Exposure Control Plan for Biological Hazards

SWITCH BC

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BRITISH COLUMBIA
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Contents

Purpose

The purpose of this exposure control plan (ECP) is to eliminate or minimize the risk of occupational exposure to biological agents deemed hazardous by WorkSafeBC, which includes all human pathogens capable of causing adverse health effects, and to reduce the risk of infection in the event of exposure.

Scope

This policy applies to all clinic personnel, including physicians, locum physicians, nurses, nurse practitioners, allied health professionals, administrative staff, Primary Care Network (PCN) clinicians, medical residents, and contractors who have or may have occupational exposure to biological hazards.

Definitions

Biological hazards: biological agents that could cause harmful effects on human health, also referred to as biohazards.

Other potentially infectious materials (OPIM): Other materials besides blood that can be sources of blood-borne pathogens. Examples include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, or saliva.

Contaminated: The presence or the reasonably anticipated presence of blood or OPIM on an item or surface found in the medical clinic.

Medical sharp: a needle device, scalpel, lancet, or any other medical device that can reasonably be expected to make parenteral contact.

Parenteral contact: the piercing of mucous membranes or the skin.

Responsibilities

Employer:

- Provide necessary training, equipment, and resources.
- Provide personal protective equipment (PPE) for biological hazards.
- Ensure proper implementation of this ECP in the clinic.
- Ensure the post-exposure procedure is followed for exposure incidents to blood or OPIM.
- Initiate investigations of exposure incidents to blood or OPIM and report incidents to WorkSafeBC.
- Review this ECP annually and update it accordingly.

Supervisor:

- Ensure workers are trained and equipped to follow the ECP.
- Monitor staff compliance with the ECP.
- Ensure staff use engineering and administrative controls, and wear appropriate PPE outlined.
- Conduct investigations of exposure incidents to blood or OPIM.

Staff:

- Adhere to the ECP.
- Follow risk controls and use PPE as required.
- Attend education and training.
- Report and follow procedures for blood and body fluid spills.
- Report and follow the post-exposure procedure in the event of an exposure incident to blood or OPIM.
- Participate in investigations of exposure incidents.

Risk Identification and Assessment

An exposure incident to blood or OPIM can occur through:

- Percutaneous injury (injury through the skin from a contaminated sharp item such as a needle).
- Contact with the mucous membranes of the eyes, nose, or mouth.
- Contact with non-intact skin (i.e., any break in the skin barrier, such as an open, scabbed, or weeping wound).

Risk Control

The hierarchy of controls implemented is as follows, in order of most to least effective. All blood and bodily materials should be treated as if known to be contaminated at all times. PPE should be used in conjunction with engineering and administrative controls. **The use of PPE is mandatory.**

Engineering controls

- A needleless device or safety-engineered needles must be used in all procedures when withdrawing body fluids, accessing a vein or artery, administering medications or fluids, and any other procedure involving the potential for exposure to accidental parenteral contact, unless it is clinically inappropriate – that is, if it would compromise patient safety or the success of the medical procedure.
- Ensure use of proper disposal containers relevant to biomedical waste.
- Pre-assemble a biological spill kit that contains all items needed to contain and clean up a spill (e.g., gloves, disposable gowns and shoe covers, respirator, effective disinfecting agent, paper towels or spill pillows, tongs, biological waste bags).

Administrative controls

- Offer vaccination against hepatitis B virus to all workers who are at risk of occupational exposure to that virus. This is a WorkSafeBC requirement (see OHS Regulation 6.39).
- Follow **medical sharps handling practices**, such as:
    - Disposing of the needle directly into the sharps container immediately after use with the pointed end first.
    - Not bending, recapping, or manually removing contaminated needles.
    - Making use of a neutral zone or hands-free technique for passing sharp instruments, blades, and needles.
- Wash hands following handwashing practices outlined in this ECP immediately after removing gloves.
- Implement additional precautions when there is reason to believe a patient is infected or colonized with a pathogen that can be spread by airborne or droplet transmission, such as maintaining a distance from the patient when no critical interventions are required and requesting that the patient don a surgical mask before treatment.
- Follow the cleanup procedures for spills of blood and OPIM.
- Ensure food or drinks are not stored or consumed in exam rooms, in the space where biomedical waste is stored, or in the first aid facility.
- Minimize manual handling of waste. Use carts as appropriate.
- Follow the post-exposure health management procedure after an exposure incident to blood or OPIM.
- Follow additional safe work practices outlined in this ECP.

