

BLOODBORNE PATHOGENS EXPOSURE CONTROL PLAN

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Revision Table

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INTRODUCTION

The Bloodborne Pathogen Exposure Control Plan (ECP) has been developed in accordance with the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen (BBP) Standard, 29 CFR 1910.1030. This ECP serves as a broad-based exposure control plan for all University of Central Florida (UCF) personnel whose occupational tasks or responsibilities include reasonable anticipated risk of exposure to human blood or other potentially infectious materials (OPIM) of human origin, including occupations with non-routine exposure. The purpose of this ECP is to (1) eliminate or minimize employee occupational exposure to blood and OPIM, and (2) comply with the OSHA BBP Standard, 29 CFR 1910.1030.

SCOPE

The Bloodborne Pathogen Exposure Control Plan (ECP) applies to University of Central Florida employees, including faculty, staff, students, volunteers, contractors, and any personnel who has a potential for occupational exposure to blood or other potentially infectious materials (OPIM). A department or clinical service may choose to administer their own ECP as long as the plan is compliant with the OSHA BBP Standard, 29 CFR 1910.1030, and has been reviewed by the UCF Biosafety Officer (BSO).

DEFINITIONS

Blood
Blood refers to human blood, human blood components, and products made from human blood.

Bloodborne Pathogens
Bloodborne Pathogens are pathogenic microorganisms that are present in human blood and other human body fluids that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

Clinical Laboratory
A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

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

Decontamination
Decontamination is 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
Engineering controls are those controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident
An exposure incident is a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials.

Needle-less systems
A device that does not use needles for (A) the collection of bodily fluids or withdrawal of bodily fluids after initial venous or arterial access is stable, (B) the administration of medications or fluids, or (C) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Occupational Exposure
Occupational exposure means **reasonably anticipated** skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Other Potentially Infectious Materials (OPIM)
Materials other than human blood that are potentially infectious for bloodborne pathogens. These include 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 fluids that are 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); 3) HIV, HBV, or HCV-containing cell or tissue cultures, organ cultures, culture medium or other solutions; and 4) blood, organs, or other tissues from experimental animals infected with HIV, HBV or HCV, or other risk group 2 or greater human pathogens .

Parenteral
Parenteral means through mucous membranes or piercing the skin barrier through such events as needle sticks, human bites, cuts, or abrasions.

Personal Protective Equipment
Personal protective equipment is specialized clothing or equipment worn by an employee for protection against a hazard (e.g. goggles, gloves, lab coat). 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.

Sharps with Engineered Sharps Injury Protections
A non-needle sharp or needle device used for withdrawing body fluids, accessing a vein or artery, or administrating medications or other fluids, with built-in safety or a mechanism that effectively reduces the risk of an exposure incident.

Standard Precautions
The Centers for Disease Control (CDC) **defines Standard Precautions as:** "A set of precautions designed to prevent transmission of HIV, Hepatitis B virus (HBV), and other bloodborne pathogens

when providing first aid or health care including the use of PPE. Under standard precautions, blood and certain body fluids of all patients are considered potentially infectious for HIV, HBV and other bloodborne pathogens."

Universal Precautions
Universal Precautions are 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, HCV and other bloodborne pathogens.

Work Practice Controls
Work Practice Controls are those practices that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles).

RESPONSIBILITIES

- **Department chairpersons and/or directors** are responsible for ensuring that all workers in departments and divisions are compliant with the UCF ECP.
- **Faculty members, principal investigators, or laboratory supervisors** are responsible for ensuring that the requirements and procedures outlined in this ECP that are applicable to their individual work areas are carried out.
- **Employees** are responsible for reporting exposures to their supervisors and complying with all components of the ECP.
- **All UCF health care facilities** are responsible for complying with the requirements stated in the OSHA BBP Standard, 29 CFR 1910.1030 and administer this ECP or develop and follow their own plan that aligns with this ECP and the OSHA BBP Standard.
- **Environmental Health & Safety (EHS)** is responsible for reviewing and overseeing the ECP. This includes coordinating compliance efforts for UCF, acting as a consultant for departments and clinical facilities regarding implementation and enforcement, evaluating work practices and personal protective equipment, providing educational materials to departments, tracking employee training, and tracking medical monitoring.

EXPOSURE DETERMINATION

In order to determine the potential for occupational exposures to bloodborne pathogens, specific tasks and procedures of the workers must be examined. The following table can be used as a guide for determining potential occupational exposure in the workplace.

