

## **Section 12**

### **Policy and Procedures for Prevention of Exposure to Human Blood And Other Potentially Infectious Human Materials**

**Includes**

**Departmental Exposure Control Plan**

Approved February 9, 1993  
Revised May 13, 1996  
Sharps Log Added March 18, 2002



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**POLICY**

Effective Date: 05/1993

Approved By: President's Council

Authority: WAC 296-823

Cancels:

See Also: POL U5950-01 Health, Safety and Environmental Protection

**POL-U5950.07 BLOODBORNE PATHOGENS (HUMAN BLOOD, BLOOD PRODUCTS AND SPECIMENS)**

*This policy applies to all University personnel.*

**1. Personnel Handling or Exposed to Bloodborne Pathogens or Potentially Infectious Materials Must Comply with State Regulations**

The Washington Administrative Code Part 296-823 provides regulations to University personnel for handling of and exposure to bloodborne pathogens or potentially infectious material. These regulations are applicable to employees in several areas of the University, specifically those who have an occupational exposure to human blood or other potentially infectious materials. The regulations provide a list of materials included as bloodborne pathogens. The term, blood, shall be taken to indicate human blood and to include the other potentially infectious materials presented in the list.

**2. Occupational Exposure is Defined in the Regulations**

Occupational exposures are those exposures which are reasonably anticipated as a result of skin, eye, mucous membrane, or parenteral (under the skin) contact with blood or other potentially infectious materials during the performance of duties. This excludes incidental exposures that may take place which are neither reasonably nor routinely expected or that the worker is not required to incur on the job.

**3. Department Heads and Directors are Responsible to Implement Regulations**

The University administration has assigned the task of implementing the bloodborne pathogens regulations to department heads and center directors.

Supervisors are responsible to the department head for implementing this standard. The Environmental Health and Safety office coordinates the bloodborne pathogens program.

## POLICY

#### 4. **Students Receive the Same Protections Regarding Bloodborne Pathogens as Employees**

The University's program requires that students receive the same protection and training as employees while they are pursuing academically-related endeavors.

However, students may be required to provide Hepatitis B virus vaccination at their own expense and show documentation of vaccination prior to commencing selected academic activities.

## **Procedures for Prevention of Exposure to Human Blood And Other Potentially Infectious Human Materials**

### **A. Introduction**

The bloodborne pathogens regulations found in the Washington Administrative Code, Part 296-823, are applicable to a number of materials related to human blood and to some employees at the University. The list of materials included under the bloodborne pathogens regulations is shown in Table 12-1.

### **B. Exposure Control Plan**

The bloodborne pathogens regulations require that a written exposure control plan be prepared if employees have reasonably anticipated duties that may result in occupational exposure. Each department head or center director shall prepare an exposure control plan if one or more employees or students under his or her authority have the potential for an occupational exposure.

Documentation of a solicited consultation with a non-managerial employee who is responsible for direct patient care (in laboratories for direct work activities) shall be included in the exposure control plan. This is due to the potential of exposure to injuries from contaminated sharps during the identification, evaluation, and selection of effective engineering and work practice controls.

The exposure control plan shall be maintained in the department for accessibility to employees and students, and copied to the Environmental Health and Safety office. It shall consist of three parts:

1. Exposure Determination - identification and documentation of all job classifications with occupational exposure, without regard to the use of personal protective equipment; and
2. The schedule and method of implementation of each applicable part of the bloodborne pathogens regulations.
3. The procedure for evaluation of circumstances surrounding an exposure incident.

The basic structure of the departmental exposure control plan is available for departments in a separate document available from Environmental Health and Safety. The plan shall be reviewed and updated as necessary by departments to reflect significant changes in tasks or procedures, or a minimum of annually. The review and update of such plans shall also reflect the following:

1. The inclusion of changes in technology that can eliminate or reduce exposure to bloodborne pathogens; and
2. Annual documentation, consideration, and implementation of relevant commercially available medical devices designed to eliminate or minimize occupational exposure.

