Bloodborne Pathogen Program Exposure Control Plan

**POLICY**

The University of Southern California is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this goal, the following exposure control plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens (BBP) in accordance with OSHA standard 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens and State of California Code of Regulations, Title 8, Section 5193.

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

* Determination of employee exposure
* Implementation of various methods of exposure control, including:
  + Standard (Universal) precautions
  + Engineering and work practice controls
  + Personal protective equipment
* 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

## Responsible Party

The Principal Investigator, Supervisor, or other appointed person named on the cover sheet is the responsible party. This person is responsible for the following.

1. The implementation, maintenance, review and update of the ECP at least annually, and whenever necessary to include new or modified tasks and procedures.
2. To inform those employees who have been identified to have occupational exposure to blood or other potentially infectious materials (OPIM) that they must comply with the procedures and work practices outlined in this ECP.
3. To supply necessary personal protective equipment (PPE), engineering controls (e.g., sharps containers), labels, and red bags as required by the standard.
4. To ensure that adequate supplies of the aforementioned items are available in the appropriate sizes.
5. To be responsible for ensuring that all medical actions required by the standard are performed and that appropriate employee health and OSHA records are maintained.
6. To be responsible for training, documentation of training, and making the written ECP available to employees, OSHA, Cal/OSHA and NIOSH representatives.

## 

## Employee exposure determination

The following is a list of job classifications in which some or all of the employees have occupational exposure to BBP. Please include all workers including students, volunteers, and contractors.

|  |  |
| --- | --- |
| Job title | Location |
| (phlebotomist) | (Clinical Lab) |
|  |  |
|  |  |
|  |  |

Note: Add lines as necessary.

## Employee task determination

Included is a list of tasks and procedures, or groups of closely related tasks and procedures, in which occupational exposure may occur for these individuals:

|  |  |  |
| --- | --- | --- |
| Task | Location | Job Title(s) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Note: Add lines as necessary.

# Methods of Exposure Control

## Standard Precautions (Universal Precautions)

1. Treat human and non-human primate blood, tissue, organs, most body fluids and cell lines as though they are infectious materials.
2. Vomit, feces, and urine are not considered infectious material unless blood is present.
3. If in doubt, use standard precautions.

## Exposure Control Plan

### Employees covered by the bloodborne pathogens standard receive an explanation of this ECP during their initial training session. It will also be reviewed in their annual refresher training. All employees may review this plan at any time during their work shifts by contacting their supervisor. If requested, the supervisor shall provide an employee with a copy of the ECP free of charge and within 15 days of the request.

### The assigned responsible party is responsible for reviewing and updating the ECP annually or more frequently if necessary to reflect any new or modified tasks and procedures that affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

# Engineering Controls and Work Practices

Engineering controls and work practice controls will be used to prevent or minimize exposure to bloodborne pathogens. The specific engineering controls and work practice controls used are listed below.

|  |
| --- |
| Engineering Control |
| Eg. Replace glass pipets with plastic |
| Eg. Use safety-engineered needles |
|  |
|  |

Note: Add lines as necessary

## Work practice control

### Sharps disposal containers are inspected and maintained or replaced every (list frequency) or whenever necessary to prevent overfilling.

### This facility identifies the need for changes in engineering controls and work practices through (list processes like review of records, employee interviews, committee activities, etc.)

### We evaluate new procedures and new products regularly by (describe the process, literature reviewed, supplier info, products considered) Both front-line workers and management officials are involved in this process in the following manner: (Describe employees’ involvement)

### (List who) is responsible for ensuring that these recommendations are implemented.

# Personal Protective Equipment

PPE is provided to our employees at no cost to them. Training in the use of the appropriate PPE for specific tasks or procedures is provided.