Personal Protective Equipment (PPE)

- Follow procedures for PPE donning and doffing.
- Waterproof, disposable medical examination gloves must be worn when there is potential contact with blood, body fluids, non-intact skin, or OPIM, and when touching contaminated items or surfaces.
- Replace gloves 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 questioned.
- Use disposable gloves, medical masks, and fluid-resistant protection gowns only once.
- A fluid-resistant protective gown must be worn when there is a risk that staff clothing or skin may be exposed to splashes/sprays or items contaminated with blood or OPIM (i.e., during blood spill cleanup).
- Eye and/or face protection in the form of safety goggles and/or face shields must be worn when there is a risk of exposure from blood or OPIM to the mucous membranes of the eyes, nose, or mouth through splashes, sprays, or droplets.
- Respiratory protection in the form of medical masks and/or N95 disposable respirators must be worn when there is the potential that your face may be exposed to a splash, spray, or airborne particles. A mask should also be worn when providing care to a coughing or sneezing patient, and when performing an aseptic or invasive procedure.
- Use pocket masks with one-way valves when ventilating patients during first aid.

Safe Work Procedures

Cleaning Equipment

- All shared reusable equipment (e.g., blood pressure cuffs, otoscopes, baby scales, tables, and examination beds) and surfaces will be decontaminated promptly after contamination with blood or OPIM. Use a hospital-grade disinfectant with a drug identification number, following the manufacturer's instructions and required contact (wet) time to ensure pathogens are effectively killed.
- Reusable waste containers are cleaned and disinfected prior to re-use.

Laundry

Soiled laundry must be handled with gloves and minimal agitation to prevent the spread of contaminants. Blood-soiled items should be separated from other laundry and clearly labelled as biohazardous. All laundry should be washed at temperatures above 70°C using appropriate detergents and disinfectants to ensure pathogen elimination. After washing, items should be thoroughly dried using a high heat setting to further reduce contamination risks.

Waste

1. **Non-sharp medical waste items** (e.g., disposable gloves, gowns, pads, soiled dressings, IV bags and tubing, syringes without needles, casts, empty medication containers) that are not dripping, saturated, or grossly contaminated with blood or body fluids are considered general waste and can be discarded in waterproof waste bags for landfill disposal. The waste container should be black or dark green, but could be any other colour except red, yellow, or orange.
2. **Items that are dripping, saturated, or grossly contaminated with blood or body fluids** are considered non-anatomic biomedical waste. Non-anatomic biomedical waste must be placed in a yellow, designated waste container and must be stored at 4 °C or lower if held for more than four days.
3. **Medical sharps** are placed in a yellow "sharps" container that is labelled with the biohazard symbol. Sharps containers must be no more than three-quarters full or filled only to the manufacturer-specified fill line. Sharp container lids must be securely fastened/locked when full. *****Does not include cytotoxic sharps. See #4.
4. Biomedical waste that is contaminated with **cytotoxic agents** is contained in a red single-use container that is labelled with the biohazard symbol and the cytotoxic hazard symbol. **Cytotoxic waste** includes items in contact with cytotoxic agents (e.g., Mitomycin) such as needles, tubing, vials, gauze, and gloves.
5. **Pharmaceutical waste** is placed in a waste container that is clearly identified as containing pharmaceutical waste. Pharmaceutical waste includes drugs that are no longer usable, are no longer required, and vials that are not empty.
6. **Anatomic biomedical waste** (e.g., tissues, surgical specimens) must be placed in a rigid, leak-resistant container with a secure lid, colour-coded red for anatomic waste. Anatomical biomedical waste must be stored at 4°C or lower, unless fixed in formaldehyde or other preservatives.

7. Storage should be in a secure facility or domestic refrigeration unit dedicated to waste disposal only and clearly marked with a biohazard symbol.
8. A disposal contractor is used for the proper disposal of biomedical and other hazardous waste. Staff must never treat or transport biomedical waste off-site.

Hygiene Facilities and Decontamination Procedures

Handwashing and eye-wash facilities are located in the clinic. Staff will follow handwashing practices as follows:

- Remove any rings or other jewelry.
- Use warm water and wet your hands thoroughly.
- Use a sufficient amount of soap.
- Lather soap and scrub your hands well for 20 seconds. Scrub in-between and around fingers, under the nails, back of the hand, and wrists.
- Turn off the tap or faucets with a single use towel.
- Dry your hands with a single use towel or air dryer.

