

IX. Bloodborne Pathogen Exposure Control

A.	Introduction.....	2
B.	Exposure Determinations	2
C.	Universal Precautions	6
D.	Engineering/Work Practice Controls	7
1.	Engineering Controls.....	7
2.	Handwashing.....	7
3.	Contaminated Sharps.....	8
4.	Eating, Drinking and Smoking	8
5.	Aerosols	8
6.	Mouth Pipetting	8
7.	Centrifuging	9
8.	Transporting Material	9
9.	Equipment Servicing and Maintenance.....	9
E.	Personal Protective Equipment.....	10
1.	Provision.....	10
2.	Use	10
3.	Gloves	10
4.	Masks/Eye Protection.....	11
5.	Protective Clothing	11
6.	Removal	12
7.	Cleaning, Laundering or Disposal	12
F.	Worksite Conditions	12
1.	Responsibility	12
2.	Spill Clean-up	12
3.	Cleaning Schedule	13
4.	Protective Coverings	13
5.	Biohazardous Waste	13
6.	Laundry	14
G.	Biohazard Labels And Signs	14
H.	HBV Immunization Evaluation And Follow-Up Immunization.....	15
I.	Exposure Incident.....	16
1.	Exposure Incident.....	16
2.	Immediate Response	16
3.	Principal Investigator/Supervisor Responsibility.....	17
4.	Evaluation.....	18
J.	Training Program.....	19
K.	Recordkeeping (Medical and Training Records).....	20
L.	Accessibility Of Exposure Control Plan	21
M.	Annual Update Of Plan.....	22
N.	HIV and HBV Research Laboratory	22
1.	Application.....	22
2.	Facility Requirements.....	22
3.	Access Policy	23
4.	Biosafety Manual.....	23
5.	Containment.....	23
6.	Protective Clothing and Practices	24
7.	Use of Sharps.....	24
8.	Spills.....	24
9.	Decontamination of Waste	25
10.	Additional Initial Training in HIV and HBV Laboratories and Production Facilities.	25
O.	HIV and HBV Production Facility.....	25

A. Introduction

Washington Administrative Code 296-62-08001 is the Bloodborne Pathogen Standard. This rule applies to all occupational exposure to human blood or potentially infectious materials. The standard requires employers to identify occupational exposures and implement methods to mitigate these exposures through a variety of methods.

In November, 2000, Congress passed the “Needlestick Safety and Prevention Act” directing federal OSHA to revise its Bloodborne Pathogens standard to describe in greater detail the requirements for employers to identify and make use of effective and safer medical devices. That revision was published in January 2001. In response to that legislation and OSHA’s action, WISHA has revised its Bloodborne Pathogens standard (WAC 296-62-08001) with language essentially identical to OSHA’s. These changes became effective on August 6, 2001.

Additions to the standard include recording sharps injuries on a formal sharps injury log, soliciting input from non-managerial direct patient care employees for identifying, evaluating and selecting effective engineering and work practice controls and to document this solicitation in the exposure control plan.

This chapter contains a generic Exposure Control Plan and training resources that may need to be tailored by principal investigator/supervisors to the particular exposure hazards in their areas of responsibility. This plan was developed with research and clinical laboratories in mind. More specific information for patient care is available from Infection Control at University of Washington Medical Center, Harborview Medical Center and the Dental School. The [Research Laboratory Supplemental Form](#) should be used in conjunction with the Exposure Control Plan.

B. Exposure Determinations

1. Possible Occupational Exposure Job Categories Exposure Determination - Higher Education Personnel Board

Listed on pages 3 and 4 are occupational titles which may have exposure to bloodborne pathogens. This list is not all inclusive in that actual job duties vary. Each principal investigator/supervisor must perform an exposure determination to identify their workers who have occupational exposure to blood or other potentially infectious materials. Occupational exposure means “reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious material that may result from the performance of an employee’s duties.”

Faculty and graduate student positions are not included on this list, and must be evaluated on a case-by-case basis for possible exposure.

