LIBERTY
UNIVERSITY
ENVIRONMENTAL
HEALTH & SAFETY

Liberty University Bloodborne Pathogen Policy & Exposure Control Plan

Purpose, Scope and Application

Liberty University is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this endeavor, the following exposure control plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.130 "Occupational Exposure to Bloodborne Pathogens".

Unprotected exposure to body fluids and other potentially infectious materials (OPIM) presents the risk of infection from several bloodborne pathogens. Through proper employee training, recordkeeping, and engineering controls, we minimize the possibility of infection.

The ECP is a key document to assist our organization in implementing and ensuring compliance with the standard, and thereby protecting our employees. This ECP includes:

- Determination of employee exposure
- Implementation of various methods of exposure control including: universal precautions, engineering and work practice controls, personal protective equipment and housekeeping.
- Hepatitis B vaccination
- Post-exposure evaluation and follow-up
- Communication of hazards to employees and training
- Recordkeeping
- Procedures for evaluating circumstances surrounding exposure incidents

Implementation methods for these elements of the standard are discussed in the subsequent pages of this ECP.

The ECP covers faculty, staff, students and visitors that may reasonably anticipate skin, eye, mucous membrane, or parenteral (under the skin) contact with human blood or other potentially infectious materials during the performance of their job duties at Liberty University.

Occupational Exposure means 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 include:

- Semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any bodily fluid that is visibly contaminated with blood;
- All body fluids in situations where it is difficult or impossible to differentiate between body fluids;
- Any unfixed tissue or organ (other than intact skin) from a human (living or dead);

- 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.

Implementation and Responsibilities/Program Administration

The Director of Environmental Health & Safety (EHS) or designee is responsible for the implementation of the ECP and will maintain, review, and update the ECP at least annually, and whenever necessary to include new or modified tasks and procedures. The Environmental Health and Safety department can be reached at 434-582-3389 or at lusafety@liberty.edu.

- Employees who are determined to have occupational exposure to blood or other potentially infectious materials (OPIM) must comply with the procedures and work practices outlined in this ECP.

- Each university department is responsible for providing and maintaining all necessary personal protective equipment (PPE), engineering controls (e.g., sharps containers, labels, red bags) as required by the standard. Each department will ensure that adequate supplies of the aforementioned equipment are available in the appropriate sizes.

- Each university department will be responsible for contacting human resources in the event of a potential exposure.

- The Human Resources department will evaluate all exposure incidents to determine if they trigger OSHA's recordkeeping requirements.

- Each university department is responsible for providing the Appendix B: Hepatitis B Vaccine Declination Form to any employee who has the potential to be occupationally exposed to blood or OPIM and refuses to be vaccinated. The completed form must be submitted to the Human Resources department.

- The Environmental Health and Safety department or designee is responsible for training, documentation of training, and making the written ECP available to employees.

Bloodborne Pathogen Exposure Determination

A Bloodborne Pathogen Exposure Determination is made without regard to the use of personal protective equipment. Employees whose expected job functions include occupational exposure to blood or OPIM are considered to be exposed even if they wear personal protective equipment. The purpose of an exposure determination is to identify the University job classifications that are required to comply with this ECP.

Each University unit must maintain a list of job classifications and/or job descriptions under their supervision that may have occupational exposure to bloodborne pathogens. Supervisors are responsible to enforce compliance with this Exposure Control Plan for all applicable employees. Employees that provide first aid as a collateral duty, such as police officers, athletic trainers, etc., may have exposure to bloodborne pathogens and are covered by the Exposure Control Plan.

Procedure

1.0 Exposure Control Plan (ECP) and Training

A. Employee exposure determination:

The following employees (including their job type and title) have potential occupational bloodborne pathogen exposure and are hence, included in the ECP.

Department	Job Title	Job Description

B. The Director of EHS or designee is responsible for the implementation and annual review of:

- The Exposure Control Plan (ECP). This will reflect changes in regulations and safety technology.
- The selection and review of Personal Protective Equipment (PPE) being utilized.
- Engineering controls, e.g., sharps containers, labels, and disposal bags and procedures.
- Medical actions being performed and documented as needed.
- Employee health and medical records. Maintaining these records is a vital part of the ECP. All records will be housed at the office of Human Resources (HR).

C. The Director of EHS or designee is responsible for training employees.

- Training will be provided to all potentially exposed employees at no cost to the employee.

- Employees are encouraged to give feedback on training as well as any issues, risks, and controls and their effectiveness. All feedback will be documented by the Director of EHS or designee.

