



September 15, 2006

EXPOSURE CONTROL PLAN FOR BLOODBORNE PATHOGENS

Pages: X

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

1. INTRODUCTION

This safety plan implements the Department of Labor, Occupational Safety and Health Administration (OSHA) Standard, Title 29, Code of Federal Regulations (CFR), Part 1910.1030, *Occupational Exposure to Bloodborne Pathogens*. The OSHA Standard and this plan comprise a unit, which prescribes the minimum requirements for an effective Exposure Control Plan for Bloodborne Pathogens.

It is the policy of Georgetown University Medical Center (GUMC) to provide employees with a safe and healthful working environment. As part of that effort, GUMC has implemented this plan, which is intended to eliminate or minimize the risk of exposure to bloodborne pathogens and other potentially infectious materials for all those who may have such exposure as part of their official duties.

2. DEFINITIONS

The following definitions apply to terms used in this plan.

Blood – Human blood, human blood components, and products made from human blood.

Bloodborne Pathogens – pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

Contaminated – The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

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

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

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

Exposure Incident – A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Occupational Exposure – Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

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

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

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

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

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

3. RESPONSIBILITIES

3.1. Office of Regulatory Affairs:

- 3.1.1. Coordinate with the Office of Environmental Health and Safety to establish/maintain a written exposure control plan that ensures compliance with OSHA Title 29 CFR 1910.1030.
- 3.1.2. Ensure adequate resource allocation to support program requirements.
- 3.1.3. Ensure continued compliance through monitoring and audit programs.

3.2. Institutional Biological and Chemical Safety Committee (IBCSC):

- 3.2.1. Provide policy guidelines in the implementation of the Exposure Control Plan for Bloodborne Pathogens.
- 3.2.2. Advise and make recommendations to the Office of Regulatory Affairs regarding compliance requirements.

3.3. Office of Environmental Health and Safety:

- 3.3.1. Establish and maintain the written exposure control plan for bloodborne pathogens consistent with federal regulations (29 CFR 1910.1030) and the GUMC goal of protecting employees from hazardous exposures.
- 3.3.2. Provide technical guidance to departments regarding the implantation and enforcement of this plan.
- 3.3.3. Evaluate operations for which bloodborne pathogens exposure may occur to determine the degree of hazard posed by the potential exposure, determine whether engineering or administrative controls are feasible, and specify which personal protective equipment is to be used at each task.
- 3.3.4. Track and train, on an annual basis, employees for which this standard is applicable.
- 3.3.5. Ensure continued compliance through monitoring and audit programs.
- 3.3.6. Provide support personnel for the collection and disposal of regulated medical waste at GU.
- 3.3.7. Conduct an Exposure Control Plan review at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

3.4. Occupational Health:

- 3.4.1. Administer the Hepatitis B vaccination program.
- 3.4.2. Provide/conduct the necessary occupational medical surveillance and counseling for employees who may have been exposed to bloodborne pathogens.

3.5. Medical Center Facilities Management:

- 3.5.1. Identify employees with job classifications (listed in section 4) which could result in a potential exposures to bloodborne pathogens. Refer these employees to the Office of Environmental Health and Safety for exposure assessment and mandatory training.
- 3.5.2. Provide support personnel for the collection and disposal of regulated medical waste.
- 3.5.3. Ensure employees have received the mandatory annual training and practice universal precautions. Ensure that all required administrative controls established by Environmental Health and Safety are utilized.

3.6. Department/ Supervisors:

- 3.6.1. Identify employees with job classifications (listed in section 4) which could result in a potential exposures to bloodborne pathogens. Refer these employees to the Office of Environmental Health and Safety for exposure assessment and mandatory training.
- 3.6.2. Allocate funds for appropriate safety equipment, protective clothing, and Hepatitis B vaccines for their employees.
- 3.6.3. Ensure employees have received the mandatory annual training and practice universal precautions. Ensure that all required engineering and/or administrative controls established by Environmental Health and Safety are utilized. Additionally, ensure that employees properly dispose of all waste materials.
- 3.6.4. Maintain this plan in the workplace and enforce its requirements.
- 3.6.5. Ensure that proper signage and labels are in place at the sites, and on all equipment where bloodborne pathogen containing materials and OPIM are used or stored.

