

**Harvard Institutes of Medicine/
New Research Building**

Exposure Control Plan

**HIM/NRB Environmental Health and Safety Office
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LIST OF ABBREVIATIONS AND ACRONYMS

BBP	bloodborne pathogens
BSC	biological safety cabinet
CDC	Centers for Disease Control and Prevention
DNA	deoxyribonucleic acid
ECP	Exposure Control Plan
EH&S	Environmental Health and Safety
EPA	U.S. Environmental Protection Agency
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
HIM	Harvard Institutes of Medicine
NIOSH	National Institute for Occupational Safety and Health
NRB	New Research Building
OPIM	Other potentially infectious materials
OSHA	U.S. Occupational Safety and Health Administration
PHS	U.S. Public Health Service
PI	principal investigator
PIM	potentially infectious materials
PPE	personal protective equipment
rDNA	recombinant deoxyribonucleic acid

1.0 INTRODUCTION

The primary purpose of the U.S. Occupational Health and Safety Administration (OSHA) Bloodborne Pathogens (BBP) Standard is to minimize or eliminate occupational exposures to blood and other bodily fluids and the risk of developing the infectious diseases associated with them. A copy of the BBP Standard can be found at the following webpage: <http://www.osha.gov/SLTC/bloodbornepathogens/index.html>.

As part of this standard, an Exposure Control Plan (ECP) must be written, implemented, and made available to employees. The ECP includes ways to minimize or eliminate exposures using a combination of engineering and work practice controls, personal protective equipment, training, medical surveillance, hepatitis B vaccination, signs and labels, and other provisions.

The Harvard Institutes of Medicine (HIM)/New Research Building (NRB) Environmental Health and Safety (EH&S) Office has prepared this ECP to meet this requirement. The ECP will be reviewed on an annual basis by the HIM/NRB EH&S Office.

1.1 RESPONSIBLE PERSONS

Responsibility for implementation of this plan is as follows:

- **EH&S:** The EH&S Office has overall responsibility for overseeing the implementation of the Exposure Control Plan and appropriate policies and practices needed to support the effective implementation of this Plan. The EH&S Office will be responsible for oversight of Department activities.
- **Principal Investigators (PIs), Department Administrators and the Facility Manager:** PIs, Department Administrators, and the Facility Manager are responsible for exposure control in their respective areas. Guidance to these individuals will be provided by EH&S.
- **Occupational/Employee Health Services:** Each individual institution's Occupational/Employee Health Services has responsibility for establishing and

implementing the vaccination program and the post-exposure incident medical evaluation and follow-up as per OSHA mandate.

- **Laboratory Managers/Supervisors:** Managers/Supervisors are responsible for ensuring proper work practices (e.g., universal precautions, use of personal protective equipment [PPE]) are followed on a day to day basis.
- **Occupants:** All individuals working at HIM/NRB are responsible for attending the annual training sessions, participating in their department's orientation program, understanding which tasks have the potential for occupational exposure and employing safe work practices in the performance of their duties.

2.0 DEFINITIONS

Blood means human blood, human blood components, and products made from human blood.

Bloodborne Pathogens means microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), Hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials (PIM) on an item or surface.

Contaminated Laundry means laundry which has been soiled with blood or other PIM or may contain sharps.

Contaminated Sharps means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident means a specific instance of contact with blood or other PIM, via eye, mouth, other mucous membrane, non-intact skin, or parenteral contact, during the course of the performance of an employee's duties.

Handwashing Facilities means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

Needleless Systems means a device that does not use needles for: (1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) The administration of medication or fluids; or (3) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Non-intact skin includes skin with dermatitis, hangnails, cuts, abrasions, chafing, and acne.

Occupational Exposure means reasonably anticipated contact with blood or other PIM, via eye, mouth, other mucous membrane, non-intact skin, or parenteral contact, during the course of the performance of an employee's duties.

Other Potentially Infectious Materials (OPIM) means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Parenteral means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Regulated Waste means liquid or semi-liquid blood or OPIM; contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other PIM.

Research Laboratory means a laboratory producing or using research-laboratory-scale amounts of HIV, HBV, or HCV. Research laboratories may produce high concentrations of HIV, HBV, or HCV but not in the volume found in production facilities.

