

# Appendix A – Bloodborne Pathogens Exposure Control Plan

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## A. INTRODUCTION

This section serves as the UW Core Bloodborne Pathogens Exposure Control Plan (ECP) and describes the requirements of the UW BBP Program. The purpose of the Program is to help ensure occupational health and safety and meet compliance with the Washington State BBP Rule, WAC 296-823. This rule applies to all occupational exposure to human blood or other potentially infectious materials. It requires employers to identify potential for occupational exposures and implement methods to mitigate these exposures through a variety of methods.

This core ECP was developed with research and clinical laboratories in mind. More specific information for patient care is available from Infection Control at UW Medicine Academic Medical Centers, i.e. University of Washington Medical Center and Harborview Medical Center; UW Schools of Medicine and Dentistry, including associated UW Clinics; UW Airlift Northwest; and other UW Medicine affiliates such as Northwest Hospital and Medical Center, Seattle Cancer Care Alliance, and Valley Medical Center. Persons at clinical patient care sites are directed to their respective departments for more information on training and requirements.

## B. ROLES AND RESPONSIBILITIES

### 1. Principal Investigator/Supervisor

The PI is responsible for identifying employees who need to be in the BBP program and has ultimate responsibility for ensuring that safety rules and requirements of the BBP Program are followed.

The PI or supervisor (as the PI designates) must develop and implement a Site-Specific BBP ECP and the EH&S template Site-Specific BBP ECP Form can be used for this purpose. It must include information about who is in the BBP program, personal protective equipment required for tasks, decontamination procedures, and first aid and medical response in case of

exposure. The Site-Specific BBP ECP must be reviewed annually and updated as necessary. It should be used in conjunction with this core ECP.

## 2. Employee

The employee is responsible for following the Site-Specific BBP ECP. All practices must be adhered to, including wearing required PPE. The employee is responsible to ask questions if needed and to make suggestions to the PI/supervisor for safer work practices and procedures.

## 3. Employee Health Center

The Employee Health Center provides clinical services and administers the hepatitis B vaccine. The EHC also provides post-exposure counseling and medical follow-up.

## 4. Environmental Health and Safety Department

EH&S administers the UW BBP Program. This includes maintaining the UW Core BBP Exposure Control Plan, assisting employees in obtaining the hepatitis B vaccine, providing BBP training, maintaining the injury log, providing consultation, and developing compliance tools to assist PIs/supervisors.

## C. EXPOSURE DETERMINATION

BBP are pathogenic microorganisms that are present in human blood and OPIM that can cause disease. All UW employees with reasonably anticipated potential for exposure to human blood and its components, human tissue, all human cell lines, human source materials, as well as medications derived from blood (e.g., immunoglobulins, albumin), and OPIM are required to comply with the University's BBP Program. OPIM includes all of the following:

- Human cells (including all primary and established human cell lines), human tissue or human organ cultures
- Culture supernatant
- Pericardial fluid
- Synovial fluid
- Pleural fluid
- Any solutions containing HIV, HBV, HCV, or other BBP
- Any body fluid visibly contaminated with blood or OPIM
- Saliva during dental procedures
- Peritoneal fluid
- Vaginal secretions
- Amniotic fluid
- Semen
- Any unfixed tissue or organ (other than intact skin) from a human (living or dead)
- Blood, organs, or tissues from animals infected with HIV, HBV, HCV, or other BBP
- Any fluid where it is difficult to identify the presence or absence of blood

Urine, feces, vomit, sweat, tears, and saliva are not regulated under the BBP rule because they are not considered to present a risk for BBP transmission unless there is visible blood in them. However, they should still be approached with caution; personnel should use latex or nitrile gloves and/or other PPE as needed when handling.

PIs/supervisors are responsible for assessing activities in the workplace, determining if employees have a potential for occupational exposure, and documenting the risk in the Site-Specific BBP ECP.

Individual exposure determinations must be made for existing workers on an on-going basis and prior to assigning or reassigning workers to job classifications with potential for exposure. The

exposure determination must be made without regard to the use of PPE. Listed below are examples of tasks that involve potential exposure to blood or OPIM.