3.7. Employees:

- 3.7.1. Follow the safety provisions outlined in this plan and utilize universal precautions.
- 3.7.2. Attend/complete mandatory annual bloodborne pathogens training provided by the Office of Environmental Health and Safety.
- 3.7.3. Report incidents involving bloodborne pathogen containing materials and OPIM to supervisors. Get immediate medical attention at Occupational Health or Emergency Room after incident occurs.

3.7.4. Provide suggestions to the department head or supervisor, for safety improvements to the existing Exposure Control Plan.

4. EXPOSURE DETERMINATION

The Office of Environmental Health and Safety in collaboration with departments at GU determines which employees are reasonably expected to be exposed to blood or OPIM in the course of their work. The list below of those employees that may be at risk for occupational exposure as defined (above) by the OSHA Standard is based on risks incurred without regard to the use of personal protective equipment.

Table (1): List of job titles with potential bloodborne pathogen exposure hazard.

Research Resource Facility (RRF) Manager	Professor
Assistant/ Head Athletic Trainer	Professor, Adjunct
Fitness Center Employees/Staff	Professor, Assistant
Autopsy Assistant I/II	Professor, Associate
Chairman	Professor, Research
Clinical Labs Administrator	Professor, Research Assistant
Clinical Operations Manager	Professor, Visiting Assistant
Clinical Research Specialist	Research Assistant I/II/III/IV
Health Physicist/ Radiation Safety	Research Associate
Instructor	Special Research Assistant I/III/IV
Laboratory Assistant I/II	Veterinarian
Laboratory Technician I/II/III	Veterinarian Assistant
Laboratory Technologist I/II/III	Veterinarian Technician
Lab Supervisor/ Manager	Occupational Safety Staff
Lab Services Manager/Technician	Principal Investigator
Medical Center Fellow, MD	Department of Public Safety Officers
Medical Center Fellow, Ph.D.	Environmental Health and Safety Staff
Post Doctoral Fellow	Custodial/Housekeeping Staff
Nurse	Facilities Management Plumbers/HVAC Technician
Nurse Practitioner	Nurse Faculty
Phlebotomist	Medical Assistant
Medical Technologist	Lifeguard

4.1. The employees in the above listed job titles may have occupational exposures to bloodborne pathogens when conducting one or several of the following tasks/procedures:

- 4.1.1. Handling contaminated sharps and/or laboratory devices
- 4.1.2. Conducting research procedures on or with bloodborne pathogen containing material
- 4.1.3. Conducting surgical procedures
- 4.1.4. Handling of animals (and all associated equipment, bedding, etc.) infected with human bloodborne pathogens

- 4.1.5. Pathology procedures involving contact with tissue and other body substances including post mortem exams
- 4.1.6. Procedures involving the containment and refuse removal of "regulated medical waste" from laboratories that use human blood or body fluids
- 4.1.7. Maintenance or clean-up in bathrooms, or common areas that may have human blood or other body fluids
- 4.1.8. Handling of athletic or other injuries resulting in contact with human blood or fluids
- 4.1.9. All procedures involving contact with cerebral spinal fluid, mucous membranes, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, blood and all other body substances

Further identifications of specific tasks where occupational exposure can occur are found in individual departments' or laboratories' policies and procedures.

4.2. Work Practice and Engineering Controls

The following work practice controls are in place at Georgetown University. Procedures further defining controls are found relevant to a specific department or laboratory.

- 4.2.1. Hand washing is required, and is accomplished at hand washing facilities that are readily accessible to employees.
 - 4.2.1.1. Hands are washed immediately or as soon as feasible after removal of gloves or other personal protective equipment.
 - 4.2.1.2. Antiseptic towelettes are supplied when hand washing facilities are not readily available. When towelettes are used, hands are washed with soap and running water as soon as possible.
- 4.2.2. Sharps disposal - Efforts to eliminate or minimize the risk of occupational exposure to sharp devices (e.g., scalpels, needles, etc.) are reviewed and evaluated on an ongoing basis by the Institutional Biological and Chemical Safety Committee and the Office of Environmental Health and Safety at GUMC.
 - 4.2.2.1. Needles are not recapped by hand. If needles must be recapped, the procedure is accomplished using a one-handed technique.
 - 4.2.2.2. Contaminated needles are not bent, sheared or broken before disposal.
 - 4.2.2.3. All contaminated sharps are disposed of in puncture-resistant, leak-proof containers, and are labeled with the biohazard symbol, or are color-coded red.