- Annual training: Employees who have potential occupational exposure to bloodborne pathogens will receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. The training program covers, at a minimum, the following elements:

    - OSHA bloodborne pathogen standard;
    - The Organization ECP and how to obtain a copy;
    - Methods for recognizing tasks that may involve exposure to blood and other body fluids and what constitutes an exposure incident;
    - Use and limitations of engineering controls, work practices, and PPE;
    - Proper PPE types, uses, locations, removal, handling, decontamination, and disposal;
    - The basis for PPE selection;
    - Bloodborne pathogens, such as, Malaria, Syphilis, Brucellosis, Hepatitis B and C, HIV, Severe Acute Respiratory Syndrome (SARS), and Staph (MRSA) will be communicated;
    - Hepatitis B vaccine, including information on its efficacy, safety, method of administration, benefits, and stating that the vaccine will be offered free of charge to applicable staff;
    - Appropriate actions to take and persons to contact in an emergency involving blood or other body fluid will be conveyed;
    - Procedure to follow if a near miss of an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
    - Post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;
    - Signs and labels and/or color coding used at this facility, and
    - Interactive question and answer session with the Director of EHS or designee.

2.0 Post Exposure Follow Up

A. Ensure initial first aid treatment and response is fully executed by first:

- Protecting yourself or anyone else involved in an exposure response.
- Cleaning the wound by washing injuries with soap.
- Flushing and irrigating with water any splashes to the nose, mouth, skin or other mucous membranes. Caustics and bleach are not recommended.
- Irrigating eyes with clean water, sterile irrigants, or saline solution. Note: There is no scientific evidence that indicates antiseptics or wound squeezing reduces risk of bloodborne pathogen transmission.
- Secure necessary medical attention appropriate to the incident immediately.
- Make a prompt report of the incident to your manager.
- All near misses as well as incidents are to be reported in writing to the Director of EHS.

B. Post exposure follow up will be conducted by the EHS Director or designee immediately following an incident to determine:

- Engineering controls in use at the time of the exposure and their effectiveness. Type and brand of device being used;
- Work practices being followed at the time and their effectiveness;
- Protective equipment and clothing being used at the time and their effectiveness;
- Location of the incident;
- Procedure(s) being performed;
- Level of the exposed-employee's training, and
- Effectiveness of Safety Observations conducted through the Behavior Based Safety applications.

C. The **Medical Review Officer** will conduct a medical evaluation immediately following initial first aid:

- Document the routes of exposure and how the exposure occurred;

- Identify and document the source-individual (unless identification is infeasible or prohibited by law).

- After obtaining consent, arrange to have the source-individual tested to determine HIV, HCV, SARS, and HBV infectivity. Document that the source-individual's test results were conveyed to the employee's health care provider.

- If the source-individual is already known to be HIV, HCV, SARS, or HBV positive, new testing need not be performed.

- Assure that the exposed-employee is provided with the source-individual's test results and with information about applicable disclosure laws regarding the identity and infectious status of the source-individual.

- After obtaining consent, immediately send exposed-employee for blood collection and test blood for HBV and HIV serological status.

- If the exposed-employee does not give consent for HIV serological testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days. If the exposed-employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.

D. The Director of EHS or designee will provide to the testing facility the needed information relating to the incident and the individuals involved.

3.0 Record keeping requires both training and medical records are maintained:

A. Training records are maintained by the Environmental Health and Safety department for each employee consisting of:

- Training session dates.

- Training subject.

- Training instructor name and qualifications.

- Names of all employee attendees.

- All records of training and in-services are to be retained by the Environmental Health & Safety department.

B. Training records will be available to employees, from the director of environmental health and safety or designee, upon request and within 15 working days.

C. Medical records are maintained by the Human Resources Office for each employee:

- Records are kept confidential.
- Records are maintained for at least the duration of employment plus 30 years.

D. Sharp's injury log requirements:

- All exposure incidents will be evaluated to determine if they trigger OSHA's recordkeeping requirements and if so the incident and recordable will be documented by the Environmental Health & Safety department.
- All percutaneous injuries from contaminated sharps will be recorded in the Sharps Injury Log. Records will include at least:
  - Date of the injury.
  - Type and brand of the device involved (syringe, suture needle, etc.).
  - Department or work area where the incident occurred.
  - Explanation of how the incident occurred.
- This log is reviewed as part of the annual program evaluation and maintained for at least five years following the end of the calendar year covered. If a copy of the report is requested, it will have all personal identifiers removed and the individual will be responsible for paying the current cost for the copies provided. Copies will be provided within 10 days of the request.