<u>Classified Staff</u> <u>Job Classification Title</u>	<u>Exposure</u>	
	<u>Some</u>	<u>All</u>
Anesthesiology Tech Svcs. Supv.		✓
Anesthesiology Technician 1, 2, Lead □		✓
Animal Surgery Specialist	✓	
Animal Technician 1, 2, 3, Supv.	✓	
Biomedical Electronics Tech 1, 2, 3, LD Sup. 1&2	✓	
Campus Asst. Police Chief	✓	
Campus Police Captain, Corporal Investigator, Lieutenant, Officer Sergeant	✓	
Cardiac Diagnostic Svcs. Manager	✓	
Cardiac Monitor Tech, Technologist, Lead, Supervisor, Trainee		✓
Cardiopulmonary Perfusionist, Supervisor		✓
Central Processing Tech 1, 2	✓	
Central Services Supervisor 1, 2	✓	
Clinical Cytogenetic Technologist, Specialist, Supervisor, Trainee	✓	
Clinical Equipment Technician	✓	
Clinical Autopsy Coordinator	✓	
Clinical Embryologist	✓	
Clinical Laboratory Assistant, Supervisor, Technician	✓	
Clinical Nurse Specialist	✓	
Clinical Technologist 1, 2, Lead	✓	
Custodial Services Manager A, B, C	✓	
Custodian	✓	
Custodian, Lead, Supervisor 1, 2	✓	
Cytology Technologist 1, 2, Supervisor	✓	
Dental Assistant 1, 2		✓
Dental Clinic Manager, Supervisor 1, 2	✓	
Dental Hygienist		✓
Dental Laboratory Tech 1, 2, 3	✓	
Dental X-ray Technician 1, 2		✓
Dialysis/Paresis Manager, Tech, Trainee		✓
Electrocardiograph Tech 1, 2	✓	
Electroencephal Tech 1, 2, 3, Supervisor	✓	
Environmental Control Tech 1, 2, 3	✓	
Eye Bank Technician, Supervisor	✓	
Forensic Toxicologist, Lead, Supervisor, Trainee	✓	
Gastroenterology Technician	✓	
Health Care Specialist, Lead	✓	
Histologic Technician 1, 2, Supervisor	✓	
Histotechnologist	✓	
Hospital Assistant 1, 2	✓	
Hospital Central Svcs., Manager, Tech 1, 2	✓	
Hospital Health Physicists	✓	
Hospital Laundry Manager	✓	

<u>Classified Staff</u> <u>Job Classification Title</u>	<u>Exposure</u>	
	<u>Some</u>	<u>All</u>
Laboratory Helper, Lead, Clinical Laboratory Technician 1, 2	✓	
Licensed Practical Nurse 1, 2	✓	
Maintenance Custodian 1, 2, Lead, Supervisor	✓	
Microbiologist 1, 2	✓	
Nuclear Med. Diagn/Ther. Svc. Mgr.	✓	
Nuclear Medicine Technologist Supv.	✓	
Nuclear Medicine Technologist	✓	
Nurse Coordinator 2	✓	
Nurse Manager	✓	
Occupational Health Nurse	✓	
Operating Room Technician 1, 2	✓	
Ophthalmic Technician	✓	
Oral Maxillo Facial Surgery Tech.	✓	
Orthopaedic Technician	✓	
Plumber/Pipe/Steamfitter Trainee	✓	
Plumber/Pipe/Steamfitter, Lead, Supv.	✓	
Public Health Nurse - Research Coordinator 1, 2	✓	
Pulmonary Function Technologist, Lead, 1 & 2	✓	
Pulmonary Therapy Technologist, Lead Supervisor, Trainee	✓	
Refrigeration Mechanic, Trade Three, Lead, Supervisor	✓	
Registered Nurse 1, 1 - Research, 2, 2 - Research, 3, Supv. - Research	✓	
Research Technologist 1, 2, 3	✓	
Respiratory Therapy Manager, Supervisor	✓	
Sanitarian 1, 2, Supervisor	✓	
Supervisor Central Processing	✓	
Supervisor Central Processing	✓	
Supervisor Control Services	✓	
Transportation Helper	✓	
Truck Driver 1, 2, 3	✓	
Veterinary Technician, Lead Technologist	✓	
Washroom Equipment Operator 1, 2	✓	
Waste Collector	✓	

