**Bloodborne Pathogens Exposure Control Plan**

**General Campus Information**

UC Santa Barbara policy is to establish, implement, and maintain an effective exposure control plan, as required by federal and state Bloodborne Pathogens Standards, [OSHA 29 CFR 1910.1030](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10051) and [Cal/OSHA CCR Title 8 Section 5193](http://www.dir.ca.gov/title8/5193.html).

Instructions for use:

1. Review this document; it’s intended to compliment the project-specific Biological Use Authorization. Contact the biosafety officer with any questions on the general campus information described here.

2. Review the Biological Use Authorization(s). Discuss any suggestions for improvement with the faculty PI.

3. Submit signatures indicating that you have reviewed the general campus information and project BUA(s), and that you’ve been offered the hepatitis B vaccine series.

**Bloodborne Pathogens Exposure Control Plan**

**Purpose**

To reduce or eliminate employee exposure to bloodborne pathogens carried by human blood or other potentially infectious materials.

**Definitions**

Bloodborne pathogens are viruses or infectious agents carried by human blood and body fluids. Pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV) and the human immunodeficiency virus (HIV).

Contaminated sharps include objects that may penetrate the skin that were used with blood or other potentially infectious body fluids

An exposure incidentmeans specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIM that results from the performance of an employee’s duties.

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

Occupational exposuremeans probable contact with blood or other potentially infectious body fluids while performing of one’s work.

Other Potentially Infectious Materials (OPIM) are human body fluids that may also contain bloodborne pathogens: semen, vaginal secretions, CSF, synovial fluid, pleural, pericardial, peritoneal, amniotic, saliva (hepatitis B), any bodily fluids contaminated with blood, any fluid that cannot be differentiated between fluid types, and any unfixed tissue or organ from a human (living or dead).

Regulated waste: liquid or semi-liquid blood or OPIM, contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed, and items that are caked with dried blood or OPIM.

Universal Precautions is an approach to infection control in which human blood and OPIM are treated as if known to be infectious for bloodborne pathogens. Universal precautions call for using appropriate barriers to prevent direct contact with blood or OPIM.

**Exposure Determination**

Cal/OSHA specifies “laboratory staff” as an example of a job classification in which all employees have a risk of occupational exposure. There are multiple job classifications within the laboratory setting in which occupational exposure to bloodborne pathogens may occur.

Principal investigator

Postdoctoral researchers

Staff research associates

Laboratory technicians

Graduate students

Undergraduates

A description of the biological materials used in the laboratory and which may expose employees to bloodborne pathogens is contained in the Biological Use Authorization.

A description of the experimental procedures that may lead to occupational exposure to bloodborne pathogens is contained in the Biological Use Authorization.

The tasks and procedures performed by employees that may lead to occupational exposure to bloodborne pathogens include:

Preparing or handling human/primate blood or OPIM

Preparing or handling primary human/primate cell cultures

Use of needles with human/primate specimens

Preparing, cutting, dissecting, or handling human/primate tissue

Pipetting, mixing, or vortexing human/primate blood, fluid, or tissue

Centrifuging human/primate blood, fluid, or tissue

Handling tubes or other containers of human/primate blood or OPIM

Handling contaminated sharps or other contaminated wastes

Cleaning up spills of human/primate blood or OPIM

Injections (into human/primates, or into animals using human/primate tissue/cultures)

**Methods of Compliance: Written Exposure Control Plan**

This exposure control plan shall be made accessible to employees, reviewed annually and revised if any significant changes have occurred. Changes may include descriptions of

* New or modified tasks or procedures that affect occupational exposure
* Progress in implementing the use of needleless systems and sharps with engineered sharps injury protection
* Reviews and evaluations of exposure incidents that have occurred since the previous update
* Reviews and responses to information indicating that the existing exposure control plan is deficient in any area

Employees are encouraged to provide suggestions on improving the procedures they perform. Employees contribute to the review and update of the exposure control plan by:

* Providing recommendations directly to the PI, Lab Safety Contact and/or Biosafety Officer
* Evaluating new products and equipment
* Attending group meetings to discuss safety issues or improvements
* Reporting hazards and near misses to the PI, Lab Safety Contact, or to Environmental Health and Safety

**Methods of Compliance: Engineering Controls**

Certified biosafety cabinets, or other physical containment equipment with gaskets and/or HEPA filters, combined with barrier personal protective equipment, shall be used for all activities with blood or OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols. Biological safety cabinets must be tested by a commissioning vendor after installation, alterations, or maintenance, and at least annually (CCR 5154.2 (f)).