Sharps with engineered sharps injury protections means a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids that has a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Sterilize means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, HCV, and other bloodborne pathogens.

Work Practice Controls means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

3.0 EXPOSURE DETERMINATION

An exposure determination must be made for anyone who has a reasonable chance of encountering human blood, body fluids and OPIM while performing their normal job duties.

This exposure determination is made without regard to the use of personal protective equipment (i.e., persons are considered to be exposed even if they wear personal protective equipment) and is required to list all job classifications in which one may be expected to incur an occupational exposure. At HIM/NRB, the following job classifications are in this category:

- Laboratory Technicians/Research Assistants
- Graduate Students
- Postdoctoral Fellows
- Glassware Washers
- Students/Interns

In addition, we have identified job classifications in which some employees may have occupational exposure. Not all employees in these categories are expected to have exposure to blood or OPIM. Therefore, tasks or procedures that would cause occupational exposure are also listed to further specify which employees have occupational exposure.

Job classifications and associated tasks for these categories are as follows:

- Centrifugation of blood samples or OPIM.
- Separation of blood components or OPIM.
- Transferring blood or other body fluids between containers.
- Washing contaminated glassware.
- Disposing used needles and biohazardous waste.
- Working with human blood, body fluids, unfixed tissues and organs, and primary human cells.

- Working with cultures of HIV or virus-producing cell lines and non-human primate cells.
- Administering recombinant deoxyribonucleic acid (rDNA) molecules or infectious microbiological agents into animals or animal or human cell lines.

4.0 METHODS OF COMPLIANCE

PIs are responsible for ensuring the effectiveness of and compliance with the following controls and practices.

4.1 UNIVERSAL PRECAUTIONS

Universal precautions techniques developed by the Centers for Disease Control and Prevention (CDC) (http://www.cdc.gov/ncidod/dhqp/bp_universal_precautions.html) will be observed at this facility to prevent contact with blood or OPIM. **All human blood or other human source materials will be considered potentially infectious for HIV, HBV, HCV, and other bloodborne pathogens, regardless of the perceived “low risk” status of the source individual.**

4.2 ENGINEERING AND WORK PRACTICE CONTROLS

One of the key aspects of the HIM/NRB ECP is the use of engineering and work practice controls to minimize or eliminate BBP exposures. At this facility, the following engineering and work practice controls are used:

- Hands and any other skin will be washed with soap and water, and eyes or mucous membranes will be flushed with water immediately or as soon as feasible following contact of such body areas with blood or OPIM.
- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed from their syringe.
- After use, sharps (e.g., needles, scalpels, razor blades, Pasteur pipettes, etc.) will be placed in red, fluorescent orange or orange-red leakproof, rigid, puncture-resistant, shatterproof containers that are marked prominently with the universal biohazard warning symbol and the word “Biohazard” in a contrasting color.
- Eating, drinking, chewing gum, smoking, applying cosmetics, and handling contact lenses is prohibited in work areas where exposure to infectious materials may occur.
- Food and drink will not be kept in refrigerators, freezers, on countertops, or in other storage areas where blood or OPIM are present.

- Procedures involving blood or OPIM will be performed carefully to minimize splashing, spraying, splattering, and producing droplets or aerosols of blood or OPIM.
- Mouth pipetting/suctioning of blood or OPIM is prohibited.
- All equipment and work surfaces will be cleaned and disinfected on a routine basis and as soon as possible following spills or other exposure to blood or OPIM.
- Leak-proof, labeled containers will be used for disposal of contaminated waste.
- Biosafety cabinets (BSCs) will be used as secondary protection (second to personal protective equipment such as laboratory coats, disposable latex or nitrile gloves, and eye or face shields).
- To help reduce needlesticks and other sharps injuries the use of safer medical devices is advised.

4.3 PERSONAL PROTECTIVE EQUIPMENT

PPE is considered the required safety equipment, or a “primary barrier” for protection against bloodborne pathogens. Each host institution is required to provide all necessary PPE to their employees free of cost. This equipment includes, but is not limited to:

- Disposable latex or nitrile gloves
- Laboratory coats
- Gowns/scrubs
- Goggles
- Safety glasses with side shields
- Prescription safety glasses
- Face shields/masks
- Hoods
- Shoe covers
- Respiratory protection
- Other site specific PPE as needed

Occupants are trained regarding the use of the appropriate PPE for their job classifications and tasks/procedures they perform. Training is provided by the HIM/NRB

EH&S Office, laboratory managers or designee, when necessary, such as when an employee takes a new position or new job functions are added to their current position.