Occupations	Potential Exposures
Research/Clinical laboratory personnel including animal facilities	Infectious materials (BBP), cuts, needle-sticks, splashes, bites, biological spills, handling infectious waste
Infectious waste handlers	Handling containers of infectious waste
University Police	Crime scene, bitten by suspect, contact with sharp objects during a search or scuffle, performing first-aid or CPR
Clinical Staff (physicians, nurses, phlebotomists)	Needle-sticks, infectious materials (BBP), handling infectious waste
Housekeeping	Cleaning blood spills, dried blood, handling infectious materials, needle-sticks
Maintainance workers/plumbers	Working in areas where BBP contamination is present
Athletics	Cleaning and dressing wounds, performing first-aid or CPR
Anatomy Laboratory	Infectious materials, cuts, splashes, biological spills
Forensics	Infectious materials (BBP), needle-sticks, biological spills

EXPOSURE PREVENTION

- Universal Precautions

Universal Precautions will be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

The following shall be practiced to control and prevent occupational exposure to BBP:

- Hands must be washed before leaving the room where the work was conducted. If soap and water are not available immediately, hand sanitizer must be used as an interim measure.
- Gloves must be worn when there is contact with blood, body fluid, tissue, mucous membrane or contaminated surfaces.
- Protective clothing, eye and face protection must be worn when splash, splatter or aerosolization of blood or OPIM is possible.
- Sharps must be carefully handled, properly collected, and disposed of using a sharps container.

- Engineering Controls

  Engineering controls shall be used to eliminate or minimize employee exposure. These controls shall be examined and maintained, or replaced on a regular schedule to ensure their effectiveness.

  - *Biological safety cabinets* (BSC) must be utilized for personnel, product, and environment protection for procedures that may create aerosols. It is imperative that BSC certification takes place prior to use in the laboratory, whenever the BSC is moved, and at least annually to ensure that the BSC is working properly.

  - *Hand washing sinks* shall be provided and maintained with adequate supplies by the employer. The sinks must be readily accessible to employees.

  - *Eye wash stations* must be easily accessible and functional.

  - *Sharps containers* must be used and readily accessible where sharps are stored, handled, or reasonably anticipated to be encountered. These containers must meet the following criteria: 1) closable, 2) puncture resistant, 3) leak proof on sides and bottom, and 4) properly labeled.

- Work Practices

  Work practice controls shall be used to eliminate or minimize employee exposure.

  - Hand washing shall be performed after removal of gloves and after contact with blood or OPIM.

  - Eating, drinking, smoking, and applying cosmetics or handling contact lenses is strictly prohibited in areas where there is potential for occupational exposure to BBP. Food shall not be stored in refrigerators, cabinets, or in areas where there is a potential for BBP exposure.

  - Mouth pipetting or suctioning of blood or other potentially infectious materials is prohibited.

  - All procedures will be conducted in a manner that will minimize splashing, spraying, splattering, and generation of droplets of blood or other potentially infectious materials.

  - Safety-engineered sharp devices should be utilized whenever possible. Contaminated sharps

and needles shall not be bent or recapped.

- Immediately after use, contaminated sharps shall be placed in appropriate, puncture-resistant, leak-proof containers. These containers shall be labeled with the biohazard symbol.

- Specimens of blood or other potentially infectious materials shall be placed in a container that prevents leakage during the collection, handling, processing, storage, and transport of the specimens. The container used for this purpose will be labeled or color-coded.

- Any specimens that could puncture a primary container will be placed within a secondary container that is puncture resistant. If outside contamination of the primary container occurs, the primary container shall be placed within a secondary container that prevents leakage during the handling, processing, storage, transport, or shipping of the specimen.

- Personal Protective Equipment (PPE)

  Departments shall provide, at no cost to the employee, personal protective equipment when appropriate. This equipment must be readily available and accessible to users, and must include, but not be limited to, the following:

  - *Disposable gloves* shall be worn to protect hands from contact with blood or OPIM. The gloves shall be replaced when contaminated, torn, or punctured. Persons allergic to latex shall be offered alternatives such as latex free or nitrile gloves. Non-disposable utility gloves can also be used when appropriate (these may be decontaminated for reuse as long as the integrity of the glove is not compromised). Vinyl gloves shall not be used in research laboratories. All cuts or open wounds must be covered before donning gloves, and jewelry may not be worn under gloves.