### **C. Universal Precautions**

Universal precautions shall be observed to prevent contact with blood and other potentially infectious materials.

Universal precautions is a method of infection control in which all human blood and other related human or human-derived materials are treated as if known to be infectious for human immunodeficiency virus (HIV), hepatitis B virus (HBV) and other bloodborne pathogens.

### **D. Laboratory Work: Containment and Biosafety Levels**

In accordance with recommendations of the Centers for Disease Control and the National Institutes of Health in the document Biosafety in Microbiological and Biomedical Laboratories (HHS Publication No. 88-8395), laboratory activities involving materials listed in Table 12-1, and other human clinical specimens, body fluids, and untreated tissues shall be handled using Biosafety Level 2 practices, containment equipment, and facilities. Biosafety Level 2 containment information is described in Appendix 12-A to this document.

Activities such as producing research-laboratory-scale amounts of HIV or manipulating concentrated virus preparations are not anticipated to occur at the University. The Environmental Health and Safety office shall be contacted prior to any such work.

### **E. Work-Practice Controls**

The following summarize the specific requirements for handling human infectious materials:

- Hands shall be washed with soap and running water or with an antibacterial towelette if no water is available immediately or as soon as possible after removal of gloves or other personal protective equipment and after hand contact with blood or other potentially infectious materials.
- All personal protective equipment shall be removed immediately upon leaving the work area or as soon as possible if overtly contaminated. Such equipment shall be placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.
- Used needles or other sharps shall not be sheared, bent, broken, recapped, or re-sheathed by hand. Used needles shall not be removed from disposable syringes. They shall be placed immediately into a sharps container.
- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is potential for occupational exposure.
- Food and drink shall not be stored in refrigerators, freezers, or cabinets where blood or other potentially infectious materials are stored or in areas of possible contamination.
- All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, and aerosolization of these substances.
- Mouth pipetting is prohibited. Use a mechanical pipetting aid.

### **F. Engineering Controls**

Facilities and equipment, including biological safety cabinets, safety eyewashes, and safety showers are inspected.

### **G. Personal Protective Equipment**

The department head or center director shall ensure that the supervisor or faculty member provides appropriate personal protective equipment whenever there is a potential for occupational exposure to human blood or other potentially infectious materials. Examples of such equipment include gloves, laboratory coats or protective clothing, face shields, masks, and eye protection.

The supervisor or faculty member shall ensure that each employee or student uses such equipment whenever warranted. Protective equipment shall be available in the workplace or issued to employees or students in appropriate sizes. Hypoallergenic gloves shall be readily accessible to those allergic to the normal gloves provided.

The supervisor or faculty member shall provide for the cleaning, laundering, or disposal of all personal protective equipment. He or she shall also provide for the repair or replacement of required personal protective equipment as needed to maintain its effectiveness.

#### **1. Gloves**

Gloves shall be worn when direct skin contact with blood or other potentially infectious materials, with mucous membranes, or with non-intact skin is possible. They shall also be worn when handling items or surfaces soiled with blood. Disposable (single use) gloves shall be replaced as soon as possible when soiled, torn, punctured, or their ability to function as a barrier is compromised. They shall not be washed or disinfected for reuse.

Utility gloves may be disinfected for re-use only if the integrity of the glove is not compromised. They shall be discarded if they are cracked, peeling, discolored, torn, punctured, or show any signs of deterioration.

#### **2. Masks, Eye Protection, and Face Protection**

Masks and eye protection or chin-length face shields shall be worn if blood use may result in a splash, spray, or spatter, or may form droplets or aerosols. They shall also be worn if there is a potential for eye, nose, or mouth contamination.

### **3. Protective Body Clothing**

Protective clothing, such as a laboratory coat, gown, or apron, shall be worn when there is a potential for soiling clothes with blood. If the potential is present for spraying or splashing of blood, fluid-resistant clothing shall be worn. If blood may soak clothing, fluid-proof clothing shall be worn. Caps and boots shall be used if the head or shoes may become contaminated.

