavirus – all isolates
 Retroviridae
 Oncovirinae
 Genus Oncornavirus C
 Subgenus Oncornavirus C avian – all isolates
 Subgenus Oncornavirus C mammalian – all isolates except HTLV-I, HTLV-II



Genus Oncornavirus B – all isolates
Lentivirinae – all isolates except HIV-I, HIV-II
Spumavirinae – all isolates
Rhabdoviridae
Genus Vesiculovirus (see Table 1 for restrictions) (All laboratory adapted strains)
Genus Lyssavirus: Rabies virus (Fixed Virus)
Togaviridae
Genus Alphavirus*
Semliki forest virus
Sindbis
O'Nyong-Nyong
Ross river virus
Venezuelan equine encephalitis (Strain TC-83 only, no animal inoculation, see Table 1)
Genus Rubivirus
Rubella virus
Genus Pestivirus
Hepatitis C virus
Bovine diarrhea virus
Border disease virus
Genus Arterivirus
Equine arteritis virus
Unclassified viruses
Toroviridae
Other Hepatitis Viruses
Borna disease virus
Astro viruses
Chronic infectious neuropathic agents (CHINAs): Scrapie, BSE (except Kuru, CJD, see Risk Group 3)

Risk Group 2 Parasites

Infective stages of the following parasites have caused laboratory infections by ingestion, skin or mucosal penetration or accidental injection. Preparations of these parasites known to be free of infective stages do not require this level of containment.

Risk Group 2

Protozoa

Babesia microti
Babesia divergens
Balantidium coli
Cryptosporidium spp.
Entamoeba histolytica
Giardia spp. (mammalian)
Leishmania spp. (mammalian)
Naegleria fowleri
Plasmodium spp. (human or simian)
Pneumocystis carinii
Toxoplasma gondii

Trypanosoma brucei, *T. cruzi*

Helminths

Nematodes – *Ancylostoma duodenale*

Angiostrongylus spp.

Ascaris spp.

Brugia spp.

Loa loa

Necator americanus

Onchocerca volvulus

Strongyloides spp.

Toxocara canis

Trichinella spp.

Trichuris trichiura

Wuchereria bancrofti

Cestodes

Echinococcus (gravid segments)

Hymenolepis diminuta

Hymenolepis nana (human origin)

Taenia saginata

Taenia solium

Trematodes

Clonorchis sinensis

Fasciola hepatica

Opisthorchis spp.

Paragonimus westermani

Schistosoma haematobium

Schistosoma japonicum

Schistosoma mansoni

4.6.3 Risk Group 3 Agents: Requiring Containment Level 3

Risk Group 3 (high individual risk, low community risk)

A pathogen that usually causes serious human or animal disease, or which can result in serious economic consequences but does not ordinarily spread by casual contact from one individual to another, or that can be treated by antimicrobial or antiparasitic agents.

Risk Group 3

Bacteria, Chlamydia, Rickettsia

Bacillus anthracis

Brucella – all species

Burkholderia (*Pseudomonas*) *mallei*; *B. pseudomallei*

Chlamydia psittaci – avian strains only

Coxiella burnetii

Francisella tularensis, type A (biovar *tularensis*)

Mycobacterium tuberculosis; *M. bovis* (non-BCG strains)

Pasteurella multocida, type B

Rickettsia – all species (also see Table 1)

Yersinia pestis

(**Note:** Preparation of smears and primary culture of *M. tuberculosis* may be performed at Level 2 physical containment using containment Level 3 operational requirements. All other manipulations of *M. tuberculosis* require containment Level 3 physical and operational requirements.)

Risk Group 3 Fungi Moniliaceae

Ajellomyces dermatitidis (*Blastomyces dermatitidis*)

Coccidioides immitis

Ajellomyces capsulatum (*Histoplasma capsulatum* including var. *duboisii*)

Paracoccidioides brasiliensis

Risk Group 3 Viruses

Arthropod-borne viruses are identified with an asterisk.

Arenaviridae

Lymphocytic choriomeningitis virus, neurotropic strains

Bunyaviridae

Unclassified Bunyavirus

Hantaan, Korean haemorrhagic fever and epidemic
nephrosis viruses including virus responsible for Hantavirus
pulmonary syndrome)

Rift Valley fever virus

Flaviviridae*

Yellow fever virus (Wild type)

St. Louis encephalitis virus

Japanese encephalitis virus

Murray Valley encephalitis virus

Powassan

Herpesviridae

Gammaherpesvirinae

Genus Rhadinovirus: *Herpesvirus ateles*; *Herpesvirus saimiri*

Retroviridae

Oncovirinae

Genus Oncornavirus C

Human T-cell leukemia/lymphoma virus (see note below)

Genus Oncornavirus D

Mason-Pfizer monkey virus

Viruses from non-human primates

Lentivirinae

Human immunodeficiency viruses (HIV – all isolates) (see note below)

Rhabdoviridae

Genus Vesiculovirus (see Table 1 for restrictions) (wild type strains)

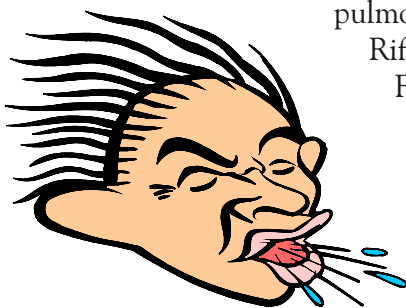
Genus Lyssavirus

Rabies virus (Street virus)

Togaviridae

Genus Alphavirus*

Eastern equine encephalitis virus



Chikungunya
Venezuelan equine encephalitis (except Strain TC-83)
Western equine encephalitis

Unclassified Viruses

Chronic infectious neuropathic agents (CHINAs): Kuru, Creutzfeldt-Jakob agent (level of precautions depends on the nature of the manipulations and the amount of sera, bio/necropsy materials handled).

Note: Laboratories engaging primary isolation and identification of HTLV or HIV may perform these activities in containment level 2 laboratories (physical requirements) using containment level 3 operational requirements. All research and production activities require containment level 3 physical and operational requirements.

Risk Group 3 Parasites

None

4.6.4 Risk Group 4 Agents: Requiring Containment Level 4

Risk Group 4 (high individual risk, high community risk)

A pathogen that usually produces very serious human animal disease, often untreatable, and may be readily transmitted from one individual to another, or from animal to human or vice-versa directly or indirectly, or casual contact.



Risk Group 4 Bacteria

None

Risk Group 4 Fungi

None

Risk Group 4 Viruses

Arthropod-borne viruses are identified with an asterisk.

Arenaviridae

Lassa, Junin, Machupo viruses, Sabia, Guanarito

Bunyaviridae*

Genus Nairovirus

Crimean-Congo hemorrhagic fever

Filoviridae

Marburg virus

Ebola virus

Flaviviridae*

Tick-borne encephalitis complex, including – Russian Spring-Summer Encephalitis

Kyasanur forest virus

Omsk hemorrhagic fever virus

Herpesviridae
Alphaherpesvirinae
Genus Simplexvirus: Herpes B virus (Monkey virus)
Poxviridae
Genus Orthopoxvirinae
Variola
Monkeypox

Appendix 17 – References and Resources

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