- Cleaning up a blood/body fluid spill or handling contaminated waste or laundry;
- Culturing and/or propagating human cells, viruses, including all human and primate retroviruses in laboratory culture and experimental animals.
- Removing, preparing, and/or storing any unfixed tissue or organ from a human;
- Providing patient care in a clinical or research setting;
- Providing emergency services or functions in public safety where delivery of trauma care is likely, i.e., lifeguards, police officers, fire fighters, etc.

## **D. UNIVERSAL PRECAUTIONS**

Universal Precautions is an approach to protecting humans through infection prevention activities. This approach requires that all human blood, body fluids, and OPIM be treated as if they are known to be infectious for BBP. Engineering controls, work practices, and PPE shall be used to prevent contact with human blood and OPIM. Under circumstances in which differentiation between body fluid types is difficult or impossible, all human body fluids should be considered OPIM.

## **E. ENGINEERING/WORK PRACTICE CONTROLS**

### **1. Engineering Controls**

Engineering controls serve to reduce worker exposure either by removing the hazard or by isolating the worker from exposure.

Examples are:

- Protective splash/splatter shields
- Needles with safety features (e.g., self-sheathing needles, retractable needles)
- Capture ventilation
- Biological safety cabinets
- Air filters
- Ventilated equipment
- Sharps disposal containers
- Enclosures

### **2. Hand Hygiene**

Hand hygiene facilities must be available. If a sink with warm running water is not immediately available, a 60-95% alcohol-based gel hand sanitizer should be used until the employee can wash hands in a sink.

Employees should immediately wash hands with soap and water upon glove removal and on completion of tasks involving contact with human blood, body fluids, or OPIM.

### 3. Sharps

BBP exposures occur readily from needlestick or sharps injury to the skin. See the [Sharps Safety in Research PDF](#) for more information about working safely with needles and sharp items during research.

Preventative sharps safety practices are listed below:

- Needles must not be recapped, purposely bent or broken, removed from disposable syringes, or otherwise manipulated. If recapping a syringe is unavoidable, then a safe procedure for doing this must be followed (one-hand scoop method) preferably using a recapping device. Ideally syringe preparation and injection should occur at the same location;
- Sharps are not to be placed in the regular trash;
- Needles with safety features should be used whenever possible; information and products can be found online at the International Sharps Prevention [website](#) or an EH&S OHN can be contacted;
- Needles or sharps of any kind shall not be left on the work surface. Instead, a syringe holder or magnetic strip can be used to hold razor blades;
- Procedures for proper restraint of animals must be ensured during injections. If necessary more than one person should assist;
- After use, disposable syringes and needles, scalpel blades, lancets, and other contaminated sharp items (i.e., broken glass, razor blades, fragile glass items, glass slides and cover slips) must be placed in puncture-resistant sharps containers for disposal;
- Dispose of contaminated reusable sharps immediately, or as soon as possible after use, in appropriate sharps containers until properly decontaminated. For additional information on sharps disposal, see the EH&S website.

### 4. Eating, Drinking, and Smoking

Eating, drinking, smoking, and other activities including applying cosmetics or lip balm, handling contact lenses, placing any article in the mouth, eyes, or nose, or other contact with mucous membranes is prohibited in work areas where there is a likelihood of occupational exposure to blood or OPIM.

Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets, or on countertops or bench tops where blood or OPIM are stored or used.

### 5. Mouth Pipetting/Suctioning

To prevent accidental ingestion of potentially infectious materials, mouth pipetting or suctioning is strictly prohibited.

### 6. Aerosols

All procedures involving blood or OPIM shall be performed in such a manner as to minimize splashing, spraying, splattering, or generation of droplets of these substances. Such activity should be conducted in a certified BSC.

### 7. Centrifuging

Containment devices such as centrifuge safety cups and sealed rotors are recommended to protect the worker from exposure to microbial aerosols and droplets. Safety characteristics of

centrifuges are only effective if the equipment is operated properly, thus training in the correct use of the equipment and routine inspections, with regular re-certification of the centrifuge are essential. See Section 4.C.2.