Waterless alcohol-based hand sanitizer that contains at least 60% ethanol is available if handwashing facilities are not immediately available. Staff will wash their hands with soap and running water as soon as possible after the use of the hand sanitizer.

Blood and Body Fluid Spill

1. If the spill is large enough that it can travel, then immediately block the path of the liquid with absorbent material.
2. If there is any hazard associated with aerosol release, everyone should immediately leave the area. If necessary, block access to the area and mark with a 'Biohazard Spill Notice' sign. Allow at least 30 minutes for the aerosols to settle before re-entering.
3. Isolate or evacuate the area as needed.
4. If your PPE, clothing, and footwear have been contaminated, remove them and put them in a waterproof bag. If your skin and eyes have been contaminated, follow the decontamination procedures in this ECP.
5. Notify your supervisor and other staff if they are unaware. Obtain the pre-assembled biological spill kit in the clinic.
6. Put on fresh personal protective equipment (PPE) – fluid-resistant protective gown, medical gloves, and eye/face protection. If the spill is on the floor, wear shoe covers, and if there is a splash or respiratory concern, wear a medical mask.
7. Cover the spill area with single use towels or other absorbent material.
8. Gently pour disinfectant onto the absorbent material in a circular fashion, moving from the outside towards the centre.
9. Refer to the Safety Data Sheets (SDS) of the disinfectant to determine how long it should remain on the spill site.
10. After leaving the disinfectant for the time suggested by the SDS, use forceps to remove the absorbent material from the spill area.
11. Remove any sharp objects, including broken glass fragments, from the spill area using forceps.

Dispose of sharps into a labelled, leak-proof, puncture-resistant biohazard waste container.

12. If necessary, repeat the previous steps for further disinfection.
13. Clean the spill site surface with dampened, clean, disposable towels.
14. Place all materials used to decontaminate the spill into a labelled, leak-proof, puncture-resistant biohazard waste container. Ensure reusable tools are properly disinfected before reused (e.g., autoclave).
15. Remove PPE following PPE doffing procedures and dispose of it in a biohazard waste container. Wash hands thoroughly.
16. Complete the clinic's incident reporting form.

Post-Exposure Health Management Procedure

If staff have an exposure incident to blood or OPIM, they must follow the post-exposure health management procedure for decontamination.

For the initial management of an exposure incident to blood or OPIM, staff will:

1. Immediately self-administer first aid. Flush the eyes using the eyewash station. Flush all other body parts with running water. If a needle stick or sharps injury has occurred, allow the wound to bleed freely and wash the area with soap and water.
2. Report the incident to the employer. The employer must report the exposure to WorkSafeBC if the incident required medical aid.
3. The exposed staff must seek medical attention in the emergency department within two hours for medical evaluation.

Follow-up management will include:

1. A preliminary investigation must be conducted within 48 hours of the incident, with immediate corrective actions to prevent similar exposure incidents to blood or OPIM from occurring in the clinic.
2. The incident must be reported to WorkSafeBC within 72 hours of the incident.
3. Submit WorkSafeBC claim forms if required (e.g., worker took time off due to the injury).
4. A report of the full investigation must be prepared and submitted to WorkSafeBC within 30 days of the incident.
5. Reassessment by a family doctor if deemed necessary by the initial medical evaluation at the emergency department.

Training

All staff will be educated and trained on the clinic's biological hazards risk controls and their locations (e.g., location of sharps disposal containers, eye-wash station), and post-exposure health management procedures following an exposure incident during the 'New Worker Orientation' before they commence work. Staff will also be offered information on the hepatitis B vaccines, including information on their benefits, effectiveness, safety, method of administration, and availability.

Documentation

The employer is required by law to keep occupational exposure records, including training records. All records must be locked and securely kept. The following records are to be kept by the employer with their respective retention duration:

- New worker orientation and training records – Duration of employment + one year.
- First aid treatment records – three years.
- Incident investigation reports on exposure to blood or OPIM – 10 years.

Reference

- WorkSafeBC Occupational Health and Safety Regulation Part 5
- Exposure control plan for biological agents for first aid attendants | WorkSafeBC
- Chapter 16-20 - Canadian Biosafety Handbook, Second Edition | Government of Canada
- NHMSFAP Waste Management Standard | College of Physicians and Surgeons of British Columbia
- Record Retention Guide | Employers' Advisers Office
- Canadian Standards Association Z317.10 (Combined)

Approval

Employer: Insert Employer Name

Date: Insert Date