### **4. Housekeeping**

Work areas or laboratories using or storing blood shall be maintained in a clean and sanitary condition. All equipment, environmental surfaces, and work surfaces shall be properly cleaned and disinfected after contact with blood.

Work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures, when surfaces are overtly contaminated, immediately after a spill of blood, and at the end of the work shift (Table 12-2). Protective coverings such as plastic-backed absorbent paper may be used to cover equipment and surfaces. The covering shall be removed and replaced at the end of a work shift or if overtly contaminated.

Equipment which may become contaminated with blood shall be checked routinely and shall be decontaminated prior to servicing or shipping. All receptacles which may become contaminated with blood and which are intended for reuse such as bins, cans, and pails, shall be inspected, cleaned, and disinfected on a regularly scheduled basis as determined by departments. They shall also be cleaned and disinfected as soon as possible after visible contamination. Receptacles will generally have red plastic liners. Other reusable items contaminated with blood shall be decontaminated prior to washing or reprocessing.

Broken glass which may be contaminated with blood shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dustpan, a vacuum cleaner, tongs, cotton swabs, or forceps.

## **H. Transportation of Potentially Infectious Human Materials**

Specimens of blood or other potentially infectious materials shall be placed in a closeable, leak-proof container. The container shall be labeled with the biohazard symbol or color-coded red (orange) as an infectious hazard prior to being stored or transported.

If contamination of the outside of the container is likely, a second, leak-proof container (also labeled or color-coded) shall be placed over the outside of the first and closed to prevent leakage during handling, storage, or transport. Any materials which may puncture a container shall be placed in a puncture-resistant container which also conforms to the above specifications.

## **I. Disposal of Potentially Infectious Human Materials (Biohazardous Wastes)**

All wastes contaminated with human infectious materials destined for disposal shall be placed in closable, leak-proof containers or bags that are labeled with the biohazard symbol or are orange or red-orange. If contamination of the outside of the container is likely, it shall be over-bagged as described above under transportation. Disposal shall be in accordance with applicable federal, state, and local regulations.

## **J. Sharps Injury Log and Disposal**

The supervisor or faculty member shall establish and maintain a sharps injury log. All percutaneous injuries from contaminated sharps are to be recorded in the log. The log shall be designed and maintained in a manner such that the confidentiality of the injured employee is retained. At a minimum the sharps log shall contain:

- 1) The type and brand of the device involved in the incident.

- 2) The department or work area where the incident occurred.

Sharps contaminated with blood shall be disposed of immediately after use in closable, puncture resistant, disposable containers that are leak-proof on the sides and bottom. The containers shall be red or labeled with the biohazard symbol. They shall be easily accessible to personnel and located in the immediate area of use. They shall not be allowed to overflow, and shall be replaced routinely.

#### **K. Laundry**

Laundry contaminated with blood shall be handled as little as possible and with a minimum of agitation.

Contaminated laundry shall be bagged at the location where it was used. It shall not be sorted or rinsed in any patient-care area. Bags shall contain the biohazard symbol or be orange or red-orange. If the laundry is wet or may soak through the bag, the bag shall be leak-proof.

In general, overtly contaminated laundry is disinfected or sterilized prior to submission to a commercial cleaning service. Sharps shall never be included with laundry. Contact Environmental Health and Safety if questions arise regarding contaminated laundry.

#### **L. Hepatitis B Virus (HBV) Vaccination**

HBV vaccination shall be offered to all employees who may be occupationally exposed to blood. Vaccinations must be given at no cost, at a reasonable time and place, and performed by or under the supervision of a licensed physician or other licensed health care professional. Exceptions are if the employee has had a previous HBV vaccination or if antibody testing indicates that the employee is immune. The employee may initially decline the vaccination and accept it at a later time (Table 12-3). If booster dose(s) are recommended in the future, they shall be provided according to standard medical practices.

HBV antibody testing shall be made available to an employee who desires such testing prior to deciding whether or not to receive HBV vaccination. If the employee is immune to HBV because of an adequate antibody titer (concentration in the blood), then the University is not required to offer vaccine.