## 8. Transporting and Shipping Biohazardous Materials

Specimen containers used for blood or OPIM must be leak-proof. They also need to be red in color or labeled with the biohazard symbol. Anytime specimens of blood or OPIM are transported within the building or between buildings, the specimen container must be placed inside a secondary container that is also leak-proof, providing a double barrier. Additional information on transporting biohazardous materials is found on the [EH&S Biohazardous Waste page](#).

All specimens of blood or OPIM must be properly packaged for shipment by mail or courier service. Information on packaging and shipping hazardous materials is available on the [EH&S Shipping Hazardous Materials page](#). For questions, contact EH&S Environmental Programs at 206-616-5835.

## 9. Equipment Servicing and Maintenance

Equipment that may be contaminated with blood or OPIM must be decontaminated prior to servicing. Equipment being repaired, surplus, or disposed of must be decontaminated. A Notice of Laboratory Equipment Decontamination must be completed to certify that this has been done. The notice of decontamination form has information on how to decontaminate various types of equipment and who to call for questions.

When a portion of the equipment cannot be decontaminated, the equipment must be labeled with the biohazard label as well as stating which portion of the equipment remains contaminated. This information must be conveyed to all repair workers and servicing representatives and/or the manufacturer as necessary prior to handling, servicing, or shipping so that appropriate precautions will be taken.

## F. PERSONAL PROTECTIVE EQUIPMENT

### 1. Requirements

The PI/supervisor must ensure that PPE for identified hazards is readily available in appropriate sizes at the worksite or is issued to the worker. The PI/supervisor is responsible for ensuring that a PPE hazard assessment is completed, that required PPE is documented in the Site-Specific BBP Exposure Control Plan, and that it is worn correctly by staff. Required PPE must be provided at no cost to employees. Refer to the [EH&S PPE page](#) and to the PPE information in Section 4.B.4.

PPE includes but is not limited to gloves, gowns, laboratory coats, clinic jackets, aprons, face shields or masks, eye protection (goggles, safety glasses with side shields) mouthpieces, resuscitation bags, and pocket masks or other ventilation devices. Surgical caps or hoods and shoe coverings or boots shall be worn in instances when gross contamination can be anticipated.

In order to be effective, PPE must prevent blood or OPIM from soaking through to the user's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membrane under normal conditions of use and for the duration of time for which the PPE will be used.

PPE must be cleaned, laundered, or disposed of and repaired or replaced as needed to maintain its effectiveness.

## 2. Gloves

Appropriate gloves (latex or nitrile) must be provided to and worn by workers when handling blood or OPIM. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives are recommended to prevent allergies to latex.

Double gloves may appropriately be used by persons with dermatitis, skin breaks, or as needed when working directly with biohazardous agents. Replace disposable gloves when contaminated, torn, punctured, or when their ability to function as a barrier is compromised. Do not wash or decontaminate disposable gloves for reuse.

Wear nitrile or other chemically resistant gloves when working with chemicals. Latex gloves do not provide adequate chemical protection.

## 3. Face Protection

Moisture resistant surgical face masks in combination with eye protection devices such as goggles, close fitting glasses with solid side shields, or chin-length face shields must be worn whenever splashes, spray, splatter, droplets of blood, or OPIM may be generated and where eye, nose, or mouth contamination can be anticipated. A table-top plexiglas® shield can provide additional protection from splash/splatter when work is performed behind the shield. Respirators are not typically required for work with BBP unless aerosol-generating activities are performed outside of a containment device. If these activities are anticipated, contact EH&S at 206-221-7770 for consultation about the potential need for respirators.

## 4. Use and Removal

The PI/supervisor must ensure that employees use appropriate PPE when performing tasks with identified hazards. The types of PPE worn will depend upon the sort of work being done and the exposure anticipated. PPE must be removed and discarded carefully to prevent cross contamination. Hands must be washed after removal of PPE and any time they may be contaminated.

## 5. Cleaning, Laundering or Disposal

The decontamination and disposal of single use PPE shall be in accordance with established University procedures for the treatment and disposal of biohazardous waste as described on the [EH&S Biohazardous Waste page](#).

It shall be the responsibility of the PI/supervisor to ensure that laundry service for personal protective clothing is provided. Workers must not launder any personal protective clothing in their homes. Consolidated Laundry provides this service.