4.0 Compliance Methodology

- **Universal Precautions:** Universal precautions is an approach to infection control to treat all human blood and certain human body fluids as if they were known to be infectious for HIV, HBV and other bloodborne pathogens. Universal Precautions will be observed at Liberty University in order to prevent contact with blood or other potentially infectious materials. All blood or OPIM will be considered infectious.
- **Exposure Control Plan:** Employees covered under this Exposure Control Plan receive an explanation of this Exposure Control Plan during their initial training session and refresher

training is provided annually. All employees have the opportunity to review this plan at any time by visiting www.liberty.edu/ehs/ and click on Policies & SOP's or by calling 434-582-3389. If requested by an employee, a copy of the Exposure Control Plan will be provided free of charge. Liberty University Department of Environmental Health and Safety is responsible for reviewing and updating the Exposure Control Plan annually or more frequently if needed to reflect new or modified tasks and procedures that affect occupational exposure.

- **Engineering Controls and Equipment:** Engineering controls and equipment will be utilized to eliminate or minimize exposure to employees. Where potential for occupational exposure still exists after implementation of these controls, personal protective equipment shall also be utilized. Liberty University will identify the need for changes in engineering controls and work practices through reviews of the Sharps Injury Log with follow-up exposure investigation and through discussion with the University Biohazards Committee of available safety procedures.

Universal Precautions:

- This is 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.
- All staff are to observe Universal Precautions to prevent contact with blood or other potentially infectious materials (OPIM).
    - Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.
    - Treat all blood and other potentially infectious materials with appropriate precautions such as use of impermeable gloves, masks, and gowns if blood or OPIM exposure is anticipated.
    - Use specified engineering and work practice controls to limit exposure.

Standard Precautions:

The Center for Disease Control (CDC) recommends **Standard Precautions** for the care of all patients, regardless of their diagnosis or presumed infection status.

1. **Standard Precautions** apply to:
    - Blood

- All body fluids, secretions, and excretions, *except sweat*, regardless of whether or not they contain visible blood
- Non-intact skin
- Mucous membranes

2. **Standard Precautions** are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.

3. **Standard Precautions** include the use of:
    - Hand washing
    - Appropriate personal protective equipment whenever touching or exposure to patients' body fluids is anticipated, such as gloves, gowns and masks.

Transmission-Based Precautions:

Transmission-Based Precautions (i.e., Airborne Precautions, Droplet Precautions, and Contact Precautions), are recommended to provide additional precautions beyond Standard Precautions to interrupt transmission of pathogens in hospitals.

1. **Transmission-based precautions** can be used for patients with known or suspected to be infected or colonized with epidemiologically important pathogens that can be transmitted by airborne or droplet transmission or by contact with dry skin or contaminated surfaces.

2. These precautions should be used in addition to standard precautions:
    - **Airborne Precautions** used for infections spread in small particles in the air such as chicken pox.
    - **Droplet Precautions** used for infections spread in large droplets by coughing, talking, or sneezing such as influenza.
    - **Contact Precautions** used for infections spread by skin to skin contact or contact with other surfaces such as herpes simplex virus.
    - **Airborne, Droplet and Contact Precautions.** May be combined for diseases that have multiple routes of transmission. When used either

singularly or in combination, they are to be used in addition to Standard Precautions.

Needle stick and Other Sharps Injuries:

- Incidents involving sharps occur most often in medical facilities and with medical provider personnel, (e.g., nurses and CNA's).
- Injuries are due to unsafe needles, sharps, sharps containers that allow hands or fingers to enter the container, and their unsafe handling.
- Potential health hazards include exposure to bloodborne pathogens.
- Work practice controls for reducing exposure potential are in place based on the following exposures and include:

a) Exposure: Contact with fluids during first aid treatment

- Control: Latex gloves, safety glasses with side shields, or goggles, CPR mask

b) Exposure: Handling sharps, blades, needles, etc.