#### **M. Post-Exposure Evaluation and Follow-Up**

Following a report of an exposure incident, the University shall provide a confidential medical evaluation and follow-up to any involved employee who is covered by the bloodborne pathogens regulations. The examinations must be given at no cost to the employee, at a reasonable time and place, and performed under the supervision of a licensed physician or other licensed health care professional. The Student Health Service provides the same type of evaluation for academic-related exposures. Forms, including a waiver of medical evaluation, are provided in Tables 12-4, 12-5, and 12-6.

The department head shall ensure that the route(s) of exposure for the incident are documented, along with the HBV and HIV status of the source(s) of the material, if known, and the circumstances under which the exposure occurred.

If the source of the human material can be determined and permission obtained, the source person's blood shall be collected and tested to determine the presence of HBV and HIV infection. If the source material is positive or is not available for examination, the employee shall be offered counseling regarding the risk of infection.

Blood samples should be collected from the exposed employee as soon as possible after the incident for determination of HIV and/or HBV status, although actual testing may be performed at a later date if the employee requests. The medical follow-up program for the exposed employee shall include antibody or antigen testing, counseling, illness reporting, and safe and effective post-exposure prophylaxis according to standard medical practice.

The Environmental Health and Safety office is notified regarding workers' compensation. All incidents are evaluated by the University Health and Safety Committee; however, in keeping with confidentiality issues, the names of persons involved in the incident are omitted from the report.

The department head shall ensure that the following information is supplied to the evaluating physician:

- (1) A copy of the bloodborne pathogens regulations, and
- (2) A description of the affected employee's or student's duties as they relate to the occupational exposure.

The department head shall obtain and provide the affected employee with a copy of the evaluating physician's written opinion within 15 working days of the completion of the evaluation.

The opinion shall be limited to the following information:

- (1) The physician's recommended limitations upon the employee's/student's ability to receive hepatitis B vaccination;
- (2) A statement that the employee/student has been informed of the results of the medical evaluation and that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation and treatment; and
- (3) Specific findings or diagnoses, which are related to the employee's/student's ability to receive HBV vaccination. Any other finding shall remain confidential. Refer to Tables 12-4 and 12-5 for forms relating to this information.

#### **N. Medical Records**

Medical records shall be kept for the duration of employment plus 30 years. They shall remain confidential. They shall include the employee's hepatitis B vaccination records, physical examinations, medical testing, and follow-up procedures relating to the employee's ability to receive vaccination or to post-exposure evaluation following an incident. They shall include the information in Tables 12-4 and 12-5.

#### **O. Signs and Labels**

Labels displaying the biohazard symbol (in orange) are required on containers of blood-related wastes which are not placed in red (orange) bags, and on refrigerators and freezers containing blood, and other containers used to store or transport blood.

#### **P. Training**

Training for compliance with the bloodborne pathogen's standard is required at the time of initial employment or beginning of instruction and at least annually thereafter. Training must include an opportunity for interactive questions and answers with the person conducting the training session. Required training information and documentation is presented in Table 12-7. Information on testing is available in the departmental exposure plan or from the Environmental Health and Safety office.

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**Table 12-1. Human Blood and Other Potentially Infectious Materials as Defined by the Bloodborne Pathogens Standard.**

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- Human blood
  - Human blood components
  - Products made from human blood
  - Semen
  - Vaginal secretions
  - Cerebrospinal fluid
  - Synovial fluid
  - Pleural fluid
  - Pericardial fluid
  - Peritoneal fluid
  - Saliva in dental procedures
  - Any body fluid visibly contaminated with blood
  - Any unfixed tissue or organ (other than intact skin) from a human living or dead
  - HIV- or HBV-containing cell or tissue cultures, organ cultures, and culture medium or other solutions
  - Blood, organs, or other tissues from experimental animals infected with HIV or HBV
-

