SUMMARY: Bloodborne pathogens may be present in research materials of human origin, and are therefore common risks in biomedical research laboratories. In order to reduce or eliminate the risk of occupational exposure to bloodborne pathogens, all at-risk employees should be provided with specific work practice controls, personal protective equipment, and other preventive programs. This Guideline identifies supervisors’ responsibilities and administrative oversight for these workplace protections.

SCOPE: This Guideline applies to all research and service units involved in the use or handling of human-derived materials or potentially infectious materials. Examples of service units that this Guideline applies to are Department of Public Safety (DPS), Facilities & Operations, and EHS. This Guideline is not intended for use in clinical settings.

REFERENCE REGULATIONS: Bloodborne Infectious Diseases (R 325.70001 - Michigan)
Occupational Exposure to Bloodborne Pathogens (29 CFR 1910.1030)

DEFINITIONS:

Bloodborne Pathogen – agent known to be transmissible through contact with human blood, such as the human immunodeficiency virus (HIV) or the hepatitis B virus (HBV).

Potentially Infectious Material – any material, which may or is known to contain an etiologic agent of human or animal disease. This includes all human-derived materials.

Universal Precautions – means a method of infection control that treats ALL human blood and other potentially infectious material as capable of transmitting HIV, HBV and other bloodborne pathogens.

RESPONSIBILITY: Deans, Directors, and Department Heads

Actively support this Guideline within individual units.

Ensure an environment where principal investigators/supervisors and other personnel are encouraged to follow this Guideline.

Principal Investigators/Supervisors

Implement all aspects of this Guideline.

Assure that staff is aware of this Guideline, instructed on the details of implementation, and provided with equipment and controls.

Maintain documentation and update Exposure Control Plan annually.
Ensure injured employees receive appropriate treatment or health monitoring.

Contact EHS to request technical assistance.

**Employees**
Conduct assigned tasks in a safe manner, wear assigned personal protective equipment, and use only those materials and methods for which they have received safety instructions.

Comply with this Guideline and the provisions of their Exposure Control Plan.

Report any job-related injuries or illnesses, questions on health and safety, or any unsafe or unhealthy working conditions to the principal investigator.

**EHS**
Review and revise the Occupational Exposure to Bloodborne Pathogens Guideline, as necessary.

Provide training to the principal investigator/laboratory supervisor upon request, and maintain records of training.

Provide technical assistance and conduct safety audits.

**UM Risk Management**
Maintain the sharps injury log.

**PROCEDURE:**  

*Universal Precautions*

All human blood and body substances must be received, stored, handled and disposed using universal precautions. General administrative controls, engineering and work practice controls, and personal protective equipment are described in Section III of the generic “Exposure Control Plan” (ECP).

*Exposure Control Plan*

Individual laboratories using human blood and tissues are required to develop and implement a written plan to prevent occupational exposures. The Exposure Control Plan in this Guideline is provided to the campus community to simplify the process. As a generic plan, it details standard operating procedures that may be adopted to suit most research operations.

The ECP is available as an electronic document from the EHS Web Site [http://ehs.umich.edu/research-clinical/biological/](http://ehs.umich.edu/research-clinical/biological/). At a minimum, two sections of the Plan must be completed by the laboratory supervisor to produce an effective ECP: Section II – identification of employees who are at-risk and covered by the standard; and Section III – identification of employees who have been offered, but not accepted, hepatitis B immunization.

The following is a brief description of the sections of the ECP:
Section I - General Policy

Any laboratories whose employees may be in contact with potentially infectious materials are required to have an Exposure Control Plan and it must be implemented as policy and standard practice.

Section II - Exposure Determination

Supervisors shall determine the exposure risk of their employees from bloodborne pathogens, and identify in writing (in the ECP) those determined to be at-risk. These employees will then be offered all the protections outlined in the following sections of the ECP.

Section III - Methods of Compliance

Supervisors shall minimize employee risk from bloodborne pathogens by instituting rigid housekeeping and waste disposal practices.

Section IV - HIV & HBV Research Labs and Production Facilities Only

Specific procedures that must be followed by employees who work in these laboratories are described in detail.

Section V - Hepatitis B Immunization

For employees determined to be at-risk from bloodborne pathogens, supervisors must offer hepatitis B immunization. This program must be offered to employees within 10 days of their working with human blood or tissues. Employees will receive this service through the UM Occupational Health Services clinic in the Med Inn building.

Section VI - Post-Exposure Evaluation and Follow-up

Any employee exposure to potentially infectious materials must be regarded as a serious incident, reported promptly, evaluated by an occupational medical physician (approved provider).

Section VII - Communication of Hazards (Training)

Supervisors shall communicate information to at-risk employees about the potential hazards of handling human-derived materials such as body fluids and tissues. Formal “baseline” training is provided by EHS. The supervisor must provide site-specific training on the particular hazards of the employee’s work and prudent practices to be followed in their lab.

Section VIII - Recordkeeping

Accurate training records will be maintained for employees covered under the Bloodborne Pathogens Standard. Records of “baseline” new-hire training given by EHS are maintained by EHS. Site-specific training given by an employee’s supervisor must be maintained at the workplace (filed in the ECP). The approved occupational medical provider will maintain employee exposure and other confidential medical records. UM Risk Management will maintain the sharps injury log.
Annual Review and Update

The ECP must be reviewed and updated annually by the supervisor or laboratory manager. Any significant changes in materials, methods, organization, or personnel should be noted. The date and initials of the reviewer(s) should also be noted.

RELATED DOCUMENTS: Management of Occupational Blood Exposures to HBV, HBC, or HIV, CDC (Based on MMWR, Vol 50/No. RR-11 and MMWR, Vol 54/No RR-9 September 30, 2005).


Antimicrobials for Pathogens in Blood and Body Fluids.

TECHNICAL SUPPORT: All referenced guidelines, regulations, and other documents are available through EHS (734) 647-1142.