- 4.2.2.4. Sharps containers are easily accessible to personnel and are located in areas convenient to where sharps are used.
- 4.2.2.5. Sharps containers are routinely inspected and replaced as indicated when contents are found to be inadequately contained.
- 4.2.2.6. Sharps containers are discarded with the infectious waste stream when 3/4 full or less.
- 4.2.2.7. Safe practices are used when handling or reprocessing reusable sharps.
- 4.2.3. General Regulation and Hazard Abatement Measures
 - 4.2.3.1. Mechanical pipettes are required where appropriate and are available for use where necessary. Mouth pipetting is prohibited.
 - 4.2.3.2. Eating, drinking, applying cosmetics and handling contact lenses is prohibited in work areas where there is potential of occupational exposure.
 - 4.2.3.3. Storage of food and drink is prohibited in places where potentially infectious materials are kept.
 - 4.2.3.4. All specimens of blood or OPIM are contained in leak-proof containers during handling, processing, storage, transport or shipping. Specimens are not left uncovered on counter tops. All specimens are handled using universal precautions.
 - 4.2.3.5. Equipment that may become contaminated is inspected for blood or other potentially infectious materials regularly and decontaminated as necessary.
 - 4.2.3.6. All activities involving OPIM are conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these OPIM shall be conducted on the open bench.

4.3. Personal Protective Equipment

- 4.3.1. All departments where occupational exposures occur have previously identified and defined barriers to be worn for tasks involving blood and body fluid (including sharps) contact. Please see individual department and/or division universal precautions policies.
 - 4.3.1.1. PPE is considered "appropriate" by OSHA only if it does not permit "blood or other potentially infectious materials to pass through or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time that the protective equipment will be used."

- 4.3.1.2. PPE is supplied and is readily available, or issued to the employee, in all areas where occupational exposure can occur.
- 4.3.1.3. PPE includes, but is not limited to, gloves, gowns, laboratory coats, face shields and/or masks, eye protection, and others.
- 4.3.1.4. Gloves are worn when it can be reasonably anticipated that the employee may have hand contact with blood, OPIM, mucous membranes, and non-intact skin; when performing vascular access procedures and/or when handling or touching contaminated items or surfaces. Disposable (single-use) gloves are removed as soon as is 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 are not washed or reused. Hypo-allergenic gloves, glove liners, powderless gloves, or other similar alternatives are readily accessible to those employees who are allergic to the gloves normally provided.
- 4.3.1.5. Masks in combination with eye protection devices such as goggles or glasses with solid side shields, or chin-length face shields are worn whenever splashes, spray or droplets of blood or OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated.
- 4.3.1.6. Gowns and other protective clothing such as aprons or lab coats, or similar outer garments are worn in occupational exposure situations. Type and characteristics of protective clothing will depend upon the task and the degree of anticipated exposure.
- 4.3.1.7. Surgical caps or hoods, or shoe covers or boots, are worn in instances when gross contamination can reasonably be anticipated, e.g., animal surgeries, etc.
- 4.3.1.8. When a protective garment(s) is penetrated by blood, or other potentially infectious materials and the substance has reached the employee's own work clothes, street clothes, or undergarments, the clothing is removed immediately, or as soon as is possible prior to the employee leaving the work area.

4.4. Spills and Waste

- 4.4.1. Remediation of spilled potentially infectious materials is the responsibility of the person/ lab causing the spill. Only trained personnel will remediate spilled biohazardous material. Upon spilling a potentially infectious agent, human blood or body parts, etc., the area must be isolated and others warned to stay away until further notice. The Department of Public Safety can assist in isolating an area (controlling pedestrian traffic) if necessary, but may not assist in the actual remediation. Whenever possible, a 10:1 water to bleach solution will be used to decontaminate surfaces or equipment. Liquids may be decontaminated with a 10:1 solution of liquid to bleach. All potentially contaminated materials that may not be decontaminated with bleach, or are used in the decontamination process, must be autoclaved or discarded in a red, biohazardous waste bag.