* + UC has a system-wide contract with Technical Safety Services, Inc., for certification services.
  + TSS Field Service Coordinator phone number: 562-694-3626

The TSS Service Technician updates the metal sticker on the cabinet and provides the contracting party with a written certification report.

Other engineering controls routinely used include sharps containers and centrifuge safety cups.

Additional engineering controls, as applicable, are described in the Biological Use Authorization.

**Methods of Compliance: Safe Work Practices**

General safe work practices

* Wash hands frequently. Wash hands upon contact with anything potentially infectious, after work, after removing gloves, and before leaving the laboratory
* Replace gloves as soon as practical when contaminated, torn, punctured, or when their ability to function as a barrier is compromised
* Perform procedures in a manner that minimizes splashes, droplets or aerosols
* Perform procedures that may generate infectious aerosols in a biosafety cabinet
* Use a mechanical pipetting device at all times; mouth pipetting is prohibited
* Disinfect work area and lab equipment daily and after use
* Transport biological agents between buildings using rigid, leak-proof, double container systems lined with enough absorbent material to absorb liquid leaks
* Use universal precautions to minimize or prevent exposure to blood or OPIM, e.g., when handling human and nonhuman primate tissues or cleaning and then decontaminating the work area and equipment
* Plan ahead for packages from off-campus collaborators to be opened by an individual who is knowledgeable of the contents and who is trained on the biological use authorization and exposure control plan.
* Label entryways to work areas, containers of biohazardous waste, refrigerators and freezers used with potentially infectious materials with the word “BIOHAZARD” and the universal biohazard symbol in orange-red or red with lettering and symbols in a contrasting color.
* Do not eat, drink, smoke, apply cosmetics or lip balm, or handle contact lenses in work areas
* Do not store food and drink in laboratory refrigerators, freezers, shelves, cabinets, or bench tops that contain research material(s)
* Do not bend, break, shear or remove needles from disposable syringes

Additional safe work practices, as applicable, are described in the Biological Use Authorization.

**Methods of Compliance: Safe Work Practices for Sharps**

* Organize equipment at the point of use
* Keep sharps pointed away from you at all times
* Place sharps waste container as near the point of use as appropriate for immediate sharps disposal
* Dispose of contaminated sharps in an unlined, single-use, disposable container that is rigid, leak proof, puncture resistant, and labeled with the biohazard symbol and “SHARPS WASTE”
* Ensure that glass Pasteur pipettes do not protrude from the sharps waste container
* Use a predetermined neutral zone for placing or retrieving sharps; do not hand-pass exposed sharps from one person to another
* Do not reuse disposable sharps
* Never bend, break, shear or remove sharps from disposable syringes
* Use a one-handed technique if recapping sharps is absolutely necessary
* Do not exceed the sharps container fill line at 2/3 full
* Close the sharps container lid when not in use
* Handle contaminated broken glassware using mechanical means such as a brush and dustpan, tongs or forceps.

**Methods of Compliance: Personal Protective Equipment**

* Laboratory personnel shall wear disposable gloves and liquid impervious lab coats when handling blood or OPIM.
* Disposable gloves are stocked in the laboratory by the PI or the Lab Safety Contact.
* Gloves are replaced as soon as practical when contaminated, torn, punctured, or when their ability to function as a barrier is compromised.
* Safety glasses or safety glasses plus a face shield must be worn for liquid handling outside of a biosafety cabinet.
* All personal protective equipment is removed prior to leaving the work area.
* Contaminated lab coats are handled as little as possible and autoclaved prior to depositing at a laundry drop off location.
* Lab coats are laundered by an outside vendor, Mission Linen.
* Employees are not expected to take home lab coats for laundering.

**Decontamination** **and Waste Disposal**

Worksites are maintained in a clean and sanitary condition. Work surfaces, equipment and biosafety cabinets are cleaned and decontaminated at the end of the work day and after any spills using the disinfectants, disinfectant concentrations, and contact times specified in the biological use authorization. Universal precautions shall be taken during decontamination procedures.