2. Tasks and Procedures in which Occupational Exposure Occurs

This section is provided to assist the principal investigators/supervisors when determining individual exposure. The exposure determination must be made without regard to the use of personal protective equipment.

These individual exposure determinations must be made for existing workers and prior to assigning or reassigning workers to job classifications with potential exposure.

Listed below are many tasks that involve potential exposure to bloodborne pathogens. Any person performing such tasks is covered by the Bloodborne Standard.

Tasks that involve handling human blood or body fluids including semen, vaginal secretions, cerebrospinal fluid, peritoneal fluid, pericardial fluid, amniotic fluid, saliva in dental procedures and any other body fluid that is visibly contaminated with blood. Blood includes human blood, human blood components, products made from human blood, tissues and cells. None of the body fluids listed would be exempted because the donor has been pre-screened for known bloodborne pathogens.

- a. Providing patient care, care for developmentally and/or psychiatrically impaired persons.
- b. Providing emergency services or function in public safety where delivery of trauma care is likely, i.e., lifeguards, police officers, fire fighters, etc.
- c. Cleaning up a blood/body fluid spill, or handling contaminated waste or laundry.
- d. The removal, preparation and/or storage of any unfixed tissue or organ from a human.

The culture and propagation of bloodborne pathogens including all human and primate retroviruses in laboratory culture and experimental animals.

C. Universal Precautions

Universal Precautions are an approach to infection control. This approach requires that all human blood and body fluids are treated as if known to be infectious for Bloodborne pathogens. Universal Precautions shall be observed to prevent contact with human blood and other potentially infectious materials. Universal Precautions requires the use of barriers (engineering and work practice controls) to eliminate or minimize employee exposure. Under circumstances in which differentiation between body fluid types is difficult or impossible, all human body fluids shall be considered potentially infectious materials.

Universal Precautions shall be followed when workers are exposed to:

1. human body fluids including semen, vaginal secretions, cerebrospinal fluid, peritoneal fluid, pericardial fluid, amniotic fluid, saliva in dental procedures and any other 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 human tissue or organ (intact skin in patient care situations is an exception),
3. HIV-containing cell or tissue cultures, organ cultures or culture media containing HIV or HBV or other solutions and,
4. tissues from experimental animals infected with any human/non-human primate retrovirus including HIV.

Many patient care institutions use Body Substance Isolation as the terminology for Universal Precautions. When Body Substance Isolation is followed, all other provisions of this control plan must still be followed.

D. Engineering/Work Practice Controls

1. Engineering Controls

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

protective splatter shields	self-sheathing needles
capture ventilation	biological safety cabinets
air filters	ventilated equipment
sharps disposal containers	enclosures

It is important to periodically verify that engineering controls are in place and working. Ventilation can be checked by Facilities Services:

Main, East, West Campus	206-685-1411
South Campus	206-543-3010
University of Washington Medical Center	206-598-4645
Harborview Medical Center, Hall, and R/T	206-731-3191
UW Bothell	425-352-5466
UW Tacoma	253-692-5700
Rosen	206-732-6030
Children's Hospital and Medical Center	206-526-2029

Biological Safety Cabinets must be tested and certified annually. Contact Environmental Health and Safety at 206-543-9510 for additional information on certification.

Other mechanisms and engineering controls should be periodically reviewed for integrity and appropriate use by the principal investigator/supervisor.

2. Handwashing

Handwashing facilities must be available. When handwashing facilities are not feasible, antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes must be provided. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as possible.