- 4.4.2. Broken glassware that may be contaminated is not picked up directly with the hands. It is cleaned up using mechanical means, such as a brush and dustpan, tongs, or forceps, according to established procedures.
- 4.4.3. All bins, pails, cans, and similar receptacles intended for reuse that has a reasonable likelihood for becoming contaminated with blood or OPIM are inspected and decontaminated on a regularly scheduled basis, according to established procedure.
- 4.4.4. OSHA-defined regulated waste is handled and managed in accordance to applicable regulations of the District of Columbia and other jurisdictions.

4.5. Biohazard Communication

- 4.5.1. Warning labels are affixed to containers of regulated waste, refrigerators and freezers and other containers, surfaces, and materials used to store, transport, work with, or ship blood or other potentially infectious materials.

4.5.1.1. Label Required:



Label Color:
Fluorescent orange or orange-red with lettering or symbols in a contrasting color.

- 4.5.1.2. Biohazard signs are posted at the entrance to labs using potentially infectious materials and must include the name of the potentially infectious agent and an emergency phone number for the laboratory director or other responsible person.

- 4.5.1.3. Red bags or red containers are, on occasion, substituted for biohazard labels at the GU.

4.6. Equipment

- 4.6.1. All equipment leaving the laboratory for purposes of repair, relocation, loan, or sale must be decontaminated before leaving the laboratory. Decontamination must be accomplished by an approved method and documented (Appendix A). Any part of equipment that can not be decontaminated due to structure, sensitivity, integrity, etc. must be labeled as biohazardous in accordance with the OSHA Bloodborne Pathogens regulation and the receiving party informed in writing of the potential hazard.

4.7. Information and Training

- 4.7.1. Georgetown University ensures that all employees with occupational exposure participate in training programs, at no cost to the employee, and during working hours.
- 4.7.2. Training is provided at the time of initial assignment of an employee to job titles/tasks where occupational exposure may take place.
- 4.7.3. Training is provided at least once every 365 days.
- 4.7.4. Additional training is provided when changes such as modification of tasks or procedures, or institution of new tasks or procedures affect the employee's occupational exposure.

4.8.IMMUNIZATIONS

4.8.1. Availability

Hepatitis B vaccination is available after the employee has received training required by the OSHA regulation and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons. Occupational Health will provide the immunizations at no cost to the employee. However, the fees for the immunizations will be paid by the respective department.

4.8.2. Declining the Vaccination

Employees declining the hepatitis B vaccination must sign the declination form found in Appendix B. If the employee initially declines hepatitis B vaccination, but at a later date, while still covered under the standard, decides to accept the vaccination, the vaccination shall be available.

4.9.HIV AND HBV RESEARCH LABORATORIES

- 4.9.1. **Procedures** - Principal Investigators wishing to use HIV or HBV in research must comply with numerous GU and Federal requirements.

- 4.9.1.1.All research involving potentially infectious materials must first be approved by the Institutional Biological and Chemical Safety Committee. This committee grants or denies approval for use of potentially infectious materials in research based upon National Institutes of Health (NIH) and Centers for Disease Control (CDC) guidelines found in, "Biosafety in Microbiological and Biomedical Laboratories."

- 4.9.1.2.All proposed work must be in compliance with the OSHA Bloodborne Pathogens regulation and this policy.

- 4.9.1.3. The Office of Environmental Health and Safety conducts periodic inspections of these laboratories to ensure safe work practices and compliance with applicable regulations and guidelines.

4.10. PROCEDURE FOR EVALUATION OF EXPOSURE INCIDENTS

- 4.10.1. **Action** - In the event an employee sustains an occupational exposure to blood or other body fluids, the employee must notify his/her immediate supervisor, and report without delay to the Occupational Health. In the event that the Occupational Health is closed, the employee will report to the Emergency Room (ER).
- 4.10.1.1. If the employee has not been immunized with the hepatitis B vaccine, or has not completed the immunization series, and the exposure is from a known hepatitis B positive source, the employee reports to the Occupational Health within 24 hours. In the event the Occupational Health is closed, the employee must report to the emergency department.
- 4.10.1.2. If the exposure is from a known HIV positive source, and the Occupational Health is closed, the employee proceeds immediately to the Emergency Department for necessary follow up. The E.R. will send the report to the Occupational Health on the first working day following the E. R. visit.
- 4.10.2. **Treatment**- Occupational Health follows the OSHA Bloodborne Pathogens regulation and the Center for Disease Control (CDC) for blood and body fluid exposure.
- 4.10.3. **Records** - Occupational Health maintains records and documentation of all reported blood and body fluid exposure incidents. These records are confidential and are kept on file for the duration of employment plus 30 years.
- 4.10.4. **Report to Counsel** - Additionally, the employee must complete a Report to Counsel that describes the accident, injuries sustained, affect on others, and controls to be implemented in order to prevent the accident from recurring.