To ensure that PPE is not contaminated and is in the appropriate condition to protect employees from potential exposure, our facility adheres to the following practices:

- PPE selection is reviewed by HIM/NRB EH&S Office or the responsible Laboratory Manager/Laboratory Safety Contact.
- Reusable PPE is properly cleaned, laundered and decontaminated, as needed.
- Single-use PPE (or equipment that cannot, for whatever reason, be decontaminated) is disposed of as biological waste.

To ensure that PPE is used as effectively as possible, occupants are trained to adhere to the following practices, which include, but are not limited to:

- Any garments penetrated by blood or other infectious materials are removed immediately or as soon as feasible.
- All PPE is removed prior to leaving a work area and is never worn in common areas of the building such as conference rooms, restrooms, and lunchrooms.
- Disposable latex or nitrile gloves are worn in the following circumstances:
 - Whenever employees anticipate hand contact with potentially infectious materials.
 - When performing vascular access procedures, with reasonable likelihood of blood exposure.
 - When handling or touching contaminated items or surfaces.
- Disposable latex or nitrile gloves are replaced as soon as practical after contamination, or if they are torn, punctured or otherwise lose their ability to function as an “exposure barrier.”
- Utility gloves are decontaminated for reuse unless they are cracked, peeling, torn or exhibit other signs of deterioration, at which time they are disposed of.
- Full-face protection, such as masks, face shields, and eye protection (goggles, etc.) are used whenever splashes or sprays may generate droplets of infectious materials.
- Protective clothing (such as gowns, scrubs and aprons) is worn whenever potential exposure is anticipated.

- Head covers/hoods and/or shoe covers/boots are used in any instances where “gross contamination” is anticipated (such as perfusion activities).

4.4 HOUSEKEEPING

It is the responsibility of everyone who works at HIM/NRB to ensure that the facility is maintained in a clean and sanitary condition. The following sections outline the procedures to ensure this level of cleanliness.

4.4.1 Equipment and Working Surfaces

Contaminated work surfaces and equipment should be cleaned with a U.S. Environmental Protection Agency (EPA) approved germicidal disinfectant (<http://www.epa.gov/oppad001/chemregindex.htm>). The disinfectant solution is applied in accordance with the manufacturer's recommendations.

Laboratory personnel must clean decontaminated equipment and surfaces after contact with blood or other potentially infectious materials after the completion of procedures, immediately (or as soon as feasible) when surfaces are overtly contaminated, after any large spill of blood or infectious materials, or at the end of the work shift if the surface may have been contaminated during that shift.

4.4.2 Contaminated Sharps Disposal

Contaminated sharps will be discarded immediately or as soon as feasible into a sharps container. Refer to Figure 4.1 for an example of a sharps container.



Figure 4.1 Sharps Container

During use, the sharps container will be easily accessible to laboratory members and located as close as is feasible to the immediate area where sharps are used. These containers should remain upright throughout use, be replaced routinely, and not be overfilled.

When moving the sharps container from the area of use, the containers should be closed immediately prior to removal or replacement to prevent spills or protrusion of contents during handling, storage, transport, or shipping. Filled reusable sharps containers are routinely picked up and replaced by Stericycle. Any filled disposable sharps containers must be placed either into a larger reusable sharps container or into a biological waste box lined with two red biohazard waste bags. This biological waste box can only contain sharps containers; sharps must not be disposed of with any other waste stream. It is important that the SHARPS box on the side of the biological waste box be checked to ensure the sharps are disposed of properly. See Figure 4.2.

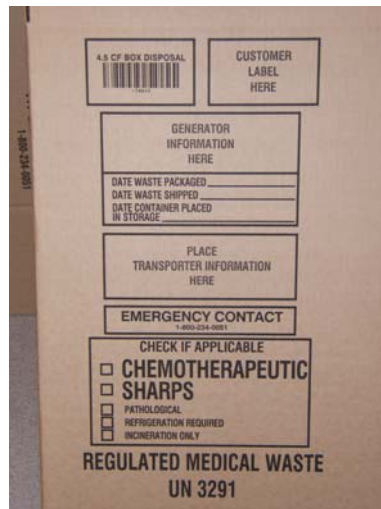


Figure 4.2 Side of Biological Waste Box

Call 617-432-1901 for biological waste box pick-up.