All laundry shall be handled using Universal Precautions. If the contaminated laundry is wet and presents a reasonable likelihood of leakage, it must be bagged in special bags that are available from Consolidated Laundry.

## **G. WORKSITE CONDITIONS**

### **1. Responsibility**

It is the responsibility of the PI/supervisor to ensure that the worksite is maintained in a clean and sanitary condition. Decontamination procedures can be found on the [EH&S Biohazardous Waste page](#).

### **2. Spill Clean-up**

All workers must be familiar with procedures for decontamination and clean-up of spills of blood and potentially infectious materials. It is recommended that the use of glass be avoided whenever possible when working with biohazards since sharp broken glass can add another hazard.

Each laboratory shall have a specific procedure for dealing with spill cleanup based on the type and quantity of blood or OPIM handled, as well as the surfaces to be decontaminated. In addition to the procedure, cleanup supplies must be readily available. At a minimum, these supplies should include suitable disinfectants, gloves, paper towels or other absorbent material, forceps or tongs for broken glass or other sharps, an autoclavable squeegee and dust pan, and autoclave bags or other disposal container. Additional information on spill clean-up is found on the [EH&S Biological Research Safety webpage](#).

### **3. Cleaning Schedule**

All floors, laboratory benches, and other surfaces shall be chemically decontaminated as often as deemed necessary by the PI/supervisor. The chemical decontaminant used is at the discretion of the PI/supervisor but must either be an EPA-registered tuberculocidal (List B), sterilant (List A), or a product registered against HIV/HBV (List D).

At a minimum, work surfaces are decontaminated at least daily, immediately after contamination with blood or OPIM, or following a spill.

At a minimum, floors shall be wet mopped on a weekly basis. Spills on the floor are decontaminated and cleaned up promptly.

### **4. Protective Coverings**

When protective coverings such as plastic or aluminum wrap or absorbent pads are used, these coverings should be removed and replaced either when visibly contaminated or at the end of the work shift (if contamination was likely during the shift).

### **5. Biohazardous Waste**

All untreated biohazardous waste must be handled using Universal Precautions. Disposable sharps containers must not be reused and must be autoclaved prior to disposal. Additional information on biohazardous waste treatment and disposal is found on the [EH&S Biohazardous Waste page](#) including flowcharts describing where and how to dispose of waste for your location.

Reusable waste receptacles for biohazardous waste shall be decontaminated each time they are emptied. Alternatively, the receptacle can be protected from contamination by a disposable liner (in addition to the biohazard waste bag) that shall be removed at the same time as the removal of the waste. The liner should be handled as biohazardous waste.



Broken contaminated glassware too large to fit into a 5-gallon sharps container shall be transported and treated in an autoclave-resistant plastic bin and then packaged and disposed of as laboratory glass as described on the [EH&S Sharps and Laboratory Glass page](#).

Other biohazardous waste that does not pose the threat of skin puncture shall be placed in plastic biohazard bags. A leak-proof second container is required while transporting to the autoclave for treatment. If this container covers the biohazard label on the bag, the outer container must have the biohazard label. This secondary container shall be autoclaved or otherwise decontaminated prior to reuse.

If biohazardous waste is to be shipped off-site for treatment via a contracted carrier, packaging must be done in accordance with the Department of Transportation (DOT) requirements. Any faculty or staff who will perform the final packaging steps and offer shipments must complete the [EH&S training](#) before setting up an account with the waste contractor.

## H. BIOHAZARD SIGNS AND LABELS

The [Biohazard Warning Sign](#) must be used to restrict laboratory access when work with biohazardous materials is taking place, to communicate agents in use, and to specify entry and exit requirements. The sign includes the universal biohazard symbol which is required to have the fluorescent orange background with the symbol and lettering in a contrasting color.

Biohazard warning labels shall either be an integral part of the container or shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

Warning labels must be affixed to containers of biohazardous waste, refrigerators and freezers containing blood or OPIM, and other containers used to store, transport, mail, or ship blood or OPIM. See the [EH&S Biological Research Safety page](#).