5. PLAN REVIEW

This Policy/ Plan is reviewed on an annual basis by the Office of Environmental Health and Safety. Revision of this plan will occur whenever necessary to reflect new or modified tasks and

procedures that affect occupational exposure, and to reflect new or revised employee positions with occupational exposure.

Approved by:

Susan Martin, Director Date
Environmental Health & Safety

Executive Vice President, Date
Health Sciences

Kenneth L. Dretchen, Director Date
Office of Regulatory Affairs

APPENDIX A
CERTIFICATE OF DECONTAMINATION

Georgetown University
Office of Environmental Health and Safety

LM-12 Preclinical Science Building
3900 Reservoir Road N.W.
Washington D.C. 20057-1431

Tel. (202) 687-4712
Fax (202) 687-5046

CERTIFICATION OF DECONTAMINATION

Principal Investigator: _____ Date: ____ / ____ / ____

Building: _____ Office Room Number: _____

Department: _____

Telephone Numbers: Office: _____ Lab: _____ Net ID: _____

Lab Space Change: From (Bldg. & Rm.#) _____ To (Bldg. & Rm.#) _____

This letter certifies that I _____, have thoroughly decontaminated the surfaces and the below listed equipment (i.e. refrigerators, freezers, incubators, etc.) that may have come in contact with potentially hazardous material following the decontamination procedures as outlined in the Lab Safety Guidelines (10:1 water to bleach solution).

Equipment (Item/Serial #):

- | | |
|----------|-----------|
| 1. _____ | 7. _____ |
| 2. _____ | 8. _____ |
| 3. _____ | 9. _____ |
| 4. _____ | 10. _____ |
| 5. _____ | 11. _____ |
| 6. _____ | 12. _____ |

NOTE: If relocating a Biological Safety Cabinet outside of the University, your signature indicates that it has been decontaminated as per National Sanitation Foundation Standard #49. This service can be arranged by Laminar Flow Consultants, Inc. @ 703-404-4300.

Principal Investigator Signature

Date

Please fax a copy to EH&S at 7-5046

APPENDIX B
HEPATITIS B VACCINATION ACCEPTANCE OR DECLINATION FORM

Hepatitis B Vaccination Acceptance or Declination Form

Instructions:

Complete the employee information below. Determine whether or not you wish to receive the vaccine at no charge. Sign and date either the “**Acceptance**” or “**Declination**” section and forward the form to your supervisor. Remember, you **must** check **one box**, the **Acceptance** or the **Declination** Section. If, after receiving information about Bloodborne Pathogens and specific information about Hepatitis B and you are still unsure, contact GUMC EH&S Office, at (202) 687-4712 to have your questions answered.

(Note: PI/Supervisor, a copy of this form must be maintained in the lab and be readily available for inspection purposes).

Employee Information

Employee Name		Department/ PI	
Job Title		Supervisor Name	
Building/ Lab No.		Phone Number	

Please Check One of the Following:

I Accept the Hepatitis B Vaccination

I have received information and training pertaining to Hepatitis B and the vaccine. I have had the opportunity to ask questions, and they have been answered to my satisfaction. I understand the benefits and risk of the vaccine and I consent to receive this vaccine.

I understand that I am responsible for scheduling and keeping my appointments to receive the Hepatitis B vaccine in accordance with the recommended series (three vaccination series; second vaccine one month after first vaccine; and third vaccine within five months of second vaccine).

I Decline the Hepatitis B Vaccination

I understand that due to my occupational exposure to blood or other potentially infectious material (OPIM) 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.

Please **check one** of the following if you are declining:

- I am declining because I have previously completed the hepatitis B vaccination series.
- I am declining because I choose not to have the hepatitis B vaccination series. 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 OPIM and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee Signature

Date

APPENDIX C

OSHA BLOODBORNE PATHOGENS REGULATION

29 CFR 1910.1030