Workers must wash their hands immediately after removal of gloves or other personal protective equipment when handling blood or potentially infectious materials.

Workers must wash their hands and any other skin with soap and water or flush mucous membranes with water immediately following contact with

blood or potentially infectious materials. (i.e. when splashed) (See [Section I](#) for additional information on Exposure Incident Evaluation and Follow-up.)

3. Contaminated Sharps

Needles and other sharps shall not be bent, recapped, or sheared.

Immediately or as soon as possible after use, disposable sharps shall be placed in color coded, puncture resistant, leakproof and closable containers. Principal investigators/lab supervisors are responsible for providing and properly maintaining these containers. (Order from Central Stores 206-543-1980.)

Reusable sharps such as scalpels, scissors and other tools shall be decontaminated in a safe manner. Immediately or as soon as possible after use, reusable items shall be placed in a puncture proof container for transport to the decontamination facility. This container shall be puncture resistant, labeled or color coded and leakproof on the sides and bottom and designed to prevent a person from having to reach into the container sight unseen when removing the reusable sharps.

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 potentially infectious materials.

- a. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or potentially infectious materials are stored.
- b. "No Food" and "Food Only" labels for refrigerators/freezers are available from Environmental Health and Safety (206-543-0465).

5. Aerosols

All procedures involving blood or potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, splattering, and generation of droplets of these substances. Such activity should be conducted in a certified biological safety cabinet.

6. Mouth Pipetting

Mouth pipetting/suctioning is prohibited.

7. Centrifuging

Aerosol containment devices such as sealed canisters that fit in the centrifuge bucket or covers for the centrifuge bucket, heat sealed tubes or sealed rotor bowls are recommended. Additional information on centrifugation is found in Section IV of the Biosafety Manual.

8. Transporting Material

Specimens of blood or potentially infectious materials shall be placed in containers that prevent leakage during collection, handling and processing in the laboratory. The specimen container shall be placed inside another container that also contains leakage during transportation in the laboratory.

Specimen containers used for storage shall prevent leakage and be color coded or labeled as necessary. Additional information on color coding or labeling is found in [Section G](#).

Specimens of blood or potentially infectious materials shall be transported in the building and between buildings in a container that contains leakage. This container shall be labeled or color coded. In addition, all specimens of blood or potentially infectious materials shall be properly packaged for shipment by mail or courier service. Information on packaging is available from Environmental Health and Safety at 206-616-5835 or by contacting the Dangerous Goods Specialist at the courier service.

If the specimen could puncture the specimen container, the specimen container shall be placed within a secondary container that is puncture-resistant, contains leakage and is color coded or labeled.

9. Equipment Servicing and Maintenance

Equipment that may be contaminated with blood or potentially infectious materials shall be decontaminated prior to servicing. When a portion of the equipment cannot be decontaminated, the equipment must be labeled with the biohazard symbol and the word "biohazard" as well as stating which portion of the equipment remains contaminated. This information must be conveyed to all affected workers and servicing representatives and/or the manufacturer as appropriate prior to handling, servicing, or shipping so that appropriate precautions will be taken.

Physical Plant, Surplus Property and Scientific Instruments at the University of Washington require the owner of the equipment to sign and date a form/statement that the equipment has been decontaminated and to attach a label containing this form to the equipment ([Notice Of Laboratory Equipment Decontamination](#) - Form UoW 1803)

E. Personal Protective Equipment

1. Provision

The principal investigator/supervisor shall ensure that the worker uses appropriate personal protective equipment when performing the designated tasks and procedures. Personal protective equipment includes but is not limited to gloves, gowns, laboratory coats, aprons, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks or other ventilation devices.

The principal investigator/supervisor shall ensure that appropriate personal protective equipment in appropriate sizes is readily accessible at the worksite or is issued to the worker.

Personal protective equipment shall be provided; cleaned, laundered or disposed of; repaired or replaced by the principal investigator/supervisor at no cost to the worker.