**Table 12-2. Chemical Disinfectants and Their Use In Infection Control**

Use	Disinfectant
For disinfecting clean surfaces:	1 part bleach diluted with 99 parts water (bleach is 5% sodium hypochlorite) Minimum contact time: 10 minutes
For disinfecting soiled areas or spills:	1 part bleach diluted with 9 parts water Minimum contact time: 10 minutes
For disinfection of surfaces, except motors and electrical	Ethanol or isopropyl alcohol  Minimum contact time: 10 minutes
Disinfection of surfaces:	Commercial cleaners effective against hepatitis B virus Minimum contact time: follow manufacturer's instructions

*Make bleach solutions fresh daily, or whenever chlorine smell is not present.\**

Personal communication, Centers for Disease Control, Division of Infection Control, Atlanta, GA, 1991.

EHS 92-10.

**Table 12-3. Hepatitis B Vaccination****Information**

1. Hepatitis B (HBV) vaccination is to be offered to each University employee or student without charge or loss of pay if he or she has the risk of occupational exposure to human blood or blood products.
2. HBV antibody testing shall be made available to an employee who desires such testing prior to deciding whether or not to receive HBV vaccination. If the employee or student is found to be immune, vaccination is not required to be offered.
3. HBV vaccine is both safe and effective. Three shots of vaccine given intramuscularly in the upper arm will usually provide protection. The most common side effects of vaccination are soreness, swelling, and redness at the vaccination site.
4. You cannot get AIDS (HIV) or HBV from this vaccine. Blood-derived vaccines are processed to completely inactivate HIV and known viral groups. Newer vaccines are not made from blood products. Vaccinated persons do not develop HIV antibodies and may donate blood unless other contraindications are present.

**Procedure**

1. Use a separate form for each employee or student.
2. If vaccination is accepted, provide the three vaccination dates.
3. File this form with the supervisor. Send one copy of this form to the Environmental Health and Safety office.

**Employee/Student Name** (Printed) \_\_\_\_\_

Department \_\_\_\_\_ Supervisor Name (printed) \_\_\_\_\_

- I accept vaccination for Hepatitis B virus. Dates of vaccination:
- I decline vaccination for Hepatitis B virus. Results of antibody testing for HBV

*I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.*

\_\_\_\_\_  
Employee/Student Signature

\_\_\_\_\_  
Supervisor or Witness Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**Table 12-4. Documentation Form for Medical Surveillance**

Employee Name \_\_\_\_\_ WWU Identification No. \_\_\_\_\_  
 Department \_\_\_\_\_ Department Head \_\_\_\_\_

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**Incident Description**

Date of Incident:

Route(s) of Exposure:

HBV and HIV antibody status of the source patient:

Circumstances under which the exposure occurred:

Can the source patient be determined?  Yes  No

Can permission be obtained from the source patient for collection and testing of blood for HIV and HBV infection?  Yes  No

A blood sample is to be collected from the employee. The sample may be collected as soon as possible and then analyzed at a later date. Attach results of analysis or describe them.

Date of Employee Blood Sample Collection: \_\_\_\_\_

Date of Employee Refusal of Blood Sample: \_\_\_\_\_

Date of Analysis of Employee Blood Sample: \_\_\_\_\_

**Describe follow-up provided:**

Antibody or antigen testing:

Counseling:

Illness reporting:

Post-exposure prophylaxis:

Follow-up Physician Name: \_\_\_\_\_

Follow-up Physician was given the following materials on date: \_\_\_\_\_

- (1) Copy of Washington Administrative Code bloodborne pathogens regulations
- (2) Description of the employee's/student's duties as they relate to the employee's occupational or student's laboratory exposure

Permanent record in Environmental Health and Safety file.

EHS 92-8

**Table 12-5. Form for Information for and from Physician**

**Employee/Student Name** \_\_\_\_\_

Western Washington University provides to the Evaluating Physician:

- (1) A copy of the Washington Department of Labor and Industries' bloodborne pathogens regulations (Washington Administrative Code)
- (2) The following description of the duties of the above employee/student as they relate to the occupational/laboratory exposure:

Person Providing Information: Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Address: \_\_\_\_\_

To The Evaluating Physician:

Please provide a written opinion limited to the following information, as indicated in the bloodborne pathogens regulations. This page may be used for your convenience.