Biohazard labels do not need to be used on the following:

- Red bags or red containers when the color red is recognized as meaning the same as the warning label, or
- Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use, or
- Individual containers of blood or OPIM that are placed in a labeled container during storage, transport, shipment, or disposal.

## I. HEPATITIS B IMMUNIZATION

### 1. Offering Hepatitis B Vaccine

The PI/supervisor must assure that all workers with the potential for occupational exposure to BBP are offered the hepatitis B vaccine at no cost to the worker within ten days from the start of the work assignment and after receiving BBP training. For all employees who are in the UW BBP program, the Hepatitis B Vaccine Form is required to be signed in order to ensure this vaccine is offered.

The Hepatitis B Vaccine Form is offered via the BBP training course which is required prior to the work with a potential for exposure to human blood and OPIM. Information is given on the efficacy, safety, method of administration, and the benefits of the hepatitis B vaccine. The form

asks for hepatitis B vaccine dates if the employee has received the vaccination in the past. The completed form is forwarded to the Employee Health Center for review and follow-up.

Employees who decline immunization must sign and date a waiver section on the Hepatitis B Form after reading the waiver statement indicating an understanding of the risks of declining the vaccine. The decision to refuse the vaccination can be reversed at any time without penalty to the employee.

After receipt of the Hepatitis B Form, the EHC will ask for verification of immunization for workers previously immunized. The EHC will also provide the PI/supervisor and the employee with a written opinion within 15 days of a medical evaluation (if done at EHC) for hepatitis B administration. This written opinion informs the PI/supervisor that the employee completed the evaluation regarding hepatitis B immunization. To protect the worker's privacy, the written opinion will be limited to answering two questions: 1) Is hepatitis B immunization recommended? 2) Was the vaccine administered?

Prescreening of workers (pre-vaccine blood titers) shall not be a condition for beginning the hepatitis B immunization series. However, a post vaccine antibody titer (Anti-HBs) is recommended to assure the efficacy of the immunization.

## 2. Administering Hepatitis B Vaccine

University staff and faculty are responsible for contacting the EHC and scheduling an appointment to receive the hepatitis B vaccine. Hepatitis B immunization is given as recommended by the U.S. Public Health Service. Booster immunizations are not recommended at this time. If a need for booster immunization is demonstrated in the future, these immunizations will be offered. More information about hepatitis B vaccine can be found on the [CDC website](#).

## J. POST-EXPOSURE REQUIREMENTS

### 1. Exposure Incident

An exposure incident is defined as specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with human blood or OPIM. Examples of exposure incidents include needlesticks, splash/spatter to the mucous membranes of the face, and any other incident that involves contact between blood or OPIM and non-intact skin (cuts, scratches, chapped skin, etc.).

### 2. Immediate Response

Following an exposure incident, the following steps must be completed. These steps are also provided on the [EH&S Exposure Response Poster](#) which can be printed and posted in work area for quick reference.

1. PERFORM FIRST AID	
<b>Needlestick, sharps injury, puncture wound, or animal bite/scratch</b>	Wash exposed area thoroughly for 15 minutes with warm water and sudsing soap.
<b>Eye exposure</b>	Use eye wash to flush eyes for 15 minutes while holding eyes open.

<b>Skin exposure</b>	Use nearest safety shower for 15 minutes. Stay under shower and remove clothing. Use a clean lab coat or spare clothing to cover.
<b>Inhalation</b>	Move out of contaminated area and get help.
<b>2. GET MEDICAL HELP</b>	
<b>For chemical or radiological exposure or emergency:</b>	Call 911 and follow the instructions given. Provide information about exposure including chemical name, dose, route, time since exposure, and Safety Data Sheet (SDS).
<b>For biological and all other exposures:</b>	<p>During business hours (Monday thru Friday 8 a.m. to 5 p.m.):</p> <ul style="list-style-type: none"> <li>• Call the Employee Health Center at 206.685.1026.</li> <li>• Harborview sites call 206.744.3081.</li> </ul> <p>If the Employee Health Center is closed:</p> <ul style="list-style-type: none"> <li>• Call 911 and follow the instructions given.</li> </ul> <p>Notify your supervisor. Secure the area before leaving.</p>
<b>3. REPORT THE INCIDENT</b>	
<b>In the event of hospitalization, fatality, or radiological or recombinant DNA exposure, notify EH&amp;S immediately after first aid and getting help:</b>	<p>During business hours (Monday thru Friday 8 a.m. to 5 p.m.):</p> <ul style="list-style-type: none"> <li>• Call the EH&amp;S main phone line at 206.543.7262.</li> </ul> <p>Outside of business hours:</p> <ul style="list-style-type: none"> <li>• Call 206.685.UWPD (8973) to reach EH&amp;S staff on call.</li> </ul>
<b>All incidents and near misses:</b>	Submit a report via the UW Online Accident Report (OARS) within 24 hours at <a href="https://oars.ehs.washington.edu">https://oars.ehs.washington.edu</a>