2. Use

Personal protective equipment must be appropriate to the task and procedure (Consult University Biosafety Manual Section IV and/or contact EH&S at 206-543-7278 or 206-221-3025). Personal protective equipment will be considered appropriate if it prevents blood or other potentially infectious materials from soaking through to the user's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Personal protective equipment shall be repaired or replaced as needed to maintain its effectiveness.

3. Gloves

Gloves shall be worn when it can be anticipated that the worker may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin. Double gloving should be used by persons with dermatitis, skin breaks and as deemed appropriate.

Gloves shall be worn when performing vascular access procedures.

Gloves shall be worn when handling or touching contaminated items or surfaces.

Disposable gloves shall be replaced as soon as practical when contaminated, or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

Disposable gloves shall not be washed or decontaminated for reuse.

Utility gloves may be decontaminated for reuse if the integrity of the glove is not compromised. However, they must be discarded if cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those workers who are allergic to the gloves normally provided.

To be effective a glove must provide a barrier between the hand and the contaminated material. Occasional testing of the type/brand of glove is recommended. A simple test for defects is to fill the glove with water and check for leaks.

4. Masks/Eye Protection

Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, splatter, or droplets of blood or potentially infectious materials may be generated and eye, nose, or mouth contamination can be anticipated. Table-top plexiglass shield provides protection from splash/splatter when work is performed behind the shield.

5. Protective Clothing

Appropriate protective clothing such as but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristic will depend upon the task and degree of exposure anticipated.

Surgical caps or hoods and/or shoe coverings or boots shall be worn in instances when gross contamination can be anticipated (i.e. autopsies, surgery).

6. Removal

Clothing, gloves and masks, etc., worn to provide worker protection must be removed before leaving the work area.

If a garment is contaminated with blood or potentially infectious materials, the garment shall be removed immediately or as soon as feasible.

When personal protective equipment is removed it shall be placed in an appropriate designated area or container for storage, washing, decontamination or disposal.

7. Cleaning, Laundering or Disposal

The disposal of single use personal protective equipment shall be in accordance with established University procedures for the disposal of biohazardous waste. (i.e. the material will be autoclaved prior to disposal.)

The cleaning and laundering of reusable personal protective equipment will be done at the worksite or laundered by Consolidated Laundry. At no time will workers be expected to take personal protective equipment home for laundering or cleaning.

F. Worksite Conditions

1. Responsibility

It is the responsibility of the principal investigator/supervisor to ensure that the worksite is maintained in a clean and sanitary condition. Decontamination procedures can be found in Section IV of the University Biosafety Manual.

2. Spill Clean-up

All workers shall 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 clean-up based on the type and quantity of blood or other potentially infectious material handled as well as the surfaces to be decontaminated. In addition to the procedure, clean-up supplies shall be readily available. As a minimum, these supplies should include suitable disinfectants, gloves, paper towel 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 in Section IV of the Biosafety Manual.

3. Cleaning Schedule

All floors, laboratory benches and other surfaces shall be chemically decontaminated as often as deemed necessary by the principal investigator/supervisor. The chemical decontaminant used is at the discretion of the principal investigator/supervisor but must either an EPA-registered tuberculocidals ([List B](#)), sterilants ([List A](#)), or products registered against HIV/HBV ([List D](#)).

As a minimum, work surfaces are decontaminated at least daily, immediately after contamination with blood or other potentially infectious materials, or following a spill.

As 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, like plastic or aluminum wrap, or absorbent pads are used, these coverings shall be removed and replaced when visibly contaminated or at the end of the workshift (if contamination was likely during the shift).

5. Biohazardous Waste

All untreated biohazardous waste shall be handled utilizing Universal Precautions. Waste disposal procedures shall be in compliance with the City of Seattle's Infections Waste Regulations. Additional information on Waste Disposal is found in Section IV of this manual.

Reusable waste receptacles for biohazardous waste shall be decontaminated each time they are emptied. Alternately 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.

Disposable sharps containers shall not be reused and shall be treated by autoclaving prior to disposal.