The types of PPE available to employees are as follows:

|  |  |  |
| --- | --- | --- |
| Type of PPE | Location of fresh PPE | How to obtain |
| Gloves | Text |  |
| Lab coat |  |  |
|  |  |  |
|  |  |  |

Add lines as needed

All employees using PPE must observe the following precautions:

1. Wash hands immediately or as soon as feasible after removing gloves or other PPE.
2. Remove PPE after it becomes contaminated and before leaving the work area.
3. Used PPE may be decontaminated or disposed of in (list appropriate laundry or disposal)
4. Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
5. Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated items or surfaces.
6. Replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
7. Utility gloves may be decontaminated for reuse if their integrity is not compromised; discard utility gloves if they show signs of cracking, peeling, tearing, puncturing, or deterioration.
8. Never wash or decontaminate disposable gloves for reuse.
9. Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
10. Remove immediately or as soon as feasible any garment con- taminated by blood or OPIM, in such a way as to avoid contact with the outer surface.

# Housekeeping

## Biomedical Waste

Disposal procedures for biological or medical waste depend on the classification and type of waste generated. Biohazardous wastes include solids, liquid, sharps, outdated pharmaceuticals, pathological, and contaminated glass waste.

### What is Biomedical Waste?

Biological waste is waste contaminated with potentially infectious agents or other materials deemed a danger to public health or the environment. They can include:

* petri dishes
* culture tubes
* syringes
* needles
* blood vials
* absorbent material
* personal protective equipment (PPE)

At USC, biomedical waste is generated by clinical staff or researchers working with human beings or animals and generally consists of biohazardous waste and sharps.

View the links below for a detailed definition of medical waste:

California Department of Public Health (CDPH)’s Medical Waste Management Act

CDPH Health & Safety Code

### Segregation and Storage

Keep the below types of waste properly segregated until pickup by USC’s hazmat team to ensure they do not contaminate the area around you.

#### Dry Biohazardous Waste

Dispose the following materials in a red biohazard bag placed in a bin or container with biohazard labels on it:

* Contaminated cultures, petri dishes, and culture flasks
* Wastes from infectious agents, such as bacteria, viruses, or live or attenuated vaccine
* Waste contaminated with excretion or secretion from infectious humans or animals
* Paper Towels, Kimwipes, bench papers contaminated biohazardous materials

#### Sharps

Dispose the following materials in a sharps container:

* Hypodermic needles
* Pasteur pipettes, sharp plastic pipette tips
* Blades, microscopic slides, dental wires
* Any contaminated material which can puncture or penetrate the skin or a red bag

#### Liquid Waste

Dispose the following materials through the conventional sanitary sewage system if the materials are deactivated with 10% bleach solution and plenty of water. Contact EH&S if you cannot inactivate it:

* Human or animal blood
* Body fluid or semi-liquid materials

#### Pathological Waste

The following materials should be disposed of immediately after they are generated. Call EH&S for a white pathological waste container and to make pickup arrangements.

* Organs, tissues, body parts, and fluids which have been removed by trauma, surgery, other medical procedures.
* Human or animal tissues injected with a human pathogen or are potentially infectious.
* Animal carcasses injected with viral vectors or highly toxins can be placed in a labeled biohazard sealable bag and placed in a freezer for pick-up.

#### Outdated Pharmaceuticals

Place all outdated pharmaceuticals in a small fiberboard box. The box should be labeled “Outdated Pharmaceuticals: For Incineration Only

#### Contaminated Glass Waste

If broken glassware is visibly contaminated with biological materials, decontaminate it before disposal. If it cannot be decontaminated, dispose it in a sharps container. Use tongs or a brush and dustpan to handle the broken glassware.

# Laundry

### Launder a Lab Coat

Lab Coat Laundering is made available to principal investigators and their respective research groups through a partnership between EH&S and Angelica with EH&S as its steward. Note that participation in the program is encouraged, but not mandatory. For information on the program, contact [EH&S](mailto:ehs@usc.edu). Your laundering services may be covered by your school or department. Contact your business office for information.