- (1) The physician's recommended limitations upon the employee's/student's ability to receive hepatitis B vaccination:
- (2) A statement that the employee/student has been informed of the results of the medical evaluation and that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation and treatment:
- (3) Specific finding or diagnoses, which are related to the employee's/student's ability to receive HBV vaccination.

**Any Other Findings Shall Remain Confidential.**

\_\_\_\_\_  
 Signature of Physician

\_\_\_\_\_  
 Printed Name of Physician

Address or Stamp:

\_\_\_\_\_  
 Date of Signature

Copy to employee/student within 15 days of the evaluation.

Permanent record in Environmental Health and Safety.

EHS 92-9.

**Table 12-6. Waiver of Medical Assistance**

**Employee/Student Name:** \_\_\_\_\_

Department: \_\_\_\_\_

Date of Occupational Exposure Incident: \_\_\_\_\_

Describe Occupational Exposure Incident:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- I have received training and information regarding the recommended medical response for an occupational/laboratory exposure to human blood or other infectious human materials.
- I understand that medical assistance will be provided to me at no cost or loss of pay.
- I decline to seek medical assistance at the present time.

\_\_\_\_\_  
Employee/Student Name (print)

\_\_\_\_\_  
University Representative or Witness  
(print)

\_\_\_\_\_  
Employee/Student Signature

\_\_\_\_\_  
University Representative Signature

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

Copy to Environmental Health and Safety  
EHS 92-12

**Table 12-7. Training Record for Bloodborne Pathogens**

*Use as a training record for one person or attach to another training record as a check off sheet.*

**The Following Training Agenda Is Required By Law**

Name \_\_\_\_\_ Department \_\_\_\_\_  
 Supervisor \_\_\_\_\_ Campus Address \_\_\_\_\_  
 Campus Phone \_\_\_\_\_ WWU Identification Number \_\_\_\_\_

**General Training in Use of Human Blood, Blood Products, Body Fluids or Specimens**

Training Date \_\_\_\_\_  
 By \_\_\_\_\_ Title \_\_\_\_\_

Method(s) Used To Provide Information \_\_\_\_\_  
 Initial Training       Annual Training

<b>General Training Item</b>	<b>Check If Completed</b>
Information on the location of the Washington Administrative Code regulations is provided to this worker and regulations discussed	
General explanation of the epidemiology and symptoms of bloodborne diseases	
General explanation of the modes of transmission of bloodborne pathogen	
Exposure control program	
Methods for recognizing tasks and activities that may involve exposure to blood and other potentially infectious materials	
General information on personal protective equipment:	
Basis for selection of such equipment	
Types of equipment	
Proper use and handling	
Removal of equipment	
Decontamination of equipment	
Disposal of equipment	
General information on engineering controls to isolate or remove hazards	
General information on personal protective work practices	
General emergency information relating to use of human material	
General information on contact persons in emergency situations	
General information on procedures for exposure incidents	
Method of reporting	
Medical follow-up available	
Medical counseling for exposed individuals	
General information on biohazard signs, labels, and color-coding	
General information on hepatitis B vaccine, including efficacy, safety, and benefits of vaccination	

**Table 12-7. Training Record for Bloodborne Pathogens - Continued**

**Departmentally Specific Training In Use Of Human Blood, Blood Products, Body Fluids Or Specimens**

Date \_\_\_\_\_ By \_\_\_\_\_ Title \_\_\_\_\_

Method(S) Used To Provide Information \_\_\_\_\_

Initial Training       Annual Training

<b>Departmental Training Item</b>	<b>Check If Completed</b>
Specific information on personal protective equipment:	
Basis for selection of such equipment	
Types of equipment	
Proper use and handling	
Removal of equipment	
Decontamination of equipment	
Disposal of equipment	
Specific information on engineering controls to isolate or remove hazards	
Specific information on personal protective work practices	
Specific emergency information relating to use of human material	
Specific information on contact persons in emergency situation	
Specific information on procedures for exposure incidents	
Method of reporting	
Medical follow-up available	
Medical counseling for exposed individuals	
Specific information on biohazard signs, labels, and color-coding	