Broken, contaminated glassware too large to fit into the 5-gallon sharps container shall be transported and treated in an autoclave-resistant plastic bin and disposed of as laboratory glassware.

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

6. Laundry

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

All laundry shall be handled utilizing Universal Precautions. Sharps/broken glass must be removed prior to bagging the material. 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.

If a laundry service other than Consolidated Laundry is used, contact Environmental Health and Safety at 206-543-7278 for additional information.

G. Biohazard Labels And Signs

Warning Labels/Biohazard Labels

Warning labels shall be affixed to containers of biohazardous waste, refrigerators and freezers containing blood or potentially infectious material, and other containers used to store, transport, mail or ship blood or potentially infectious materials, except as provided below.

These labels shall include the universal biohazard symbol and shall be fluorescent orange or orange-red or predominantly so, with lettering or symbols in a contrasting color:



These 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.

These labels need not be used on:

Red bags or red containers when the color red is recognized as meaning the same as the warning label,

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,

Individual containers of blood or potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal.

Warning labels required for contaminated equipment shall be as described above and shall also state which portions of the equipment remain contaminated.

Biohazardous waste that has been decontaminated need not be labeled or color-coded.

H. HBV Immunization Evaluation And Follow-Up Immunization

1. HBV Immunization Evaluation

The principal investigator/supervisor shall assure that all workers with occupational exposure are offered Hepatitis B immunization at no cost to the worker within 10 days from the start of the work assignment. An immunization evaluation will be done by the Employee Health/Campus Health Services. This evaluation must be completed within 10 days of initial assignment.

During the evaluation, workers are asked to review their immunization status regarding Hepatitis B. Verification of immunization is requested of workers previously immunized. Information is given on the efficacy, safety, and method of administration and the benefits of the Hepatitis B vaccine. Workers who decline immunization must sign a waiver indicating an understanding of the risks of not receiving immunization.

Employee Health/Campus Health Services will provide the principal investigator/supervisor and the worker with a written opinion within 15 days of a medical evaluation. This informs the principal investigator/supervisor that the worker 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. Administration of Hepatitis B Immunizations

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 shall be offered.

University staff and faculty are responsible for contacting the Employee Health Clinic at 206-685-1026 and scheduling an appointment for Hepatitis B immunization.

A Hepatitis B Vaccination Declination form must be signed by anyone who does not want the vaccination. This decision to refuse the vaccination can be reversed at any time.

I. Exposure Incident

1. Exposure Incident

An exposure incident is defined as specific eye, mouth, other mucous membrane, non-intact skin or parenteral contact with blood or potentially infectious materials. 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 potentially infectious materials and non-intact skin (cuts, scratches, chapped skin, etc.).

2. Immediate Response

Following an exposure incident, the exposed workers shall:

- a. **Immediately** wash the wound with soap and water or flush mucous membranes with water. **For a medical emergency, the worker should go to the nearest emergency room or call for assistance.** (The assistance number at U.W. Seattle Campus and Health Sciences is 9-911. Workers at other University facilities shall be informed of the appropriate emergency procedures at that facility.)
- b. **Immediately** report the incident to the principal investigator/laboratory supervisor, who will assist the worker in the follow-up exposure incident evaluation.

3. Principal Investigator/Supervisor Responsibility

The principal investigator/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 principal investigator/supervisor in obtaining immediate medical consultation and evaluation for an exposed worker.

Medical Referral Guide¹		
<u>Worker's Location</u>	<u>Department</u>	<u>Phone #</u>
U.W. Seattle Campus and Health Sciences	Employee Health at Hall Health	206-685-1026
U.W. Medical Center	Campus Health Services	206-548-4848
Harborview Medical Center	Employee Health Services	206-223-3081
Children's Hospital & Medical Center	Employee Health Services	206-526-2555
Veteran's Medical Center	Employee Health Services	206-762-1010, ext.6710
<p>1 When no one is available at these numbers, the worker shall report to their emergency treatment center.</p>		

During the evaluation, the principal investigator/supervisor is responsible for providing the following information to the Campus Health Services:

- a. A description of the worker's duties as they relate to the exposure incident.
- b. A description of the circumstances leading to the exposure incident and the exposure route.
- c. Information regarding the serology of the source material, if known. (Campus Health Services will assist the principal investigator/supervisor with this task.)