4.4.3 Solid Biological Waste Disposal

Any viable organism containing rDNA molecules must be rendered non-infectious by a validated method (e.g., steam sterilization, chemical disinfection, incineration at an approved facility) prior to being removed off-site. Other solid materials may be placed directly in the biological waste containers lined with two red biohazard waste bags.

When the biological waste box is nearly full, close up and seal as follows:

- Close and tape or tie the inner bag.
- Close and tape or tie the outer bag.
- Place the cover on top.
- Seal with two inch wide tape across the top of the box.
- Place the floor label on each biological waste box.
- Label the top of the box with the lab room number and the PI's name.
- Inspect the sealed boxes for leakage. Leaking biological waste box will be returned to the originating lab for repacking.

The sealed boxes are removed periodically throughout the day. Call 617-432-1901 to pickup a biological waste box or deliver empty biological waste bags, boxes, and lids. Contact Harvard Custodial to obtain labels associated with the biological waste boxes.

4.4.4 Contaminated Laundry

Personnel should replace laboratory gowns or coats regularly and when they become contaminated. Contaminated laundry that can be reused should be placed in leak-proof bags labeled with the biohazard symbol or color-coded red before transporting for decontamination or cleaning.

5.0 HIV, HBV AND HCV RESEARCH LABORATORIES

This section applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV, HBV, HCV, or other bloodborne pathogens. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs.

5.1 SPECIAL PRECAUTIONS

Research laboratories and production facilities are required to meet the following criteria:

- All regulated waste will either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
- Laboratory doors will be kept closed while work is in progress.
- Contaminated materials will be kept in closed, appropriately labeled containers prior to removal from the laboratory.
- Access will be limited to authorized persons only and controlled via written policies and procedures.
- Hazard warning sign incorporating the universal biohazard symbol will be posted on access doors.
- All work with viable infectious materials shall be conducted in a biological safety cabinet or other physical containment devices. No work with viable infectious materials will be conducted on open benches.
- Appropriate protective clothing will be used in work areas, not worn outside work areas, and decontaminated before being laundered.
- All wastes will be disposed of or disinfected by incineration or autoclaving.
- Special precautions will be applied when using vacuum lines (e.g., double-flasks and an in-line filter are used to prevent contamination of the house vacuum lines).
- Hypodermic needles and syringes will be used only for parenteral injections and aspirations of fluids from animals and diaphragm bottles.
- Spills will be immediately contained and cleaned up by trained personnel.
- Incidents will be reported immediately to the HIM/NRB EH&S Office and to your institution's Occupational Health Department.

- A biosafety manual must be available for employees. The HIM/NRB Biosafety Manual is available at <http://www.himnrbehs.com/himnrbehs/biosafety.asp>.
- A hand washing and an eye wash facility must be readily available within work area.

5.1.2 SPECIAL PRECAUTIONS FOR BL2 WITH STIPULATIONS (a.k.a. BL2+) LABORATORIES

In addition to the precautions listed above, laboratories that are designated BL2+ by Harvard COMS must meet the following criteria:

- A biosafety manual containing *laboratory-specific* Standard Operating Procedures must be available for employees.
- Employees must be trained on the laboratory biosafety manual prior to beginning work with biohazardous materials.
- No regular waste basket shall be present.
- An autoclave for decontamination of regulated waste must be available.
- All PPE worn in the area should be disposable or autoclavable.

Refer to the HIM/NRB Biosafety Manual for further information about BL2+ Laboratory requirements.

5.2 CONTAINMENT EQUIPMENT

Biological safety cabinets (BSCs), personal protection, and physical containment devices (e.g., centrifuge safety cups) must be used for all activities with potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.

BSCs require certification when installed, whenever they are moved, and at least annually.