**Bloodborne Pathogens Training Quiz**

NAME \_\_\_\_\_

Department \_\_\_\_\_

Date \_\_\_\_\_

*Please circle the correct answer to each of the following questions and turn the quiz in to the instructor.*

1. The term, "bloodborne pathogens," refers to:
  - a. Diseases which are carried by human blood or other infectious human materials
  - b. Pathological criminals
  - c. Hoof and mouth disease
2. Universal precautions refers to:
  - a. Being careful every time you get into a vehicle
  - b. Treating human blood and other potentially infectious human materials from every person as though they might carry disease
  - c. Always crossing the street safely
3. As part of the bloodborne pathogens program, you have a right to:
  - a. Hepatitis B virus vaccination at no charge
  - b. Medical assistance if you are exposed to infectious human materials as part of your work or academic activities
  - c. Both of the above
4. Hepatitis B virus vaccination will:
  - a. Protect you from contracting hepatitis, which is carried by the hepatitis B virus through human blood and other infectious human materials
  - b. Be useful only if you work with animals
  - c. Protect you from a cold or respiratory infection
5. It is very important to wash your hands:
  - a. After you handle potentially infectious human materials, even if you wore gloves
  - b. Before you eat, drink, use a washroom, smoke, or apply cosmetics when you work around infectious human materials
  - c. Both of the above
6. If you decline a hepatitis B virus vaccination now, you may change your mind and later request vaccination.
  - a. True
  - b. False
  - c. Irrelevant
7. If you see visible blood or human material containing visible blood, it is to be:
  - a. Disinfected before touching or cleaning it up
  - b. Disinfected wearing proper protective equipment
  - c. Both of the above

**Bloodborne Pathogens Training Quiz – Page 2**

8. The State of Washington bloodborne pathogens regulations are found in:
  - a. The code for the campus
  - b. The Washington Administrative Code
  - c. A program statement developed by the senate
9. You should receive training in how to handle human blood and other potentially infectious human materials:
  - a. Before you register to vote
  - b. If you handle them as part of your job or classroom activities
  - c. If you leave Washington State for any reason
10. Human blood and other potentially infectious human materials are of concern because:
  - a. They may carry disease
  - b. Wrong. They are not of concern
  - c. Universal precautions are fun

### **Bloodborne Pathogens Training Quiz Answers**

1. a
2. b
3. c
4. a
5. c
6. a
7. c
8. b
9. b
10. a

More than 3 wrong require additional training.

For re-testing, contact the Environmental Health and Safety office.

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## **Appendix 12 - A**

### **Biosafety Level 2**

#### **Containment Practices, Facilities, and Equipment**

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### **Biosafety Level 2 Containment Practices, Facilities, and Equipment**

Biosafety Level 2 (BL2) is suitable for laboratory work involving agents of moderate potential hazard to personnel and the environment. Access to the laboratory shall be limited when work is being conducted and certain procedures in which infectious aerosols are created are conducted in biological safety cabinets or other physical containment equipment.

#### **Standard Microbiological Practices - BL2**

1. Access to the laboratory shall be limited or restricted by the principal investigator when work with infectious agents is in progress.
2. Work surfaces shall be decontaminated once a day and after any spill of viable material.
3. All contaminated liquid or solid wastes shall be decontaminated before disposal.
4. Mechanical pipetting devices shall be used; mouth pipetting is prohibited.
5. Eating, drinking, smoking, and applying cosmetics shall not be permitted in the work area. Food may be stored in cabinets or refrigerators designated and used for this purpose only. Food cabinets or refrigerators shall be located outside the work area.
6. Persons shall wash their hands after they handle viable materials and animals and before leaving the laboratory.
7. All procedures shall be performed carefully to minimize the creation of aerosols.