### 3. Principal Investigator/Supervisor Responsibility

The PI/supervisor is responsible for assisting the exposed worker in seeking the necessary and immediate medical evaluation and consultation following an exposure incident. The following table is provided to assist the PI/supervisor in obtaining immediate medical consultation and evaluation for an exposed worker.

<b>Medical Referral Guide</b>		
<b>Worker's Location</b>	<b>Department</b>	<b>Phone</b>
UW Seattle Campus and Health Sciences, including South Lake Union and Western Facilities	Employee Health Center (EHC) at Hall Health	206.685.1026
UW Medical Center (MC)	EHC at UWMC	206.598.4848
Harborview MC	Employee Health Services	206.744.3081
Other affiliate site:	Clinic to call for injury:	Phone of clinic:

#### 4. Evaluation Post Exposure

The worker who has had a potential BBP exposure will receive a copy of WAC 296-823 describing his/her rights and a post-exposure medical evaluation and follow-up as described in this section below.

- a. A medical evaluation will be performed immediately after exposure and will be all of the following:
  - 1) Confidential,
  - 2) At no cost to employee,
  - 3) At a reasonable time and place, and
  - 4) Administered by a licensed physician or HCP.
- b. The examination will include at least these elements:
  - 1) Documentation of the routes of exposure and the circumstances under which the exposure happened
  - 2) Identification and documentation of the source (individual or materials) if possible
  - 3) Serial collection and testing of blood to detect the presence of HIV and/or HBV; in the event the worker does not permit serologic testing, a baseline blood sample will be held for at least 90 days
  - 4) Post-exposure treatment when medically indicated and as recommended by the U.S. Public Health Service
  - 5) Counseling about the results of testing and information regarding state laws concerning disclosure of the information
  - 6) Evaluation of reported illnesses subsequent to the exposure
- c. The treating HCP is to provide the employee with a copy of the written opinion on the post-exposure evaluation within 15 days of the incident. This written opinion includes whether Hepatitis B vaccination is indicated for the employee and if the employee has received such vaccination. It documents that a medical evaluation took place following the exposure incident, that the employee has been informed of the results of the evaluation, and that the employee has been counseled about potential medical conditions resulting from exposure to blood or OPIM that may need further evaluation or treatment. All other findings are to remain confidential.

It is the responsibility of the PI/supervisor to assist the employee in obtaining a copy of the report if it has not already been provided to the employee. The employee should tell his or her supervisor if a copy of this report has not been received within 15 days.

## K. TRAINING PROGRAM

### 1. Responsibility

PI/supervisor must ensure that staff complete [BBP training](#). Training must follow standards set forth in WAC 296-823. Training for all employees who have the potential for occupational exposure to human blood or OPIM must be the following:

- Provided at no cost to the employee
- Required prior to work with these materials, and within one year of the previous training
- To take place during compensated work hours

EH&S offers online BBP training. For research laboratories, verification of current EH&S BBP training is required prior to approval from the Institutional Biosafety Committee.

Departments/supervisors who choose to provide their own BBP training must first consult with EH&S to ensure the training meets the requirements set forth in the BBP Rule.

In addition to EH&S BBP training, PIs/supervisors must provide additional documented training to their staff on the Site-Specific BBP Exposure Control Plan prior to work, annually, and when there are changes such as new or modified tasks or procedures that may affect exposure potential.