* Pick Up/Drop Off (PU/DO) locations are set up across UPC and HSC with lockers, laundry hampers, or racks to house soiled and clean lab coats. Lockers designated for soiled lab coats are identified by signage that reads Soiled Lab Coats; lockers for clean lab coats are identified by signage that reads Clean Lab Coats.
* Each sign also displays the weekly laundering service schedule for the host campus. Angelica visits UPC on Tuesday; HSC on Wednesday (Thursday as well on occasion).
* To locate the nearest PU/DO station for your building, refer to:
  + [UPC Pick Up/ Drop Off Locations](https://ehs.usc.edu/files/ehs-pick-drop-locations-upc.pdf)
  + [HSC Pick Up/ Drop Off Locations](https://ehs.usc.edu/files/ehs-pick-drop-locations-hsc.pdf)
* Keep at least one lab coat available for use at all times.
* If soiled coats remain in a locker (or laundry hamper) for over a week or lab coats have not returned from laundering, contact Angelica Customer Care at 888.293.2100.

### Launder of Other PPE

PPE in this facility is laundered by (complete the section with appropriate answer for your area).

# Labels

The following labeling methods are used in this facility.

|  |  |  |  |
| --- | --- | --- | --- |
| Equipment to be Labeled | Label Type | Equipment to be Labeled | Label Type |
| Text |  |  | Text |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Hepatitis B Immunization Program

Employees who have routine exposure to human and non-human primate blood, blood products, cells, tissue and other potentially infectious material shall be offered the Hepatitis B vaccine series at no cost to themselves unless:

* They have previously received the entire vaccine series
* HBV Antibody titer testing has revealed they are immune
* The vaccine is contraindicated for medical reasons. The person has either had HBV, had a previous reaction to an HBV vaccine injection or is allergic to yeast.

Although your employer must offer the vaccine to you, you do not have to accept that offer. You may opt to decline the vaccination series; in which case you will be asked to sign a declination form (see Hepatitis B Vaccination Agreement/Refusal Form). Even if you decline the initial offer, you may choose to receive the series at any time during your employment thereafter, for example, if you are exposed on the job at a later date.

If you are exposed to blood or potentially infectious materials on the job, you may request a Hepatitis B vaccination at that time. If the vaccine is administered immediately after exposure it is extremely effective at preventing the disease.

The Hepatitis B vaccination is given in a series of three intramuscular injections. Over 90% of healthy adults and over 95% of infants, children, and adolescents (from birth to 19 years of age) develop adequate antibody responses. The vaccine is 80% to 100% effective in preventing infection or clinical hepatitis in those who receive the entire course of the vaccine. Prior authorization is needed to obtain the first injection. The second injection is given one month after the first; the third injection follows five months after the second. This series gradually builds up the body’s immunity to the Hepatitis B virus. Once vaccinated, a person does not need to receive the series again.

The Hepatitis B vaccine does not contain any live virus. The vaccine contains only particles of HBV called plasmids, which have a gene that codes for the surface antigen to induce the production of antibodies. These plasmids are grown on yeast cultures. Therefore, there is no danger of contracting the disease from getting the injections since no potentially infectious viral DNA or complete viral particles are used.

Protective antibodies appear to persist for 11 years or more following immunization. There are booster shots available and in some instances these may be recommended (for example, if there is an outbreak of Hepatitis B at a particular location). For adults and children with normal immune status, a booster injection of the vaccine are not recommended, nor is routine HBV antibody titer testing needed to assess immune status of the vaccine. The need for booster injections after longer than 11 years will continue to be assessed, as additional information becomes available.

# POST-EXPOSURE EVALUATION AND FOLLOW-UP

## Exposure Response

**In the event of an exposure, take the following precautions:**

1. Remove any contaminated clothing
2. Wash all affected areas; for eye exposures, rinse for 15 minutes in eyewash or flush area with water, for needle-stick or other sharps exposure, wash wound area with soap and water for 15 minutes
3. Report the exposure to your supervisor immediately
4. Students go to the student health care center at HSC or UPC.
5. Employees got to a USC-approved medical facility

https://ehs.usc.edu/usc-approved-medical-facilities/

1. For any emergency, you may also contact the Department of Public Safety at (323) 442-1000 (HSC) or (213) 740-4321 (UPC)
2. Healthcare personnel treating exposed patients should be informed of the nature of the agent
3. Information on workers’ compensation and additional approved medical facilities can be found at this website: : http://benefits.usc.edu/timeoff/workers-comp, or you may call: (213)740-6205
4. Incidents should be reported to the Institutional Biosafety Committee as soon as possible: biosafety@usc.edu or (323)442-2200 (press 1 and 4 for biosafety group)

|  |  |  |
| --- | --- | --- |
| Person(s) to notify | Phone | Email |
| Supervisor name | Text | Text |
| Biosafety |  | biosafety@usc.edu |
| Other |  |  |
| Other |  |  |

## Evaluation and Follow-up

The first activities following an exposure event or a potential exposure are to make sure the injured person has immediate medical care. Following that, the following activities must be completed by the healthcare provider.