#### **Special Practices - BL2**

1. Contaminated materials that are to be decontaminated at a site away from the laboratory shall be placed in a durable, leak-proof, closed container before being removed from the laboratory.
2. The principal investigator shall limit access to the laboratory. In general, persons who are at increased risk of acquiring infection or for whom infection may be unusually hazardous shall not be allowed in the laboratory or animal rooms. The principal investigator has the final responsibility for assessing each circumstance and determining who may enter or work in the laboratory.
3. The principal investigator shall establish policies and procedures whereby only persons who have been advised of the potential hazard and meet any specific entry requirements, such as immunization, enter the laboratory or animal rooms. In instances where biological agents may produce infection in humans, the Chemical and Biological Safety Committee advises the principal investigator of the immunization requirements and entry policies. Principal investigators may petition the committee regarding their specific research proposals.
4. When an infectious agent in use in the laboratory requires special provisions for entry, such as vaccination, a hazard warning sign, incorporating the universal biohazard symbol, shall be posted on the access door to the laboratory work area. The hazard warning sign shall include the following:
  - Identification of the infectious agent,
  - Name and telephone number of the principal investigator or other responsible person(s),
  - The special requirement(s) for entering the laboratory.
5. An insect and rodent control program is in effect.
6. Laboratory coats, gowns, smocks, or uniforms shall be worn while in the laboratory. Before leaving the laboratory for non-laboratory areas, such as the cafeteria, library, or offices, this protective clothing shall be removed and left in the laboratory, or it is covered with a clean coat not used in the laboratory.
7. Animals not involved in the work being performed are not permitted in the laboratory.

8. Special care shall be taken to avoid skin contamination with infectious materials; gloves shall be worn when handling infected animals and when skin contact with infectious materials is unavoidable.
9. All wastes from laboratories and animal rooms shall be appropriately decontaminated before disposal. Orange or orange-red bags shall be used to contain solid waste prior to decontamination. Following the decontamination procedure, waste shall be over-packed into a bag of another color for disposal as non-hazardous.
10. 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 injection or aspiration of infectious fluids.  
  
Extreme caution shall be used when handling needles and syringes to avoid autoinoculation and the generation of aerosols during use and disposal. Needles 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 decontaminated, preferably by autoclaving, before discard or reuse.
11. Spills and accidents which result in overt exposures to infectious materials shall be immediately reported to the principal investigator. Medical evaluation, surveillance, and treatment shall be provided as appropriate, and written records shall be maintained by the department head.
12. When appropriate, considering the agent(s) handled, baseline serum samples for laboratory and other at-risk personnel shall be collected and stored. Additional serum specimens may be collected periodically, depending on the agents handled.
13. Personnel shall be advised of special hazards and required to read appropriate sections of this document on practices and procedures and to follow them.
14. The principal investigator shall ensure that laboratory cleaning of work surfaces is performed in a manner appropriate to the agents being used and stored in the laboratory.

### **Containment Equipment - BL2**

Biological safety cabinets Class I or II or other appropriate personal protective or physical containment devices shall be used whenever:

1. Procedures with a high potential for creating infectious aerosols are conducted. These may include centrifuging, grinding, blending, vigorous shaking or mixing, sonic disruption, opening containers of infectious materials whose internal pressures may be different from ambient pressures, inoculating animals intranasally, and harvesting infected tissues from animals or eggs.
2. High concentrations or large volumes of infectious agents are used. Such materials may be centrifuged in the open laboratory if sealed heads or centrifuge safety cups are used and if they are opened only in a biological safety cabinet.

### **Laboratory Facilities - BL2**

1. The laboratory shall be designed so that it can be easily cleaned.
2. Bench tops shall be impervious to water and resistant to acids, alkalis, organic solvents, and moderate heat.
3. Laboratory furniture shall be sturdy. Spaces between benches, cabinets, and equipment shall be accessible for cleaning.
4. Each laboratory shall contain a sink for hand washing.
5. If the laboratory has windows that open, they shall be fitted with fly screens.
6. An autoclave for decontaminating infectious laboratory wastes shall be available.