  - *Protective clothing* (*gowns, laboratory coats, aprons, etc*.) shall be appropriate to the task being performed and the degree of exposure anticipated. In situations when gross contamination can be reasonably anticipated, surgical caps and shoe covers must be provided and used. When non-disposable protective clothing is provided; cleaning and laundering must be performed according to the section on *Laundry* (see below), and must be provided by the department at no cost to the employee.

  - *Face protection* sufficient to shield the eyes, nose, and mouth from splashes, sprays, splatters, or droplets of potentially infectious materials, must be worn when contamination can be reasonably anticipated.

  Repair or replacement of the items listed above must be maintained for their effectiveness, and must be provided and paid by the department.

  There must be a designated area in each work setting for the dispensing, storage, cleaning and disposal of PPE. Contaminated PPE that is not immediately decontaminated shall be clearly

designated and treated as biomedical waste. All PPE must be removed before leaving the work area.

Closed-toe shoes and long pants shall be worn at all times in laboratory/clinical areas, and all animal housing or procedure areas at UCF.

- Housekeeping

  - All contaminated work surfaces must be decontaminated after completion of procedures and immediately, or as soon as feasible, after any spill of blood or OPIM, as well as at the end of the work shift if the surface may have become contaminated since the last cleaning. Any disinfectant used for decontamination must be registered with the EPA for that use.

  - Broken contaminated glassware must not be picked up directly with hands. Use dustpans, hand brooms, or forceps and tongs to pick up broken glassware.

  - Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

- Vacuum Lines

  Vacuum lines will be protected with liquid disinfectant traps and HEPA filters, or filters of equivalent or superior efficiency. Filters must be checked routinely and maintained or replaced as necessary.

- Biomedical Waste

  All biomedical waste shall be disposed of according to the State of Florida Regulation, FAC 64E-16 (refer to UCF Biosafety Manual and the EHS biomedical waste training program).

- Laundry

  Disposable lab coats, gowns, towels or other garments that are contaminated or potentially contaminated with blood or OPIM shall be disposed of as biomedical waste. Contaminated laundry must be placed in a bag or a container which is labeled with the biohazard symbol. Contaminated laundry must not be sorted or rinsed at the location of use. Employees who have contact with contaminated laundry must wear protective gloves and other appropriate PPE. Where contaminated laundry is generated, the supervisor is responsible for emplementing a SOP for treatment and handling of contaminated laundry.

- Labeling

  Warning labels must be affixed to any containers used to store, transport or ship blood or OPIM, including containers of regulated waste, refrigerators, and freezers. Equipment contaminated with blood or OPIM should be also labeled. The biohazard warning labels must consist of the international biohazard symbol in red with lettering or symbols in a contrasting color. In addition, the labels must be affixed by wire, adhesive, or other methods that prevent their loss or unintentional removal.

- Shipping of Infectious Materials

  Shipping of all potentially infectious materials must be packaged and transported according to applicable Federal regulations (42 CFR 71, 72 and 49 CFR 173.386-172.388). Refer to UCF Laboratory Safety Manual, Biosafety Manual, and Hazardous Material Shipping Policy. **All personnel shipping hazardous materials are required to receive proper training to perform this task.** This training must be documented and refreshed triannually.

- Spill Procedures

  All surfaces, tools, equipment, and other objects that come in contact with blood or OPIM must be decontaminated and /or sterilized after use.

  If a spill involving blood or OPIM occurs, the following procedure should be followed:

  1. Alert others in the area, isolate the area to prevent others from entering the area until the spill and affected area has been contained and properly decontaminated.
  2. Notify supervisor or PI and instruct personnel with injuries or overt contamination to advise the supervisor or PI, and follow the exposure procedures and incident reporting procedures described in the Exposure Management section located on the following page.
  3. If not currently wearing appropriate PPE, don appropriate PPE including lab coat, disposable gloves, and eye and face protection. Collect spill clean-up supplies.
  4. If sharps or broken glass is involved, collect sharps first to prevent injury during the spill clean-up. Using tongs, forceps, or broom and pan, clean up broken glass and other sharps and place them into an appropriate container. **Never touch broken glass or sharps with your hands.**
  5. Place absorbent material over the spill being certain to cover any and all areas affected by the spill. Using an appropriate disinfectant, pour from the perimeter of the spill inwards. Allow for the appropriate contact time as listed in the manufacturer's instructions. If using freshly prepared 10% bleach solution, allow 20 minutes for decontamination.
  6. After the contact time has elapsed, use the tongs to clean up the spill and dispose the absorbent material properly as biomedical waste. Disinfect the area one last time and absorb the disinfectant with paper towels and dispose as biomedical waste. Wipe the area with water or 70% ethanol to remove residual disinfectant. Dry the area with absorbent material and dispose as biomedical waste.
  7. Inspect the area after cleaning for any remaining broken glass or sharps. Doff your PPE properly and wash your hands.