The exposure incident shall be reported to Environmental Health and Safety through the use of the [Incident/Accident Report](#) form UoW 1428.

The principal investigator/supervisor is required to review the report prior to submitting the form to Environmental Health and Safety. The goal of this review is to identify and correct problems to prevent recurrence of similar incidents.

4. Evaluation

The exposed worker will receive, at no cost, post exposure evaluation, education, counseling, and appropriate testing.

- a. A confidential medical evaluation will be performed documenting:
 - 1) the circumstances leading to the exposure incident,
 - 2) route of exposure,
 - 3) the source of the potentially infectious material.
- b. The worker will be offered appropriate post exposure prophylaxis, as recommended by the U.S. Public Health Service.
- c. HIV and HBV testing will be completed on the source material. If the source individual can be identified, consent for testing must be obtained.
- d. The exposed worker will be offered HIV and HBV testing to assess serological status at the time of the incident, at 1 month, 3 months and 6 months after the incident. In the event the worker does not permit serologic testing, a baseline blood sample will be held for at least 90 days.
- e. The worker will be provided with post-exposure counseling and education. Results of the source individual's testing shall be made available to the exposed worker and the worker shall be informed of state laws and regulations concerning disclosure of this information.
- f. Illnesses reported by the exposed worker subsequent to the exposure incident will be assessed in relationship to the incident.
- g. Within 15 days the treating provider will provide the principal investigator/supervisor and the employee a written opinion regarding the medical findings of the incident exposure evaluation.

This written opinion includes whether Hepatitis B vaccination is indicated for an employee and if the employee has received such vaccination. It documents that a medical evaluation took place following the incident exposure, 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 bloodborne pathogens. All other findings shall remain confidential.

J. Training Program

1. Responsibility

Principal investigators/supervisors shall ensure that all laboratory staff and workers with occupational exposure participate in a training program that must be provided at no cost to the worker and during working hours.

This training shall be provided at the time of initial assignment to tasks where occupational exposure may take place and annually thereafter.

Annual training for all laboratory staff and workers shall be provided within one year of their previous training.

Environmental Health and Safety routinely offers a training program on bloodborne pathogens. Contact the Training Coordinator at EH&S to register for this class (206-543-7201).

Principal investigators/supervisors shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the worker's occupational exposure. The additional training may be limited to addressing the new exposures created.

Material appropriate in content and vocabulary to educational level, literacy, and language of laboratory staff and workers shall be used.

The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

2. Training Requirements

The training program for all potentially exposed workers shall cover the following.

- 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 University of Washington's **exposure control plan** 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 potentially infectious materials;
- f. An explanation of the use and limitations of **methods that will prevent or reduce exposure** including appropriate engineering controls, work practices, and personal protective equipment;
- g. An explanation of the basis for selection of **personal protective equipment**; 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, the 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 potentially infectious materials;
- 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 principal investigator 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.

K. Recordkeeping

1. Medical Records

The treating facility will establish and maintain accurate records for each worker with occupational exposure in accordance with WAC 296-62-052. These records are to be kept strictly confidential. Records shall be kept for at least the duration of employment plus thirty years in accordance with WAC 296-62-052.

As a minimum the record shall contain:

- a. Worker name and social security number.
- b. A copy of the written opinion sent to the principal investigator/supervisor following evaluation for Hepatitis B immunization as well as the workers 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 principal investigator/supervisor following a post-exposure medical evaluation.
- e. A copy of the information provided by the principal investigator/supervisor following an exposure incident.