5.3 TRAINING REQUIREMENTS

In addition to the requirements in Section 8.0, employees who work in HIV, HBV, and HCV laboratories and production facilities must demonstrate proficiency in:

- Standard microbiological practices and techniques and laboratory-specific standard operating procedures, and either
- Prior experience with handling human pathogens or tissues cultures, or
- Successful completion of a training program which stresses learning and proficiency in necessary techniques.

6.0 HEPATITIS B VACCINATION AND POST-EXPOSURE

Staff members must contact the Occupation Health Department for their respective home institution to obtain information about the HBV vaccination program.

6.1 VACCINATION PROGRAM

The hepatitis B vaccine is offered to all employees who have occupational exposure to bloodborne pathogens, and post exposure follow-up is offered to employees who have had an exposure incident. All medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post exposure follow up, including prophylaxis, are:

- Made available at no cost to the employee.
- Made available to the employee at a reasonable time and place.
- Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional.
- Provided according to the recommendations of the U.S. Public Health Service (PHS).

All records of Hepatitis B vaccinations and test results are kept on file in the Institution's Occupational Health Department. An accredited laboratory conducts all laboratory tests.

Hepatitis B vaccination is made available to all employees who have occupational exposure within 10 working days of their initial assignment.

Participation in a pre-screening program is **not** a prerequisite for receiving hepatitis B vaccination. If an employee initially declines the hepatitis B vaccination, but decides to accept the vaccination at a later date and is still covered under the standard, the vaccination will be made available. **All employees who decline the offered hepatitis B vaccination must sign the OSHA-required waiver indicating their refusal.** If the PHS recommends a routine booster dose of hepatitis B vaccine at a future date, such booster doses will be made available, at no cost to the employee.

6.2 POST-EXPOSURE EVALUATION AND FOLLOW-UP

All exposure incidents are reported, investigated, and documented. When the employee is exposed to blood or other PIM, the incident is reported to the HIM/NRB EH&S Office and Occupational Health Department.

What to do if exposed:

- Immediately, wash the exposed skin area, needle sticks, and/or cuts with soap and water. Flush eyes and exposed mucous membranes with large amounts of clear water. Do not use caustic agents, such as bleach.
- Next, report the exposure to your supervisor and the HIM/MRB EH&S Office immediately, so that post-exposure evaluation, counseling, and any necessary treatment can begin. Act quickly, because with some infections, treatment works best when started right away.

When an employee is exposed, he or she will receive a confidential medical evaluation and follow-up, including at least the following elements:

- Documentation of the route of exposure and the circumstances, under which the exposure occurred.
- Identification and documentation of the source individual, unless it can be established that identification is infeasible or prohibited by state or local law.
- The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV, HCV, and HIV infectivity. If consent is not obtained, the treating physician establishes that legally required consent cannot be obtained. When law does not require the source individual's consent, the source individual's blood, if available, will be tested and the results documented. When the source individual is already known to be infected with HBV, HCV, or HIV, testing for the source individual's known HBV, HCV, or HIV status need not be repeated.

- Results of the source individual's testing are made available to the exposed employee, and the employee is informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Collection and testing of blood for HBV, HCV, and HIV serological status will comply with the following:

- The exposed employee's blood is collected as soon as possible and tested after consent is obtained.
- The employee will be offered the option of having their blood collected for testing of the employee's HIV/HBV/HCV serological status. The blood sample will be preserved for **up to 90 days** to allow the employee to decide if the blood should be tested for HIV serological status.

All employees who incur exposure will be offered post-exposure evaluation and follow-up according to the OSHA standard. The employee's primary care physician may provide all post-exposure follow-ups. In some instances, if the employee saw a physician at a hospital emergency room, that physician may provide the post-exposure follow-up.

The healthcare professional responsible for the employee's hepatitis B vaccination is provided with the following:

- A description of the exposed employee's duties as they relate to the exposure incident.
- A description of the route of exposure and circumstances under which exposure occurred.
- Results of the source individuals blood testing, if available.
- All medical records relevant to the appropriate treatment of the employee including vaccination status.
- **The employee must obtain and provide the HIM/NRB EH&S Office with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.**

The healthcare professional's written opinion for HBV vaccination must be limited to whether HBV vaccination is indicated for an employee, and if the employee has received such vaccination. **The healthcare professional's written opinion for post-exposure follow-up is limited to the following information:**

- A statement that the employee has been informed of the results of the evaluation.
- A statement that the employee has been told about any medical conditions resulting from exposure to blood or OPIM, which require further evaluation or treatment.

