**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 employees in several areas of the University, specifically those who have may come into direct contact to human blood or other potentially infectious materials (OPIM), while performing their regular work duties. Areas where these materials pose a risk of occupational exposure trigger specific training and document requirements. Human Blood and OPIM include:

- 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 the used growth medium
- Blood, organs, or other tissues from experimental animals infected with HIV or HBV

## 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 a department exposure control plan template 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, human clinical specimens, body fluids, and untreated tissues shall be handled using Biosafety Level 2 practices, containment equipment, and facilities.

The university does not have the infrastructure to support activities such as producing research-laboratory-scale amounts of HIV or manipulating concentrated virus preparations. The Environmental Health and Safety office shall be contacted prior to any such work being considered.

**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 towlette 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 shall be routinely 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. They 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. Disposable gloves 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. 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 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 primary container. The container shall be labeled with the universal biohazard symbol as an infectious hazard, packed with cushioning and absorbent and placed in a secondary container with a locking/latched lid prior to being transported.

If contamination of the outside of the container is likely, the outside of the container should be cleaned and wiped down with an appropriate disinfectant prior to storage or transport.

**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 universal biohazard symbol. 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 overfill, 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, Exposure Control Plan). 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 in the Exposure Control Plan.

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 in the Exposure Control Plan 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. In the Exposure Control Plan

**O. Signs and Labels**

Labels displaying the universal biohazard symbol are required on containers of blood-related wastes, 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 the Exposure Control Plan Template. Information on testing is available in the departmental exposure plan or from the Environmental Health and Safety office.