## 2. Training Requirements

The training program must contain the following elements:

- a. An accessible copy of the regulatory text of the bloodborne standard and an explanation of its contents;
- b. A general explanation of the epidemiology and symptoms of bloodborne diseases;
- c. An explanation of the modes of transmission of bloodborne pathogens;
- d. An explanation of the UW's ECP and the means by which the worker can obtain a copy of the written plan;
- e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and OPIM;
- f. An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and PPE;
- g. An explanation of the basis for selection of PPE, as well as information on the types, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment;
- h. Information on the Hepatitis B vaccine, including information on its efficacy, safety, method of administration, benefits of being vaccinated, and that the vaccine and immunization will be offered free of charge;
- i. Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM;
- j. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow up that will be made available;
- k. Information on the post-exposure evaluation and follow up that the PI is required to provide for the worker following an exposure incident;
- l. An explanation of the signs and labels and/or color coding as required and used; and
- m. An opportunity for interactive questions and answers with the person conducting the training session.

## L. RECORDKEEPING

### 1. Medical Records

The treating facility will establish and maintain accurate and confidential records for each worker with occupational exposure for at least the duration of employment plus thirty years in accordance with WAC 296-823-120.

At a minimum the record shall contain:



- a. Worker name
- b. A copy of the written opinion sent to the employee following evaluation for Hepatitis B immunization as well as the worker's Hepatitis B immunization status and any other medical records relative to the worker's ability to receive the immunization. In lieu of this, the file will have the declination form signed by the worker declining the Hepatitis B immunization
- c. The results of examination, medical testing, and follow-up procedures following an exposure incident
- d. A copy of the written opinion sent to the PI/supervisor following a post-exposure medical evaluation
- e. A copy of the information provided by the PI/supervisor following an exposure incident

## 2. Training Records

EH&S tracks all employee attendance for training conducted by EH&S. These records are kept for at least three years after the date on which the training occurred. PIs/supervisors must also maintain records of site-specific laboratory training conducted by the laboratory and/or department.

Training records must contain:

- a. The date(s) and location(s) of the training
- b. A summary of the training course content
- c. The names and qualifications of the instructors
- d. The names of all persons attending the training

## 3. Availability

All records described shall be made available for examination and copying to the Director of the Washington State Department of Labor and Industries.

Medical records will be available for examination and copying to the worker or any person with the worker's written consent.

Training records will be available for examination and copying to workers or employee representatives.

## M. ACCESSIBILITY OF THE ECP

Each PI/supervisor is responsible for ensuring that laboratory staff and workers can access and consult the Site-Specific BBP ECP at any time.

A copy of the exposure plan must be available to the Director of the Washington State Department of Labor and Industries upon request for examination and copying.

## N. ANNUAL UPDATE OF THE ECP

The lab's Site-Specific BBP ECP will be reviewed and updated when necessary and at least annually.

The PI/supervisor is responsible for reviewing the lab's Site-Specific BBP ECP annually and whenever necessary to reflect new or modified tasks and procedures that affect the potential for

occupational exposure and to reflect new or revised worker positions with the potential for occupational exposure.

## **O. ADDITIONAL REQUIREMENTS FOR HIV, HBV, AND HCV RESEARCH LABORATORIES**

### **1. Application**

This section applies to a research laboratory engaged in the culture, production, concentration, and manipulation of HIV, HBV, and HCV. It also applies to work with SIV/SHIV non-human primate retroviruses. Such a facility works with high titer concentrations of virus but not with volumes greater than one liter. These requirements apply in addition to the other requirements of the ECP. If greater volumes are used the facility is called an HIV/HBV/HCV Production facility.

This section does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs.

In addition to the above, research involving the culture and/or production of HIV, HBV, or HCV must be reviewed and approved by the IBC before the activities can commence. This review will include a determination as to the appropriate biosafety level and practices, which are typically elevated for research with these agents.

### **2. Facility Requirements**

Each laboratory shall contain a facility for hand washing and an eye wash facility that is readily available within the work area. The sink shall be foot, elbow, or automatically operated and located near the exit door.