Equipment must be decontaminated prior to servicing or shipping. If decontamination of the equipment is not feasible or if the decontamination will interfere with servicing, a readily observable label with “BIOHAZARD” and the universal biohazard symbol must be placed on the equipment. Labels and written communication with service providers must also state which portions of the equipment remain contaminated.

Handling, storage, treatment and disposal of all regulated medical waste is in accordance with the California Medical Waste Management Act and the UCSB Medical Waste Management Plan, current version: <https://www.ehs.ucsb.edu/sites/www.ehs.ucsb.edu/files/docs/bs/UCSB_MWMP.pdf>

* Solid medicalwaste is collected in lidded secondary containers that are labeled with the biohazard symbol and lined with red biohazard autoclave bags.
* Solid medical waste is autoclaved in an autoclave permitted with the California Department of Public Health for the treatment of medical waste.
* Solid medical waste is treated using a documented run at a minimum temperature of 121°C, for at least 30 minutes in an autoclave permitted with CDPH; alternatively, PIs contract with a licensed medical waste hauler for treatment and disposal.
* Liquid medical waste is deactivated with 10% bleach or steam treatment in an autoclave permitted for the treatment of medical waste.

**Spill Response**

A spill kit, consisting of paper towels, tongs, and disinfectant, is ideally located under or next to the sink.

For spills contained within a biosafety cabinet, keep the cabinet blower on.

1. Replace any contaminated personal protective equipment.
2. Obtain or prepare a fresh solution of disinfectant.
3. Cover the spill with paper towels to prevent aerosols and splashing, and apply disinfectant to the area.
4. Wait out the contact time required for the disinfectant, working dilution, and biological materials involved in the spill.
5. Use paper towels to absorb the spill, working from the outside in; use tongs to collect the paper towels if sharps are involved.
6. Bag the clean-up materials and disposable gloves as solid waste, then wash your hands thoroughly.

For larger spills outside of a biosafety cabinet, and depending on the materials involved, you may need to vacate the premises for 30 minutes to allow time for aerosols to settle and for a few room air exchanges to take place. Notify colleagues and post a sign at the door warning of the spill and advising of the proper re-entry time. Before or upon re-entry, don clean personal protective equipment and proceed as described above.

**Signage**

* Contact the Biosafety Officer for biohazard labels and/or signage for solid medical waste accumulation areas.
* Entry ways to work areas shall have signs posted with the word “BIOHAZARD” and the universal biohazard symbol.
* Biohazard warning labels must be affixed to containers of regulated red bag medical waste, refrigerators and freezers containing blood or other potentially infectious materials.
* Labels must be orange-red or red with lettering and symbols in a contrasting color and a legend that reads “BIOHAZARDOUS WASTE” or “SHARPS WASTE” and/or the biohazard symbol.
* Signage for solid medical waste accumulation areas should read:

**CAUTION**

**BIOHAZARDOUS WASTE STORAGE AREA**

**UNAUTHORIZED PERSONS KEEP OUT**

**CUIDADO**

**ZONA DE RESIDUOS BIOLOGICOS PELIGROSOS**

**PROHIBIDA LA ENTRADA A PERSONAS NO AUTORIZADAS**



**Training**

The Principal Investigator shall ensure that employees are properly trained on the methods of compliance for their specific project.

Bloodborne Pathogens training is asynchronous and online on the UC Learning Center.

UC Learning Center search terms: bbp or bloodborne  
eCourse code: UCSB-UCLOL0016-ECO  
Course duration: 37 minutes

Bloodborne Pathogens training from other institutions does not satisfy the training requirement for UC Santa Barbara.

Refresher training is required annually and may be completed online.

Training records are maintained on the UC Learning Center for at least 3 years.

Training topics include:

* Accessing 29 CFR 1910.1030 and CCR Title 8 Section 5193
* Hepatitis B, C, and HIV epidemiology
* Bloodborne pathogens commonly used at UCSB
* Occupational routes of exposure and disease transmission
* Hepatitis B vaccine
* Recognizing potential exposure risks
* Methods of compliance to reduce or prevent exposure
* Personal protective equipment
* Signage
* Decontamination and disinfection
* Medical waste management
* Basic components of a project-specific exposure control plan
* Post-exposure procedures and follow-up
* Emergency/blood spill clean up

**Hepatitis B Vaccination**

The Principal Investigator/lab manager shall ensure that employees who will have occupational exposure to blood and other potentially infectious materials are offered the hepatitis B vaccination. The vaccination series shall be made available at no cost to the employee. At UCSB, vaccination for employees is coordinated by the Principal Investigator and the Departmental Business Officer.