- Hepatitis B Vaccination and Record Keeping

  The hepatitis B vaccination series is offered at no cost to any UCF personnel identified as at-risk for occupational exposure to bloodborne pathogens. All vaccine refusals must be documented by the workers by signing the declination statement on the Hepatitis B Vaccine Series (Appendix A). Declination forms will be maintained by EHS. Refusal of the vaccine is not final, and the worker may request vaccination at any future time. Employee medical records will be maintained by the Medical Service Provider for the duration of employment, plus 30 years.

EXPOSURE MANAGEMENT

- Exposure Procedures

  - In case of an emergency, dial 911.
  - If a worker sustains a potential exposure to bloodborne pathogens, human blood and body fluids or OPIM, immediate first aid should be initiated before leaving the worksite.
    - Contaminated skin including needlesticks should be thoroughly washed for fifteen (15) minutes before leaving the worksite.
    - Contaminated eyes and mucous membranes should be irrigated for fifteen (15) minutes using an eye wash or a drench hose.
  - Notify supervisor immediately.
  - For employees and volunteers, notify AmeriSys at 1-800-455-2079 to initiate post-exposure evaluation. Information and instructions for Worker's Compensation can be found at http://hr.ucf.edu/current-employees/compliance-information/workers-compensation-2/

- Incident Reporting

  All incidents, accidents, injuries, and potential exposures involving BBP, human blood and body fluids, and OPIM shall be reported to EHS by submitting an Accident-Incident report (found at https://live-anon.origamirisk.com/Origami/IncidentEntry/Welcome). This report must be completed by the primary investigators, lab manager, teaching assistant, instructor or a supervisor within 24 hours.

TRAINING AND DOCUMENTATION

All workers with reasonably anticipated exposure to bloodborne pathogens shall receive annual training regarding the prevention and control of bloodborne pathogens. Additionally, any personnel working in research or clinical laboratories may require additional training such as biosafety and biomedical waste training. All questions regarding this plan should be submitted to EHS.

All training records are maintained by EHS in an online database.

REVIEW OF Bloodborne Pathogen Exposure Control Plan (ECP)

EHS is responsible for reviewing the ECP and updating it annually. The Exposure Control Plan shall also be updated whenever necessary to reflect new or modified tasks, procedures which affect occupational exposure, and to reflect new or revised employee positions with occupational exposure.

REFERENCE

OSHA BBP 29 CFR 1910.1030:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10051&p_table=STANDARDS

Appendix A: Hepatitis B Vaccination Series

Hepatitis B Vaccination Series

Name: _____ UCFID: _____ Phone No.: _____

Email: _____ Date: _____ Department: _____

Supervisor/PI: _____ ☐ Employee ☐ Student ☐ Volunteer

I have read the materials given to me regarding hepatitis B viral infection and the hepatitis B vaccination series. The opportunity has been given to ask questions about both the disease process and the vaccination series, as well as to have my questions answered. I am aware that the three dose series will be free of charge to me.

Consent to Receive Hepatitis B Vaccination Series

I have read and understand the possible side effects which may occur by taking the vaccine. I understand that the risks associated with the vaccine include the possibility of a severe allergic reaction. I should not receive this vaccine if I have a history of hypersensitivity to yeast or preservatives. Minor reactions include soreness, itching, redness, swelling and pain at the site of injection. The vaccine series involved receiving one dose of hepatitis B vaccine in the upper arm on three different occasions. It will be my responsibility to schedule and report for the additional injections. After my first dose, I should report back to that facility in 30 days for my second dose, and then in 5 months later for my third dose.

Hepatitis B Vaccination Declination

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.

By My Signature Below:

_____ I **REQUEST** that I be administered the hepatitis B vaccination series.

_____ I **DECLINE** to be administered the hepatitis B series at this time. I am aware that I can change my decision at any time in the future as long as I am employed by the University of Central Florida (or am working in a UCF laboratory) and continue to have occupational exposure to blood.

_____ I **HAVE PREVIOUSLY RECEIVED** the hepatitis B vaccination series.

Signature: _____ Date: _____