- Control:
  - Only dispose of sharps in mailbox style (or other design that prevents hands or fingers from entering receptacle) **immediately** after use.
  - Never use your fingers to push into a container.
  - Never push on bags or other non-sharps designated container.
  - Use only self-capping needles.
  - Don't break contaminated sharps.
  - **NEVER** Recap, remove or bend needles and sharps unless this is specifically required procedurally!

c) Exposure: CPR and stomach contents

- Control:
  - CPR mask

d) Exposure: Body fluid spills

- Control:
  - Cleanup using latex gloves and approved disinfectant.
  - Engineering controls for reducing exposure potential are in place based on the following exposures and include:

e) Exposure: Contaminated sharps, blades, needles

- Control:
  - Provide approved sharps disposal containers as noted above.
  - Keep sharps containers close and accessible to areas where needles or sharps are found and used.

Biohazard Waste Container requirements for regulated waste:

- Will be leak proof, closeable, and puncture resistant.
- Will not contain loose sharps!
- Disposable items such as gauze, towels, cotton products, gloves, and masks will be placed in appropriate waste containers.
- Will not be overfilled and will be stored upright.
- Will be handled only by ECP trained and authorized staff.
- Labeling and signage:

a) Bio-hazardous waste container will be red in color.

b) Are labeled with the biohazard symbol:

c) Will have fluorescent orange label lettering.

d) Individual containers do not have to be labeled if they are in a larger, properly labeled, container for shipping.

Housekeeping to ensure prevention of exposure to bloodborne pathogens;

- Use spray/wipe/spray technique on all touch and splash surfaces. An EPA registered surface disinfectant will be provided to apply to the surfaces to be cleaned.
- A second coat will be applied to these same surfaces and allowed to remain in a moist state for the recommended time as per product instructions.
- Although the areas should remain moist, they should not be dripping wet.

5.0 Personal Protective Equipment (PPE)

Availability to employees:

- All equipment is provided at no cost to employees.
- PPE supplies will be are provided by the department working with biohazards.
- PPE training will be provided by the department that is working with biohazards.
- All PPE to be worn shall be based on a Hazard Assessment done for the tasks and exposures present. The Job Hazard Analysis application can be found at the EHS website www.liberty.edu/ehs/ and click on forms. The information gathered in completing

the job hazard analysis shall be used to train staff. The JHA must be maintained and a copy sent to Environmental Health & Safety at lusafety@liberty.edu.

Department	Job Title/Type	Exposure	PPE Equipment

Types PPE available to employees:

- Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

- Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations.

    - The type and characteristics will depend upon the task and degree of exposure anticipated.

    - Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopedic surgery).

Handling precautions:

- Wash hands with soap immediately after removing gloves or other PPE.

- Wear gloves specified on your hazard assessment when there is any potential for hand contact with body fluids or OPIM and when handling or touching contaminated items. Replace gloves if torn, punctured, or contaminated.

- Wear appropriate face and eye protection, gowns, aprons, lab coats, clinic jackets, or similar outer garments specified on your hazard assessment when splashes, sprays, spatters, or droplets of body fluids pose a hazard to the eyes, nose, or mouth.

- Remove PPE after it becomes contaminated and before leaving the work area and dispose of ONLY in properly labeled and designated containers.

- Remove any garment contaminated by body fluids in such a way as to avoid contact with the outer surfaces.

Maintenance and care of equipment:

- Used PPE will be disposed of ONLY in properly labeled and designated containers.
- PPE will be disposed of in designated containers for cleaning or disposition.
- Never clean and reuse contaminated disposable gloves.
- PPE to be reused will be cleaned after every use.
- Cleaning will be recorded on the organization's preventive maintenance schedule.

Latex allergies can result from sensitivity to latex gloves. Alternate materials are available and must be worn. The department working with biohazards will provide appropriate gloves for the given risk specified on their hazard assessment.

6.0 Applicable Regulations, Standards and References

OSHA 29 CFR 1910.1030
https://www.osha.gov/Publications/osha3186.pdf

7.0 Enforcement

Failure to follow the Liberty University Bloodborne Pathogen Policy & Control Plan can result in life threatening or serious injury situations to staff, facility, students and visitors. Failure to follow the Liberty University Bloodborne Pathogen Policy & Control Plan can result in disciplinary action up to and including discharge.

Appendix A: Illnesses

1.0 Hepatitis B Virus

A. Defined: Inflammation of the liver that can lead to liver damage and death.

- It is more transmissible than HIV.
- Infection risk is 6% to 30% for a needlestick.
- 50% of infected people don't know they have it.
- The virus can survive for 1 week in dried blood.