1. Document the routes of exposure and how the exposure occurred.
2. Identify and document the source individual (unless the employer can establish that identification is infeasible or prohibited by state or local law).
3. Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity; document that the source individual’s test results were conveyed to the employee’s health care provider.
4. If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.
5. Assure that the exposed employee is provided with the source individual’s test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
6. After obtaining consent, collect exposed employee’s blood as soon as feasible after exposure incident, and test blood for HBV and HIV serological status.
7. If the 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.

# ADMINISTRATION OF POST-EXPOSURE EVALUATION AND FOLLOW-UP

The health care professional(s) responsible for employee’s hepatitis B vaccination and post-exposure evaluation and follow-up must have a copy of OSHA’s and Cal/OSHA’s bloodborne pathogens standard.

The health care professional evaluating an employee after an exposure incident shall receive the following:

1. A description of the employee’s job duties relevant to the exposure incident
2. The route(s) of exposure
3. The circumstances of exposure
4. The results of the source individual’s blood tests if possible
5. Relevant employee medical records including vaccination status

The health care provider shall provide the employee with a copy of the evaluating health care professional’s written opinion within 15 days after completion of the evaluation.

# PROCEDURES FOR EVALUATING THE CIRCUMSTANCES SURROUNDING AN EXPOSURE INCIDENT

The Office of Environmental Health and Safety Biosafety Specialist reviews injury and illnesses that occur in the workplace including BBP exposures.

* Engineering controls in use at the time
* Work practices followed
* A description of the device being used (including type and brand)
* Protective equipment or clothing that was used at the time of the exposure incident (gloves, eye shields, etc.)
* Location of the incident
* Procedure being performed when the incident occurred
* Employee’s training

EH&S shall record all percutaneous injuries from contaminated sharps in a Sharps Injury Log.

# EMPLOYEE TRAINING

USC employees who have occupational exposure to bloodborne pathogens receive initial and annual training conducted by the Office of Environmental Health and Safety, Biosafety Program.

All employees who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the following elements:

1. A copy and explanation of the OSHA bloodborne pathogen standard
2. An explanation of our ECP and how to obtain a copy
3. An explanation of methods to recognize tasks and other activities that may involve exposure to blood and OPIM, including what constitutes an exposure incident
4. An explanation of the use and limitations of engineering controls, work practices, and PPE
5. An explanation of the types, uses, location, removal, handling, decontamination, and disposal of PPE
6. An explanation of the basis for PPE selection
7. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine will be offered free of charge
8. Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM
9. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available
10. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident
11. An explanation of the signs and labels and/or color coding required by the standard and used at this facility
12. An opportunity for interactive questions and answers with the person conducting the training session.

# MEDICAL RECORDS

Medical records are maintained for each employee with occupational exposure in accordance with federal and state regulations regarding medical records.

The individual health care facility used by the employee is responsible for the maintenance of the required medical records. These confidential records are kept for at least the duration of employment plus 30 years.

Employee medical records are provided upon request of the employee or to anyone having written consent of the employee within 15 working days.

# OSHA Recordkeeping

An exposure incident is evaluated to determine if the case meets OSHA’s Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by Workers Compensation in Human Resources.

# Sharps Injury Log

In addition to the 1904 Recordkeeping Requirements, all percutaneous injuries from contaminated sharps are also recorded in a Sharps Injury Log. All incidences must include at least:

* Date of the injury
* Type and brand of the device involved
* 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 is requested by anyone, it must have any personal identifiers removed from the report.