An autoclave for decontamination of regulated waste shall be available. Refer to the location-specific Biohazardous Waste Flow Charts for decontamination and disposal of these materials at your location.

Vacuum lines are to be protected with liquid disinfectant traps and HEPA filters or filters of equivalent or superior efficiency. Traps and filters must be checked routinely and maintained or replaced as necessary.

### **3. Access Policy**

Access to the work area is to be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures before being allowed to enter the work areas and animal rooms.

Laboratory doors are to be kept closed when work involving HIV, HBV, or HCV is in progress. The PI/supervisor must post biohazard signs on all access doors. For more information on biohazard signs, refer to the [EH&S Biological Research Safety page](#).

### **4. Biosafety Manual**

The lab-specific BSL 2 with BSL-3 practices Biosafety Manual (BSL2 w/3 practices BSM) must be available in the laboratory in hard copy form or as an obvious icon/shortcut on a laboratory computer that is accessible to lab members. Personnel must be advised of potential hazards and are required to read and implement the instructions on practices and procedures as developed by the laboratory and written in the ECP.

## 5. Containment

No work is to be conducted on the open bench with materials that have the potential for HIV, HBV, or HCV exposure.

A certified BSC must be used when working with materials that have the potential for HIV, HBV, or HCV exposure in the research laboratory. The BSC must be certified when installed, whenever moved, and at least annually.

Use of engineering controls (as noted in part D of this section) and PPE specific for splash and aerosol protection (protective clothing and respiratory protective equipment) are required when working with materials that have the potential for HIV, HBV, or HCV exposure.

## 6. Protective Clothing and Practices

Eye protection and laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing must be used in the work area and animal rooms. Protective clothing must not be worn outside the work area and, if reusable, must be autoclaved before being laundered.

Avoid skin contact with materials that have the potential for HIV, HBV, or HCV exposure. Gloves must be worn when handling infected animals and when handling these materials. Double gloves are recommended when exposure risk is high, e.g., when working directly with potentially infectious materials. See your lab-specific BSL2 w/3 practices BSM for more information.

## 7. Use of Sharps

Hypodermic needles and syringes should be used only for parenteral injection of laboratory animals and aspiration of fluids from diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) should be used for the injection or aspiration of potentially infectious materials. See Appendix A.E.3., for essential work practices using sharps.

## 8. Spills

Contain all spills immediately, and decontaminate as indicated for specific with biohazardous agents.

A spill or accident that results in an exposure incident must be immediately reported to the PI/supervisor or other responsible person. Refer to the [EH&S Biological Research Safety page](#).

## 9. Decontamination of Waste

Before disposal, all waste from work areas and animal rooms must either be chemically decontaminated by a method that is known to effectively destroy BBP or autoclaved. The method of decontamination needs to be documented in your lab-specific BSL-2 with BSL-3 practices BSM.

Contaminated materials that are to be decontaminated at a site away from the work area need to be placed in a durable, leak-proof, labeled or color-coded container that is closed before being removed from the work area. The outside of the container must be decontaminated prior to removal from the lab (i.e., spray or wipe off the container).



## **10. Additional Initial Training for Laboratory Staff and Workers in HIV, HBV, and HCV Laboratories**

Laboratory staff and workers in HIV, HBV, or HCV research laboratories must receive the BBP training as outlined in your lab-specific BSL2 w/3 practices BSM. The PI/supervisor must ensure that laboratory staff and workers have experience in the handling of human pathogens or tissue cultures before working with HIV, HBV, or HCV, and must provide a training program to laboratory staff and workers who have no prior experience handling human pathogens. In this case, initial work activities can not include the handling of infectious agents.

A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The PI/supervisor must ensure that laboratory staff participates in work activities involving biohazardous agents only after proficiency has been demonstrated. Practices and operations specific to the facility must be reviewed before allowing work with HIV, HBV, or HCV.

### **P. HIV, HBV, AND HCV PRODUCTION FACILITY**

A HIV, HBV, and HCV production facility is a facility engaged in industrial-scale, large-volume production of high titer concentration of HIV, HBV, and HCV. There currently are no HIV, HBV, or HCV Production facilities at the University of Washington.