NOTE: All other findings or diagnosis shall remain **confidential** and will not be included in the written report.

7.0 LABELS AND SIGNS

7.1 LABELS

Containers of regulated waste, refrigerators, and freezers containing blood or OPIM; and other containers used to store, transport, or ship blood or OPIM must be labeled with the biohazard warning label. The label must incorporate the universal biohazard sign and a predominant florescent orange or orange-red background with contrasting letter and symbol. See Figure 7.1 for an example.



BIOHAZARD

Figure 7.1 Universal Biohazard Symbol

Labels should be affixed to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

7.2 SIGNS

At the entrance to laboratories where tenants are working with BBP or other infectious materials, the following sign shall be posted at the entrance:



BIOHAZARD

(Name of Infectious Agent)

(Special requirements for entering the area)

(Name, telephone number of laboratory director or other responsible person)

Figure 7.2 Entrance Sign

These signs must be fluorescent orange-red with lettering and symbols in a contrasting color.

8.0 TRAINING

The HIM/NRB EH&S Office ensures that persons who provide Bloodborne Pathogens training are knowledgeable in the required subject matter. We make sure that employees covered by the bloodborne pathogens standard are trained at the time of initial assignment to tasks where occupational exposure may occur, and every year thereafter, on or around the anniversary of their initial training.

The following training methods may be employed:

- Training sessions conducted by a knowledgeable trainer.
- Videotape.
- Pamphlets.
- Internet-based online training.
- Access to additional materials and consultation provided by the HIM/NRB EH&S Office or their designees.

Initial bloodborne pathogens training is tailored to the education and language level of the employee, and offered during the normal work shift. During training, employees are encouraged to ask questions. The initial training is interactive and covers the following:

- The Bloodborne Pathogens Standard and its contents, and a method for obtaining a copy.
- The epidemiology and symptoms of bloodborne diseases.
- The modes of transmission of bloodborne pathogens: HIV, HBV, and HCV.
- The Exposure Control Plan, and a method for obtaining a copy.
- The recognition of tasks that may involve exposure.
- The use and limitations of methods to reduce exposure, for example engineering controls, safety devices (such as self-sheathing needles), work practices and PPE.
- The types, use, location, removal, handling, decontamination, and disposal of PPE.
- The basis of selection of PPE.
- The hepatitis B vaccination, including efficacy, safety, method of administration, benefits, and that it will be offered free of charge.

- The appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
- The procedures to follow if an exposure incident occur, including the method of reporting and medical follow-up.
- The evaluation and follow-up required after an employee exposure incident.
- The signs, labels, and color-coding systems.

Additional training is provided to employees when there are any changes of tasks or procedures affecting the employee's occupational exposure. Employees who have received training on Bloodborne Pathogens in the 12 months preceding the effective date of this plan will only receive training in provisions of the plan that were not covered.

9.0 RECORDKEEPING

9.1 MEDICAL RECORDS

Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.20. These records shall be kept confidential, and must be maintained for at least the duration of employment plus 30 years.

The records generally include the following:

- The name and social security number of the employee.
- A copy of the employee's HBV vaccination status, including the dates of vaccination.
- A copy of all results of examinations, medical testing, and follow-up procedures.
- A copy of the information provided to the healthcare professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure.

Medical records are confidential and will be kept in the institution's occupational health department.

9.2 TRAINING RECORDS

Training records shall be maintained for a minimum of three years from the date of training.

The following information shall be documented:

- The dates of the training sessions.
- An outline describing the material presented.
- The names and qualifications of persons conducting the training.
- The names and Department names of all persons attending the training sessions.

9.3 AVAILABILITY

All employee records shall be made available to the employee in accordance with 29 CFR 1910.20. All employee records shall be made available to the Assistant Secretary

of Labor for the OSHA and the Director of the National Institute for Occupational Safety and Health (NIOSH) upon request.

9.4 TRANSFER OF RECORDS

If this facility is closed or there is no successor employer to receive and retain the records for the prescribed period, the Director of the NIOSH shall be contacted for final disposition.