2. Training Records

The Training Coordinator at Environmental Health and Safety tracks all employee training attendance for training conducted by Environmental Health and Safety. These records are kept for at least three years after the date on which the training occurred. Principal investigators/supervisors must also maintain records of bloodborne pathogen safety training conducted by the laboratory and/or department.

Training records shall contain:

- a. The date(s) of the training session
- 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 Director of 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.

L. Accessibility Of Exposure Control Plan

Each principal investigator/supervisor is responsible for ensuring that laboratory staff and workers can access and consult the plan at anytime.

This UW generic plan will be located in the UW Biosafety Manual in the research/clinical laboratories where bloodborne pathogens are found.

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

M. Annual Update Of Plan

This UW generic plan will be reviewed and updated when necessary and at least annually.

The principal investigator/supervisor is responsible for reviewing the laboratory exposure plan annually and whenever necessary to reflect new or modified tasks and procedures that affect occupational exposure and to reflect new or revised worker positions with occupational exposure.

N. HIV and HBV Research Laboratory

1. Application

This section applies to a research laboratory engaged in the culture, production, concentration, and manipulation of HIV and HBV and/or non-human primate retroviruses including HIV. Such a facility works with high titer concentrations of virus but not with volumes greater than 1 liter. These requirements apply in addition to the other requirements of the exposure plan. If greater volumes are used the facility is called a HIV/HBV 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, the Institutional Biosafety Committee requires that all research involving the culture and/or production of HIV or HBV be done under Biosafety Level 3 conditions using Biosafety Level 3 Practices.

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.

Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior

efficiency which are checked routinely and maintained or replaced as necessary.

3. Access Policy

Access to the work area shall 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 shall be allowed to enter the work areas and animal rooms.

Laboratory doors shall be kept closed when work involving HIV or HBV is in progress. The principal investigator shall post biohazard signs on all access doors, which shall bear the following legend:



(Name of the infectious agent)
(Special requirements for entering the area)
(Name, telephone number of the laboratory director or other responsible person)

The biohazard sign shall be fluorescent orange-red or predominantly so, with letters/symbols in a contrasting color.

4. Biosafety Manual

The University Biosafety Manual must be available in the laboratory. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall implement these protocols.

5. Containment

No work with potentially infectious materials shall be conducted on the open bench.

Certified biological safety cabinets (Class I II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with potentially infectious materials that pose a threat of exposure

to droplets, splashes, spills, or aerosols. Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

6. Protective Clothing and Practices

Eye protection and laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms.

Protective clothing shall be of a specific color and shall not be worn outside of work area and shall be decontaminated before being laundered.

Special care shall be taken to avoid skin contact with potentially infectious materials. Gloves shall be worn when handling infected animals and when handling potentially infectious materials. Double gloving is recommended when exposure risk is high.

7. Use of Sharps

Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e. the needle is integral to the syringe) shall be used for the injection or aspiration of potentially infectious materials.

Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use.

The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before disposal or processing for reuse.

8. Spills

All spills shall be immediately contained and cleaned up by laboratory personnel properly trained and equipped to work with potentially concentrated infectious materials.

A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.

9. Decontamination of Waste

Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method that is known to effectively destroy bloodborne pathogens such as autoclaving.

Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.

10. Additional Initial Training for Laboratory Staff and Workers in HIV and HBV Laboratories and Production Facilities.

The principal investigator/supervisor shall assure that laboratory staff and workers have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

The principal investigator/supervisor shall provide a training program to laboratory staff and workers who have no prior experience handling human pathogens. Initial work activities shall not include the handling of infectious agents.

A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The principal investigator/supervisor shall assure that laboratory staff participate in work activities involving infectious agents only after proficiency has been demonstrated.

The principal investigator/supervisor shall assure that laboratory staff and workers demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.

In addition, laboratory staff and workers in HIV or HBV research laboratories shall receive the training as outlined in [Section J](#) of this plan.

O. HIV and HBV Production Facility

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

[Forward To Appendix A](#)

[Back to Biosafety Manual Table of Contents](#)