If the employee declines the hepatitis B vaccination but at a later date during the employment/project decides to accept the vaccination, the employer shall make the hepatitis B vaccination available at that time. Refer to the Appendix for the employee hepatitis B vaccination/declination statement.

Do not respond with an explanation about your vaccination status; that is your private medical information. It is routine for those who have had the vaccine series to decline it in this context, without explanation.

**Post-Exposure Procedures**

1. Immediately wash the affected area. Flush the affected areas with water for several minutes using the eyewash station or lab sink.
2. Notify your Principal Investigator or Lab Safety Contact immediately.
3. Seek treatment. Healthcare personnel must be informed of the biological materials involved in the exposure.

**Exposure Incident Reporting and Locations of Healthcare Providers**

Our organization reports all exposure incidents as soon as possible, and no later than the end of the work shift during which they occurred, regardless of whether first aid was rendered.

* Students using UC SHIP Students are to seek treatment at UCSB Student Health Services, Building 588, at El Colegio and Ocean Road, Santa Barbara CA 93117, and after business hours at Goleta Valley Cottage Hospital, 351 S. Patterson Avenue, Goleta CA 93117. Student exposures or injuries are filed via this webpage: <https://www.ehs.ucsb.edu/riskmanagement/3rd-party-incidents>

*Student Health Services does not treat Workers’ Compensation injuries.*

* Post-exposure treatment and follow-up is provided at no cost to employees.

Employee exposures or injuries are recorded with an Employer’s First Report: <https://www.ehs.ucsb.edu/workcomp>

If you have experienced a work-related injury and need medical treatment, contact your supervisor or the Workers’ Compensation office at 805.893.4440 for authorization.

Employees and personnel on University pay status are to seek treatment at Sansum Occupational Medicine Center, 101 South Patterson Avenue, Santa Barbara, CA 93111, and after business hours at Sansum Urgent Care Center, 215 Pesetas Lane, Santa Barbara, CA 93110.

* Those not on the payroll and on outside insurance plans may be seen by their primary care provider in the community.

**Post Exposure Follow Up and Evaluation of Incident Circumstances**

* Our policy is to evaluate the circumstances, including the route(s) of exposure, under which all occupational exposure incidents occur. This evaluation is conducted as soon as possible after a report of an exposure incident is submitted.
* We gather and evaluate, if possible, the following information: date and location, tasks and procedures, route of exposure (e.g., eye, intact skin, non-intact skin, mouth, other mucous membranes, parenteral contact, etc.), description of sharps or other devices involved, and PPE worn.
* Risk Management, Environmental Health and Safety, will conduct a follow-up interview using the OSHA 300 Log and the Sharps Injury Log as applicable. Sharps injury logs are maintained for 5 years by the Risk Manager, Environmental Health and Safety.
* The Biosafety Officer, Environmental Health and Safety, will request to discuss exposure circumstances, as well as equipment and processes that may prevent recurrences, with the individual involved in the exposure, the PI, and the Lab Safety Contact.

**Appendix**

**Annual Hepatitis B Vaccination/Declination**

The PI must offer the hepatitis B vaccination series to employees who have the potential for occupational exposure to blood and other potentially infectious materials. The PI shall retain documentation that he/she has offered the hepatitis B vaccine series and whether researchers chose to decline; the PI shall not retain medical records of vaccination or disease status.

Many individuals decline vaccination because they have already received it; healthcare providers made the hepatitis B vaccination series part of routine childhood immunizations in 1991. Research staff do not have to supply a reason to decline.

Vaccination for staff is set up on a recharge basis through the PI’s department at Sansum Occupational Medicine. (Students receive the vaccine series via Student Health or the healthcare provider covered by their health insurance.) Vaccination records are on file with Sansum Occupational Medicine, Student Health, or an individual’s healthcare provider.

“I understand that due to my occupational exposure to blood or 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. 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.”

By signing below, you acknowledge that your faculty PI has offered you the hepatitis B vaccine series.

Name Signature and date

Use the DocuSign portal on the EHS website to sign

**Signatures acknowledging annual review**

By signing below, you acknowledge that you have reviewed the Exposure Control Plan.

Name Signature and date

Use the DocuSign portal on the EHS website to sign