B. Our organization will provide the vaccination for employees that are exposed to blood.

1. The Director of EHS or Department Supervisor will provide training to employees on hepatitis B vaccinations that addresses:
    - Methods of administration and availability.
    - Safety: Hepatitis B vaccine and HBIG are considered safe.
    - Benefits: Hepatitis B vaccine and HBIG can prevent bloodborne virus infection following occupational exposure.
    - Efficacy: Hepatitis B vaccine and HBIG are approved by the FDA.
    - Timing following exposure - Preferably within 24 hours, but not later than 7 days.

2. The hepatitis B vaccination series is available to all exposed employees at no cost to them after initial employee training and within ten days of initial assignment. Vaccination is encouraged unless:
    - Documentation exists showing the employee has previously received the series.
    - Antibody testing reveals that the employee is immune.
    - Medical evaluation shows that vaccination is contra-indicated.

3. Employees may decline the vaccination.

   - The declining employee will sign a copy of the Declination form (attached).
   - Completed Declination forms are kept by the department of Human Resources (HR).

4. Written report will be provided to the employee.

   - Within fifteen days following the completion of the medical evaluation a copy of the health care professional's written report will be provided.
   - The report will be limited to two situations.
     - If the employee requires the hepatitis vaccine.
     - If the vaccine was administered.

5. Post vaccination:

   - Workers should be tested 1 to 2 months following the vaccine series to ensure that sufficient immunity to HBV is provided.

2.0 Hepatitis C Virus (HCV)

A. Hepatitis C is the most chronic bloodborne infection in the U.S.

   - Needle sticks are the most common cause of infection.
   - Infection rate is 1.8% from needle stick occurrences.
   - Typically there are no symptoms.
   - Chronic infection can develop, which could lead to liver disease.
   - There is no vaccination for HCV.

B. The organization will offer employees a medical evaluation if they are involved in an incident where there was an exposure. A confidential medical evaluation is required after an exposure.

3.0 Human Immunodeficiency Virus (HIV)

A. HIV has been reported to occur from skin contact and splashes in the mucous membranes. But the most common cause is from needle sticks and cuts.

- Infection rate is 0.3%, or 1 in 3000 cases.

B. Check with the organization about providing post-exposure prophylaxis for HIV to employees who were involved in an exposure incident.

- Be aware that prescription drugs may reduce side effects but still have side effects.
- A confidential medical evaluation is required after an exposure.
- Treatment should begin as soon as possible, preferable within hours.
- The worker should discuss treatment risks and side effects with their physician.
- These drugs are FDA approved for treatment of existing infection only.

4.0 Severe Acute Respiratory Syndrome (SARS)

A. SARS defined:

- Viral respiratory illness that begins with a high fever and leads to other symptoms, e.g. h headache, feeling of discomfort, body aches, chills, diarrhea.
- SARS patients may develop a dry unproductive cough at about 2-7 days later.
- Most patients develop pneumonia.
- Incubation periods can vary. In some cases it could take up to 10 days to feel sick. In rare cases it has been reported to take as long as 14 days.

B. Spread of SARS:

Person to person contact

- Droplet spread from infected persons who cough or sneeze in a 3 feet vicinity.
- Touching a contaminated surface and then touching your nose, mouth, or eyes.

- Close contact with respiratory secretions or body fluids from infected people through kissing, sharing food, utensils, close conversation within 3 feet, physical examination etc.

C. Protecting against the spread of SARS:

- Frequent hand washing with soap and water.
- Avoid touching your mouth, nose and eyes with unclean hands.
- Cover the nose and mouth when coughing or sneezing.
- SARS patients are generally most contagious when they are feeling symptoms. And this is usually in the 2nd week.
- The Center for Disease Control recommends persons with SARS limit their interactions outside the home until 10 days after their fever has gone away and respiratory symptoms have normalized.

D. Medical treatment for SARS:

- Treatment is the same as that used for any serious atypical pneumonia.

Appendix B: **Hepatitis B Vaccine Declination Form**

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 cost to me. 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 cost to me.

Name: _____

Signed: _____ **Date:** _____

Liberty University Bloodborne Pathogen Policy & Exposure Control Plan

Annual Review/Revision Tracking

Revision Number	Revision Description	Revision Location	Date Reviewed/Revised	Reviewed/Revised by:
00	Original		August 2012	J. Peterson
01	1. Placed program under EHS letterhead. 2. Expanded purpose, scope and application. 3. Added revision tracking form to document. 4. Changed Safety Director to Safety Director or designee in most locations. 5. Implementation and Responsibilities on pg. 2 changed to program administration and added each bullet point 6. Corrected information regarding tracking of Sharp's Injuries.	Throughout	May 2018	G. Bennett, J Peterson, R. Sloan